



# PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT



# PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

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## **PERMITS**

This flora survey was undertaken under the following licences issued by the Department of Environment and Conservation: SL008928 issued to Emma Carroll, SL009367 issued to Kellie McMaster, SL009370 issued to Bridget Watkins, SL009373 issued to Hayden Ajduk, SL009400 issued to Lucy Dadour and SL009422 issued to Catherine Webb.

## **STATEMENT OF LIMITATIONS**

### **Scope of Services**

This environmental site assessment report ('the report') has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and ENV.Australia Pty Ltd (ENV) ('scope of services'). In some circumstances the scope of services may have been limited by factors such as time, budget, access and/or site disturbance constraints.

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The scope of services did not include any assessment of the title to or ownership of the properties, buildings and structures referred to in the report, nor the application or interpretation of laws in the jurisdiction in which those properties, buildings and structures are located.



## EXECUTIVE SUMMARY

ENV.Australia Pty Ltd was commissioned by BHP Billiton Iron Ore, in February 2011, to undertake a Level Two Regional Flora and Vegetation Assessment of the Port Hedland area, located adjacent and surrounding the town of Port Hedland in the coastal Pilbara region in Western Australia. The study area is 808.7km<sup>2</sup> in size.

The purpose of the assessment was to provide a background to the regional flora and vegetation of the Port Hedland area. The assessment included a review of previous surveys conducted in the area and additional field survey work to provide any supplementary information required. The field survey was undertaken over two field trips from the 30<sup>th</sup> of April to the 6<sup>th</sup> of May, 2011 and from the 20<sup>th</sup> of June to the 1<sup>st</sup> of July, 2011.

No species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), or gazetted as Declared Rare Flora under the *Wildlife Conservation Act 1950* (WA) were recorded. No Declared Rare Flora would be expected to occur due to the absence of suitable habitat in the study area.

Four Priority Flora were recorded during the current survey: *Abutilon pritzelianum* MS (Priority 1), *Heliotropium muticum* (Priority 1), *Tephrosia rosea* var. *venulosa* MS (Priority 1) and *Gomphrena pusilla* (Priority 2). A total 12 Priority Flora have been recorded in the study area from the current and previous surveys.

A total of 338 taxa were recorded from 55 families and 152 genera during the current survey. The combined species inventory from the current survey and the previous surveys recorded 577 taxa from 67 families and 198 genera.

Twelve introduced species were recorded in the study area during the current survey. None of these species are listed as Weeds on National Significance by the Australian Government. None of these species are listed as Declared Plants under the *Agriculture and Related Resources Protection Act 1976* (WA). A total of 28 introduced flora have been recorded in the study area from the current and previous surveys.

Forty vegetation associations were mapped in the study area. None of the vegetation types are listed as a Threatened Ecological Community under the *Environment Protection and Biodiversity Conservation Act 1999*, as an Environmentally Sensitive Area under the *Environmental Protection Act 1986* or as a Priority Ecological Community by the Department of Environment and Conservation.

# 1 INTRODUCTION

## 1.1 THE PROJECT

### 1.1.1 Objectives

ENV.Australia Pty Ltd (ENV) was commissioned by BHP Billiton Iron Ore (BHPBIO), in February 2011, to undertake a Level Two Flora and Vegetation assessment of the Port Hedland area (the study area). The purpose of the assessment was to provide a regional perspective of the flora and vegetation of the Port Hedland area. BHPBIO currently operates a number of iron ore mines in the Pilbara with ore transported by rail to Port Hedland for export. Therefore, a large amount of rail and port infrastructure is situated in the Port Hedland region.

The objectives of the flora assessment were to:

- undertake a comprehensive database and literature review for the study area;
- conduct a targeted survey for conservation significant flora and vegetation;
- document, describe and map the occurrence of conservation significant flora species;
- document, describe and map the occurrence of introduced flora species;
- document, describe and map the vegetation associations present;
- describe the conservation significance of these vegetation associations; and
- assess and map vegetation condition.

### 1.1.2 Location

The study area is 808.74 square kilometres (km<sup>2</sup>) [80,874 hectares (ha)] in size and is located in the Port Hedland district, in the Pilbara region of Western Australia (Figure 1).

## 1.2 ENVIRONMENTAL ATTRIBUTES

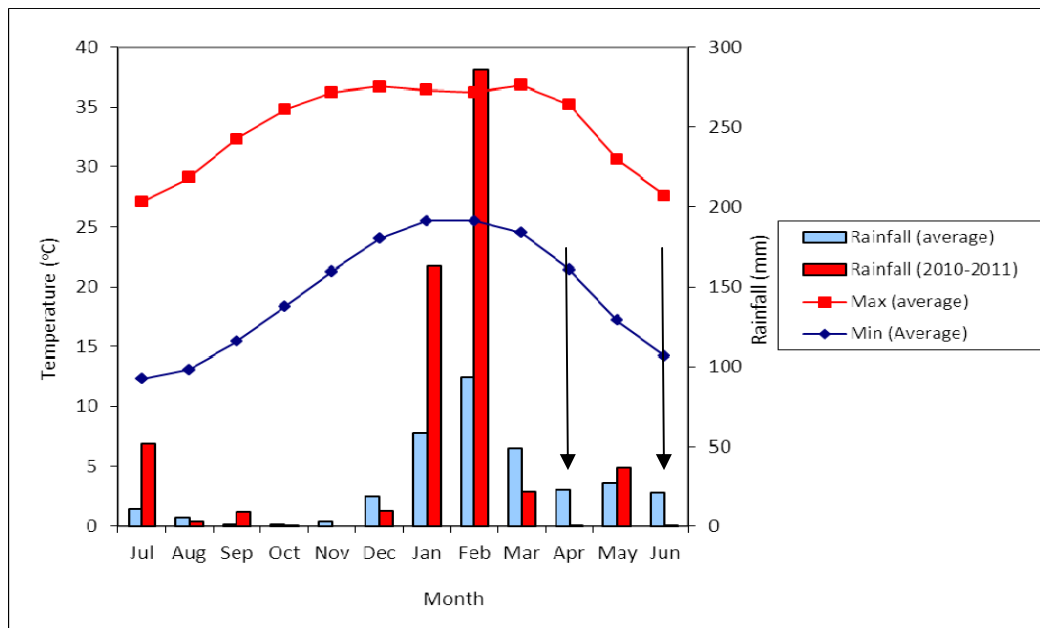
### 1.2.1 Climate

The study area is located in the coastal Pilbara region of Western Australia. The Pilbara has an arid-tropical climate with two distinct seasons, a hot summer from October to April and a mild winter from May to September. In summer, maximum daytime temperatures average 36.8°C, whilst in winter, minimum night time temperatures

average 12.3°C (Bureau of Meteorology (BoM) 2011; Figure 2). Rainfall in the Pilbara is often sporadic, and throughout the year (in summer and winter).

The nearest accessible long-term climate data is available from the BoM Port Hedland Airport weather station located in the study area.

The Port Hedland area has an average annual rainfall of 313.6 mm (1942-2011) (BoM 2011) with the majority of rainfall occurring during the summer months (Figure 2). Summer rainfall is typically associated with tropical storms in the north, or tropical cyclones that cross the coast and move inland. Winter rainfall is commonly the result of cold fronts moving north-easterly across the State.



**Figure 2:** Average long-term (1942 -2011) and actual Monthly Rainfall (July 2010 – June 2011) and average Maximum and Minimum Temperatures at Port Hedland Airport (BoM 2011). Arrows indicate survey times.

### 1.2.2 Interim Biogeographic Regionalisation for Australia

The Interim Biogeographic Regionalisation for Australia (IBRA) divides Australia into 85 bioregions based on major biological and geographical/geological attributes (Thackway and Cresswell 1995). These bioregions are subdivided into 403 subregions, as part of a refinement of the IBRA framework (Department of Sustainability, Environment, Water, Population and Communities [DSEWPac] 2011a).

The northern section of the study area is located in the Roebourne subregion (PIL4) (574.92 km<sup>2</sup>), while the southern section is located in the Chichester subregion (PIL1) (140.53 km<sup>2</sup>) of the Pilbara bioregion (Thackway and Cresswell 1995).

The Roebourne subregion is characterised by coastal and sub-coastal alluvial and older colluvial plains with a grass savannah of mixed bunch and hummock grasses, and dwarf

shrub steppe of *Acacia stellaticeps* or *A. pyrifolia* and *A. inaequilatera* (Kendrick and Stanley 2001). This subregion covers more than 70% of the study area.

The Chichester subregion is characterised by Archaean granite and basalt plains with a shrub steppe of *Acacia inaequilatera* over *Triodia wiseana* hummock grassland and *Eucalyptus leucophloia* tree steppe on the ranges (Kendrick and McKenzie 2001). This subregion occurs in the south-eastern portion comprising 17% of the study area. The remaining 13% of the study area is not classified as it is largely ocean.

### **1.2.3 Land Systems**

Land system mapping is based on regional patterns in topography, soils and vegetation. The land system mapping classifies the Pilbara region into 102 land systems (van Vreeswyk *et al.* 2004). The study area comprises six land systems (Table 1).

The majority of the study area is dominated by the Uaroo Land system, which occupies more than 60% of the central part of the study area. The Littoral Land System occurs along the coastal region in the north and the Macroy Land System occurs only in the south eastern corner of the study area. Areas of River Land System occur along the western and eastern boundaries of the study area, with small occurrences of the Mallina and Yamerina Land Systems along the western boundary.

**Table 1:** Land Systems of the Study Area

Land System	Description	Area of Land System in Pilbara Bioregion		Area of Land System in the Study area		
		Area (km <sup>2</sup> )	% of Pilbara Region	Area (km <sup>2</sup> )	% of Study area	% of total in Pilbara Bioregion
Littoral	Bare coastal mudflats with mangroves on seaward fringes, samphire flats, sandy islands, coastal dunes and beaches.	1,577	0.9%	127.4	15.75%	8.1%
Macroy	Stony plains and occasional tor fields based on granite supporting hard and soft spinifex grasslands.	13,095	7.2%	37.8	4.67%	0.008%
Mallina	Sandy surfaced alluvial plains supporting soft spinifex (and occasional hard spinifex) grasslands.	2,557	1.4%	11.2	1.38%	0.44%
River	Active flood plains and major rivers supporting grassy eucalypt woodlands, tussock grasslands and soft spinifex grasslands.	4,088	2.3%	32.2	3.98%	0.79%
Uaroo	Broad sandy plains supporting shrubby hard and soft spinifex grasslands.	7,681	4.2%	495.4	61.26%	6.45%
Yamerina	Flood plains and deltaic deposits supporting tussock grasslands, grassy woodlands and minor halophytic low shrublands.	1,207	0.7%	8.9	1.1%	0.74%
Other	River Bed Land Unit and Marine Environment	N/A	N/A	95.8	11.86%	N/A

### 1.2.4 Geology

Eight geological units occur in the study area (Table 2), based on mapping at a scale of 1:250,000 by the Geological Survey of Western Australia (1990).

**Table 2:** Geological Units of the Study Area

Unit	Description	Area (km <sup>2</sup> )
ACDcsw	CONSTANTINE SANDSTONE, subunit: Wacke; locally subarkosic; fine- to coarse-grained; well-developed graded units; minor pebble beds and shale; turbiditic; metamorphosed	12.1
AgPMA	Granitic rock, unassigned, interpreted from aeromagnetic data	48.9
APIxmbmuts	Interleaved amphibolite and talc-tremolite-serpentine-chlorite schist	19.1
ACDms	MALLINA FORMATION: interbedded shale, siltstone, sandstone, and medium- to fine-grained wacke; metamorphosed	27.1
AmyyPWP	Mylonitic granitoid, felsic and mafic volcanic, ultramafic, and sedimentary rocks	8.9
APIxbs	Pilbara Supergroup, unassigned: mafic and ultramafic volcanic rocks; minor chert; metamorphosed	236.7
AgPI	PIPPINGARRA GRANITIC COMPLEX: undivided granitoid rocks; metamorphosed	332.4
AgmPMA	Unassigned monzogranite, interpreted from aeromagnetic data; metamorphosed	20.9
Other	Unassigned geological areas	102.6

### 1.2.5 Soils

The following five soil groups (Tille 2006) occur in the study area:

**Tidal soils (104):** Intertidal soils are inundated regularly, while supratidal soils are inundated infrequently. Soils are deep (>100 cm) sandy clay loams or silty light to medium clays overlying silty medium clays.

**Calcareous deep**

**Sands (442):**

This soil group comprises of deep white, grey and brown calcareous sands of the coastal margins of the survey area. The sands tend to be white to light grey on the beach and foredune zones, trending to yellowish brown to strong brown away from the beaches.

**Red deep sandy duplex soils(405):**

These soils have medium (10-30 cm) topsoils of loamy sands to sandy loams overlying medium to thick (30-60 cm) subsoils of clay loams or light to medium clay. These soils are mostly deep (>100 cm).

**Red/brown non-**

cracking clays(622): Shallow (<50 cm) red/brown non-cracking clays have thin clay loam or light clay topsoils overlying subsoils of light clay or are uniformly clay throughout.

Red deep sands

(445): The majority of the deep red sands occur on sandplains, sand sheets and sand banks. These soils are deep and have thin to medium (10-30 cm) topsoil textures of loamy sand overlying thick (>60 cm) subsoils of clayey sand or sandy loam.

### 1.2.6 Vegetation Mapping

Vegetation mapping of the Pilbara region was completed on a broad scale (1:1,000,000) by Beard (1975). The study area is situated in the Roebourne plains which forms a part of the Fortescue Botanical District in the Eremaean Botanical Province of Western Australia (Beard 1975). Beard (1975) mapped seven broad vegetation units in the study area (Table 3).

Shepherd *et al.* (2001) re-assessed the mapping of Beard (1975), and updated vegetation boundaries to account for clearing in the intensive land use zone, and divided some larger vegetation units into smaller units. Vegetation types 43, 93, 117, 127, 589, 619 and 647 described by Shepherd *et al.* (2001) correspond with that of Beard (1975) as shown in Table 3.

Seven broad vegetation types characterise the study area. Vegetation type 647, dominates the north and west, accounting for about 37% of the study area. Other dominant broad vegetation types include 589 and 93, which chiefly occur in the central and south eastern parts, and account for approximately 22% and 15% of the study area respectively.

**Table 3:** Broad Vegetation Mapping of the Study Area

Broad Vegetation Type			
Vegetation Description	Beard / Shepherd Unit Code	Area (km <sup>2</sup> ) of study area	% of study area
Hummock grasslands, dwarf-shrub steppe; <i>Acacia translucens</i> over soft spinifex	a18Zr t1Hi / 647	300.54	37.16%
Hummock grasslands, shrub steppe; kanji over soft spinifex	a2Sr t1Hi / 93	118.96	14.71%



Broad Vegetation Type			
Vegetation Description	Beard / Shepherd Unit Code	Area (km <sup>2</sup> ) of study area	% of study area
Hummock grasslands, grass steppe; soft spinifex	t1Hi / 117	13.61	1.68%
Bare areas; mudflats	Mud / 127	75.77	9.37%
Low forest; mangroves (Kimberley) or thicket; mangroves (Pilbara)	Mangrove / 43	34.3	4.24%
Mosaic: Short bunch grassland - savannah / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex	xGc/t1Hi / 589	177.48	21.95%
Medium woodland; river gum ( <i>Eucalyptus camaldulensis</i> )	e18Mi / 619	2.82	0.35%
Areas not mapped by Beard (1975)	-	85.26	10.54%

### 1.3 PREVIOUS BIOLOGICAL STUDIES

The flora and fauna of the Pilbara has been recorded at a broad scale by Burbidge (1959) and Beard (1975). More recently, the Department of Agriculture (van Vreeswyk *et al.* 2004) compiled an inventory and condition survey of the Pilbara which provides inventory of flora and a description of land resources in terms of land systems. Data from the Pilbara Region Biological Survey 2002-2009 by the DEC are currently being analysed; however, vegetation and flora data have not yet been published. The DEC survey will provide a regional context that is necessary to assess the likely impact of future development proposals. It is anticipated that the survey will provide information on patterns in the distribution of flora and fauna to help the community make decisions about conservation requirements and the sustainable use of natural resources.

Surveys of the flora and vegetation (excluding mangroves) of the Port Hedland area have been conducted by a number of consultancies including ENV, Biota Environmental

Sciences (Biota), Dr. Kelly Shepherd (Department of Environment and Conservation), Woodman Environmental Consulting and Maia Environmental Consultancy.

## 2 METHODS

### 2.1 BACKGROUND TO THE PROTECTION OF FLORA AND VEGETATION

Flora and vegetation are protected formally and informally by various legislative and non-legislative measures, which are as follows:

#### **Legislative Protection**

- *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*;
- *Wildlife Conservation Act 1950 (WC Act)*; and
- *Environmental Protection Act 1986 (EP Act)*.

#### **Non-Legislative Protection**

- Western Australian DEC Priority lists for flora and vegetation; and
- Recognition of locally significant populations by the DEC.

A short description of each is given below. Other definitions, including species conservation categories for flora, are provided in Appendix A. Conservation categories for ecological communities are provided in Appendix B.

#### **EPBC Act**

The *EPBC Act* aims to protect matters of national environmental significance. Under the *EPBC Act*, the Commonwealth Department of Sustainability, Environment, Water, Populations and Communities (DSEWPaC) lists threatened species and communities in categories determined by criteria set out in the Act ([www.environment.gov.au/epbc/index.html](http://www.environment.gov.au/epbc/index.html)) (Appendix A and Appendix B).

Projects likely to cause impacts on matters of national environmental significance should be referred to DSEWPaC for assessment under the *EPBC Act*.

#### **WC Act**

The Western Australian DEC lists flora under the provisions of the *WC Act* as protected according to their need for protection (Appendix A)

Flora is given Declared Rare status when populations are geographically restricted or are threatened by local processes. In addition, under the *WC Act*, by Notice in the Western Australian Government Gazette of 9 October 1987, all native flora (spermatophytes, pteridophytes, bryophytes and thallophytes) is protected throughout the State.

### **EP Act**

Declared Rare Flora (DRF) and Threatened Ecological Communities (TECs) are given special consideration in environmental impact assessments, and have special status as Environmentally Sensitive Areas (ESAs) under the *EP Act* and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

### **Agriculture and Related Resources Protection (ARRP) Act**

Plants may be 'Declared' by the Agriculture Protection Board under the *ARRP Act 1976 (WA)*. Declared Plants are gazetted under five categories (P1-P5), which define the action required. Details of the definitions of these categories are provided in Appendix C. A declaration may apply to the whole State, to districts, individual properties or even to single paddocks. If a plant is 'Declared', landholders are obliged to control that plant on their properties (Department of Agriculture and Food Western Australia [DAFWA] 2011).

The Environmental Weed Strategy for Western Australia (Department of Conservation and Land Management [CALM] 1999) contains criteria for the assessment and ranking of weeds in terms of their environmental impact on biodiversity (Appendix C). The Strategy defines environmental weeds as 'plants that establish themselves in natural ecosystems and proceed to modify natural processes, usually adversely, resulting in the decline of the communities they invade.'

The Australian Government along with the State and Territory governments has endorsed 20 species as Weeds of National Significance (WONS). Four major criteria were used in determining WONS:

- the invasiveness of a weed species;
- a weed's impacts;
- the potential for spread of a weed; and
- socio-economic and environmental values.

Each WONS has a national strategy and a national coordinator, responsible for implementing the strategy. WONS are regarded as the worst weeds in Australia because of their invasiveness, potential for spread, and economic and environmental impacts (Commonwealth of Australia 2011).

### **DEC Priority Lists**

The DEC lists 'Priority' flora that have not been assigned statutory protection under the *WC Act*, but which are under consideration for declaration as DRF.

Flora assessed as Priority 1-3 (Appendix A) are considered to be in urgent need of further survey. Priority 4 flora requires monitoring every 5-10 years and Priority 5 flora is subject to a specific conservation program (Appendix A for definitions).

Although DEC Priority species have no formal legal protection, they are under consideration as 'Rare' flora under the *WC Act*.

In addition, the DEC maintains a list of Priority Ecological Communities (PECs) which identifies those communities that need further investigation before possible nomination for TEC status.

Once listed, a community is a PEC, and when endorsed by the Western Australian Minister of Environment becomes a TEC, and protected as an Environmentally Sensitive Areas (ESA) under *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Appendix B for definitions).

### **Informal Recognition of Flora**

Certain populations or communities of flora may be of local significance or interest because of their patterns of distribution and abundance. For example, flora may be locally significant because they are range extensions to the previously known distribution, or are newly discovered taxa (and have the potential to be of more than local significance). In addition, many species are in decline as a result of threatening processes (primarily land clearing), and relict populations of such species assume local importance for the DEC. It is not uncommon for the DEC to make comment on these species of interest.

## **2.2 LITERATURE REVIEW**

### **2.2.1 Literature Review**

The following 21 reports were reviewed and synthesised as part of the literature review:

- *Port Hedland Solar Saltfield Biological Expansion Botanical Survey* (Biota 2006);
- *A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour* (Biota 2008a);
- *A Biodiversity Assessment of the Utah Point Berth Development Port Hedland.* (Biota 2008b);
- *Port Hedland Nelson Point Dredging Approvals - Flora and Vegetation Assessment of an area Located in DMMA A* (ENV 2008a);
- *Outer Harbour Development Flora and Vegetation Assessment* (ENV 2009a);
- *Port Hedland Nelson Point Dredging Approvals Flora and Vegetation Assessment of DMMA H* (ENV 2009b);

- *Goldsworthy Rail Duplication Flora and Vegetation Assessment* (ENV 2009c);
- *Port Hedland Nelson Point Dredging Approvals Targeted Species Assessment of DMMA H* (ENV 2009d);
- *Port Hedland Area Targeted Flora Survey* (ENV 2009e);
- *Boodarie Depot Flora and Vegetation Assessment* (ENV 2009f);
- *Port Hedland Transmission Lines Flora & Fauna Assessment* (ENV 2009g);
- *Targeted survey of Tecticornia (Chenopodiaceae) in the Nelson Point to Bing Siding Rail Duplication Study area, Port Hedland* (Shepherd 2009);
- *Wallwork Road Bridge Flora and Vegetation Assessment* (ENV 2010a);
- *Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment* (ENV 2010b);
- *Finucane Island to Wedgefield Flora and Vegetation Assessment* (ENV 2010c);
- *Great Northern Highway Road Bridge Flora and Vegetation Assessment* (ENV 2010d);
- *Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment* (ENV 2010e);
- *Hunt Point Beach Flora, Vegetation and Fauna Assessment* (ENV 2010f);
- *Level One Flora and Vegetation Assessment of Mooka Siding* (Maia 2010);
- *Targeted Regional Tephrosia rosea var. venulosa Survey* (ENV 2011); and
- *North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies* (Woodman 2011).

Seven reports have previously been compiled based on results drawn from the above surveys. The results included in these reports are presented in this literature review as they are incorporated in the above cited original reports. These reports include:

- *A Flora and Fauna Assessment of RGP5 DMMA A, Port Hedland Harbour* (Biota 2008c);
- *Port Hedland Nelson Point Dredging Approvals Flora and Fauna Review of DMMA H* (Biota 2009);
- *Project Quantum Flora and Vegetation Assessment* (ENV 2008b);
- *Finucane Island Causeway Flora and Vegetation Assessment* (ENV 2009h);
- *Finucane Island Rail Project* (ENV 2009i);
- *Boodarie Drive Intersection Vegetation Clearing Permit* (ENV 2010g); and
- *Native Vegetation Clearing Permit Number 3463/1 Amendment - Flora, Vegetation and Fauna Summary Letter* (ENV 2010h).

An additional three reports were reviewed, of these, the significant results were extracted from Hope Downs (2002) and Biota (2004) and are included in the results

presented from the previous surveys. This includes records of Priority and introduced flora located in the study area. The complete species lists recorded during these surveys have not been assimilated into the species list compiled from the 21 previous surveys as these surveys were for rail corridors and much of the area surveyed was not in the vicinity of the study area. Results from Matiske (1994) have not been included in the analysis conducted due to the age of the survey.

- *Hedland HBI Project – Boodarie Site – Flora, Vegetation and Vertebrate Fauna Survey (Matiske Consulting 1994);*
- *Hope Downs Iron Ore Project Rail and Port Public Environmental Review (Hope Downs Management Services Pty Ltd 2002); and*
- *Vegetation and Flora Survey of the Proposed FMG Stage A Rail Corridor (Biota 2004).*

Species recorded from all surveys were compiled into a list of all species recorded in the study area. This list was checked for currency of names and erroneous records were removed.

### **2.2.2 Database Searches**

Database searches were also conducted as part of the literature review. This involved a search of the following sources:

- DEC combined biological database *NatureMap* (DEC 2011b);
- DEC databases, including Threatened Flora Database (DEFL), the Western Australian Herbarium database (WAHerb) and the DEC Priority Flora List were interrogated for Priority and DRF for the area of interest (DEC 2011c);
- DEC Threatened and Priority Ecological Communities (TECs and PECs) database for the coordinates presented above (DEC 2011d); and
- DSEWPaC Protected Matters SearchTool (DSEWPaC 2011b), also known as an EPBC search.

A request for a database search was submitted to the DEC [centred at 20° 26' 51.43 ''S and 118° 36' 24.46'' E, with 50 km radius] to ascertain the presence of Declared Rare or Priority species and Threatened or Priority Ecological Communities previously recorded in the study and surrounding areas. In addition, a literature review was conducted, together with a review of records of flora for the study area. These sources were used to compile a list of expected Declared Rare or Priority species, and TECs and PECs that may occur on the landforms in the study area.



## 2.3 SURVEY METHODS

The survey was carried out to be consistent with EPA requirements for environmental surveying and reporting for flora and vegetation in Western Australia, as set out in the following documents:

- *Environmental Protection of Native Vegetation in Western Australia: Clearing of Native Vegetation with Particular Reference to Agricultural Areas. Position Statement No. 2* (EPA 2000);
- *Terrestrial Biological Surveys as an Element of Biodiversity Protection. Position Statement No. 3* (EPA 2002); and
- *EPA Guidance for the Assessment of Environmental Factors: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia No. 51* (EPA 2004).

The flora survey was also completed to meet the requirements of the BHPBIO Guidance for Vegetation and Flora Surveys in the Pilbara Region (BHPBIO 2010).

### 2.3.1 Field Survey

The survey was undertaken over two field trips from the 30<sup>th</sup> of April to the 6<sup>th</sup> of May, 2011 and from the 20<sup>th</sup> of June to the 1<sup>st</sup> of July, 2011. A total of 70 person days were invested in the survey of the 808.7 km<sup>2</sup> study area.

The survey recorded flora of conservation significance, introduced flora, flora richness, vegetation composition and structure and assessed vegetation condition using quadrat data, targeted searches and traverses of the study area. Field staff collected flora information using 50 x 50 m vegetation survey plots, as per BHPBIO Guidance document (BHPBIO 2010), relevés and opportunistic collections. For areas in which a 50 x 50 m quadrat was not possible (i.e. in areas of linear vegetation vegetation/habitats), suitable quadrat dimensions were used, whilst maintaining the same total search area. The location of quadrats was chosen to be representative of the vegetation of the study area. The locations of the previously surveyed quadrats were assessed prior to the current survey and new quadrat locations were selected in different areas than the previous surveys to achieve high density sampling of all habitats and land forms present in the study area. Quadrat locations are illustrated in Figure 3.

The first field survey comprised targeted searches for Priority Flora. Known habitats and locations of previously recorded Priority Flora were targeted and traversed. The second field survey comprised surveys of the vegetation types with quadrats and relevés sampled in all vegetation types. A total of 158 quadrats and three relevés were established in the study area.

Data was recorded using standardised field sheets designed in accordance with BHPBIO Guidance (BHPBIO 2010). The information recorded at each quadrat included landscape

features, soils and rock type, fire age, bare ground and disturbance levels and vegetation condition (the Condition Scale (Keighery 1994 as summarised in Government of Western Australia 2000) is presented in Appendix D). Each species of plant at each quadrat was recorded, including information on height and percentage cover. Opportunistic collections focused mainly on the location of new flora taxa not recorded in the quadrats, introduced species, and in particular, Priority Flora, and flora not well known or not currently described.

For the three months preceding the surveys, Port Hedland received 307.6 mm of rainfall (February - April 2011), compared with the long-term average of 167 mm for the same period (BoM 2011). This was due to a number of cyclones impacting upon the north-west coast during the 2010-2011 cyclone season. Rainfall for the 12 months prior to the surveys (June 2010 – May 2011) was 579.8 mm compared with 309.8 mm for the long-term average for the same period (1942-2011). Overall, rainfall was 87% above the long term average (Figure 2).

### 2.3.2 Taxonomic Identification

At least one specimen of each taxon was collected for all surveys as per the BHPBIO Guidance (2010). In addition, where field identification of taxa was not possible, specimens were collected systematically for later identification by taxonomists utilising the resources of the Western Australian Herbarium (WAH), through comparison with the reference collection and use of identification keys.

The species list for the study area was checked against FloraBase (WAH 2011) to determine whether any of the species are listed as DRF, Priority Flora or introduced species. Declared Rare and Priority Flora were also checked against the *EPBC Act* listing of threatened species to determine whether any are federally listed. Introduced species were checked against the Environmental Weed Strategy for Western Australia (CALM 1999), to determine the criteria and ranking in terms of their environmental impact, and the *ARRP Act* to determine whether any are listed as Declared Plants.

In addition, all specimens collected during the 2011 surveys that were difficult to identify, range extensions or Priority Flora were validated by the BHPBIO sponsored taxonomist at the WAH, as per BHPBIO Guidance (BHPBIO 2010). Chain of Custody forms indicating the specimens validated by the BHPBIO sponsored taxonomist are presented in Appendix E. Rare Flora Report Forms were completed for Priority and DRF recorded in the study area. These forms were forwarded to the DEC and are presented in Appendix E. Range extensions and Priority Flora were lodged at the Western Australian Herbarium. Results from the surveys will be lodged with the DEC as per licence conditions.

### 2.3.3 Vegetation Association Definition and Mapping

Vegetation associations were described based on their structure and species composition, as defined by quadrat data and field observations. Quadrat and relevé

vegetation descriptions, as well as aerial photo patterns, were used to delineate vegetation. Vegetation associations were named in alignment with the vegetation mapping of the Outer Harbour Development Area (ENV 2009a) which is situated in the current study area (Specht (1970) with modification by Aplin (1979) and Trudgen (2002) as cited in BHPBIO 2010). The vegetation mapping of the Outer Harbour Development Area was expanded from the current survey to cover the entire study area.

Field mapping was carried out using GPS (Magellan and Garmin) and GIS (OziExplorer and ArcGIS 9.3.1) hardware and software. The boundaries of the vegetation associations were drawn over high resolution aerial photographs with the aid of GPS coordinates taken throughout the field survey. The vegetation associations were digitised and produced as manipulable electronic mapping data using Microstation V7.0. ESRI shapefiles were created with ARCGIS 9.3.1.

Once the vegetation associations were determined, they were checked against the listing of Federal and State TECs and State PECs. The vegetation associations were also checked against regional databases, such as Beard (1975), Shepherd *et al.* (2001) and Comprehensive Adequate and Representative (CAR) Reserve Analysis (DAFWA 2007), to determine their regional representation.

#### **2.3.4 Vegetation Condition**

The condition of the vegetation was assessed according to the Bush Forever vegetation condition scale (Keighery 1994 as summarised in Government of Western Australia 2000); Appendix D). Vegetation condition was recorded during field traverses of the study area and at all quadrat sites.

## 3 RESULTS AND DISCUSSION

### 3.1 LITERATURE REVIEW

A literature review was completed to provide a regional overview for the study area. A summary of the results are provided below.

#### 3.1.1 Literature Review

The review compiles the results and findings of over 21 flora and vegetation reports produced for the Port Hedland area mainly in the last five years which involved field surveys of the Port Hedland area. Difficulties existed in the compilation and comparison of results produced from different reports as differences in survey timing, extent, methodologies and the size and location of each study area will influence the results of each survey. A summary of the surveys reviewed is presented in Table 4.

A total of 465 taxa were recorded from the combined results of the previous surveys conducted in the Port Hedland area. No Threatened species pursuant to the *EPBC Act* have been recorded and no plant taxa gazetted as Declared Rare pursuant to the *WC Act* have been recorded by previous surveys.

A total of 10 current Priority Flora have been previously recorded from the Port Hedland area: *Abutilon pritzelianum* (Priority 1), *Heliotropium muticum* (Priority 1), *Tephrosia rosea* var. *venulosa* (Priority 1), *Gomphrena pusilla* (Priority 2), *Eragrostis crateriformis* (Priority 3), *Gomphrena leptophylla* (Priority 3), *Gymnanthera cunninghamii* (Priority 3), *Pterocaulon* sp. A Kimberley Flora (B.J. Carter 599) (Priority 3), *Bulbostylis burbridgeae* (Priority 4) and *Goodenia nuda* (Priority 4).

Three changes in the conservation status of taxa recorded from the previous surveys have occurred in the time since the original surveys: *Abutilon trudgenii* (Priority 3 changed to no conservation status), *Pterocaulon* sp. A Kimberley Flora (B.J. Carter 599) (Priority 2 reduced to Priority 3) and *Goodenia nuda* (Priority 3 reduced to Priority 4). No additional Priority species from the study area have been recognised during this time.

A total of 21 introduced flora have been previously recorded from the combined surveys. Two of these 21 species are listed as Declared Plants under the *ARRP Act*: *\*Opuntia stricta* and *\*Tamarix aphylla*. *\*Opuntia stricta* is listed as a P1 and a P2 Declared Plant for the Port Hedland area and *\*Tamarix aphylla* is listed as a P1 Declared Plant for the whole of the state (DAFWA 2011). In accordance with the *ARRP Act*, it is prohibited for P1 Declared Plants to be introduced into an area, or moved in an area. P2 Declared Plants are required to be eradicated from the area (DAFWA 2011).

*\*Opuntia stricta* (Prickly pear) was recorded along with *\*Yucca aloifolia* and *\*Aloe vera* from one location in sandplain habitat on Finucane Island and are likely to have been planted as they are commonly occurring garden species (ENV 2010f). *\*Tamarix aphylla*

has been recorded from one location in a drainage trench approximately 1 km east of the Port Hedland airport (ENV 2009c).

Five broad vegetation types were frequently occurring in the Port Hedland area and variations of each of these vegetation types were recorded in a number of the previous surveys. These vegetation types are:

- Hummock grassland of *Triodia secunda*;
- Low Open Shrubland of *Tecticornia* spp. on saline flats;
- Low Shrubland of *Acacia stellaticeps* with mixed *Triodia secunda* / *Triodia schinzii* / *Triodia epactia* Open Hummock Grassland;
- High Closed Shrubland of *Avicennia marina* and *Rhizophora stylosa* (Mangroves); and
- Mixed Tussock grassland of *Eragrostis* spp., \**Cenchrus ciliaris*, *Aristida* spp. and *Paraneurachne* spp.

The vegetation condition of the Port Hedland area ranged from Completely Degraded to Excellent. The majority of the disturbance recorded in previous surveys was associated with clearing for infrastructure, tracks, roads and rail lines. The townsites of Port Hedland and South Hedland and the port represent significantly disturbed areas.

One vegetation type is of conservation significance: the mangroves. Three additional vegetation types were considered to be of conservation interest, samphire shrublands (Biota 2008a), grasslands dominated by *Triodia secunda* (Biota 2008a) and vegetation in association with Granite Domes and Torrs (Maia 2010).

The majority of the vegetation occurring in the Port Hedland area is well represented regionally. Beard (1975) recognised seven broad vegetation types that correlate with vegetation types described in the previous surveys.

**Table 4:** Summary of Main Findings from Previous Surveys of the Port Hedland Area

Project	Survey time	Additional data derived from previous surveys	Season	Methodology	Survey area (ha)	Number of Quadrats	Number of Relevés	Number of Taxa Recorded	Conservation Significant Flora	Flora of Interest	Introduced Flora
A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour (Biota 2008a)	February 2008	-	Poor	Single Season Level 1	583.1	-	-	63	N/A		* <i>Aerva javanica</i> , * <i>Cenchrus ciliaris</i> , * <i>Cynodon dactylon</i> , * <i>Stylosanthes hamata</i> , * <i>Washingtonia filifera</i> , * <i>Chloris virgata</i> , * <i>Merremia dissecta</i> , * <i>Cenchrus setiger</i> , * <i>Portulaca oleracea</i>
A Biodiversity Assessment of the Utah Point Berth Development Port Hedland (Biota 2008b)	April 2007	-	Very Good	Single Season Level 1	-	-	-	108	<i>Bulbostylis burbridgeae</i> (Priority 4)	<i>Glycine tomentella</i>	* <i>Cenchrus ciliaris</i> , * <i>Cenchrus setiger</i> , * <i>Aerva javanica</i> , * <i>Stylosanthes hamata</i> , * <i>Chloris virgata</i> , * <i>Flaveria trinervia</i>
Port Hedland Nelson Point DMMA A Area Flora and Vegetation Assessment (ENV 2008a)	October 2008	-	Poor	Single Season Level 1	3	1	-	29	<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1).	-	* <i>Cenchrus ciliaris</i> and * <i>Chloris virgata</i>
Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)	October 2007 and May 2008	-	Very Good	Two Season Level 2	20,303	126 quadrats surveyed in 2007 and 2008; 96 quadrats surveyed in 2008	-	387	<i>Heliotropium muticum</i> (Priority 1), <i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1), <i>Gymnanthera cunninghamii</i> (Priority 3), <i>Pterocaulon</i> sp. A Kimberley Flora (B.J. Carter 599) (Priority 3) and <i>Goodenia nuda</i> (Priority 4).	<i>Eriachne sulcata</i>	* <i>Aerva javanica</i> , * <i>Cenchrus ciliaris</i> , * <i>Chloris virgata</i> , * <i>Citrullus colocynthis</i> , * <i>Cucumis melo</i> subsp. <i>agrestis</i> , * <i>Digitaria ciliaris</i> , * <i>Merremia dissecta</i> , * <i>Setaria verticillata</i> , * <i>Stylosanthes hamata</i> and * <i>Portulaca oleracea</i> .
Port Hedland Nelson Point DMMA H Area Flora and Vegetation Assessment (ENV 2009b)	October 2008	-	Poor	Single Season Level 2	176	6	3	50	<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1),		* <i>Cenchrus ciliaris</i> and * <i>Aerva javanica</i>
Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)	October 2008	-	Poor	Single Season Level 1	-	37	5	140	<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1)		* <i>Tamarix aphylla</i> , * <i>Aerva javanica</i> , * <i>Cenchrus ciliaris</i> , * <i>Stylosanthes hamata</i> , * <i>Chloris virgata</i> , * <i>Citrullus colocynthis</i> , * <i>Portulaca oleracea</i>
Port Hedland Nelson Point Dredging Approvals Targeted Species Assessment of DMMA H (ENV 2009d)	March 2009	-	Very Good	Targeted Flora Survey	266	-	-	2	<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1) and <i>Pterocaulon</i> sp. A Kimberley Flora (B.J. Carter 599) (Priority 3).		N/A
Port Hedland Area Targeted Flora Survey (ENV 2009e)	March 2009	ENV 2009d; ENV 2009e; ENV 2009g	Very Good	Targeted Flora Survey	2214	-	-	4	<i>Heliotropium muticum</i> (Priority 1), <i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1), <i>Pterocaulon</i> sp. A Kimberley Flora (B.J. Carter 599) (Priority 3) and <i>Goodenia nuda</i> (Priority 3).		N/A
Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)	June 2009	ENV 2009d	Good	Single Season Level 1	14	-	-	-			

Project	Survey time	Additional data derived from previous surveys	Season	Methodology	Survey area (ha)	Number of Quadrats	Number of Relevés	Number of Taxa Recorded	Conservation Significant Flora	Flora of Interest	Introduced Flora
Port Hedland Transmission Lines Flora & Fauna Assessment (ENV 2009g)	July 2009	-	Good	Single Season Level 1	4.63	-	-	93	<i>Abutilon pritzelianum</i> (Priority 1)		* <i>Aerva javanica</i> , * <i>Cenchrus ciliaris</i> , * <i>Stylosanthes hamata</i> , * <i>Citrullus colocynthis</i>
Targeted survey of Tecticornia (Chenopodiaceae) in the Nelson Point to Bing Siding Rail Duplication Project Area, Port Hedland (Shepherd 2009)	December 2009	-	Very Poor	Targeted Flora Survey		-	-	-			
Wallwork Road Bridge Flora and Vegetation Assessment (ENV 2010a)	January 2010	-	Very Poor	Single Season Level 1	38.3	7	1	56	N/A		* <i>Aerva javanica</i> , * <i>Cenchrus ciliaris</i>
Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b)	January 2010	-	Very Poor	Single Season Level 1	117.8	11	6	83	<i>Pterocaulon</i> sp. A Kimberley Flora (B.J. Carter 599) (Priority 3)	<i>Tephrosia rosea</i> var. <i>rosea/venulosa</i> <i>Tephrosia rosea</i> var. <i>aff. rosea</i>	* <i>Aerva javanica</i> , * <i>Cenchrus ciliaris</i> , * <i>Citrullus colocynthis</i>
Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)	March 2010	ENV 2011; ENV 2009e; ENV 2009d; ENV 2009f	Poor	Single Season Level 1	156	5	9	69	<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1)		* <i>Aerva javanica</i> , * <i>Cenchrus ciliaris</i> , * <i>Chloris virgata</i> , * <i>Stylosanthes hamata</i> , * <i>Vitex trifolia</i> var. <i>subtrisecta</i>
Great Northern Highway Road Bridge Flora and Vegetation Assessment (ENV 2010d)	March 2010	ENV 2010b; ENV 2010c; ENV 2011; ENV 2009f	Poor	Single Season Level 1	161.2	8	2	53	<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1)		* <i>Cenchrus ciliaris</i> , * <i>Stylosanthes hamata</i> , * <i>Vitex trifolia</i> var. <i>subtrisecta</i>
Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)	August 2010	-	Poor	Single Season Level 1	85	6	2	51	<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1)		* <i>Cenchrus ciliaris</i> , * <i>Aerva javanica</i> , * <i>Portulaca oleracea</i>
Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)	August 2010	-	Poor	Single Season Level 1	67	2	3	37	<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1)		* <i>Cenchrus ciliaris</i> , * <i>Aerva javanica</i> , * <i>Chloris barbata</i> , * <i>Yucca aloifolia</i> , * <i>Indigofera sessiliflora</i> , * <i>Opuntia stricta</i> , * <i>Aloe vera</i> , * <i>Portulaca oleracea</i>
Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)	August 2010	-	Poor	Single Season Level 1	1677	22	-	170	<i>Heliotropium muticum</i> (Priority 1)		* <i>Aerva javanica</i> , * <i>Cenchrus ciliaris</i> , * <i>Cenchrus setiger</i> , * <i>Malvastrum americanum</i> , * <i>Echinochloa colona</i> , * <i>Stylosanthes hamata</i> , * <i>Citrullus colocynthis</i> , * <i>Portulaca oleracea</i>
Targeted Regional <i>Tephrosia rosea</i> var. <i>venulosa</i> Survey (ENV 2011)	January to February 2010	-	Very Poor	Targeted Flora Survey		-	-	-	<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1)		N/A
North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)	July to August 2010 and April 2011	-	Very Good	Two Season Level 2		12 quadrats surveyed in 2010; 14 quadrats surveyed in 2011	3	193	<i>Eragrostis crateriformis</i> (Priority 3), <i>Gomphrena leptophylla</i> (Priority 3), <i>Gomphrena pusilla</i> (Priority 2), <i>Goodenia nuda</i> (Priority 4), <i>Gymnanthera cunninghamii</i> (Priority 3), <i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1)	<i>Murdannia graminea</i>	* <i>Aerva javanica</i> , * <i>Cenchrus ciliaris</i>



Project	Survey time	Additional data derived from previous surveys	Season	Methodology	Survey area (ha)	Number of Quadrats	Number of Relevés	Number of Taxa Recorded	Conservation Significant Flora	Flora of Interest	Introduced Flora
Vegetation and Flora Survey of the Proposed Fortescue Metals Group Stage A Rail Corridor (Biota 2004)	March – April 2004	(Hope Downs Management Services 2002)	Very Good	Single Season Level 2	-	97 quadrats	-	762	Unable to extract species recorded in study area	Unable to extract species recorded in study area	Unable to extract species recorded in study area
Hope Downs Iron Ore Project Public Environmental Review (Hope Downs Management Services 2002)	February 2001	-	Very Good	Single Season Level 2	-	286 quadrats	-	763	Unable to extract species recorded in study area	Unable to extract species recorded in study area	Unable to extract species recorded in study area

### 3.2 LIMITATIONS AND VARIABLES INFLUENCING THE 2011 SURVEY

There are always variables associated with individual surveys and it is often difficult to predict the extent to which they influence survey outcomes. There were no major limitations to the survey with the survey conducted in a good season, after high rainfall by experienced staff. Some small areas of the study area were inaccessible and were unable to be surveyed. Table 5 outlines some of the limitations identified during this survey.

**Table 5:** Limitations and Variables Associated with the Current Flora and Vegetation Survey

Variable	Impact on Survey Outcomes
Access	Most areas of the survey area were accessible and adequately surveyed. Small areas in the south of the study area were inaccessible and these areas were not surveyed.
Experience	The scientists who conducted these surveys were practitioners suitably qualified in their respective fields. <ul style="list-style-type: none"> <li>• Co-ordinating Botanist: Emma Carroll (Senior Botanist)</li> <li>• Field Staff: Kellie McMaster (Senior Botanist), Bridget Watkins (Botanist), Hayden Ajduk (Botanist), Lucy Dadour (Botanist) and Catherine Webb (Botanist).</li> <li>• Taxonomy: Peter Jobson (Taxonomist)</li> <li>• Data Analysis, Interpretation and Reporting: Emma Carroll and Bridget Watkins</li> </ul>
Timing, weather, season.	The rainfall for the six months preceding the survey was above average with 507.8 mm recorded (January to June 2011) compared to the long term average of 274.7 mm for the same period (BoM 2011). Many perennial and annual species were present during the survey and conditions were considered optimal.
Scope: Life forms	As the survey was undertaken after periods of above average summer rainfall, most perennial species exhibited identifiable features ( <i>i.e.</i> flowers, fruits and vegetative material). Many perennial and annual species were present during the survey.
Sources of information	At the bioregion level, the coastal Pilbara has been well studied in recent years. Numerous flora surveys have been undertaken in the area as part of environmental impact assessment processes. Those most relevant to the current study are listed in Section 2.2.1.  The vegetation mapping was produced to be consistent with that produced for the Outer Harbour Development Area which is situated in the current study area (ENV 2009a).

Variable	Impact on Survey Outcomes
Completeness	<p>During the current survey a total of 338 taxa were recorded, with an average richness of 28 taxa per quadrat, which is considered high compared with similar surveys conducted in the vicinity. Other surveys have recorded an average richness of between 17.9 taxa per quadrat (ENV 2010a) and 21.8 taxa per quadrat (ENV 2009a).</p> <p>The combined species inventory from the previous 20 surveys and the current survey indicated 577 taxa had been recorded from 67 families and 198 genera.</p>

### 3.3 DATABASE REVIEW

#### 3.3.1 Potentially Occurring Flora of Conservation Significance

In the Pilbara bioregion, two taxa, *Lepidium catapycnon* (Hamersley Lepidium) and *Thryptomene wittweri* (Mountain Thryptomene) are listed as Threatened under the *EPBC Act* and as DRF under the *WC Act*. Neither of these two species is expected to occur in the study area, due to the absence of suitable habitat. The desktop assessment (DEC database searches and previous surveys) identified records for 20 Priority Flora in 50 km of the study area. The likelihood of these 20 taxa occurring in the survey area is assessed in Table 6.

One taxon is 'Likely' to occur, six taxa are 'Possible' to occur, four are 'Unlikely' to occur. Twelve taxa have been previously recorded in the study area.

**Table 6:** The Likelihood of Priority Flora Occurring in the Study Area Based on Previous Surveys and DEC Database searches

Priority Taxon	Status	Annual or Perennial	Habitat Preference (WAH 2011)	Suitable Habitat Present	Number of Records <sup>[1]</sup>	Closest Record <sup>[2]</sup>	Source	Likelihood in the survey area <sup>[3]</sup>
<i>Abutilon pritzelianum</i>	P1	Perennial	Red sand dunes	Yes	17	In study area	DEC Database Search	Recorded (ENV 2009g)
<i>Acacia glaucocaesia</i>	P3	Perennial	Red loam, sandy loam and clay on floodplains	Yes	30	34.5 km	DEC Database Search	Possible
<i>Acacia levata</i>	P3	Perennial	Sand or sandy loam over granite on hillslopes	Yes	15	116 km	DEC Database Search	Unlikely
<i>Acacia</i> sp. Marble Bar (J.G. & M.H. Simmons 3499)	P1	Perennial	Information unavailable	Unknown	1	157 km	DEC Database Search	Unlikely
<i>Atriplex eremitis</i>	P1	Perennial	Semi saline plain in saline patch	Yes	1	41 km	DEC Database Search	Possible
<i>Bulbostylis burbridgeae</i>	P4	Annual	Granitic soils, granite outcrops, cliff bases	Yes	9	In study area	Previous survey	Recorded (Biota 2008b)
<i>Eragrostis crateriformis</i>	P3	Annual	Clayey loam, creek banks, depressions	Yes	8	54 km	Previous survey	Recorded (Woodman 2011)
<i>Euphorbia clementii</i>	P2	Perennial	Gravelly hillsides and stony grounds	Yes	5	50 km	DEC Database Search	Possible
<i>Gomphrena cucullata</i>	P2	Perennial	Red sandy loam, clayey sand on open floodplains	Yes	5	61 km	DEC Database Search	Possible

Priority Taxon	Status	Annual or Perennial	Habitat Preference (WAH 2011)	Suitable Habitat Present	Number of Records <sup>[1]</sup>	Closest Record <sup>[2]</sup>	Source	Likelihood in the survey area <sup>[3]</sup>
<i>Gomphrena leptophylla</i>	P3	Perennial	Sand, sandy to clayey loam, granite, quartzite on open flats, sandy creek beds, edges salt pans & marshes and stony hillsides	Yes	5	113 km	DEC Database Search	Recorded (Woodman 2011)
<i>Gomphrena pusilla</i>	P2	Perennial	Fine beach sand behind foredunes, on limestone	Yes	5	In study area	DEC Database Search	Recorded (Woodman 2011)
<i>Goodenia nuda</i>	P4	Perennial	Loamy plain, floodplain, drainage line, hill side, hill crest	Yes	21	In study area	DEC Database Search	Recorded (ENV 2009a, 2009e and Woodman 2011)
<i>Gymnanthera cunninghamii</i>	P3	Perennial	Sandy soils	Yes	14	In study area	DEC Database Search	Recorded (ENV 2009a and Woodman 2011)
<i>Heliotropium muticum</i>	P1	Perennial	Loam, sandy loam on plains and floodplains	Yes	7	In study area	DEC Database Search	Recorded (ENV 2009a, 2009e and Maia 2010)
<i>Nicotiana umbratica</i>	P3	Annual / Perennial	Shallow soils and rocky outcrops	Yes	10	92 km	DEC Database Search	Unlikely
<i>Phyllanthus aridus</i>	P3	Perennial	Sandstone, gravel and red sand	Yes	3	In study area	Previous survey	Recorded (Hope Downs 2002)

Priority Taxon	Status	Annual or Perennial	Habitat Preference (WAH 2011)	Suitable Habitat Present	Number of Records <sup>[1]</sup>	Closest Record <sup>[2]</sup>	Source	Likelihood in the survey area <sup>[3]</sup>
<i>Pityrodia</i> sp. Marble Bar (G. Woodman & D. Coultas GWDC Opp 4)	P1	Perennial	Skeletal soils over massive ironstone	No	2	104 km	DEC Database Search	Unlikely
<i>Polymeria distigma</i>	P3	Perennial	Sandy soils	Yes	14	4.1 km	DEC Database Search	Likely
<i>Pterocaulon</i> sp. A Kimberley Flora (B.J. Carter 599)	P3	Perennial	Sand on coastal areas, saline sandy flats and pindan sandplains	Yes	14	In study area	DEC Database Search	Recorded (ENV 2009a, 2009d and 2010b)
<i>Ptilotus appendiculatus</i> var. <i>minor</i>	P1	Perennial	Information unavailable	yes	1	In study area	DEC Database Search	Recorded (DEC database search)
<i>Tephrosia rosea</i> var. <i>venulosa</i>	P1	Perennial	Red sand near creeks	Yes	16	In study area	DEC Database Search	Recorded (ENV 2008a, 2009a, 2009b, 2009d, 2009e, 2009f, 2010b, 2010c, 2010d, 2010e, 2010f and 2011)

1 Number of records from the Western Australian Herbarium (WAH 2011)

2 Closest records from DEC flora database search results (DEC 2011c)

3 Likely – suitable habitat, close (<10 km) records and/or field survey completed in sub-optimal season, suggest species is likely to occur;

Possible – suitable habitat, records (<50 km) and/or field survey completed in sub-optimal season, suggests species possibly occurs; and

Unlikely – lack of suitable habitat, no records (<50 km) and/or field survey completed in optimal season, suggest species is unlikely to occur.

### 3.3.2 Potentially Occurring Ecological Communities of Conservation Significance

Two Threatened Ecological Communities (TECs) listed under *EPBC Act* or as endorsed by the Western Australian Minister for the Environment, occur in the Pilbara region. These are:

- *Themeda* Grasslands on Cracking Clays; the closest occurrence is >50 km to the south west of the survey area; and
- Ethel Gorge aquifer stygobiont community; approximately 370 km to the south-southeast of the survey area.

Neither of the TECs occurs in the vicinity of the study area, and no analogues are expected to occur due to the absence of extensive clay plains typical of the *Themeda* grasslands and calcrete geology for the stygobionts.

Twenty-nine (29) Priority Ecological Communities (PECs) are listed by the DEC for the Pilbara bioregion. None of these PECs occur in or adjacent to the study area. The nearest PEC, Horseflat Landsystem of the Roebourne Plains, is located approximately 100 km to the west of the study area.

## 3.4 FLORA

### 3.4.1 Flora of the Current Survey

Seasonal conditions for recording perennial, annual and other short-lived flora in May and June 2011 were near optimal, compensating for the poor conditions in 2010 and moderate conditions during other previous surveys. These conditions have resulted in a comprehensive vascular flora list.

During the current survey a total of 338 taxa were recorded from 58 families and 152 genera. The most commonly occurring families were Fabaceae (71 taxa), Poaceae (51 taxa), Malvaceae (29 taxa), Amaranthaceae (18 taxa) and Cyperaceae (15 taxa). A total of 22 families were represented by only one taxon. The most commonly occurring genera were *Acacia* (20 taxa), *Tephrosia* (12 taxa) and *Ptilotus*, *Senna* and *Sida* (9 taxa each). A total of 92 genera were represented by only one taxon.

Species richness for quadrats ranged from one to 49 taxa per quadrat, and averaged 28 taxa (standard deviation  $\pm 11.08$ ). The most taxa-rich quadrats were associated with drainage lines and sand plains while the quadrats with low taxa richness were associated with the coastal vegetation and mangroves.

The most commonly occurring taxa were *Bulbostylis barbata* (123 records), *Triodia epactia* (117 records), *Acacia stellaticeps* (111 records), *Yakirra australiensis* var.

*australiensis* (107 records) and *Aristida holathera* var. *holathera* (98 records). A total of 65 taxa were represented by only one occurrence.

Quadrat data from the current survey, including photographs, is presented in Appendix F; the species by site matrix is presented in Appendix G. The flora inventory comprising taxa from the all surveys is presented in Appendix H.

### 3.4.2 Flora of the Previous Surveys

A total of 465 taxa were recorded from the combined results of the 21 previous surveys conducted in the Port Hedland area (Appendix H: Biota 2008a; Biota 2008c; ENV 2008a; ENV 2009a; ENV 2009b; ENV 2009c; ENV 2009d; ENV 2009e; ENV 2009f; ENV 2009g; ENV 2010a; ENV 2010b; ENV 2010c; ENV 2010d; ENV 2010e; ENV 2010f; ENV 2011; Maia 2010; Shepherd 2009; and Woodman 2011). These 465 taxa were recorded from 64 families and 182 taxa. The most commonly occurring families recorded were Fabaceae (89 taxa), Poaceae (71 taxa) and Malvaceae (34 taxa). The most commonly occurring genera recorded were *Acacia* (25 taxa), *Tephrosia* (13 taxa), *Ptilotus* and *Cyperus* (12 taxa each).

\**Cenchrus ciliaris* was the most commonly occurring taxon, with records from 16 of the 20 surveys. 163 of the 465 taxa (35% of the species inventory) were recorded from only one survey.

### 3.4.3 Flora of the Combined Survey Dataset

The combined species inventory from the previous 21 surveys and the current survey indicated 577 taxa had been recorded from 67 families and 198 genera. The most commonly occurring families from the combined dataset were Fabaceae (112 taxa), Poaceae (90 taxa) and Malvaceae (44 taxa). A total of 24 families were represented by only one taxon. The most commonly occurring genera from the combined dataset were *Acacia* (28 taxa), *Tephrosia* (16 taxa), *Cyperus* and *Ptilotus* (15 taxa), and *Eragrostis* (13 taxa). A total of 100 genera were represented by only one taxon. The combined species inventory, and the survey from which each species was recorded, is presented in Appendix H.

A total of 76 of the 338 taxa (22% of the species inventory) recorded during the current survey had not been recorded during the 21 previous surveys of the Port Hedland area. The 76 new taxa included seven genera and one family that had not been previously recorded in the study area. The high number of new species is likely to be due to the increased survey area which covers more landform types and the good seasonal conditions. A total of 240 taxa were recorded previously which were not recorded in the current survey. This difference in number is likely due to differences in season and taxonomic identifications by various authors

The species list compiled from the current and previous surveys conducted in the Port Hedland area was compared to a species list compiled for the same area from a search



of the NatureMap database (DEC 2011a). A total of 394 taxa were returned for the area in the database search (DEC 2011a). The results of this search are provided in Appendix I. It should be noted that differences exist between results presented by Florabase (WAH 2011) and NatureMap (DEC 2011a) as they are compiled from different sources. Locations presented for each species on Florabase are compiled from specimens vouchered at the WAH. Therefore, if specimens have not been vouchered from an area, a point will not exist at that locality.

#### **3.4.4 Conservation Significant Flora Recorded in the Study Area**

No Threatened species pursuant to the *EPBC Act* or taxa gazetted as DRF pursuant to the *WC Act* were recorded in the study area during the current survey or previous surveys.

Four Priority Flora were recorded during the current survey: *Abutilon pritzelianum* MS (Priority 1), *Heliotropium muticum* (Priority 1), *Tephrosia rosea* var. *venulosa* MS (Priority 1) and *Gomphrena pusilla* (Priority 2). The locations of the Priority Flora is presented in Appendix J and illustrated in Figure 4.

A total of 12 Priority Flora have been recorded in the study area from the current and previous surveys. These species are indicated in Table 7. All Priority Flora recorded during the current survey had been previously recorded. The current survey identified an additional population of *Tephrosia rosea* var. *venulosa* on Finucane Island. Additional populations of *Abutilon pritzelianum* were also identified in a number of locations in the far west of the study area. *Heliotropium muticum* was identified from a much larger area than previously with an additional 1287 individuals recorded. This species was recorded mainly throughout the eastern part of the study area.

*Goodenia nuda* has been recorded from 35 locations in the study area (Woodman 2011; ENV 2009a; ENV 2009e) with a total of 238 individuals recorded from these locations. There is currently some confusion regarding the taxonomy and identification of *Goodenia nuda* and it is possible that some records in this area may represent the non-priority taxon *Goodenia triodiophila* (pers. comm. Steve Dillon, 2011). It should be noted that *Goodenia nuda* was not recorded during the current survey.

**Table 7:** Number of Individuals of Priority Flora Recorded during Previous Surveys of the Port Hedland Area

Species	Conservation Status	Current Survey	Biota 2004	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Maia 2010	Hope Downs 2002	Woodman 2011	Total
<i>Abutilon pritzelianum</i>	P1	31											50										50
<i>Heliotropium muticum</i>	P1	1290						7			11									15			27
<i>Tephrosia rosea</i> var. ? <i>venulosa</i> <sup>1</sup>	P1																					235	235
<i>Tephrosia rosea</i> var. aff. <i>venulosa</i>	P1													95	30								125
<i>Tephrosia rosea</i> var. <i>rosea/venulosa</i>	P1												93						197				290
<i>Tephrosia rosea</i> var. <i>venulosa</i>	P1						10	17	2	352	1431	480		168		232	1595	310					4597
<i>Gomphrena pusilla</i>	P2	1																				1030	1030
<i>Eragrostis crateriformis</i>	P3																					2	2
<i>Gomphrena leptophylla</i>	P3																					1	1
<i>Gymnanthera cunninghamii</i>	P3		1					5														2	7
<i>Phyllanthus aridus</i>	P3																				3		3
<i>Pterocaulon</i> sp. A Kimberley Flora (B.J. Carter 599)	P3							2		2				2									6
<i>Tephrosia</i> aff. <i>bidwillii</i>	P3			1	1	1																	3
<i>Bulbostylis burbridgeae</i>	P4					40																	40
<i>Goodenia nuda</i>	P4							1			236											1	238

1 See below for explanation about complications with taxonomy.

### ***Abutilon pritzelianum* MS (Priority 1)**

*Abutilon pritzelianum* MS is a shrub 1 – 1.5 m with yellow-orange flowers in August (Plate 1). It is currently known from 17 records from Port Hedland and Carnarvon area (WAH 2011). *Abutilon pritzelianum* MS was recorded from 14 locations during the current survey totalling 31 individuals and has previously been recorded from two locations with a total of 50 individuals. These records were made mainly in the west of the survey area from Sandplain B, H, I and N. The locations of *Abutilon pritzelianum* MS are presented in Appendix J and Figure 4. Collections from previous and the current survey have been vouchered with the Western Australian Herbarium.



**Plate 1:** *Abutilon pritzelianum* MS (Priority 1)

### ***Heliotropium muticum* (Priority 1)**

*Heliotropium muticum* is an erect, ascending to spreading perennial herb to 0.3 m with white flowers (Plate 2). It is currently known from seven records in the Port Hedland area (WAH 2011). *Heliotropium muticum* was recorded from 142 locations during the current survey totalling approximately 1290 individuals. Previously this species has been recorded from 22 locations in the study area (ENV 2009a; ENV 2009e; and Maia 2010) with a total of 27 individuals recorded from these locations.

This species was recorded mainly from areas in the east of the survey area with large numbers recorded from areas which had recently been burnt. *Heliotropium muticum* was recorded from Sandplain H, N, Q and S. The locations of *Heliotropium muticum* are presented in Appendix J and Figure 4. ENV and Maia collections of this species have been vouchered with the Western Australian Herbarium.



**Plate 2:** *Heliotropium muticum* (Priority 1)

***Ptilotus appendiculatus* var. *minor* (Priority 1)**

*Ptilotus appendiculatus* var. *minor* is a prostrate or ascending perennial herb or shrub and has one record on Florabase (WAH 2011). This record occurs in the study area and was recorded from red brown alluvial sand on an old floodplain near the Turner River in 1969. No recent records of this species have been made.

***Tephrosia rosea* var. *venulosa* MS (Priority 1)**

*Tephrosia rosea* var. *venulosa* MS is an erect shrub to 1.7 m with red-purple flowers from August to September (Plate 3) and is considered a disturbance specialist. It is currently known from 16 records in the Port Hedland area (WAH 2011). *Tephrosia rosea* var. *venulosa* MS was recorded from eight locations during the current survey totalling 26 individuals. This species was recorded from Finucane Island in vegetation type Dune A. The locations of *Tephrosia rosea* var. *venulosa* MS are presented in Appendix J and Figure 4.

ENV (2011) conducted a targeted regional flora survey in the Port Hedland area for the Priority taxon *Tephrosia rosea* var. *venulosa* (Priority 1) in November 2009. The survey identified three different forms of *Tephrosia rosea* (ENV 2011). The distribution of the three different forms illustrated that the form of *Tephrosia rosea* appeared to change with increasing radial distance from Finucane Island (ENV 2011). *Tephrosia rosea* var. *venulosa* was located on Finucane Island and in a distance of approximately 10 km from the Island (ENV 2011).

The WAH has records of *Tephrosia rosea* var. *venulosa* from other locations in the Pilbara region: in the Yandeyarra Aboriginal Reserve approximately 60 km south-west of Finucane Island; along the Peawah River between 75 - 120 km west-south-west of Finucane Island and at Warrawagine station approximately 230 km east of Port Hedland (WAH 2011). These records suggest that the distribution of *Tephrosia rosea* var. *venulosa* is not restricted to Finucane Island and immediate surrounds (ENV 2011).

The identification of *Tephrosia rosea* specimens to variety level is complicated as this species has not been formally described and more than half the collections of *Tephrosia rosea* lodged at the Western Australian Herbarium have been on loan since 1998 (Dillon 2010).

Due to the need for revision of *Tephrosia rosea* as a species, no definitive conclusion can be made regarding the regional distribution of *Tephrosia rosea* var. *venulosa* until the taxonomy of the species is further clarified (ENV 2011).

It is unlikely that all records identified as *Tephrosia rosea* ? var. *venulosa*, *Tephrosia rosea* var. aff. *venulosa*, and *Tephrosia rosea* var. *rosea/venulosa* actually represent the Priority 1 taxon. However, it has been recommended, based on the precautionary principle (EP Act 1986) that plants or populations identified as *Tephrosia rosea* var. *rosea/venulosa* should be considered in impact assessment and decision making processes as being of conservation significance (ENV 2011).

*Tephrosia rosea* var. *venulosa* has been previously recorded from 304 locations in the study area (ENV 2009f; ENV 2010g; ENV 2010c; ENV 2010f; ENV 2009a; ENV 2009h; ENV 2008c; ENV 2008b; ENV 2009d, ENV 2011; ENV 2009f; ENV 2010g; ENV 2010c; ENV 2010f; ENV 2009a; ENV 2009h; ENV 2008c; ENV 2009b; ENV 2009d; ENV 2011; ENV 2010e). These records are located throughout the study area in a variety of habitat types (Figure 4). For the purpose of this review, all records considered possible to represent the Priority taxon were indicated on the figure.

A total of 235 individuals identified as *Tephrosia rosea* ? var. *venulosa* have been recorded from in the study area (Woodman 2011). A further 125 individuals identified as *Tephrosia rosea* var. aff. *venulosa* have been recorded from in the study area (ENV 2010c and ENV 2010d). An additional 290 individuals identified as *Tephrosia rosea* var. *rosea/venulosa* have been recorded from in the study area (ENV 2010b and ENV 2011). A total of 4597 individuals identified as *Tephrosia rosea* var. *venulosa* (Priority 1) have been recorded from in the study area (ENV 2008a; ENV 2009a; ENV 2009b; ENV 2009d; ENV 2009e; ENV 2009f; ENV 2010c; ENV 2010e; ENV 2010f and ENV 2011). ENV collections of this species have been vouchered with the Western Australian Herbarium.





**Plate 3:** *Tephrosia rosea* var. *venulosa* MS (Priority 1)

***Gomphrena pusilla* (Priority 2)**

*Gomphrena pusilla* is a slender branching annual herb to 0.2 m with white flowers from March to April/June (Plate 4). It is currently known from three records from the Port Hedland area (WAH 2011). *Gomphrena pusilla* was recorded from one location on a Limestone Hill during the current survey with one individual at the location. The location of *Gomphrena pusilla* is presented in Appendix J and Figure 4.

*Gomphrena pusilla* has been recorded previously from three locations in the study area (Woodman 2011). A total of 1030 individuals were recorded from these locations. These records are located on the low sandy rises that occur in conjunction with the mangroves along the coastline.



**Plate 4:** *Gomphrena pusilla* (Priority 2)  
Source: Australian National Herbarium (2011)

***Eragrostis crateriformis* (Priority 3)**

*Eragrostis crateriformis* (Plate 5) has been recorded from two locations in the study area (Woodman 2011). A total of two individuals were recorded from these locations. These records are located on the sandplains in the north-western corner of the study area. This species is currently known from eight records at the Western Australian Herbarium from in the Pilbara, Carnarvon and Tanami Desert regions (2011).



**Plate 5:** *Eragrostis crateriformis* (Priority 3)  
Source: Woodman (2011)

***Gomphrena leptophylla* (Priority 3)**

*Gomphrena leptophylla* has been recorded from one location in the study area (Woodman 2011). Only one individual was observed at this location. This record is located on the sandplains in the north-western corner of the study area. This species is currently known from five records at the Western Australian Herbarium from in the Pilbara and Kimberley regions (2011).

***Gymnanthera cunninghamii* (Priority 3)**

*Gymnanthera cunninghamii* (Plate 6) has been recorded from 12 locations in the study area (Biota 2004; Woodman 2011; ENV 2009a; ENV 2008b). A total of seven individuals were recorded from these locations. These records are located on low sandy rises near the coast and on creek banks in the north-western section of the study area. This species is currently known from 14 records at the Western Australian Herbarium from the Carnarvon, Pilbara and Great Sandy Desert regions (2011). Previous locations of these species were revisited during the current survey and individuals were still present.



**Plate 6:** *Gymnanthera cunninghamii* (Priority 3)

***Phyllanthus aridus* (Priority 3)**

*Phyllanthus aridus* was recorded from three locations during the Hope Downs survey (Hope Downs Management Services 2002). This species is a shrub to 0.25 m high and is found on sandstone, gravel and red sand. This species is usually found in the Kimberley region with two historical records close to the edge of the Pilbara region.

***Pterocaulon* sp. A Kimberley Flora (B.J. Carter 599) (Priority 3)**

*Pterocaulon* sp. A Kimberley Flora (B.J. Carter 599) (Plate 7) was recorded from four locations in the study area (ENV 2009d; ENV 2010b; ENV 2009a). A total of six individuals were recorded from these locations. These records are located on the sandplains west and north of Wedgefield and near the Port Hedland Airport. This species is currently known from 14 records at the Western Australian Herbarium, with the only two records of this species in the Pilbara being from the surveys mentioned previously (ENV 2009b) and the remaining records from the Kimberley region (2011). ENV collections of this species have been vouchered with the Western Australian Herbarium.





**Plate 7:** *Pterocaulon* sp. A Kimberley Flora (B.J. Carter 599) (Priority 3)

***Tephrosia* aff. *bidwillii* (Priority 3)**

*Tephrosia* aff. *bidwillii* has been recorded from three previous surveys in the study area (Biota 2006, Biota 2008a and Biota 2008b). The specific location and number of individuals present was not provided in any of these. Therefore, no locations of this species were able to be presented in Figure 4.

Although these records were unable to be determined as the Priority 3 listed *Tephrosia bidwillii*, it is recommended, based on the precautionary principle (*EP Act 1986*), that plants or populations identified as *Tephrosia* aff. *bidwillii* should be considered in impact assessment and decision making processes as being of conservation significance. *Tephrosia bidwillii* is currently known from 11 records at the Western Australian Herbarium (WAH 2011).

***Bulbostylis burbidgeae* (Priority 4)**

*Bulbostylis burbidgeae* (Plate 8) has been recorded from two locations in the study area (Biota 2008b). A total of 40 individuals were recorded from these locations. These records are located near the Finucane access road in the north of the study area (Figure 4). It appears from the recent aerial photography that these locations may have undergone development since the species was recorded in 2008, and it should be noted that these locations may no longer support this species (Figure 4). This species is currently known from nine records from in the Pilbara region at the Western Australian Herbarium (2011).



**Plate 8:** *Bulbostylis burbidgeae* (Priority 4) Source: WAH (2011)

### ***Goodenia nuda* (Priority 4)**

*Goodenia nuda* (Plate 9) has been recorded from 35 locations in the study area (Woodman 2011; ENV 2009a; ENV 2009e). A total of 238 individuals were recorded from these locations. These records are located primarily on the sandplains in the north-western corner of the study area with some records also from the sandplains in the centre of the study area (Figure 4). This species is currently known from 21 records at the Western Australian Herbarium from the Pilbara region (2011). ENV collections of this species have been vouchered with the Western Australian Herbarium.



**Plate 9:** *Goodenia nuda* (Priority 4)

### **3.4.5 Species of Interest**

A total of ten species of interest were identified during all the surveys. Six of the ten species of interest were identified during the current survey and six of the ten species of interest identified in previous surveys. Two of the ten species were recorded during both the current and previous survey. These species are range extensions with the record of the species during the current survey representing in most cases a new record for the region. All of the species collected during the current survey have been

forwarded to the BHPBIO sponsored botanist at the herbarium for confirmation. The locations of these species are presented in Appendix K and are shown on Figure 5.

***Mimulus uvedaliae* var. *uvedaliae***

*Mimulus uvedaliae* var. *uvedaliae* is an annual herb to 0.3 m which is usually found in seasonally wet areas in the Kimberley with one record present in the Murchison. The record of this species constitutes a significant extension of its known range. This species was recorded during the current survey and has not been previously recorded in the study area.

***Murdannia graminea***

*Murdannia graminea* is a tuberous perennial herb which until recently was only found in the Kimberley region. The record of the species in the study area represents a large south-westerly range extension of the species and a disjunct population. This species was recorded during the current survey and was identified as being of interest after being recorded in previous surveys (ENV 2009a; ENV2009g; and Woodman 2011). One record of the species occurs in the Pilbara, from 60 km to east of the study area (WAH 2011).

Two collections of a liliaceous species made during ENV (2009a) were considered to represent taxa not known from the Pilbara (*pers. comm.*, M. Trudgen). These collections were considered to possibly represent a range extension from the south-west Kimberley and were considered likely to be *Murdannia graminea*.

***Bergia ? pusilla***

*Bergia ? pusilla* is a small herb to 0.05 m high which is often found along watercourses (WAH 2011). One record of this species was previously made in Western Australia in the Little Sandy Desert, with the species normally recorded in the Northern Territory. This species was recorded during the current survey and comments relating to the identification have been provided by Steve Dillon. Dillon notes that it is difficult to confirm the identification of the specimen as there is only one other collection of *Bergia pusilla* for reference (Appendix E).

***Vigna lanceolata* var. *filiformis***

*Vigna lanceolata* var. *filiformis* is a perennial herb/climber which is usually recorded in the Kimberley region. The presence of this species in the study area represents a large range extension to the south west.

***Drosera burmanni***

*Drosera burmanni* is a small perennial herb which is often recorded from sandy damp soils. This species has been previously recorded in the Kimberley, Little Sandy Desert

and Great Sandy Desert regions, and its Pilbara locality represents a range extension. This species was recorded during the current survey.

### ***Tephrosia simplicifolia***

*Tephrosia simplicifolia* is a perennial herb which occurs on sandy soils. This species is usually recorded in the Kimberley region. However, one record has also been made in the Pilbara region, 210 km south east of Port Hedland and one record occurs on the edge of the Pilbara region, 140 km to the east. This species was recorded during the current survey and previous surveys (ENV 2009a and ENV 2010b).

### ***Eriachne sulcata***

*Eriachne sulcata* was identified as being of interest after being collected by ENV (2009a). *Eriachne sulcata* was recorded from seven locations and is commonly recorded in the Kimberley region, but is considered rare in the Pilbara, with only one known record in the Pilbara region, at Nimingarra. The collection of the species in the Port Hedland area was considered a 100 km range extension. Collections of this were made during the current survey and were forwarded to the BHP sponsored botanist. The resulting identification was *Eriachne glauca* var. *glauca* with the explanation given for the mis-identification being that the collection for *Eriachne sulcata* in the reference herbarium is actually *Eriachne glauca* (see Appendix E).

### ***Goodenia* sp.**

A specimen collected during ENV (2009a) of *Goodenia* sp. was considered of interest as it was in poor condition and could not be identified to species level. The collection was considered to possibly represent the Priority Flora species *Goodenia nuda* (Priority 3) which had been recorded in the area during the same survey. During the current survey the identification of *Goodenia nuda* in the area was questioned and this is detailed in section 3.4.4.

### ***Mitrasacme exserta***

*Mitrasacme exserta* was identified by ENV (2009g) as a range extension, known previously only in the Kimberley region. This species is an annual herb 0.15 - 0.7 m high and is usually found on sand, gravel and clay soils.

### ***Tecticornia* species**

*Tecticornia* species were studied in the Nelson Point to Bing siding rail duplication area by Shepherd (2009). This work identified a number of entities in the *Tecticornia halocnemoides* complex which could not be resolved. It was considered that taxa in this complex are unlikely to be of conservation significance. However, as they are unresolved it is suggested they be considered of interest. Specimens of *Tecticornia* that

were unable to be fully identified were recorded from six previous surveys (ENV 2009a, ENV 2010c, ENV 2010d, ENV 2010e, Shepherd 2009 and Woodman 2011).

### 3.4.6 Introduced Flora

A total of 28 introduced flora have been recorded in the study area from the all surveys (Table 8). Twenty-two of these introduced flora had been previously recorded from the study area and six species were only recorded from the current survey. These six new species were: *\*Cenchrus setiger*, *\*Eragrostis curvula*, *\*Indigofera oblongifolia*, *\*Physalis angulata*, *\*Vachellia farnesiana* and *\*Vaccaria hispanica*.

None of these species are listed as Weeds of National Significance (WoNS) by the Australian Government.

Two of the species recorded in previous surveys are listed as a Declared Plant under the *ARRP Act*: *\*Opuntia stricta* and *\*Tamarix aphylla*. *\*Opuntia stricta* (Prickly Pear) is listed as a P1 and a P2 Declared Plant for all municipal districts in parts of Western Australia which are north of the 26th parallel, with the exception of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay (DAFWA 2011). In these areas it is listed as a P4 Declared Plant (DAFWA 2011). *\*Tamarix aphylla* (Athel pine) is listed as a P1 Declared Plant for the whole of the state (DAFWA 2011).

In accordance with the *ARRP Act*, it is prohibited for P1 Declared Plants to be introduced into an area, or moved in an area. P2 Declared Plants are required to be eradicated from the area (DAFWA 2011).

*\*Opuntia stricta* (Prickly pear) was recorded from one location in sandplain habitat on Finucane Island and is likely to have been historically planted in the area as it was occurring next to two other commonly occurring garden species: *\*Yucca aloifolia* and *\*Aloe vera* (ENV 2010f). *\*Tamarix aphylla* was recorded from one location in a disturbed drainage trench approximately 1 km east of the Port Hedland airstrip (ENV 2009c).

Of these 28 species, 24 are considered environmental weeds as defined by the Environmental Weed Strategy for Western Australia (CALM 1999). The rating and criteria for these species' inclusion under this strategy are presented in Table 8. *\*Portulaca oleracea*, *\*Opuntia stricta*, *\*Indigofera sessiliflora* and *\*Flaveria trinervia* are not currently listed under the Environmental Weed Strategy for Western Australia (CALM 1999). The locations of these species are presented in Appendix L and mapped in Figure 6. The approximate density of heavy infestations of weeds in the study area has been indicated on Figure 6.

*\*Cenchrus ciliaris* was the most commonly occurring weed with records from 17 of the 21 previous surveys; *\*Aerva javanica* was recorded from 15 of the 21 surveys. These species were also recorded during the current survey. Thirteen of the 21 weed species were recorded from only one survey.





Plate 10: \**Aerva javanica* (ENV)



Plate 11: \**Cenchrus ciliaris* (ENV)



Plate 12: \**Cenchrus setiger* (WAH 2011)



Plate 13: \**Chloris barbata* (WAH 2011)



Plate 14: \**Citrullus colocynthis* (WAH 2011)



Plate 15: \**Cucumis melo* subsp. *agrestis* (WAH 2011)





*Cynodon dactylon* Photo: L. Fontanini

Plate 16: \**Cynodon dactylon* (WAH 2011)



*Echinochloa colona* Photos: S.M. Armstrong & J. English

Plate 17: \**Echinochloa colona* (WAH 2011)



*Eragrostis curvula* Photos: J. Dodd, L. Fontanini & R. Randall

Plate 18: \**Eragrostis curvula* (WAH 2011)



*Indigofera oblongifolia* Photos: G. Byrne

Plate 19: \**Indigofera oblongifolia* (WAH 2011)



Plate 20: \**Malvastrum americanum* (ENV)



*Merremia dissecta* Photos: G. Byrne

Plate 21: \**Merremia dissecta* (WAH 2011)





Plate 22: \**Opuntia stricta* (WAH 2011)



Plate 23: \**Physalis angulata* (WAH 2011)



Plate 24: \**Portulaca oleracea* (Source: ENV)



Plate 25: \**Stylosanthes hamata* (WAH 2011)



Plate 26: \**Vaccaria hispanica* (WAH 2011)



Plate 27: \**Vachellia farnesiana* (ENV)





**Plate 28:** \**Washingtonia filifera* (ENV)



**Plate 29:** \**Yucca aloifolia* (ENV)

**Table 8:** Introduced Flora Recorded in Previous and Current Surveys of the Port Hedland Area

Species Name	Rating (CALM 1999)	ENV 2011 (Current Survey)	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	Maia 2010	Woodman 2011
* <i>Aerva javanica</i>	High	√	√	√	√		√	√	√	√	√	√	√	√		√	√	√	√
* <i>Aloe vera</i>	N/A																√		
* <i>Cenchrus ciliaris</i>	High	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
* <i>Cenchrus setiger</i>	High		√	√	√													√	√
* <i>Chloris barbata</i>	Low		√														√		
* <i>Chloris virgata</i>	Low			√	√	√	√		√	√				√					
* <i>Citrullus colocynthis</i>	Low	√					√		√		√		√					√	
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	TBA	√					√												
* <i>Cynodon dactylon</i>	Moderate			√															
* <i>Digitaria ciliaris</i>	Low						√												
* <i>Echinochloa colona</i>	Mild																	√	
* <i>Eragrostis curvula</i>	High	√																	
* <i>Flaveria trinervia</i>	N/A	√			√		√												
* <i>Indigofera oblongifolia</i>	Moderate	√	√																
* <i>Indigofera sessiliflora</i>	TBA		√														√		
* <i>Malvastrum americanum</i>	Moderate		√															√	
* <i>Merremia dissecta</i>	Low			√			√												
* <i>Opuntia stricta</i>	TBA																√		
* <i>Physalis angulata</i>	Moderate	√																	
* <i>Portulaca oleracea</i>	N/A	√	√	√			√		√		√					√	√	√	√
* <i>Setaria verticillata</i>	Low						√												
* <i>Stylosanthes hamata</i>	Mild	√		√	√		√		√	√	√			√	√			√	
* <i>Tamarix aphylla</i>	Moderate								√										
* <i>Vaccaria hispanica</i>	Low	√																	
* <i>Vachellia farnesiana</i>	High	√																	
* <i>Vitex trifolia</i> var. <i>subtrisecta</i>	N/A													√	√				
* <i>Washingtonia filifera</i>	Mild			√															
* <i>Yucca aloifolia</i>	Low																√		

### 3.5 VEGETATION

#### 3.5.1 Vegetation Associations

The study area comprises seven broad formations and 40 vegetation associations as follows:

- One vegetation association in the Mangrove broad formation;
- Four vegetation associations in the Dune broad formation;
- Two vegetation associations in the Samphire broad formation;
- Two vegetation associations in the Grassland broad formation;
- Eight vegetation associations in the Drainage/Billabong broad formation;
- Four vegetation associations in the Hill/Rocky outcrop broad formations; and
- Nineteen vegetation associations in the Sandplain broad formation.

Disturbed areas and areas of infrastructure have been mapped as DI and areas of bare mud alongside rivers have been mapped as Washouts (W).

The vegetation associations of the study area are mapped in Figure 7, summarised in Table 9 and discussed in the following pages. The vegetation mapping linework is presented in Figure 8. Quadrats completed in each association during the current survey (PI) and example quadrats completed during the Outer Harbour Development Area survey (QT, QN and QR) (ENV 2009a) are included.

A total of six additional vegetation associations were mapped compared to the mapping completed for the Outer Harbour Development Area (ENV 2009a). These associations were Dune D, Major Drainage Line C, D and E, and Sandplain R and S.

**Table 9:** Vegetation Associations Mapped in the Study Area (including the extent (km<sup>2</sup>) rounded to two decimal places).

Broad Formation	Mapping Label	Vegetation description	Soil Type	Area in Study Area (km <sup>2</sup> )
Mangroves	M	A high closed <i>Rhizophora stylosa</i> and <i>Avicennia marina</i> shrubland.	Brown Mud	25.80
Dunes A	DA	Scattered <i>Acacia bivenosa</i> shrubs over a low open <i>Crotalaria cunninghamii</i> shrubland over a * <i>Cenchrus ciliaris</i> tussock grassland over scattered * <i>Aerva javanica</i> herbs.	Light orange sand	0.77

Broad Formation	Mapping Label	Vegetation description	Soil Type	Area in Study Area (km <sup>2</sup> )
Dunes B	DB	An <i>Atalaya hemiglauca</i> , <i>Santalum lanceolatum</i> and <i>Acacia bivenosa</i> shrubland over a <i>*Cenchrus ciliaris</i> tussock grassland.	Light orange sand	0.02
Dunes C	DC	A low open <i>Acacia stellaticeps</i> , <i>Acacia bivenosa</i> and <i>Acacia ampliceps</i> shrubland over a <i>Spinifex longifolius</i> and <i>*Cenchrus ciliaris</i> open grassland over scattered <i>Gomphrena canescens</i> herbs.	Orange beach sand	0.38
Dune D	DD	Scattered <i>Scaevola amblyanthera</i> var. <i>centralis</i> low shrubs over <i>Bonamia alatisemina</i> and <i>*Aerva javanica</i> open herbland over <i>*Cenchrus ciliaris</i> open tussock grassland over <i>Triodia epactia</i> very open hummock grassland.	Light brown sand	0.44
Samphire A	SMA	Scattered <i>Avicennia marina</i> shrubs over a low open <i>Tecticornia halocnemoides</i> , <i>Threlkeldia diffusa</i> and <i>Tecticornia pterygosperma</i> subsp. <i>denticulata</i> shrubland over a very open <i>Eragrostis falcata</i> tussock grassland.	Brown clay, mud	0.38
Samphire B	SMB	Scattered <i>Avicennia marina</i> shrubs over a low open <i>Tecticornia halocnemoides</i> subsp. <i>tenuis</i> , <i>Tecticornia halocnemoides</i> and <i>Trianthema turgidifolia</i> shrubland.	Light red brown clay mud	25.98
Limestone Hill	LSH	An <i>Acacia bivenosa</i> and <i>Hakea lorea</i> subsp. <i>lorea</i> shrubland over scattered low <i>Rhagodia eremaea</i> and <i>Scaevola spinescens</i> shrubs over a scattered <i>Eriachne obtusa</i> tussock grasses.	Skeletal light orange brown loam	0.62
Grassland A	GA	<i>Triodia secunda</i> and <i>Triodia epactia</i> hummock grassland.	Light brown sandy loam	11.63
Grassland B	GB	<i>Triodia epactia</i> hummock grassland.	Light orange brown sand	3.01
Low Hill	LH	An <i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland over a low <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland.	Light orange brown sandy loam	11.43
Major Drainage Line A	MDLA	Scattered low <i>Eucalyptus victrix</i> trees over a high open <i>Melaleuca argentea</i> , <i>Acacia ampliceps</i> and <i>Acacia trachycarpa</i> shrubland over scattered <i>Adriana tomentosa</i> var. <i>tomentosa</i> and <i>Pluchea ferdinandi-muelleri</i> shrubs over open <i>Triodia epactia</i> hummock grassland.	Light orange sand	8.02

Broad Formation	Mapping Label	Vegetation description	Soil Type	Area in Study Area (km <sup>2</sup> )
Major Drainage Line B	MDLB	Low open <i>Eucalyptus victrix</i> woodland over an <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia colei</i> var. <i>colei</i> shrubland over very open <i>Triodia epactia</i> hummock grassland.	Red brown sandy loam	2.37
Major Drainage Line C	MDLC	Low open <i>Corymbia candida</i> subsp. <i>lautifolia</i> woodland over high open <i>Acacia colei</i> var. <i>colei</i> , <i>Acacia trachycarpa</i> and <i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland over <i>Triodia epactia</i> open tussock grassland.	Red brown sandy clay	0.69
Major Drainage Line D	MDLD	Low open <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> , <i>Melaleuca lasiandra</i> and <i>Melaleuca argentea</i> woodland over scattered <i>Acacia trachycarpa</i> shrubs over open <i>*Cenchrus ciliaris</i> and <i>Chloris pectinata</i> tussock grassland over scattered <i>Triodia epactia</i> hummock grasses.	Orange brown coarse sand	2.40
Major Drainage Line E	MDLE	Open <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> woodland over <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Cajanus cinereus</i> shrubland over very open <i>Triodia epactia</i> hummock grassland.	Orange brown silty sand	0.50
Rock Outcrop	RO	Scattered <i>Acacia colei</i> var. <i>colei</i> and <i>Acacia inaequilatera</i> shrubs over scattered herbs over scattered <i>Triodia</i> spp. hummock grasses.	Skeletal orange brown sand	0.48
Billabong	B	Scattered low <i>Eucalyptus victrix</i> trees over scattered mixed grasses.	Red brown sandy loam	0.03
Rockpile	R	Scattered low <i>Ficus brachypoda</i> , <i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i> and <i>Carissa lanceolata</i> trees over scattered herbs.	Skeletal soil	0.02
Drainage A	DA	A low open <i>Eucalyptus victrix</i> woodland over a high open <i>Acacia ampliceps</i> and <i>Acacia trachycarpa</i> shrubland over a low open <i>Acacia stellaticeps</i> , <i>Pluchea ferdinandi-muelleri</i> and <i>Corchorus incanus</i> subsp. <i>incanus</i> shrubland over a <i>Triodia epactia</i> hummock grassland over an <i>Aristida holathera</i> var. <i>latifolia</i> , <i>Eriachne obtusa</i> and <i>*Cenchrus ciliaris</i> tussock grassland.	Red orange loamy sand	0.38
Drainage B	DB	A low open <i>Eucalyptus victrix</i> woodland over a high open <i>Acacia ampliceps</i> shrubland over a low open <i>Acacia stellaticeps</i> and <i>Pluchea ferdinandi-muelleri</i> shrubland over a closed <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grassland over an open <i>Eriachne obtusa</i> , <i>Aristida holathera</i> var. <i>latifolia</i> and <i>*Cenchrus ciliaris</i> tussock grassland.	Red orange loamy sand	0.02
Sandplain A	SA	Low <i>Acacia stellaticeps</i> shrublands over <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands/ <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands mosaic.	Orange brown sandy loam	28.27

Broad Formation	Mapping Label	Vegetation description	Soil Type	Area in Study Area (km <sup>2</sup> )
Sandplain B	SB	An open <i>Acacia colei</i> var. <i>colei</i> shrublands over low <i>Acacia stellaticeps</i> shrublands over <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands/low <i>Acacia stellaticeps</i> shrublands over <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands mosaic.	Light orange brown sand	54.69
Sandplain C	SC	Low open <i>Corymbia flavescens</i> woodland over open <i>Acacia colei</i> var. <i>colei</i> shrubland over low <i>Acacia stellaticeps</i> shrubland over <i>Triodia epactia</i> hummock grassland/ low <i>Acacia stellaticeps</i> shrublands over <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands/ <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands mosaic.	Red brown loam	16.98
Sandplain D	SD	Low <i>Eucalyptus victrix</i> woodland over <i>Acacia colei</i> var. <i>colei</i> shrubland over low open <i>Acacia stellaticeps</i> and <i>Pluchea tetranthera</i> shrubland over <i>Triodia epactia</i> hummock grassland.	Orange sand	0.07
Sandplain E	SE	Low open <i>Corymbia flavescens</i> and <i>Eucalyptus victrix</i> woodland over <i>Acacia colei</i> var. <i>colei</i> and <i>Acacia sericophylla</i> shrubland over low open <i>Acacia stellaticeps</i> shrubland over <i>Triodia epactia</i> hummock grassland.	Red brown sandy loam	0.36
Sandplain F	SF	Open <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia colei</i> var. <i>colei</i> shrubland over open <i>Triodia epactia</i> hummock grassland.	Red brown sandy loam	0.05
Sandplain G	SG	Low open <i>Corymbia flavescens</i> woodland over <i>Acacia colei</i> var. <i>colei</i> , <i>Carissa lanceolata</i> and <i>Acacia sericophylla</i> shrubland over <i>Triodia epactia</i> hummock grassland over very open <i>Cenchrus ciliaris</i> , <i>Chrysopogon fallax</i> and <i>Eriachne obtusa</i> tussock grassland.	Red brown sandy loam	0.02
Sandplain H	SH	<i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia colei</i> var. <i>colei</i> shrubland over a low <i>Acacia stellaticeps</i> shrubland over <i>Triodia epactia</i> hummock grassland/ low <i>Acacia stellaticeps</i> shrubland over <i>Triodia epactia</i> hummock grassland mosaic.	Red brown sandy loam	59.58
Sandplain I	SI	<i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland over low <i>Acacia stellaticeps</i> shrubland over <i>Triodia epactia</i> hummock grassland/ low <i>Acacia stellaticeps</i> shrubland over <i>Triodia epactia</i> hummock grassland/ <i>Triodia epactia</i> hummock grassland mosaic.	Light orange brown sandy loam	77.15

Broad Formation	Mapping Label	Vegetation description	Soil Type	Area in Study Area (km <sup>2</sup> )
Sandplain J	SJ	Scattered low <i>Corymbia flavescens</i> trees over open <i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland over low open <i>Acacia stellaticeps</i> shrubland over <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grassland/ <i>Triodia secunda</i> and <i>Triodia epactia</i> hummock grassland mosaic.	Light orange brown sand	2.78
Sandplain K	SK	Scattered low <i>Owenia reticulata</i> trees over <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia colei</i> var. <i>colei</i> shrubland over low <i>Acacia stellaticeps</i> shrubland over <i>Triodia epactia</i> hummock grassland/low <i>Acacia stellaticeps</i> shrubland over <i>Triodia epactia</i> hummock grassland mosaic.	Light orange brown sand	35.64
Sandplain L	SL	Low open <i>Corymbia zygomorpha</i> woodland over open <i>Acacia colei</i> var. <i>colei</i> , <i>Acacia inaequilatera</i> and <i>Acacia ancistrocarpa</i> shrubland over low <i>Acacia sericophylla</i> , <i>Acacia stellaticeps</i> , <i>Senna artemisioides</i> aff. subsp. <i>oligophylla</i> (thinly sericeous) and <i>Dodonaea coriacea</i> shrubland over a very open <i>Triodia lanigera</i> and <i>Triodia epactia</i> hummock grassland.	Red brown sandy loam	0.33
Sandplain M	SM	Open <i>Acacia ancistrocarpa</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia inaequilatera</i> shrubland over a <i>Triodia lanigera</i> hummock grassland.	Light orange brown sand	0.52
Sandplain N	SN	Low open <i>Corymbia zygomorpha</i> woodland over open <i>Acacia ancistrocarpa</i> , <i>Acacia inaequilatera</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia sericophylla</i> shrubland over <i>Acacia stellaticeps</i> low open shrubland over <i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland.	Light orange brown sand	75.14
Sandplain O	SO	Scattered low <i>Eucalyptus victrix</i> and <i>Corymbia hamersleyana</i> trees over an open <i>Acacia ancistrocarpa</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> , <i>Acacia inaequilatera</i> and <i>Acacia trudgeniana</i> shrubland over a low open <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland.	Light orange brown sand	36.13
Sandplain P	SP	Low open <i>Eucalyptus victrix</i> , <i>Corymbia hamersleyana</i> and <i>Corymbia flavescens</i> woodland over an open <i>Acacia colei</i> var. <i>colei</i> shrubland over a low open <i>Acacia stellaticeps</i> and <i>Pluchea tetranthera</i> shrubland over <i>Triodia epactia</i> hummock grassland.	Red brown clayey loam	4.16
Sandplain Q	SQ	Scattered low <i>Corymbia flavescens</i> trees over open <i>Acacia ancistrocarpa</i> and <i>Acacia bivenosa</i> shrubland over scattered low <i>Acacia stellaticeps</i> shrubs over a <i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland.	Light orange brown sand	23.38

Broad Formation	Mapping Label	Vegetation description	Soil Type	Area in Study Area (km <sup>2</sup> )
Sandplain R	SR	Low open <i>Corymbia candida</i> subsp. <i>lausifolia</i> and <i>Corymbia hamersleyana</i> over <i>Acacia colei</i> var. <i>colei</i> and <i>Acacia tumida</i> var. <i>pilbarensis</i> open shrubland over <i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland.	Light orange brown sandy loam	37.85
Sandplain S	SS	Scattered <i>Acacia inaequilatera</i> shrubs over <i>Triodia epactia</i> and <i>Triodia lanigera</i> very open hummock grassland.	Orange brown sandy loam	26.61



**Broad Formation: Mangroves**

**Vegetation Association:**

A high closed *Rhizophora stylosa* and *Avicennia marina* shrubland.



**Area: 25.80 km<sup>2</sup>**

**Quadrats Sampled**

PI004, PI015, PI016, PI017, PI162, QT12, QT14, QT17

**Landform Description**

**Location and Landform:**

This vegetation association represents the mangroves of the study area.

**Soil Attributes:** Brown mud

**Litter Cover:** - Logs, - Twigs and <1% Leaves

**Bare Ground:** 30%

**Vegetation Structure and Floristics**

The presence of *Rhizophora stylosa* and *Avicennia marina* are the main diagnostic features of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Shrub Layer	A high closed <i>Rhizophora stylosa</i> and <i>Avicennia marina</i> shrubland between 2 -3 m

**Vegetation Condition**

**Condition Rating:** Excellent - Pristine

**Disturbances:** Clearing, nearby tracks and rubbish

**Average Fire Age:** Old

**Broad Formation: Dunes A**

**Vegetation Association:**

Scattered *Acacia bivenosa* shrubs over a low open *Crotalaria cunninghamii* shrubland over a *\*Cenchrus ciliaris* tussock grassland over scattered *\*Aerva javanica* herbs.



**Area:** 0.77 km<sup>2</sup>

**Quadrats Sampled**

PI001, PI157  
QT02, QT03, QT10

**Landform Description**

**Location and**

**Landform:**

This vegetation association is located on the dunes of the study area.

**Soil Attributes:**

Light orange sand

**Litter Cover:**

- Logs, <1% Twigs and <1% Leaves

**Bare Ground:**

10-50%

**Vegetation Structure and Floristics**

The presence of *Crotalaria cunninghamii* is the main diagnostic feature of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Shrub Layer	Scattered <i>Acacia bivenosa</i> shrubs between 2 -3 m
Low Shrub Layer	Low open <i>Crotalaria cunninghamii</i> shrubland to 1.5 m
<b>Understorey</b>	
Tussock Grasses	<i>*Cenchrus ciliaris</i> tussock grassland under 0.5 m
Herbs	Scattered <i>*Aerva javanica</i> herbs under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Good - Very Good

**Disturbances:**

Introduced species - *\*Cenchrus ciliaris* and *\*Aerva javanica*

**Average Fire Age:**

Old

**Broad Formation: Dunes B**

**Vegetation Association:**

An *Atalaya hemiglauca*, *Santalum lanceolatum* and *Acacia bivenosa* shrubland over a *\*Cenchrus ciliaris* tussock grassland.



**Area:** 0.02 km<sup>2</sup>      **Quadrats Sampled**      QT07

**Landform Description**

**Location and Landform:**

This vegetation association is located on an area of dunes on Finucane Island

**Soil Attributes:**

Light tan, orangey sand with deposited rocks.

**Litter Cover:**

<1% Logs, 1% Twigs and 5% Leaves

**Bare Ground:** 15-30%

**Vegetation Structure and Floristics**

The presence of *Atalaya hemiglauca* and *Santalum lanceolatum* are the main diagnostics of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	An <i>Atalaya hemiglauca</i> , <i>Santalum lanceolatum</i> and <i>Acacia bivenosa</i> shrubland between 1 – 3 m
<b>Understorey</b>	
Tussock Grasses	<i>*Cenchrus ciliaris</i> tussock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Good

**Disturbances:**

Introduced species - *\*Cenchrus ciliaris*

**Average Fire Age:**

Old

**Broad Formation: Dunes C**

**Vegetation Association:**

A low open *Acacia stellaticeps*, *Acacia bivenosa* and *Acacia ampliceps* shrubland over a *Spinifex longifolius* and *\*Cenchrus ciliaris* open grassland over scattered *Gomphrena canescens* herbs.



**Area:** 0.38 km<sup>2</sup>

**Quadrats Sampled**

PI003  
QT01

**Landform Description**

**Location and Landform:**

This vegetation association is located on the foredunes in the study area

**Soil Attributes:**

Orange beach sand; small shell fragments

**Litter Cover:**

<1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:** 70%

**Vegetation Structure and Floristics**

The presence of *Spinifex longifolius* is the main diagnostics of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Low Shrub Layer	Low open <i>Acacia stellaticeps</i> , <i>Acacia bivenosa</i> and <i>Acacia ampliceps</i> shrubland between 0.3 - 1 m
<b>Understorey</b>	
Tussock Grasses	<i>Spinifex longifolius</i> and <i>*Cenchrus ciliaris</i> tussock grassland under 0.5 m
Herbs	Scattered <i>Gomphrena canescens</i> herbs to 0.2 m

**Vegetation Condition**

**Condition Rating:**

Good – Very Good

**Disturbances:**

Introduced species (*\*Cenchrus ciliaris*), road construction and fence

**Average Fire Age:**

Old

**Broad Formation: Dunes D**

**Vegetation Association:**

Scattered *Scaevola amblyanthera* var. *centralis* low shrubs over *Bonamia alatisemina* and *\*Aerva javanica* open herbland over *\*Cenchrus ciliaris* open tussock grassland over *Triodia epactia* very open hummock grassland.



**Area: 0.44 km<sup>2</sup>**      **Quadrats Sampled**      PI006

**Landform Description**

**Location and Landform:**

This vegetation association is located on an area of dunes on at 6 Mile.

**Soil Attributes:** Light brown sand with shell grit

**Litter Cover:** <1% Logs, 2% Twigs and 10% Leaves

**Bare Ground:** 40%

**Vegetation Structure and Floristics**

The presence of *Scaevola amblyanthera* var. *centralis* low shrubs is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Low Shrub Layer	<i>Scaevola amblyanthera</i> var. <i>centralis</i> and <i>Acacia stellaticeps</i> low shrubs under 1 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> very open hummock grassland to 0.4 m
Tussock Grasses	<i>*Cenchrus ciliaris</i> open tussock grassland under 0.3 m
Herbs	<i>Bonamia alatisemina</i> and <i>*Aerva javanica</i> open herbland to 0.5 m

**Vegetation Condition**

**Condition Rating:** Very Good - Good

**Disturbances:** Introduced species (*\*Cenchrus ciliaris*, *\*Aerva javanica*), rubbish and tracks

**Average Fire Age:** Old

**Broad Formation: Samphire A**

**Vegetation Association:**

Scattered *Avicennia marina* shrubs over a low open *Tecticornia halocnemoides*, *Threlkeldia diffusa* and *Tecticornia pterygosperma* subsp. *denticulata* shrubland over a very open *Eragrostis falcata* tussock grassland.



**Area:** 0.38 km<sup>2</sup>      **Quadrats Sampled**      QT06

**Landform Description**

**Location and Landform:**

This vegetation association is located on an area of mudflats on Finucane Island.

**Soil Attributes:** Brown clay, mud. Some exposed rock.

**Litter Cover:** <1% Logs, <1% Twigs and 1% Leaves

**Bare Ground:** 15%

**Vegetation Structure and Floristics**

The presence of *Threlkeldia diffusa* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	<i>Avicennia marina</i> shrubs under 2 m
Low Shrub Layer	<i>Tecticornia halocnemoides</i> , <i>Threlkeldia diffusa</i> and <i>Tecticornia pterygosperma</i> subsp. <i>denticulata</i> shrubland to 0.5 m
<b>Understorey</b>	
Tussock Grasses	Very open <i>Eragrostis falcata</i> tussock grassland under 0.2 m

**Vegetation Condition**

**Condition Rating:** Excellent

**Disturbances:** No signs of disturbance noted

**Average Fire Age:** Very Old

**Broad Formation: Samphire B**

**Vegetation Association:**

Scattered *Avicennia marina* shrubs over a low open *Tecticornia halocnemoides* subsp. *tenuis*, *Tecticornia halocnemoides* and *Trianthema turgidifolia* shrubland.



**Area:** 25.98 km<sup>2</sup>

**Quadrats Sampled**

PI002, PI005, PI011, PI012, PI013, PI018, PI038, PI039  
QT15, QT19

**Landform Description**

**Location and Landform:** This vegetation association is located on an area of mudflats and tidal areas in the study area.

**Soil Attributes:** Light red brown clay mud

**Litter Cover:** <1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:** 75%

**Vegetation Structure and Floristics**

The presence of *Trianthema turgidifolia* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	<i>Avicennia marina</i> shrubs under 2 m
Low Shrub Layer	Low open <i>Tecticornia halocnemoides</i> subsp. <i>tenuis</i> , <i>Tecticornia halocnemoides</i> and <i>Trianthema turgidifolia</i> shrubland to 0.5 m

**Vegetation Condition**

**Condition Rating:** Excellent – Very Good

**Disturbances:** Nearby tracks

**Average Fire Age:** Old



**Broad Formation: Limestone Hill**

**Vegetation Association:**

An *Acacia bivenosa* and *Hakea lorea* subsp. *lorea* shrubland over scattered low *Rhagodia eremaea* and *Scaevola spinescens* shrubs over a scattered *Eriachne obtusa* tussock grasses.



**Area:** 0.62 km<sup>2</sup>

**Quadrats Sampled**

PI040

QT16

**Landform Description**

**Location and Landform:** This vegetation association is located on low limestone hills in the north of the study area.

**Soil Attributes:** Skeletal light orange brown loam with scattered shells and exposed limestone

**Litter Cover:** <1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:** 30%

**Vegetation Structure and Floristics**

The presence of *Eriachne obtusa* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	An <i>Acacia bivenosa</i> and <i>Hakea lorea</i> subsp. <i>lorea</i> shrubland between 2-3 m
Low Shrub Layer	Scattered low <i>Rhagodia eremaea</i> and <i>Scaevola spinescens</i> shrubs to 0.5 m
<b>Understorey</b>	
Tussock Grasses	Scattered <i>Eriachne obtusa</i> tussock grasses under 0.4 m

**Vegetation Condition**

**Condition Rating:** Excellent – Very Good

**Disturbances:** Nearby tracks and introduced species (*\*Cenchrus ciliaris*)

**Average Fire Age:** Old



**Broad Formation: Grassland A**

**Vegetation Association:**

*Triodia secunda* and *Triodia epactia* hummock grassland.



**Area:** 11.63 km<sup>2</sup>

**Quadrats Sampled**

PI007, PI014, PI019, PI121, PI037  
QT18

**Landform Description**

**Location and Landform:** This vegetation association is located on the sandplains in the study area, mainly near the coast.

**Soil Attributes:** Light brown sandy loam

**Litter Cover:** <1% Logs, <1% Twigs and 5% Leaves

**Bare Ground:** 15%

**Vegetation Structure and Floristics**

The presence of the *Triodia secunda* and *Triodia epactia* hummock grassland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Understorey</b>	
Hummock Grasses	<i>Triodia secunda</i> and <i>Triodia epactia</i> hummock grassland under 0.5 m
Tussock Grasses	Open <i>Sporobolus virginicus</i> and <i>*Cenchrus ciliaris</i> tussock grassland to 0.5 m

**Vegetation Condition**

**Condition Rating:** Excellent

**Disturbances:** Rubbish, introduced species (*\*Cenchrus ciliaris*) and tracks

**Average Fire Age:** Old

**Broad Formation: Grassland B**  
**Vegetation Association:**  
*Triodia epactia* hummock grassland



**Area:** 3.01 km<sup>2</sup>      **Quadrats Sampled**      PI064, PI066

**Landform Description**

**Location and Landform:** This vegetation association is located between Coolarin Pool and a rockpile

**Soil Attributes:** Light orange brown sand

**Litter Cover:** <1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:** 30%

**Vegetation Structure and Floristics**

The presence of *Triodia epactia* alone as the dominant *Triodia* is the main diagnostic for this association

Stratum	Key Characteristics
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:** Very Good

**Disturbances:** Nearby tracks

**Average Fire Age:** Mod

**Broad Formation: Low Hill**

**Vegetation Association:**

An *Acacia tumida* var. *pilbarensis* shrubland over a low *Acacia stellaticeps* shrubland over *Triodia epactia* hummock grassland.



**Area:** 11.43 km<sup>2</sup>

**Quadrats Sampled**

QN58, QN61, QN65

**Landform Description**

**Location and Landform:** This vegetation association is located on a low hill which extends from Boodarie in the north to the Turner River in the south west.

**Soil Attributes:** Light orange brown sandy loam

**Litter Cover:** <1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:** 30-75%

**Vegetation Structure and Floristics**

The presence of an *Acacia tumida* var. *pilbarensis* shrubland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia tumida</i> var. <i>pilbarensis</i> between 1-1.5 m
Low Shrub Layer	Low <i>Acacia stellaticeps</i> shrubland to 0.5 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:** Excellent

**Disturbances:** Nearby tracks and introduced species

**Average Fire Age:** Recent to Young

**Broad Formation: Major Drainage Line A**

**Vegetation Association:**

Scattered low *Eucalyptus victrix* trees over a high open *Melaleuca argentea*, *Acacia ampliceps* and *Acacia trachycarpa* shrubland over scattered *Adriana urticoides* var. *urticoides* and *Pluchea ferdinandi-muelleri* shrubs over open *Triodia epactia* hummock grassland.



**Area:** 8.02 km<sup>2</sup>

**Quadrats Sampled**

PI022, PI041, PI068, PI107  
QT74, QT81

**Landform Description**

**Location and Landform:**

This vegetation association is located in the major drainage lines of the study area.

**Soil Attributes:**

Light orange sand with many small pebbles

**Litter Cover:**

<1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:** 75-80%

**Vegetation Structure and Floristics**

The presence of *Eucalyptus victrix* and *Melaleuca argentea* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Scattered low <i>Eucalyptus victrix</i> trees to a height of 6 m
<b>Midstorey</b>	
Upper Shrub Layer	High open <i>Melaleuca argentea</i> , <i>Acacia ampliceps</i> and <i>Acacia trachycarpa</i> shrubland between 2 – 5 m
Low Shrub Layer	Scattered <i>Adriana urticoides</i> var. <i>urticoides</i> and <i>Pluchea ferdinandi-muelleri</i> shrubs under 1 m
<b>Understorey</b>	
Hummock Grasses	Open <i>Triodia epactia</i> hummock grassland under 0.6 m

**Vegetation Condition**

**Condition Rating:**

Excellent – Very Good

**Disturbances:**

Tracks in river bed

**Average Fire Age:**

Old

**Broad Formation: Major Drainage Line B**

**Vegetation Association:**

A low open *Eucalyptus victrix* woodland over an *Acacia tumida* var. *pilbarensis* and *Acacia colei* var. *colei* shrubland over a very open *Triodia epactia* hummock grassland.



**Area: 2.37**

**Quadrats Sampled**

PI098, PI115, PI122  
QN76

**Landform Description**

**Location and Landform:** This vegetation association is located in the major drainage lines in the south east of the study area.

**Soil Attributes:** Red brown sandy loam

**Litter Cover:** 1% Logs, 1% Twigs and 2% Leaves

**Bare Ground:** 30%

**Vegetation Structure and Floristics**

The presence of low open *Eucalyptus victrix* woodland over an *Acacia tumida* var. *pilbarensis* and *Acacia colei* var. *colei* shrubland are the main diagnostics of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Scattered low <i>Eucalyptus victrix</i> trees to a height of 6 m
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia colei</i> var. <i>colei</i> shrubland to a height of 1.5 m
Low Shrub Layer	Scattered <i>Pluchea tetranthera</i> and <i>Indigofera monophylla</i> low shrubs under 1 m
<b>Understorey</b>	
Hummock Grasses	Very open <i>Triodia epactia</i> hummock grassland under 0.5 m
Tussock Grasses	Scattered <i>Eragrostis speciosa</i> and <i>Eriachne benthamii</i> tussock grasses under 1 m

**Vegetation Condition**

**Condition Rating:** Excellent

**Disturbances:** Introduced species

**Average Fire Age:** Old

**Broad Formation: Major Drainage Line C**

**Vegetation Association:**

Low open *Corymbia candida* subsp. *lautifolia* woodland over high open *Acacia colei* var. *colei*, *Acacia trachycarpa* and *Acacia tumida* var. *pilbarensis* shrubland over *Triodia epactia* open tussock grassland.



**Area:** 0.69 km<sup>2</sup>      **Quadrats Sampled**      PI120

**Landform Description**

**Location and Landform:** This vegetation association occurs in open drainage lines in the southeast of the study area

**Soil Attributes:** Red brown sandy clay with very scattered pebbles

**Litter Cover:** <1% Logs, <1% Twigs and 1% Leaves

**Bare Ground:** 70%

**Vegetation Structure and Floristics**

The presence of *Corymbia candida* subsp. *lautifolia* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low open <i>Corymbia candida</i> subsp. <i>lautifolia</i> woodland between 8-10 m
<b>Midstorey</b>	
Upper Shrub Layer	High open <i>Acacia colei</i> var. <i>colei</i> , <i>Acacia trachycarpa</i> and <i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland to a height of 5 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.4 m

**Vegetation Condition**

**Condition Rating:** Excellent

**Disturbances:** Disturbance from cattle

**Average Fire Age:** Old

**Broad Formation: Major Drainage Line D  
Vegetation Association:**

Low open *Eucalyptus camaldulensis* subsp. *refulgens*, *Melaleuca lasiandra* and *Melaleuca argentea* woodland over scattered *Acacia trachycarpa* shrubs over open *\*Cenchrus ciliaris* and *Chloris pectinata* tussock grassland over scattered *Triodia epactia* hummock grasses.



**Area:** 2.40 km<sup>2</sup>      **Quadrats Sampled**      PI119

**Landform Description**

**Location and Landform:** This vegetation association occurs in a major drainage line in the southeast of the study area

**Soil Attributes:** Orange brown coarse sand

**Litter Cover:** 1% Logs, 1% Twigs and 1% Leaves

**Bare Ground:** 80%

**Vegetation Structure and Floristics**

The presence of *Eucalyptus camaldulensis* subsp. *refulgens*, *Melaleuca lasiandra* and *Melaleuca argentea* are the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low open <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> , <i>Melaleuca lasiandra</i> and <i>Melaleuca argentea</i> woodland between 3-4 m
<b>Midstorey</b>	
Middle Shrub Layer	Scattered <i>Acacia trachycarpa</i> shrubs to a height of 1 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.4 m
Tussock Grasses	Open <i>*Cenchrus ciliaris</i> and <i>Chloris pectinata</i> tussock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:** Very Good - Good

**Disturbances:** Introduced species (*\*Cenchrus ciliaris*) and disturbance from cattle

**Average Fire Age:** Old



**Broad Formation: Major Drainage Line E**

**Vegetation Association:**

Open *Eucalyptus camaldulensis* subsp. *refulgens* woodland over *Acacia tumida* var. *pilbarensis* and *Cajanus cinereus* shrubland over Very Open *Triodia epactia* hummock grassland.



**Area:** 0.50 km<sup>2</sup>

**Quadrats Sampled**

PI069, PI146

**Landform Description**

**Location and Landform:** This vegetation association occurs in a major drainage line in the west of the study area

**Soil Attributes:** Orange brown silty sand

**Litter Cover:** 1% Logs, 3% Twigs and 4% Leaves

**Bare Ground:** 60%

**Vegetation Structure and Floristics**

The presence of *Eucalyptus camaldulensis* subsp. *refulgens* and *Cajanus cinereus* are the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Open <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> woodland, between 10-20 m
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Cajanus cinereus</i> shrubland to a height of 1.7 m
<b>Understorey</b>	
Hummock Grasses	Very Open <i>Triodia epactia</i> hummock grassland under 0.4 m

**Vegetation Condition**

**Condition Rating:** Excellent

**Disturbances:** None recorded

**Average Fire Age:** Young



**Broad Formation: Rock Outcrop**

**Vegetation Association:**

Scattered *Acacia colei* var. *colei* and *Acacia inaequilatera* shrubs over scattered herbs over scattered *Triodia* sp. hummock grasses



**Area:** 0.48 km<sup>2</sup>

**Quadrats Sampled**

PI123, PI160  
QTR3

**Landform Description**

**Location and Landform:** This vegetation association is located in on quartz and granite outcrops and rock piles in the study area.

**Soil Attributes:** Skeletal orange brown sand

**Litter Cover:** <1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:** 70%

**Vegetation Structure and Floristics**

The presence of scattered shrubs, herbs and grasses are the main diagnostics of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	Scattered <i>Acacia colei</i> var. <i>colei</i> and <i>Acacia inaequilatera</i> shrubs to a height of 2 m
<b>Understorey</b>	
Hummock Grasses	Scattered <i>Triodia</i> sp. hummock grasses under 0.3 m

**Vegetation Condition**

**Condition Rating:** Excellent

**Disturbances:** No signs of disturbance

**Average Fire Age:** Old

**Broad Formation: Billabong**

**Vegetation Association:**

Scattered low *Eucalyptus victrix* trees over scattered mixed grasses.



**Area:** 0.03 km<sup>2</sup>      **Quadrats Sampled**      QN75

**Landform Description**

**Location and Landform:**

This vegetation association is located at Coolarin Pool in the centre of the study area

**Soil Attributes:** Red brown sandy loam

**Litter Cover:** <1% Logs, <1% Twigs and 2% Leaves

**Bare Ground:** 50%

**Vegetation Structure and Floristics**

The presence of *Eucalyptus victrix* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Scattered low <i>Eucalyptus victrix</i> trees to a height of 6 m
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia colei</i> var. <i>colei</i> and <i>Acacia ancistrocarpa</i> open shrubland to a height of 2 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.5 m
Tussock Grasses	Open <i>Paraneurachne muelleri</i> and <i>Eriachne benthamii</i> open tussock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:** Very Good

**Disturbances:** Introduced species, cattle, rubbish and tracks

**Average Fire Age:** Old

**Broad Formation: Rockpile**

**Vegetation Association:**

Scattered low *Ficus brachypoda*, *Clerodendrum tomentosum* var. *lanceolatum* and *Carissa lanceolata* trees over scattered herbs



**Area:** 0.02 km<sup>2</sup>      **Quadrats Sampled**      -

**Landform Description**

**Location and Landform:** This vegetation association is located to the west of Coolarin Pool

**Soil Attributes:** Skeletal soil mainly rocks

**Litter Cover:** <1% Logs, <1% Twigs and <1% Leaves      **Bare Ground:** 95%

**Vegetation Structure and Floristics**

The presence of *Ficus brachypoda*, *Clerodendrum tomentosum* var. *lanceolatum* and *Carissa lanceolata* trees are the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Scattered low <i>Ficus brachypoda</i> , <i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i> and <i>Carissa lanceolata</i> trees
<b>Understorey</b>	
Herbs	Scattered herbs under 0.5 m

**Vegetation Condition**

**Condition Rating:** Very Good

**Disturbances:** Tracks around rock pile

**Average Fire Age:** Old

**Broad Formation: Drainage A**

**Vegetation Association:**

A low open *Eucalyptus victrix* woodland over a high open *Acacia ampliceps* and *Acacia trachycarpa* shrubland over a low open *Acacia stellaticeps*, *Pluchea ferdinandi-muelleri* and *Corchorus incanus* subsp. *incanus* shrubland over a *Triodia epactia* hummock grassland over an *Aristida holathera* var. *latifolia*, *Eriachne obtusa* and *\*Cenchrus ciliaris* tussock grassland.



**Area:** 0.38 km<sup>2</sup>

**Quadrats Sampled**

QT30, QT75

**Landform Description**

**Location and Landform:**

This vegetation association occurs in association with Major Drainage Line A

**Soil Attributes:**

Red orange loamy sand

**Litter Cover:**

1% Logs, 1% Twigs and 5% Leaves

**Bare Ground:** 15%

**Vegetation Structure and Floristics**

The presence of a low open *Eucalyptus victrix* woodland over a high open *Acacia ampliceps* and *Acacia trachycarpa* shrubland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	A low open <i>Eucalyptus victrix</i> woodland to a height of 10 m
<b>Midstorey</b>	
Upper Shrub Layer	High open <i>Acacia ampliceps</i> and <i>Acacia trachycarpa</i> shrubland between 1-3 m
Lower Shrub Layer	Low open <i>Acacia stellaticeps</i> , <i>Pluchea ferdinandi-muelleri</i> and <i>Corchorus incanus</i> subsp. <i>incanus</i> shrubland to a height of 1 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.5 m
Tussock Grasses	<i>Aristida holathera</i> var. <i>latifolia</i> , <i>Eriachne obtusa</i> and <i>*Cenchrus ciliaris</i> tussock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Very Good

**Disturbances:**

Introduced species (*\*Cenchrus ciliaris*), cattle, rubbish, tracks, fence line and rabbits

**Average Fire Age:**

Old

**Broad Formation: Drainage B**

**Vegetation Association:**

A low open *Eucalyptus victrix* woodland over a high open *Acacia ampliceps* shrubland over a low open *Acacia stellaticeps* and *Pluchea ferdinandi-muelleri* shrubland over a closed *Triodia epactia* and *Triodia secunda* hummock grassland over an open *Eriachne obtusa*, *Aristida holathera* var. *latifolia* and *\*Cenchrus ciliaris* tussock grassland



**Area:** 0.02 km<sup>2</sup>      **Quadrats Sampled**      QT31

**Landform Description**

**Location and**

**Landform:**

This vegetation association occurs in association with Major Drainage Line A

**Soil Attributes:**

Red orange loamy sand

**Litter Cover:**

<1% Logs, <1% Twigs and 5% Leaves

**Bare Ground:**      5%

**Vegetation Structure and Floristics**

The presence of low open *Eucalyptus victrix* woodland over a high open *Acacia ampliceps* shrubland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	A low open <i>Eucalyptus victrix</i> woodland to a height of 6 m
<b>Midstorey</b>	
Upper Shrub Layer	High open <i>Acacia ampliceps</i> shrubland to 3 m
Lower Shrub Layer	Low open <i>Acacia stellaticeps</i> and <i>Pluchea ferdinandi-muelleri</i> shrubland to a height of 0.5 m
<b>Understorey</b>	
Hummock Grasses	Closed <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grassland under 0.5 m
Tussock Grasses	Open <i>Eriachne obtusa</i> , <i>Aristida holathera</i> var. <i>latifolia</i> and <i>*Cenchrus ciliaris</i> tussock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Excellent

**Disturbances:**

Rail line construction, tracks and erosion

**Average Fire Age:**

Old

**Broad Formation: Sandplain A**

**Vegetation Association:**

Low *Acacia stellaticeps* shrublands over *Triodia epactia* and *Triodia secunda* hummock grasslands/ *Triodia epactia* and *Triodia secunda* hummock grasslands mosaic



**Area:** 28.27 km<sup>2</sup>

**Quadrats Sampled**

PI008, PI008a, PI009, PI010, PI036  
QT34, QT35

**Landform Description**

**Location and**

**Landform:**

This vegetation association occurs on the sandplains in the north of the study area

**Soil Attributes:**

Orange brown sandy loam

**Litter Cover:**

<1% Logs, <1% Twigs and 2% Leaves

**Bare Ground:** 30%

**Vegetation Structure and Floristics**

The mosaic of the two vegetation types is diagnostic for this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Lower Shrub Layer	Low <i>Acacia stellaticeps</i> shrubland to a height of 0.6 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Excellent

**Disturbances:**

Introduced species (*\*Cenchrus ciliaris*) and tracks

**Average Fire Age:**

Old

**Broad Formation: Sandplain B**

**Vegetation Association:**

An open *Acacia colei* var. *colei* shrubland over low *Acacia stellaticeps* shrublands over *Triodia epactia* and *Triodia secunda* hummock grasslands/low *Acacia stellaticeps* shrublands over *Triodia epactia* and *Triodia secunda* hummock grasslands mosaic



**Area:** 54.69 km<sup>2</sup>

**Quadrats Sampled**

PI020, PI021, PI023, PI025, PI026, PI027, PI028, PI029, PI031, PI032, PI042, PI043, PI044, PI070, PI071, PI072  
QT43, QT44

**Landform Description**

**Location and Landform:**

This vegetation association occurs on the sandplains in the north of the study area

**Soil Attributes:** Light orange brown sand

**Litter Cover:** <1% Logs, <1% Twigs and 1% Leaves

**Bare Ground:** 40-55%

**Vegetation Structure and Floristics**

The mosaic of the two vegetation types is diagnostic for this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia colei</i> var. <i>colei</i> shrubland to a height of 2 m
Lower Shrub Layer	Low <i>Acacia stellaticeps</i> shrubland to a height of 0.6 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:** Excellent

**Disturbances:** Nearby tracks

**Average Fire Age:** Old



**Broad Formation: Sandplain C**

**Vegetation Association:**

A low open *Corymbia flavescens* woodland over an open *Acacia colei* var. *colei* shrubland over a low *Acacia stellaticeps* shrubland over a *Triodia epactia* hummock grassland/ low *Acacia stellaticeps* shrublands over *Triodia epactia* and *Triodia secunda* hummock grasslands/ *Triodia epactia* and *Triodia secunda* hummock grasslands mosaic



**Area: 16.98 km<sup>2</sup>**

**Quadrats Sampled**

PI045, PI046, PI047, PI048, PI049  
QT63, QT65, QT80, QT85

**Landform Description**

**Location and**

**Landform:**

This vegetation association occurs on the sandplains in the north of the study area

**Soil Attributes:**

Red brown loam

**Litter Cover:**

2% Logs, 2% Twigs and 10% Leaves

**Bare Ground:**

15%

**Vegetation Structure and Floristics**

The mosaic of the three vegetation types is the diagnostic for this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low open <i>Corymbia flavescens</i> woodland to a height of 5 m
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia colei</i> var. <i>colei</i> shrubland to a height of 3 m
Low Shrub Layer	Low <i>Acacia stellaticeps</i> shrubland under 1 m
<b>Understorey</b>	
Hummock Grasses	Very open <i>Triodia epactia</i> hummock grassland under 0.5 m
Tussock Grasses	Scattered <i>Eragrostis speciosa</i> and <i>Eriachne benthamii</i> tussock grasses under 1 m

**Vegetation Condition**

**Condition Rating:**

Excellent

**Disturbances:**

Nearby tracks

**Average Fire Age:**

Old



**Broad Formation: Sandplain D**

**Vegetation Association:**

Alow *Eucalyptus victrix* woodland over an *Acacia colei* var. *colei* shrubland over a low open *Acacia stellaticeps* and *Pluchea tetranthera* shrubland over a *Triodia epactia* hummock grassland.



**Area:** 0.07 km<sup>2</sup>

**Quadrats Sampled**

QT28

**Landform Description**

**Location and Landform:**

This vegetation association occurs on the sandplains in the northwest of the study area

**Soil Attributes:**

Orange sand

**Litter Cover:**

<1% Logs, 1% Twigs and 3% Leaves

**Bare Ground:** 50%

**Vegetation Structure and Floristics**

The presence of a low *Eucalyptus victrix* woodland over an *Acacia colei* var. *colei* shrubland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low <i>Eucalyptus victrix</i> woodland to a height of 3 m
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia colei</i> var. <i>colei</i> shrubland to a height of 2 m
Low Shrub Layer	Low open <i>Acacia stellaticeps</i> and <i>Pluchea tetranthera</i> shrubland under 0.6 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia schinzii</i> hummock grassland under 0.5 m
Tussock Grasses	<i>Eragrostis obtusa</i> and <i>Chrysopogon fallax</i> tussock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Excellent

**Disturbances:**

Nearby tracks

**Average Fire Age:**

Old

**Broad Formation: Sandplain E**

**Vegetation Association:**

A low open *Corymbia flavescens* and *Eucalyptus victrix* woodland over an *Acacia colei* var. *colei* and *Acacia sericophylla* shrubland over a low open *Acacia stellaticeps* shrubland over a *Triodia epactia* hummock grassland.



**Area:** 0.36 km<sup>2</sup>

**Quadrats Sampled**

QT70, QT79

**Landform Description**

**Location and**

**Landform:**

This vegetation association occurs on the sandplains in the northwest of the study area

**Soil Attributes:**

Red brown sandy loam

**Litter Cover:**

<1% Logs, 2% Twigs and 5% Leaves

**Bare Ground:** 25%

**Vegetation Structure and Floristics**

The presence of *Corymbia flavescens* and *Eucalyptus victrix* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low open <i>Corymbia flavescens</i> and <i>Eucalyptus victrix</i> woodland to a height of 3 m
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia colei</i> var. <i>colei</i> and <i>Acacia sericophylla</i> shrubland to a height of 3 m
Low Shrub Layer	Low open <i>Acacia stellaticeps</i> shrubland under 0.75 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.5 m
Tussock Grasses	<i>Eragrostis benthamii</i> tussock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Excellent

**Disturbances:**

Rubbish

**Average Fire Age:**

Old

**Broad Formation: Sandplain F**

**Vegetation Association:**

No photo available

An open *Acacia tumida* var. *pilbarensis* and *Acacia colei* var. *colei* shrubland over an open *Triodia epactia* hummock grassland.

**Area: 0.05 km<sup>2</sup>      Quadrats Sampled      -**

**Landform Description**

**Location and**

This vegetation association occurs on the sandplains in the northwest of the study area

**Landform:**

**Soil Attributes:** Red brown sandy loam

**Litter Cover:** <1% Logs, <1% Twigs and 5% Leaves

**Bare Ground:** 30%

**Vegetation Structure and Floristics**

The presence of quite dense *Acacia tumida* var. *pilbarensis* and *Acacia colei* var. *colei* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia colei</i> var. <i>colei</i> shrubland to a height of 2 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:** Good

**Disturbances:** Track through association

**Average Fire Age:** Old

**Broad Formation: Sandplain G**

**Vegetation Association:**

A low open *Corymbia flavescens* woodland over an *Acacia colei* var. *colei*, *Carissa lanceolata* and *Acacia sericophylla* shrubland over a *Triodia epactia* hummock grassland over a very open *\*Cenchrus ciliaris*, *Chrysopogon fallax* and *Eriachne obtusa* tussock grassland.



**Area:** 0.02 km<sup>2</sup>

**Quadrats Sampled**

QT69

**Landform Description**

**Location and Landform:** This vegetation association occurs on a small area of sandplains in the northwest of the study area

**Soil Attributes:** Red brown sandy loam

**Litter Cover:** 1% Logs, 1% Twigs and 10% Leaves

**Bare Ground:** 15%

**Vegetation Structure and Floristics**

The presence of an *Acacia colei* var. *colei*, *Carissa lanceolata* and *Acacia sericophylla* shrubland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low open <i>Corymbia flavescens</i> woodland between 2-6 m
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia colei</i> var. <i>colei</i> , <i>Carissa lanceolata</i> and <i>Acacia sericophylla</i> shrubland to a height of 5 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.6 m
Tussock Grasses	Very open <i>*Cenchrus ciliaris</i> , <i>Chrysopogon fallax</i> and <i>Eriachne obtusa</i> tussock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:** Excellent - Pristine

**Disturbances:** Introduced species (*\*Cenchrus ciliaris*)

**Average Fire Age:** Old to Very Old

**Broad Formation: Sandplain H**

**Vegetation Association:**

An *Acacia tumida* var. *pilbarensis* and *Acacia colei* var. *colei* shrubland over a low *Acacia stellaticeps* shrubland over a *Triodia epactia* hummock grassland/ low *Acacia stellaticeps* shrubland over a *Triodia epactia* hummock grassland mosaic.



**Area:** 59.58 km<sup>2</sup>

**Quadrats Sampled**

PI024, PI033, PI035, PI050, PI052, PI053, PI056, PI065, PI073, PI108, PI147, PI148, PI150, QT65, QT66, QT67, QT80

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the west of the study area

**Soil Attributes:**

Light orange sandy loam

**Litter Cover:**

2% Logs, 1% Twigs and 3% Leaves

**Bare Ground:**

30-50%

**Vegetation Structure and Floristics**

The mosaic of the two vegetation types is the diagnostic for this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia colei</i> var. <i>colei</i> shrubland to a height of 3 m
Lower Shrub Layer	Low <i>Acacia stellaticeps</i> shrubland between 0.5-1 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Excellent

**Disturbances:**

Track nearby

**Average Fire Age:**

Old

**Broad Formation: Sandplain I**

**Vegetation Association:**

An *Acacia tumida* var. *pilbarensis* shrubland over a low *Acacia stellaticeps* shrubland over a *Triodia epactia* hummock grassland/ low *Acacia stellaticeps* shrubland over a *Triodia epactia* hummock grassland/ *Triodia epactia* hummock grassland mosaic.



**Area: 77.15 km<sup>2</sup>**

**Quadrats Sampled**

PI051, PI054, PI055, PI057, PI058, PI061, PI105, PI109, PI110, PI111, PI131, PI132, PI133, PI134, PI136, PI143, PI156  
QN40, QN42, QN43, QN44

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the middle of the study area

**Soil Attributes:**

Light orange brown sandy loam

**Litter Cover:**

<1% Logs, <1% Twigs and 1% Leaves

**Bare Ground:**

30-50%

**Vegetation Structure and Floristics**

The mosaic of the three vegetation types is the diagnostic for this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland to a height of 1.5 m
Lower Shrub Layer	Low <i>Acacia stellaticeps</i> shrubland between 0.5 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Excellent - Pristine

**Disturbances:**

-

**Average Fire Age:**

Old

**Broad Formation: Sandplain J**

**Vegetation Association:**

Scattered low *Corymbia flavescens* trees over an open *Acacia tumida* var. *pilbarensis* shrubland over a low open *Acacia stellaticeps* shrubland over a *Triodia epactia* and *Triodia secunda* hummock grassland/*Triodia secunda* and *Triodia epactia* hummock grassland mosaic.



**Area:** 2.78 km<sup>2</sup>

**Quadrats Sampled**

QN55, QN56

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the west of the study area

**Soil Attributes:**

Light orange brown sand

**Litter Cover:**

<1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:**

75-80%

**Vegetation Structure and Floristics**

The mosaic of the two vegetation types is the diagnostic for this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Scattered low <i>Corymbia flavescens</i> trees to a height of 2 m
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland to a height of 1.5 m
Lower Shrub Layer	Low open <i>Acacia stellaticeps</i> shrubland to a height of 0.5 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grassland under 0.3 m

**Vegetation Condition**

**Condition Rating:**

Excellent

**Disturbances:**

-

**Average Fire Age:**

Recent



**Broad Formation: Sandplain K**

**Vegetation Association:**

Scattered low *Owenia reticulata* trees over an *Acacia tumida* var. *pilbarensis* and *Acacia colei* var. *colei* shrubland over a low *Acacia stellaticeps* shrubland over a *Triodia epactia* hummock grassland/low *Acacia stellaticeps* shrubland over a *Triodia epactia* hummock grassland mosaic.



**Area:** 35.64 km<sup>2</sup>

**Quadrats Sampled**

PI060, PI062, PI063, PI067, PI102, PI103, PI104, PI106  
QN94, QN96

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the middle of the study area

**Soil Attributes:**

Light orange brown sand

**Litter Cover:**

<1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:**

25-30%

**Vegetation Structure and Floristics**

The presence of *Owenia reticulata* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Scattered low <i>Owenia reticulata</i> trees to a height of 2 m
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia colei</i> var. <i>colei</i> shrubland to a height of 2.5 m
Lower Shrub Layer	Low open <i>Acacia stellaticeps</i> shrubland to a height of 0.7 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.3 m

**Vegetation Condition**

**Condition Rating:**

Excellent -Pristine

**Disturbances:**

-

**Average Fire Age:**

Old



**Broad Formation: Sandplain L**

**Vegetation Association:**

A low open *Corymbia zygophylla* woodland over an open *Acacia colei* var. *colei*, *Acacia inaequilatera* and *Acacia ancistrocarpa* shrubland over a low *Acacia sericophylla*, *Acacia stellaticeps*, *Senna artemisioides* aff. subsp. *oligophylla* (thinly sericeous) and *Dodonaea coriacea* shrubland over a very open *Triodia lanigera* and *Triodia epactia* hummock grassland.



**Area:** 0.33 km<sup>2</sup>      **Quadrats Sampled**      QN39

**Landform Description**

**Location and Landform:** This vegetation association occurs on sandplains in the middle of the study area

**Soil Attributes:** Red brown sandy loam

**Litter Cover:** 1% Logs, 3% Twigs and 3% Leaves

**Bare Ground:** 25%

**Vegetation Structure and Floristics**

The presence of *Corymbia zygophylla* is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low open <i>Corymbia zygophylla</i> woodland to a height of 4 m
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia colei</i> var. <i>colei</i> , <i>Acacia inaequilatera</i> and <i>Acacia ancistrocarpa</i> shrubland to a height of 2.5 m
Lower Shrub Layer	Low open <i>Acacia stellaticeps</i> shrubland to a height of 0.7 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.3 m

**Vegetation Condition**

**Condition Rating:** Excellent -Pristine

**Disturbances:** -

**Average Fire Age:** Old

**Broad Formation: Sandplain M**

**Vegetation Association:**

An open *Acacia ancistrocarpa*, *Acacia tumida* var. *pilbarensis* and *Acacia inaequilatera* shrubland over *Triodia lanigera* hummock grassland.



**Area:** 0.52 km<sup>2</sup>      **Quadrats Sampled**      QT117

**Landform Description**

**Location and Landform:** This vegetation association occurs on a small area of sandplain in the middle of the study area

**Soil Attributes:** Light orange brown sand

**Litter Cover:** <1% Logs, <1% Twigs and 1% Leaves

**Bare Ground:** 40%

**Vegetation Structure and Floristics**

The presence of an open *Acacia ancistrocarpa*, *Acacia tumida* var. *pilbarensis* and *Acacia inaequilatera* shrubland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia ancistrocarpa</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia inaequilatera</i> shrubland to a height of 2 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia lanigera</i> and <i>Triodia epactia</i> hummock grassland under 0.4 m

**Vegetation Condition**

**Condition Rating:** Excellent -Pristine

**Disturbances:** Tracks and railway line nearby

**Average Fire Age:** Old

**Broad Formation: Sandplain N**

**Vegetation Association:**

A low open *Corymbia zygophylla* woodland over an open *Acacia ancistrocarpa*, *Acacia inaequilatera*, *Acacia tumida* var. *pilbarensis* and *Acacia sericophylla* shrubland over *Acacia stellaticeps* low open shrubland over *Triodia epactia* and *Triodia lanigera* hummock grassland.



**Area: 75.14 km<sup>2</sup>**

**Quadrats Sampled**

PI079, PI081, PI083, PI084, PI085, PI096, PI100, PI101, PI112, PI117, PI118, PI129, PI130, PI135, PI137, PI153, PI154, PI161, PIHAR01, PIER01 QN06, QN07, QT122, QT123

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the east of the study area

**Soil Attributes:** Light orange brown sand

**Litter Cover:** 1% Logs, <1% Twigs and 5% Leaves

**Bare Ground:** 40%

**Vegetation Structure and Floristics**

The presence of open *Acacia ancistrocarpa*, *Acacia inaequilatera*, *Acacia tumida* var. *pilbarensis* and *Acacia sericophylla* shrubland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low open <i>Corymbia zygophylla</i> woodland to a height of 4 m
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia ancistrocarpa</i> , <i>Acacia inaequilatera</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia sericophylla</i> shrubland to a height of 3 m
Lower Shrub Layer	<i>Acacia stellaticeps</i> low open shrubland to a height of 1 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland under 1 m

**Vegetation Condition**

**Condition Rating:** Excellent -Pristine

**Disturbances:** -

**Average Fire Age:** Old

**Broad Formation: Sandplain O**

**Vegetation Association:**

Scattered low *Eucalyptus victrix* and *Corymbia hamersleyana* trees over an open *Acacia ancistrocarpa*, *Acacia tumida* var. *pilbarensis*, *Acacia inaequilatera* and *Acacia trudgeniana* shrubland over a low open *Acacia stellaticeps* shrubland over a *Triodia epactia* and *Triodia lanigera* hummock grassland.



**Area: 36.13 km<sup>2</sup>**

**Quadrats Sampled**

PI059, PI092, PI093, PI094, PI095, PI113, PI114, PI127, PI128, PI138  
QN105, QN106

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the east of the study area

**Soil Attributes:**

Light orange brown sand

**Litter Cover:**

<1% Logs, 1% Twigs and 2% Leaves

**Bare Ground:** 35%

**Vegetation Structure and Floristics**

The presence of scattered low *Eucalyptus victrix* and *Corymbia hamersleyana* trees is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Scattered low <i>Eucalyptus victrix</i> and <i>Corymbia hamersleyana</i> trees to a height of 6 m
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia ancistrocarpa</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> , <i>Acacia inaequilatera</i> and <i>Acacia trudgeniana</i> shrubland between 1-2 m
Lower Shrub Layer	Low open <i>Acacia stellaticeps</i> shrubland to a height of 0.4 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland under 0.5 m

**Vegetation Condition**

**Condition Rating:**

Excellent -Pristine

**Disturbances:**

-

**Average Fire Age:**

Old

**Broad Formation: Sandplain P**

**Vegetation Association:**

A low open *Eucalyptus victrix*, *Corymbia hamersleyana* and *Corymbia flavescens* woodland over an open *Acacia colei* var. *colei* shrubland over a low open *Acacia stellaticeps* and *Pluchea tetranthera* shrubland over a *Triodia epactia* hummock grassland.



**Area:** 4.16 km<sup>2</sup>

**Quadrats Sampled**

PI080, PI097  
QN22

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the east of the study area

**Soil Attributes:**

Red brown clayey loam

**Litter Cover:**

2% Logs, 8% Twigs and 10% Leaves

**Bare Ground:** 30%

**Vegetation Structure and Floristics**

The presence of a low open *Eucalyptus victrix*, *Corymbia hamersleyana* and *Corymbia flavescens* woodland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low open <i>Eucalyptus victrix</i> , <i>Corymbia hamersleyana</i> and <i>Corymbia flavescens</i> woodland to a height of 7 m
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia colei</i> var. <i>colei</i> shrubland between 1-3 m
Lower Shrub Layer	Low open <i>Acacia stellaticeps</i> and <i>Pluchea tetranthera</i> shrubland to a height of 0.5 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> hummock grassland under 0.4 m

**Vegetation Condition**

**Condition Rating:**

Excellent -Pristine

**Disturbances:**

-

**Average Fire Age:**

Old

**Broad Formation: Sandplain Q**

**Vegetation Association:**

Scattered low *Corymbia flavescens* trees over an open *Acacia ancistrocarpa* and *Acacia bivenosa* shrubland over scattered low *Acacia stellaticeps* shrubs over a *Triodia epactia* and *Triodia lanigera* hummock grassland.



**Area: 23.38**

**Quadrats Sampled**

PI086, PI087, PI099, PI116, PI124, PI126, PI145  
QT108, QT109

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the east of the study area

**Soil Attributes:**

Light orange brown sand with clay

**Litter Cover:**

<1% Logs, <1% Twigs and 1% Leaves

**Bare Ground:** 45%

**Vegetation Structure and Floristics**

The presence of an open *Acacia ancistrocarpa* and *Acacia bivenosa* shrubland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Scattered low <i>Corymbia flavescens</i> trees to a height of 4 m
<b>Midstorey</b>	
Middle Shrub Layer	Open <i>Acacia ancistrocarpa</i> and <i>Acacia bivenosa</i> shrubland to a height of 1.5 m
Lower Shrub Layer	Scattered low <i>Acacia stellaticeps</i> shrubs to a height of 0.8 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland under 0.4 m

**Vegetation Condition**

**Condition Rating:**

Excellent -Pristine

**Disturbances:**

Roads, fences and rail line nearby

**Average Fire Age:**

Old

**Broad Formation: Sandplain R**

**Vegetation Association:**

Low open *Corymbia candida* subsp. *lautifolia* and *Corymbia hamersleyana* woodland over *Acacia colei* var. *colei* and *Acacia tumida* var. *pilbarensis* open shrubland over *Triodia epactia* and *Triodia lanigera* hummock grassland.



**Area: 37.85 km<sup>2</sup>**

**Quadrats Sampled**

PI030, PI034, PI074, PI075, PI076, PI077, PI078, PI082, PI088, PI089, PI090, PI091, PI141, PI149

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the east of the study area

**Soil Attributes:**

Light orange brown sand loam

**Litter Cover:**

<1% Logs, <1% Twigs and 2% Leaves

**Bare Ground:**

30-70%

**Vegetation Structure and Floristics**

The presence of a Low open *Corymbia candida* subsp. *lautifolia* and *Corymbia hamersleyana* woodland is the main diagnostic of this association.

Stratum	Key Characteristics
<b>Overstorey</b>	
Canopy Layer	Low open <i>Corymbia candida</i> subsp. <i>lautifolia</i> and <i>Corymbia hamersleyana</i> woodland between 2-5 m
<b>Midstorey</b>	
Middle Shrub Layer	<i>Acacia colei</i> var. <i>colei</i> and <i>Acacia tumida</i> var. <i>pilbarensis</i> open shrubland to a height of 3 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland under 0.4 m

**Vegetation Condition**

**Condition Rating:**

Excellent -Pristine

**Disturbances:**

Introduced species and disturbance from cattle

**Average Fire Age:**

Old



**Broad Formation: Sandplain S**

**Vegetation Association:**

Scattered *Acacia inaequilatera* shrubs over *Triodia epactia* and *Triodia lanigera* very open hummock grassland.



**Area: 26.61**

**Quadrats Sampled**

PI125, PI139, PI140, PI142, PI152, PIR151

**Landform Description**

**Location and Landform:**

This vegetation association occurs on sandplains in the east of the study area

**Soil Attributes:**

Orange brown sandy loam with pebbles and cobbles

**Litter Cover:**

<1% Logs, <1% Twigs and <1% Leaves

**Bare Ground:** 90%

**Vegetation Structure and Floristics**

The presence of Scattered *Acacia inaequilatera* shrubs and recent fire history are the main diagnostic of this association.

Stratum	Key Characteristics
<b>Midstorey</b>	
Middle Shrub Layer	Scattered <i>Acacia inaequilatera</i> shrubs to a height of 2 m
<b>Understorey</b>	
Hummock Grasses	<i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland under 0.3 m

**Vegetation Condition**

**Condition Rating:**

Excellent

**Disturbances:**

Rail nearby

**Average Fire Age:**

Recent - moderate



The most common vegetation types recorded in the study area during previous surveys included:

- Hummock grassland of *Triodia secunda* (Sandplain A);
- Low Open Shrubland of *Tecticornia* spp. on saline flats (Samphire A and B);
- Low Shrubland of *Acacia stellaticeps* with mixed *Triodia secunda* / *Triodia schinzii* / *Triodia epactia* Open Hummock Grassland (Sandplain B);
- High Closed Shrubland of *Avicennia marina* and *Rhizophora stylosa* (Mangroves); and
- Mixed Tussock grassland of *Eragrostis* spp., \**Cenchrus ciliaris*, *Aristida* spp. and *Paraneurachne* spp.

These vegetation types were recorded from the majority of the surveys previously conducted in the Port Hedland area, and during the current survey.

The Hummock Grassland of *Triodia secunda* vegetation type has been recorded from nine of the previous surveys. The Low Open Shrubland of *Tecticornia* spp. on saline flats vegetation type has been recorded from eight of the previous surveys. The Low Shrubland of *Acacia stellaticeps* with mixed *Triodia* spp. Open Hummock Grassland vegetation type has been recorded from ten of the previous surveys. The Mangrove vegetation type has been recorded from four of the previous surveys. The Mixed Tussock Grassland vegetation type has been recorded from three of the previous surveys.

As the previous surveys and reports were completed over a number of years, with differing methods and by a range of personnel, there are variations in the descriptions of these vegetation types throughout the area. Some examples of differences are described below.

The *Triodia secunda* Hummock Grassland, is primarily described as occurring with another co-dominant *Triodia* species (*T. epactia* and *T. schinzii*) (Biota 2008a; Biota 2008b; ENV 2008a; ENV 2010a; ENV 2010b; ENV 2010e; and Woodman 2011). The descriptions in each report vary, with some describing scattered to open tussock grasses present as co-dominant alongside the hummock grasses (Biota 2008a; ENV 2008a; ENV 2010a; and ENV 2010b). The density of the grasslands may reflect fire age.

The low open shrublands of *Tecticornia* spp. are consistently occurring on tidal saline mudflats (Biota 2008a; Biota 2008b; ENV 2008a; ENV 2010b; ENV 2010c; ENV 2010d; ENV 2010e; and Woodman 2011). The descriptions vary in their inclusions of co-occurring taxa, with some describing tussock grasses as co-dominant (ENV 2010b; ENV 2010d; ENV 2010e; and Woodman 2011) and others describing *Muellerolimon salicorniaceum* shrubs as co-dominant in this vegetation type (Biota 2008b; ENV 2010c).

The low shrublands of *Acacia stellaticeps* with mixed *Triodia* spp., consistently occur on sandy areas (Biota 2008b; ENV 2009a; ENV 2009c; ENV 2009f; ENV 2009g; ENV 2010a; ENV 2010b; ENV 2010c; ENV 2010d; Woodman 2011). The descriptions of co-occurring *Triodia* species varies with each report, with some occurring with *T. epactia* and/or *T. secunda* (ENV 2009f; ENV 2009g; ENV 2010c; ENV 2010d and Woodman 2011) and some occurring with *T. schinzii* (ENV 2010a; ENV 2010b; ENV 2010b).

The mangrove vegetation type is consistently described as a high closed shrubland/forest occurring on intertidal mudflats (ENV 2009a; ENV 2009b; ENV 2010c; and Woodman 2011). The dominant mangrove species vary, with some describing *Avicennia marina* and *Ceriops tagal* as the dominants (ENV 2009a and ENV 2010c), one describing *Avicennia marina* and *Rhizophora stylosa* as the dominants (ENV 2009b) and one describing only one dominant mangrove species (Woodman 2011). It should be noted that *Ceriops tagal* is no longer a current taxon in Western Australia and this identification is likely to be of *Rhizophora stylosa*. However, the Western Australian Herbarium has not indicated the current name to which *Ceriops tagal* should now be referred (WAH 2011).

The mixed tussock grassland vegetation type is consistently occurring on sandy areas (ENV 2009g; ENV 2010a and ENV 2010f). The dominant tussock grass species varies, with some describing *Cenchrus ciliaris* as a dominant species (ENV 2010a and ENV 2010f) and some describing *Eragrostis eriopoda*, *Aristida hygrometrica* and *Spinifex longifolius* as dominant species (ENV 2009g and ENV 2010f).

### 3.5.2 Vegetation Condition

Vegetation condition in the study area ranged from Completely Degraded to Pristine with the majority of vegetation in Very Good to Excellent condition (Figure 9 and Figure 10). The majority of disturbance was located around infrastructure and the towns of Port Hedland and South Hedland. The main disturbances recorded were the presence of introduced species, clearing for infrastructure and tracks, and grazing and trampling by cattle.

The vegetation condition of the northern coastal section of the study area was considered to range from Poor to Excellent (Biota 2008a; Biota 2008b; ENV 2008a; ENV 2009b and Woodman 2011). Biota (2008a) also considered the vegetation of the western coastal area near Finucane Island to be in Very Good condition with few weed species occurring. The Finucane Island access road vegetation was recorded to be in Poor to Good condition with a high level of disturbance in the area from industrial development with the occurrence of weed species to be denser along the access road (Biota 2008b). ENV (2008a) considered the coastal area associated with the port to be in Poor to Good condition, with disturbance from the construction of the nearby conveyor, cattle, vehicle tracks and litter. The Outer Harbour development (ENV 2009b), although experiencing similar disturbances was considered to be in Good to Very Good condition. The disturbance was noticeable greater closer to the Wedgefield Industrial Area (ENV

2009b). Woodman (2011) considered the majority of the vegetation of the coastal area to be in Very Good/Excellent to Excellent condition with few weed species.

The vegetation condition of the centre of the study area was considered to range from Completely Degraded to Excellent (Maia 2010; ENV 2009a and ENV 2009c). Maia (2010) considered the vegetation in the centre of the study area to be in Degraded to Very Good condition with areas associated with tracks, drainage lines and infrastructure having greater levels of disturbance than the surrounding vegetation. ENV (2009a) considered the vegetation in the centre of the study area to be in Good to Excellent condition with disturbances associated with clearing for tracks and infrastructure. ENV (2009c) considered the vegetation in the centre of the study area to be in Completely Degraded to Very Good condition with the existing rail line infrastructure the main source of disturbance.

Biota (2009) considered the vegetation in association with the Wedgefield salt flats to be in Good to Very Good condition with the occurrence of some weed species and other disturbances including vehicle tracks and litter recorded.

### **3.5.3 Threatened and Priority Ecological Communities**

No TECs, listed under *EPBC Act* or as endorsed by the Western Australian Minister for the Environment or PECs, as listed by the DEC, were identified in the study area.

### **3.5.4 Vegetation of Conservation Significance**

One vegetation community considered of conservation significance (mangroves) was identified in the study area (Figure 7). Mangroves are listed as a wetland of subregional significance by Kendrick and Stanley (2001). Guidance Statement No. 1 considers the mangroves of the Port Hedland area to be of high conservation value (EPA 2001). Separate assessments of the mangroves have been conducted for the Port Hedland region and therefore mangroves are not discussed at length in this report.

### **3.5.5 Vegetation of Interest**

Three vegetation associations of interest occur in the study area.

The samphire shrublands (*Tecticornia* spp.) are considered of interest by Biota (2008a) as they are restricted to the narrow mudflat habitats along the coast and are susceptible to disturbance. The samphire shrublands were described in eight reports (Biota 2008a; Biota 2008b; ENV 2008a; ENV 2010b; ENV 2010c; ENV 2010d; ENV 2010e and Woodman 2011).

The grasslands dominated by *Triodia secunda* are considered of interest by Biota (2008a), as this spinifex species has a limited distribution in the Pilbara and appears to be restricted to Port Hedland and its immediately surrounding areas (Biota 2008a and

WAH 2011). This vegetation type was described in four reports (Biota 2008a; ENV 2010f; Maia 2010 and Woodman 2011).

The High Shrubland of *Acacia tumida* var. *pilbarensis* and *A. colei* var. *colei*, with Low Open Shrubland of *Hybanthus aurantiacus* with Very Open Hummock Grassland of *Triodia epactia* on Flood Plains and at the base of Granite Domes and Tors, is considered of interest by Maia (2010) due to its apparently limited regional distribution (Maia 2010). This vegetation type is also considered to be potential habitat for the Priority 4 species, *Bulbostylis burbridgeae* (Maia 2010) as it was recorded in similar habitat previously (Biota 2008b). To date, *Bulbostylis burbridgeae* has not been recorded from this location and no records exist in the area on Florabase (WAH 2011). These areas were mapped as rock outcrops in the south of the study area.

Two broad formations, associated with Limestone Hills and Rock Outcrops, which were mapped of limited extent during the Outer Harbour Development Area (ENV 2009a) were expanded in coverage with new areas of these formations and habitats recorded. The Limestone Hill association covers 0.62 km<sup>2</sup> and the Rock Outcrops covers 0.48 km<sup>2</sup>. The rock outcrops were also identified as being of significance in the Biota (2004) and Hope Downs Management Services reports (2002).

### 3.5.6 Groundwater-Dependant Ecosystems

Three phreatophytic species, *Melaleuca argentea* (an obligate phreatophyte), and *Eucalyptus camaldulensis* subsp. *refulgens* and, *Eucalyptus victrix* (both facultative phreatophytes), were recorded during the current survey. Phreatophytic species rely on groundwater sources for water uptake (Halpern, Glick and Maunsell 1999). These species were recorded from two broad formations: Major Drainage Line A and Major Drainage Line D. These taxa indicate the potential presence shallow groundwater, and hence a Groundwater Dependent Ecosystem.

*Eucalyptus victrix* was also recorded throughout a number of different associations in the study area. Not all of these may represent groundwater dependent ecosystems, but the *Eucalyptus* present may rely on groundwater during drier periods. These other associations were Major Drainage Line B, Billabong, Drainage Line A and B and Sandplain D, E, O and P.

### 3.5.7 Regional Representation of Vegetation Types

Beard (1975) mapped seven vegetation types in the study area (Table 10). These can be correlated to mapping by Shepherd *et al.* (2001) who attempted to determine the current extent of these vegetation types.

The ENV vegetation associations have generally correlated with the Beard (1975) broad vegetation types (Table 10). Differences exist with the terminology used in the descriptions as they are based on different methods of categorising and characterising vegetation types, and spatial scale of the analysis (*i.e.* region vs. local scale).

The vegetation types mapped by Beard (1975) as occurring in the study area have a large distribution especially in the Pilbara region. In addition, as shown in Table 10, they are considered to exist at between 84 to 100% of their pre-European extent as per Shepherd *et al.* (2001) and DAFWA (2007). Vegetation types that have more than 50% of their pre-European extent are considered of ‘Least Concern’ as per the Department of Natural Resources and Environment (2002).

**Table 10:** Regional Representation of Vegetation in the Survey area

Beard / Shepherd Vegetation Unit	Vegetation Association Mapped	Pre-European area (km <sup>2</sup> ) <sup>1</sup>	Current extent (km <sup>2</sup> ) <sup>3</sup>	Remaining (%) <sup>3</sup>	Pre-European % in IUCN Class I-IV Reserves <sup>3</sup>	Conservation Status <sup>2</sup>
647	Low hill	196,370.7	196,370.7	100	0	Least Concern
93	Sandplain	3,042,113.1	3,042,064	100	0.42	Least Concern
117	N/A	74,554.9	70,441.6	94.48	12.23	Least Concern
127	Samphire B	180,400.9	177,739.1	98.52	0	Least Concern
43	Mangroves	15,057.6	12,712.7	84.43	0	Least Concern
589	Sandplain B	730,717.7	730,682.9	100	1.77	Least Concern
619	Major Drainage Line A	118,704.9	118,704.9	100	0.20	Least Concern

Representation of these units at the bioregional, subregional and local scale are summarised in Table 11.

<sup>1</sup> Shepherd *et al.* (2001) and DAFWA (2007)

<sup>2</sup> Kendrick and Stanley (2001) and Kendrick and McKenzie (2001)

**Table 11:** Extent of Beard and Shepherd Vegetation Units at the Bioregional, Subregional and Local Scale

Beard / Shepherd Vegetation Unit	Extent in Pilbara bioregion (km <sup>2</sup> )	Extent in Roebourne subregion (km <sup>2</sup> )	Extent in Chichester subregion (km <sup>2</sup> )	Extent in survey area (km <sup>2</sup> )	Vegetation unit in survey area as a % of bioregion
647	196,370.7	189,412.2	6,958.5	300.54	0.15
93	3,042,064	45,770.9	2,940,887.7	118.96	0.004
117	70,441.6	38,698.9	31,742.6	13.61	0.02
127	177,739.1	177,287.3	451.8	75.77	0.04
43	12,712.7	12,051.7	661.0	34.3	0.27
589	730,682.9	680,436	50,246.9	177.48	0.02
619	118,704.9	33,314.4	85,390.6	2.82	0.002

## 4 SUMMARY

The current and previous surveys of the Port Hedland study area have found the following:

- No flora listed under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, or gazetted as Declared Rare Flora under the *Wildlife Conservation Act 1950 (WA)* were recorded;
- A total of 12 Priority Flora listed by the DEC (WAH 2011) have been recorded in the study area to date;
- A total of 577 taxa (including species, subspecies and varieties), from 67 families and 198 genera, have been recorded from the study area to date;
- A total of 28 introduced flora have been recorded in the study area from the current and previous surveys of which two species are listed as Declared Plants under the *Agriculture and Related Resources Protection Act 1976 (WA)*: \**Opuntia stricta* and \**Tamarix aphylla*;
- A total of 40 vegetation associations were recorded in the study area. No vegetation associations representing TECs under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, ESAs under the *Environmental Protection Act 1986 (WA)*, or PECs as listed by the DEC were recorded; and
- The survey area contains seven land systems: Littoral, Macroy, Mallina, River, Uaroo, Yamerina and Other, which are well represented and largely widespread in the Pilbara region.

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# FIGURES



**Legend**



Port Hedland Regional Flora and Vegetation Assessment Study Area

**Location**



INDIAN OCEAN

Port Hedland

SCALE 1 : 1 000 000



Kilometres  
MAP GRID OF AUSTRALIA

Grid based on Transverse Mercator Projection



Client: **BHP BILLITON IRON ORE**  
Project: **PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT**

**REGIONAL LOCATION**

J100489

A4

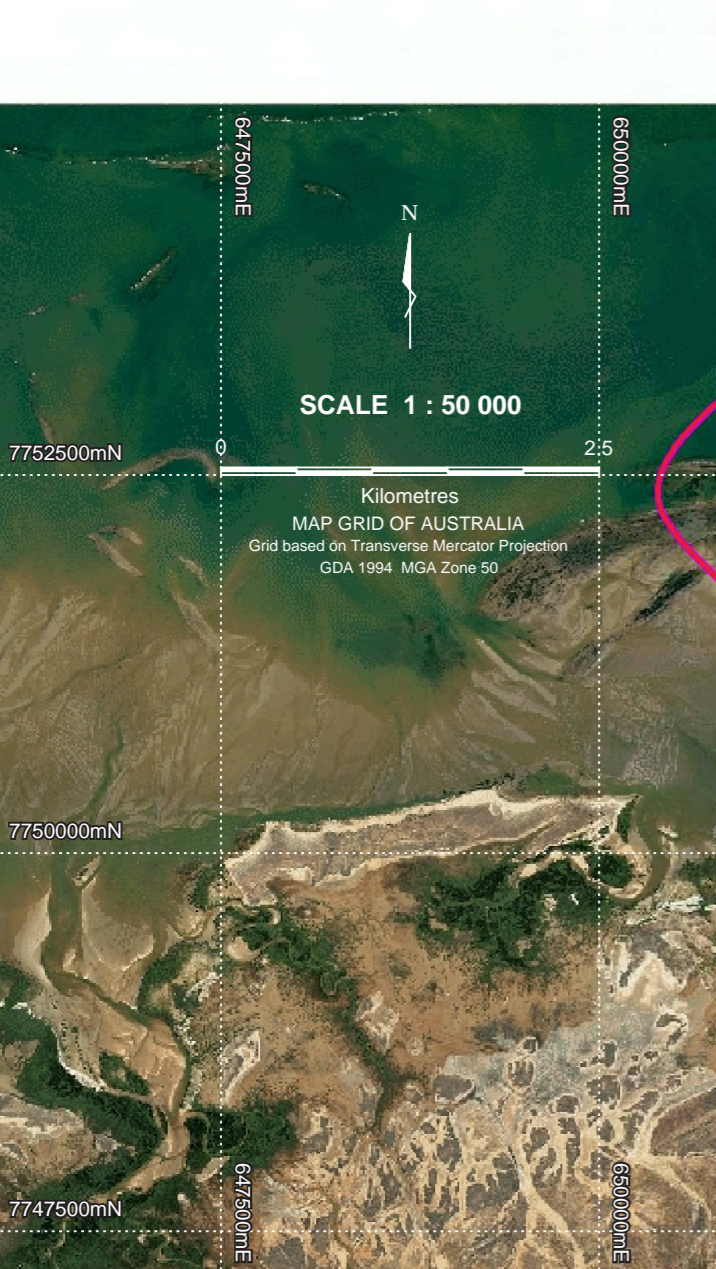
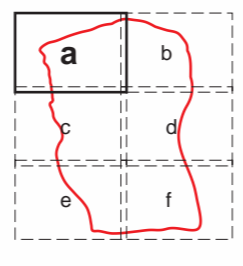
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Scale: 1:1 Million  
Author: E.C. / S.C.  
Figure No. **1**  
Plan No. **PH-001**




**Legend** □ Flora Quadrat ○ Flora Relevé

- PI038 Current Survey (ENV 2011)
- RGP02 Port Hedland Nelson Point Dredging Approvals - Flora and Vegetation (DMMA A&H - ENV 2008)
- QT38 Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)
- GR20 Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)
- BRD01 Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)
- PP5 Port Hedland Transmission Lines Flora & Fauna Assessment (ENV 2009g)
- WK5 Wallwork Road Bridge Flora and Vegetation Assessment (ENV 2010a)
- GD04 Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b);
- GFR01 Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)
- GF13 Great Northern Highway Road Bridge Flora and Vegetation Assessment (ENV 2010d)
- TP04 Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)
- HPX01 Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)
- S19 Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)
- NWI44 North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)

**Location**



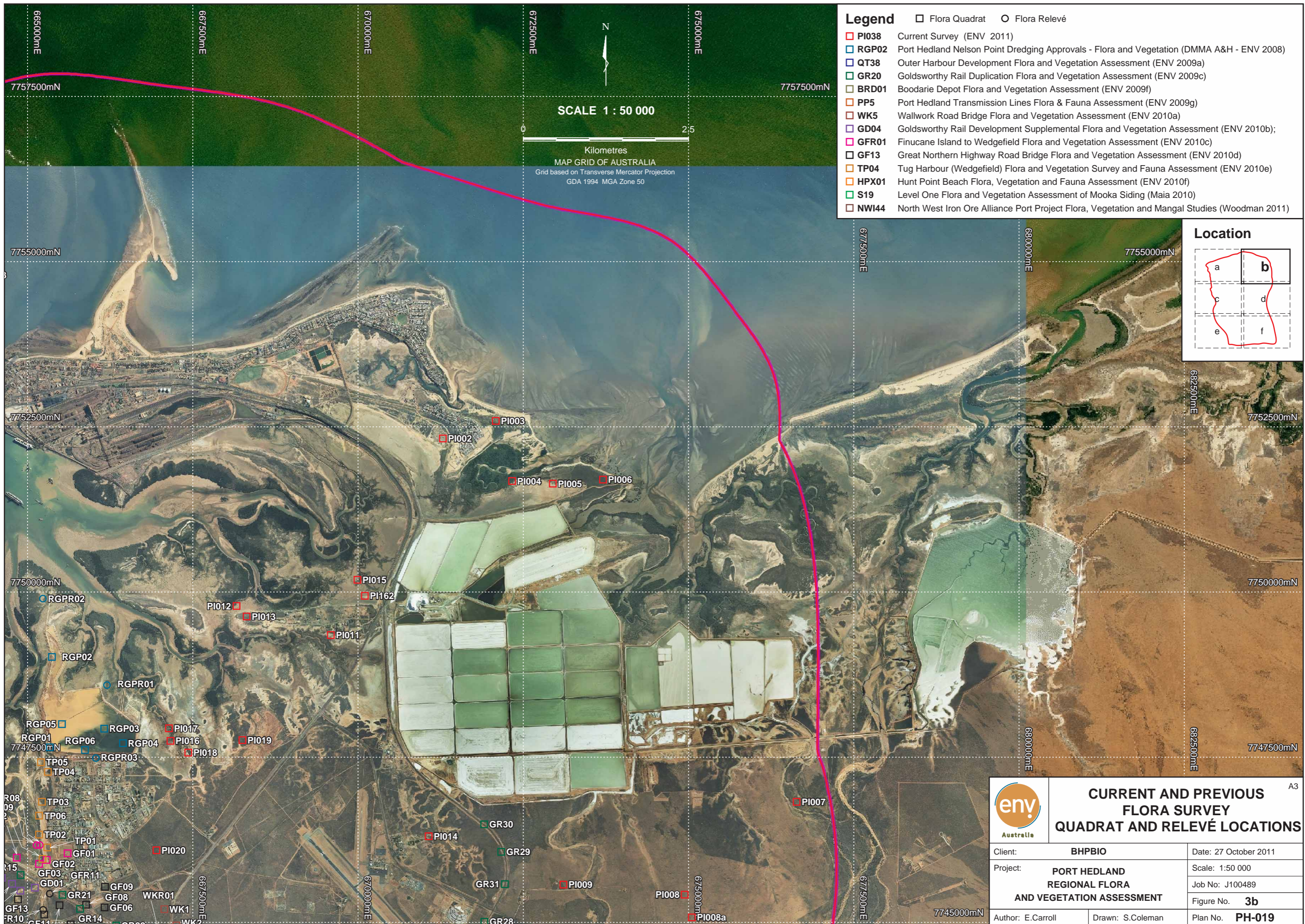


**CURRENT AND PREVIOUS  
FLORA SURVEY  
QUADRAT AND RELEVÉ LOCATIONS**

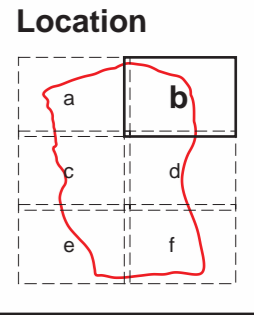
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Client: <b>BHPBIO</b>	Date: 27 October 2011
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000
	Job No: J100489
Author: E.Carroll	Figure No. <b>3a</b>
Drawn: S.Coleman	Plan No. <b>PH-018</b>





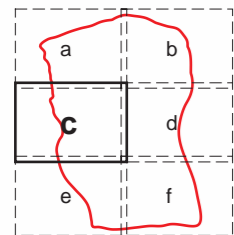
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  - RGP02 Port Hedland Nelson Point Dredging Approvals - Flora and Vegetation (DMMA A&H - ENV 2008)
  - QT38 Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)
  - GR20 Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)
  - BRD01 Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)
  - PP5 Port Hedland Transmission Lines Flora & Fauna Assessment (ENV 2009g)
  - WK5 Wallwork Road Bridge Flora and Vegetation Assessment (ENV 2010a)
  - GD04 Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b);
  - GFR01 Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)
  - GF13 Great Northern Highway Road Bridge Flora and Vegetation Assessment (ENV 2010d)
  - TP04 Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)
  - HPX01 Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)
  - S19 Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)
  - NWI44 North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)



	<b>CURRENT AND PREVIOUS FLORA SURVEY QUADRAT AND RELEVÉ LOCATIONS</b>		A3
	<b>Client:</b> BHPBIO	<b>Date:</b> 27 October 2011	
<b>Project:</b> PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT	<b>Scale:</b> 1:50 000		<b>Job No:</b> J100489
<b>Author:</b> E.Carroll	<b>Drawn:</b> S.Coleman	<b>Figure No.:</b> 3b	<b>Plan No.:</b> PH-019



**Location**



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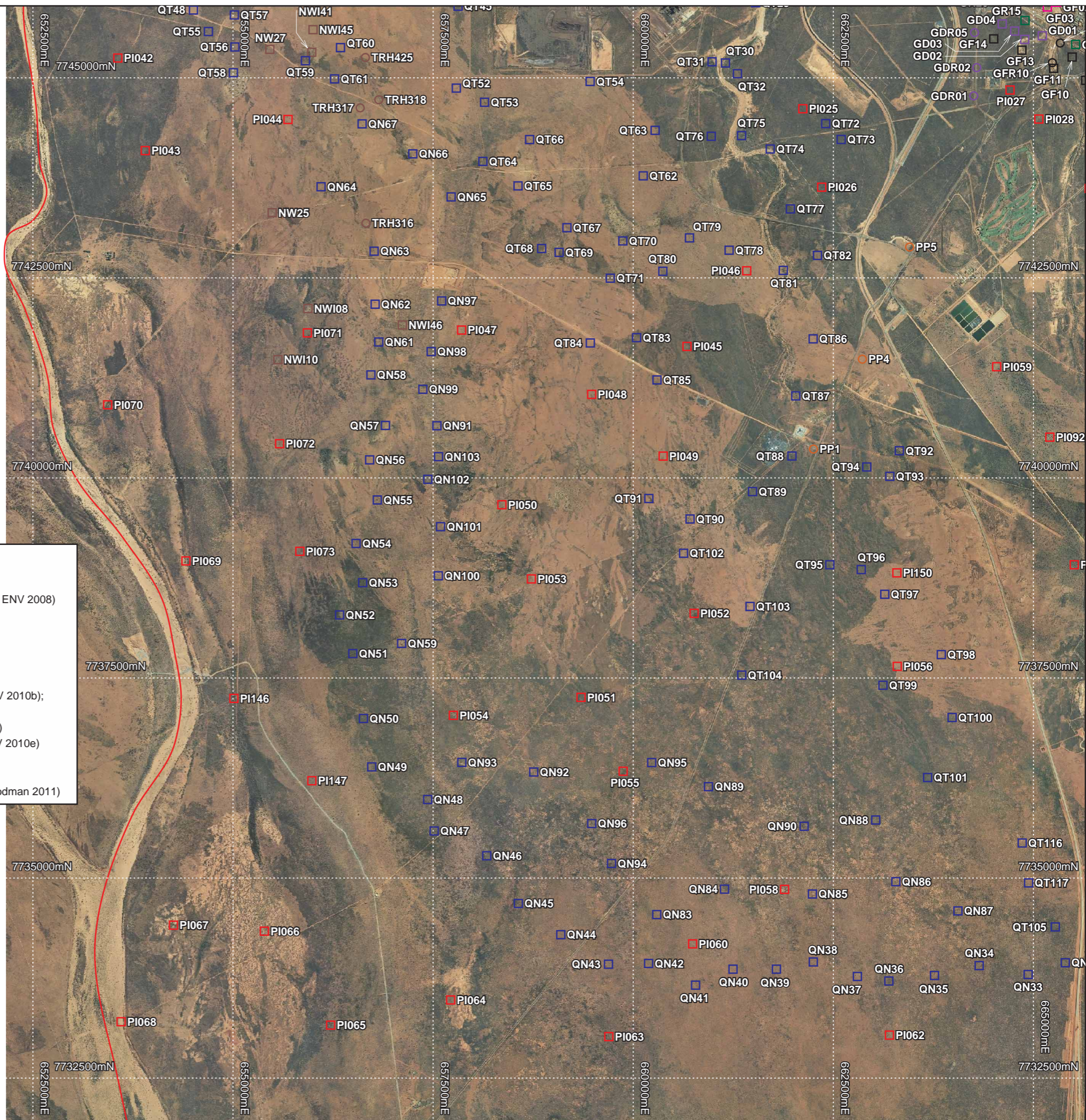


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Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50

**Legend**

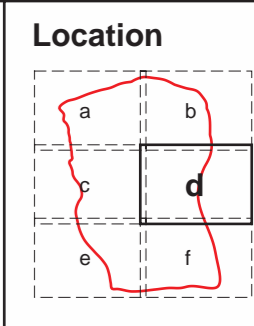
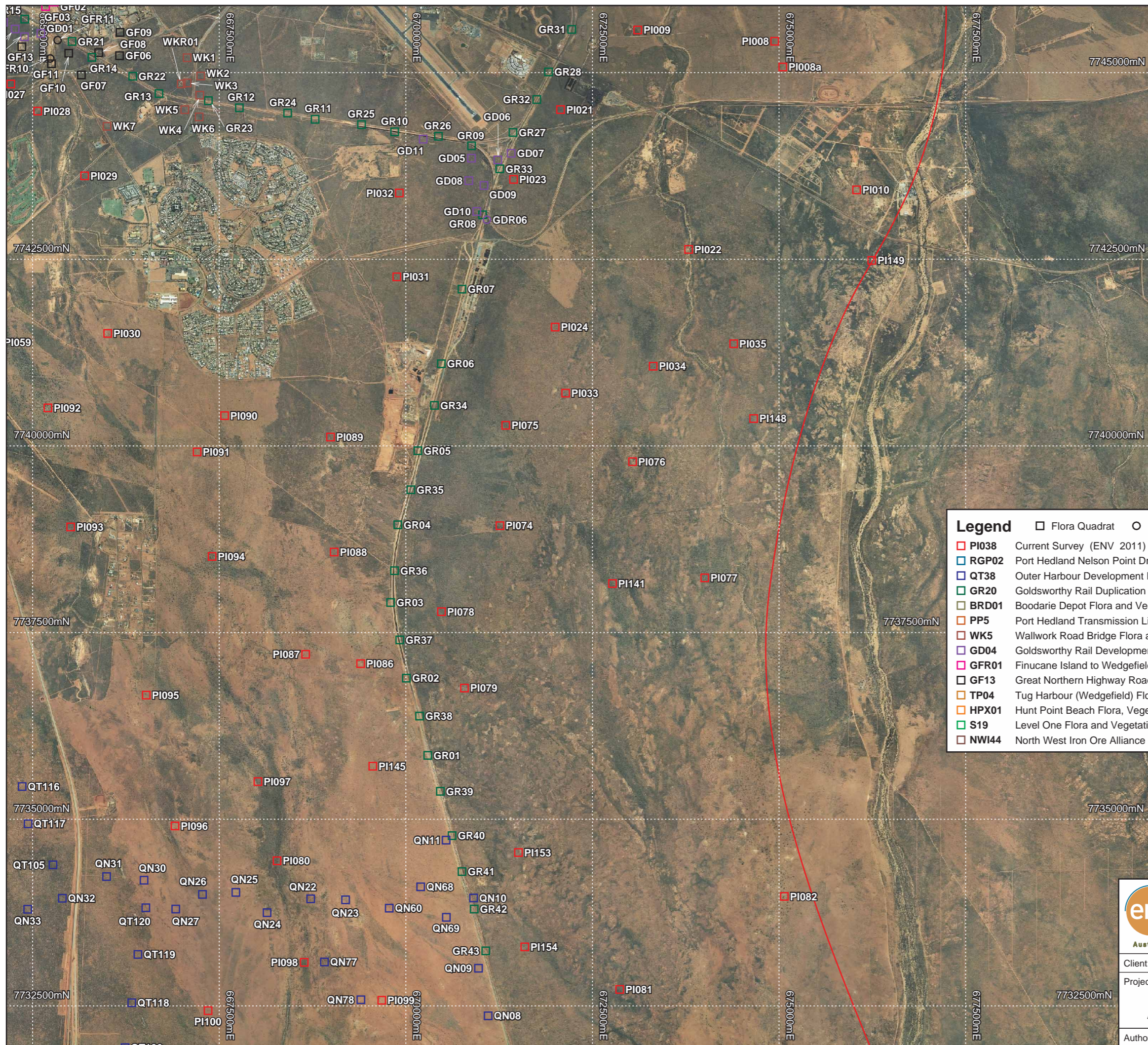
□ Flora Quadrat ○ Flora Relevé

- PI038 Current Survey (ENV 2011)
- RGP02 Port Hedland Nelson Point Dredging Approvals - Flora and Vegetation (DMMA A&H - ENV 2008)
- QT38 Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)
- GR20 Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)
- BRD01 Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)
- PP5 Port Hedland Transmission Lines Flora & Fauna Assessment (ENV 2009g)
- WK5 Wallwork Road Bridge Flora and Vegetation Assessment (ENV 2010a)
- GD04 Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b);
- GFR01 Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)
- GF13 Great Northern Highway Road Bridge Flora and Vegetation Assessment (ENV 2010d)
- TP04 Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)
- HPX01 Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)
- S19 Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)
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	CURRENT AND PREVIOUS FLORA SURVEY QUADRAT AND RELEVÉ LOCATIONS		A3
	Client:	BHPBIO	Date: 27 October 2011
Project:	PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT	Scale: 1:50 000	Job No: J100489
Author: E.Carroll	Drawn: S.Coleman	Figure No. <b>3c</b>	Plan No. <b>PH-020</b>





**SCALE 1 : 50 000**



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 GDA 1994 MGA Zone 50

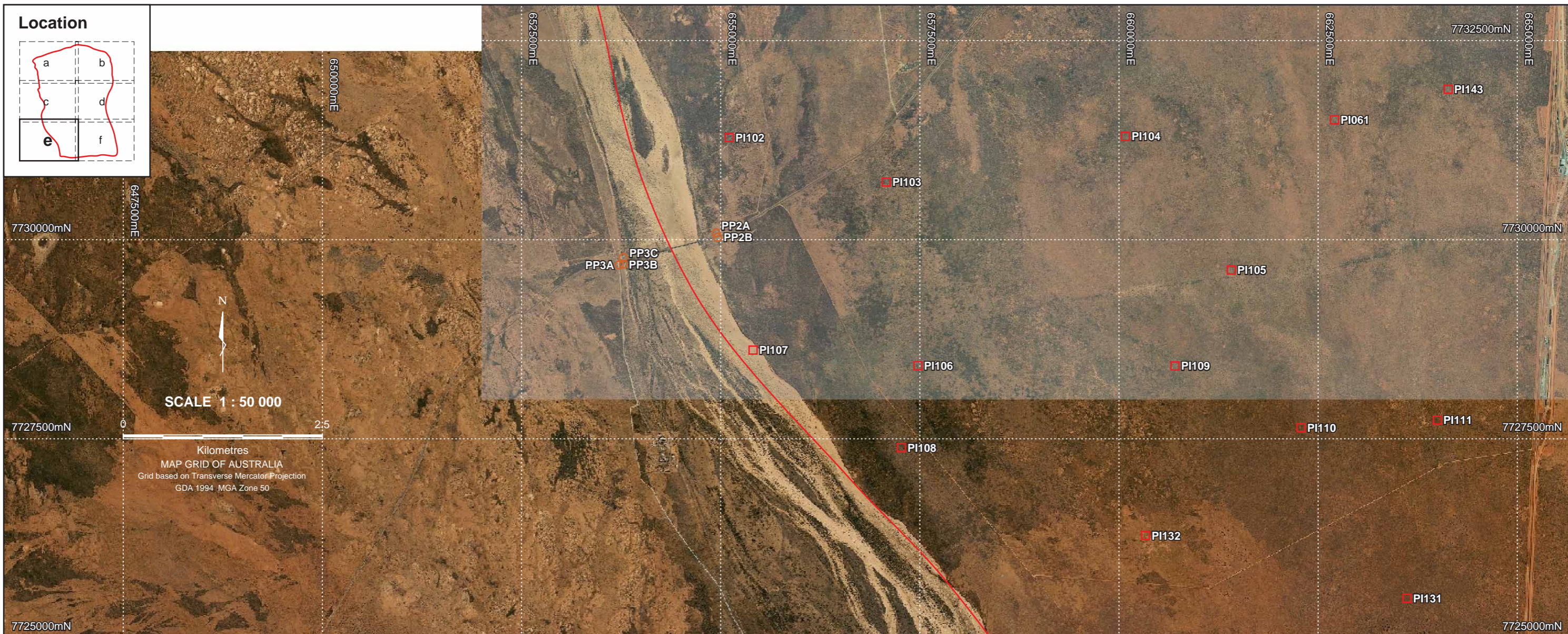
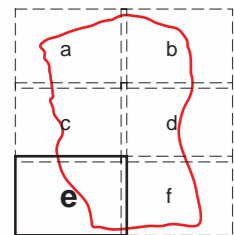
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	<b>RGP02</b>	Port Hedland Nelson Point Dredging Approvals - Flora and Vegetation (DMMA A&H - ENV 2008)	
	<b>QT38</b>	Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)	
	<b>GR20</b>	Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)	
	<b>BRD01</b>	Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)	
	<b>PP5</b>	Port Hedland Transmission Lines Flora & Fauna Assessment (ENV 2009g)	
	<b>WK5</b>	Wallwork Road Bridge Flora and Vegetation Assessment (ENV 2010a)	
	<b>GD04</b>	Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b);	
	<b>GFR01</b>	Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)	
	<b>GF13</b>	Great Northern Highway Road Bridge Flora and Vegetation Assessment (ENV 2010d)	
	<b>TP04</b>	Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)	
	<b>HPX01</b>	Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)	
	<b>S19</b>	Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)	
	<b>NWI44</b>	North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)	

	<b>CURRENT AND PREVIOUS FLORA SURVEY QUADRAT AND RELEVÉ LOCATIONS</b>		A3
	Client: <b>BHPBIO</b>	Date: 27 October 2011	
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000		Job No: J100489
Author: E.Carroll	Drawn: S.Coleman	Figure No: <b>3d</b>	Plan No: <b>PH-021</b>



**Location**



SCALE 1 : 50 000

Kilometres  
MAP GRID OF AUSTRALIA  
Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50

- Legend** □ Flora Quadrat ○ Flora Relevé
- PI038 Current Survey (ENV 2011)
  - RGF02 Port Hedland Nelson Point Dredging Approvals - Flora and Vegetation (DMMA A&H - ENV 2008)
  - QT38 Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)
  - GR20 Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)
  - BRD01 Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)
  - PP5 Port Hedland Transmission Lines Flora & Fauna Assessment (ENV 2009g)
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  - GD04 Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b);
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  - S19 Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)
  - NWI44 North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)

**env** Australia  
**CURRENT AND PREVIOUS FLORA SURVEY QUADRAT AND RELEVÉ LOCATIONS**

Client: <b>BHPBIO</b>	Date: 27 October 2011
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000
	Job No: J100489
	Figure No. <b>3e</b>
Author: E.Carroll	Drawn: S.Coleman
	Plan No. <b>PH-022</b>

A3

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7720000mN

652500mE

655000mE

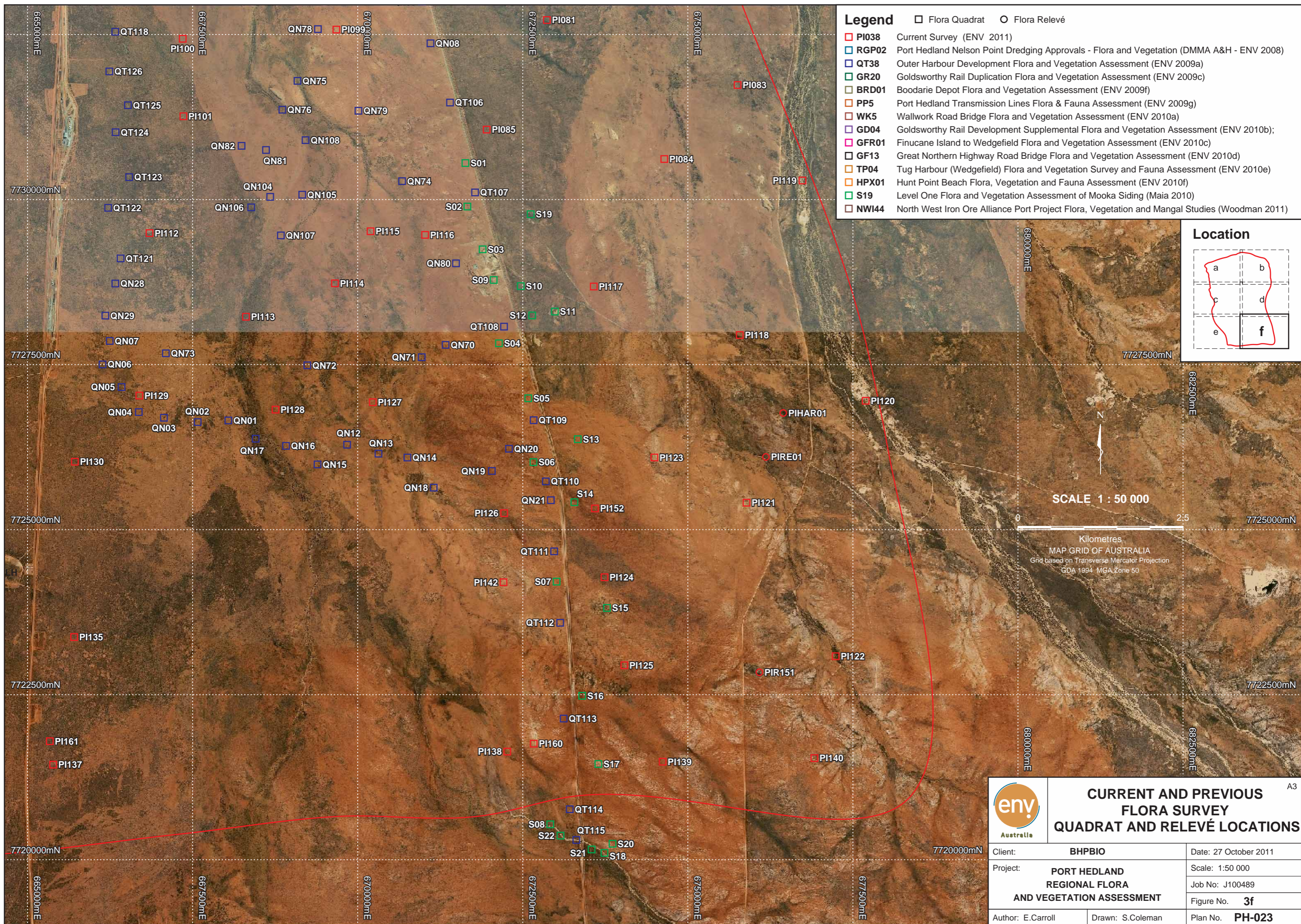
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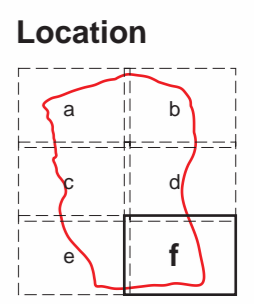
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- Legend**
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  - GR20 Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)
  - BRD01 Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)
  - PP5 Port Hedland Transmission Lines Flora & Fauna Assessment (ENV 2009g)
  - WK5 Wallwork Road Bridge Flora and Vegetation Assessment (ENV 2010a)
  - GD04 Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b);
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  - GF13 Great Northern Highway Road Bridge Flora and Vegetation Assessment (ENV 2010d)
  - TP04 Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)
  - HPX01 Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)
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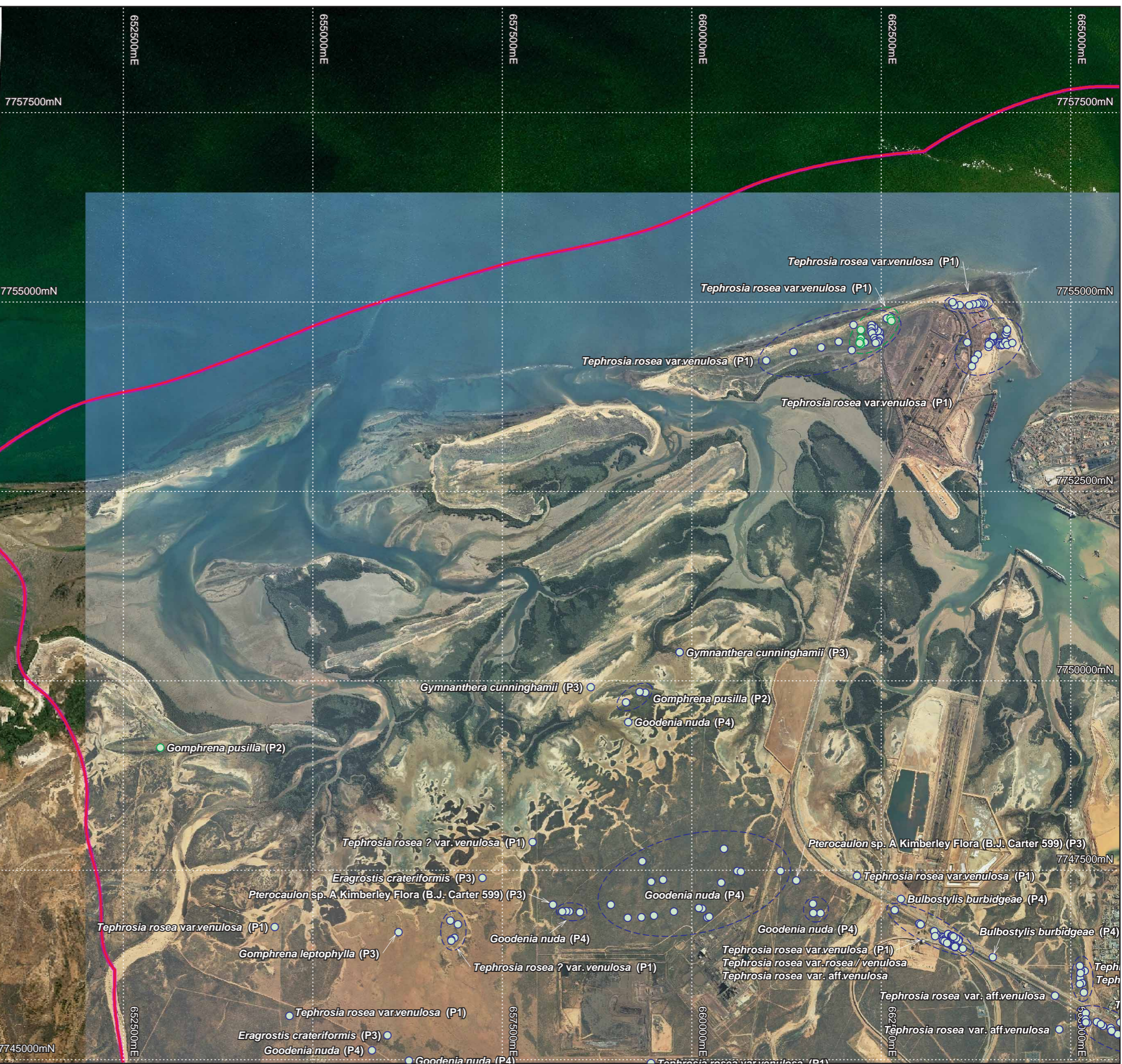
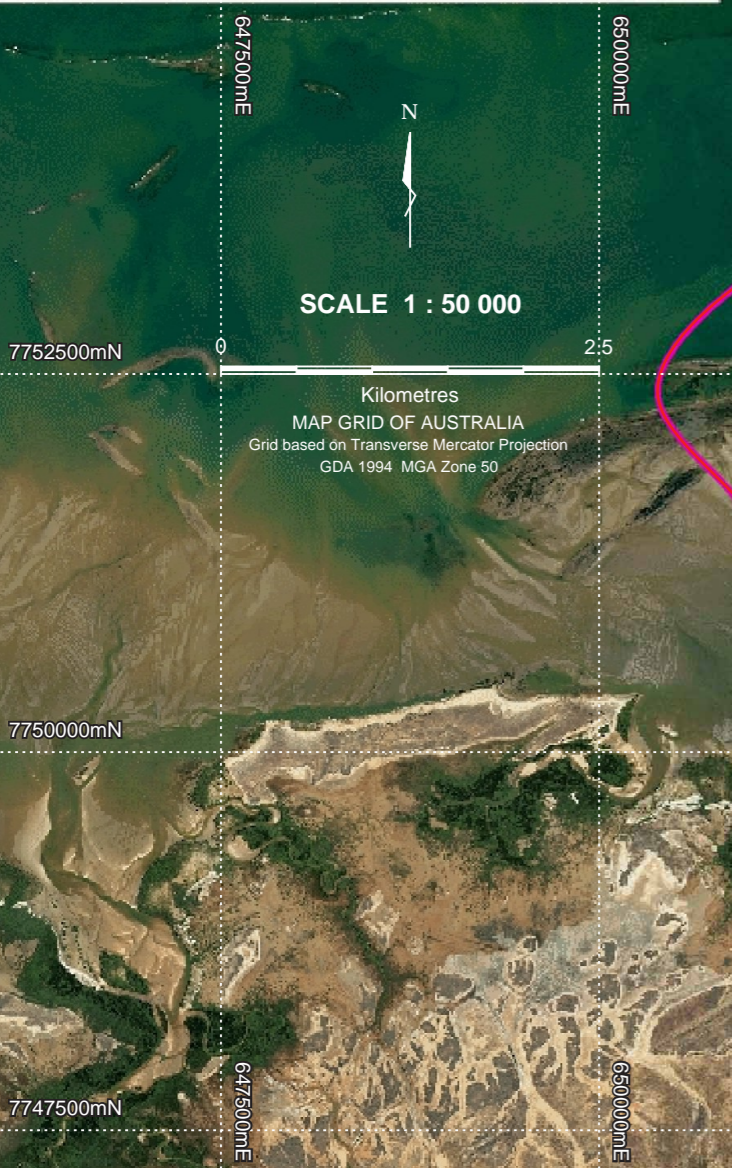
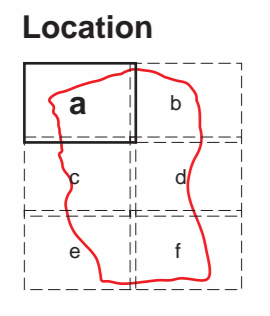
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Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50


		<b>CURRENT AND PREVIOUS FLORA SURVEY QUADRAT AND RELEVÉ LOCATIONS</b>	
		Client: <b>BHPBIO</b>	Date: 27 October 2011
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>		Scale: 1:50 000	Job No: J100489
		Figure No. <b>3f</b>	Plan No. <b>PH-023</b>
Author: E.Carroll	Drawn: S.Coleman		



**Legend**

- Priority Flora Location - Current Survey (ENV 2011)
- Priority Flora Location - Other Surveys

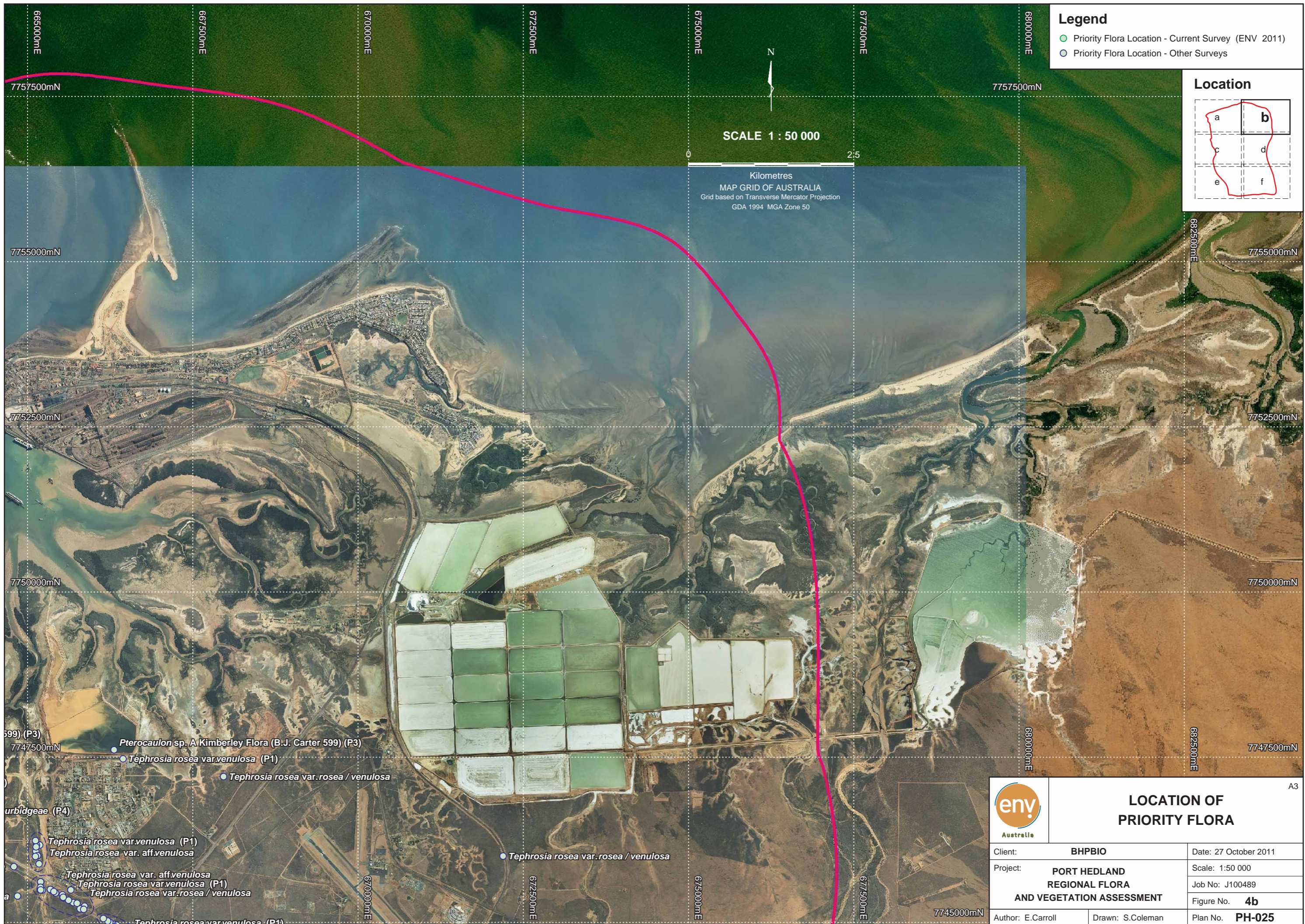



A3

## LOCATION OF PRIORITY FLORA

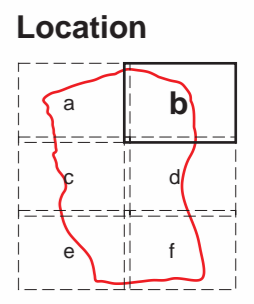
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Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000
	Job No: J100489
Author: E.Carroll	Figure No. <b>4a</b>
Drawn: S.Coleman	Plan No. <b>PH-024</b>





**Legend**

- Priority Flora Location - Current Survey (ENV 2011)
- Priority Flora Location - Other Surveys



N

SCALE 1 : 50 000

Kilometres

MAP GRID OF AUSTRALIA  
Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50

599) (P3)  
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● *Tephrosia rosea* var. *venulosa* (P1)  
● *Tephrosia rosea* var. *rosea* / *venulosa*

urbidgeae (P4)  
● *Tephrosia rosea* var. *venulosa* (P1)  
● *Tephrosia rosea* var. *aff.venulosa*  
● *Tephrosia rosea* var. *aff.venulosa* (P1)  
● *Tephrosia rosea* var. *venulosa* (P1)  
● *Tephrosia rosea* var. *rosea* / *venulosa*

● *Tephrosia rosea* var. *rosea* / *venulosa*

● *Tephrosia rosea* var. *rosea* / *venulosa*

● *Tephrosia rosea* var. *venulosa* (P1)

A3

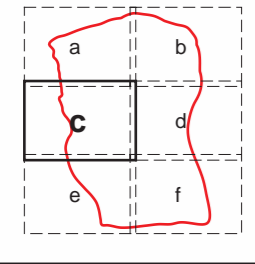
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	Client: <b>BHPBIO</b>	Date: 27 October 2011
<b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000
	Author: E.Carroll	Job No: J100489
	Drawn: S.Coleman	Figure No. <b>4b</b>
	Plan No. <b>PH-025</b>	



**Legend**

- Priority Flora Location - Current Survey (ENV 2011)
- Priority Flora Location - Other Surveys

**Location**



**SCALE 1 : 50 000**



Kilometres  
 MAP GRID OF AUSTRALIA  
 Grid based on Transverse Mercator Projection  
 GDA 1994 MGA Zone 50

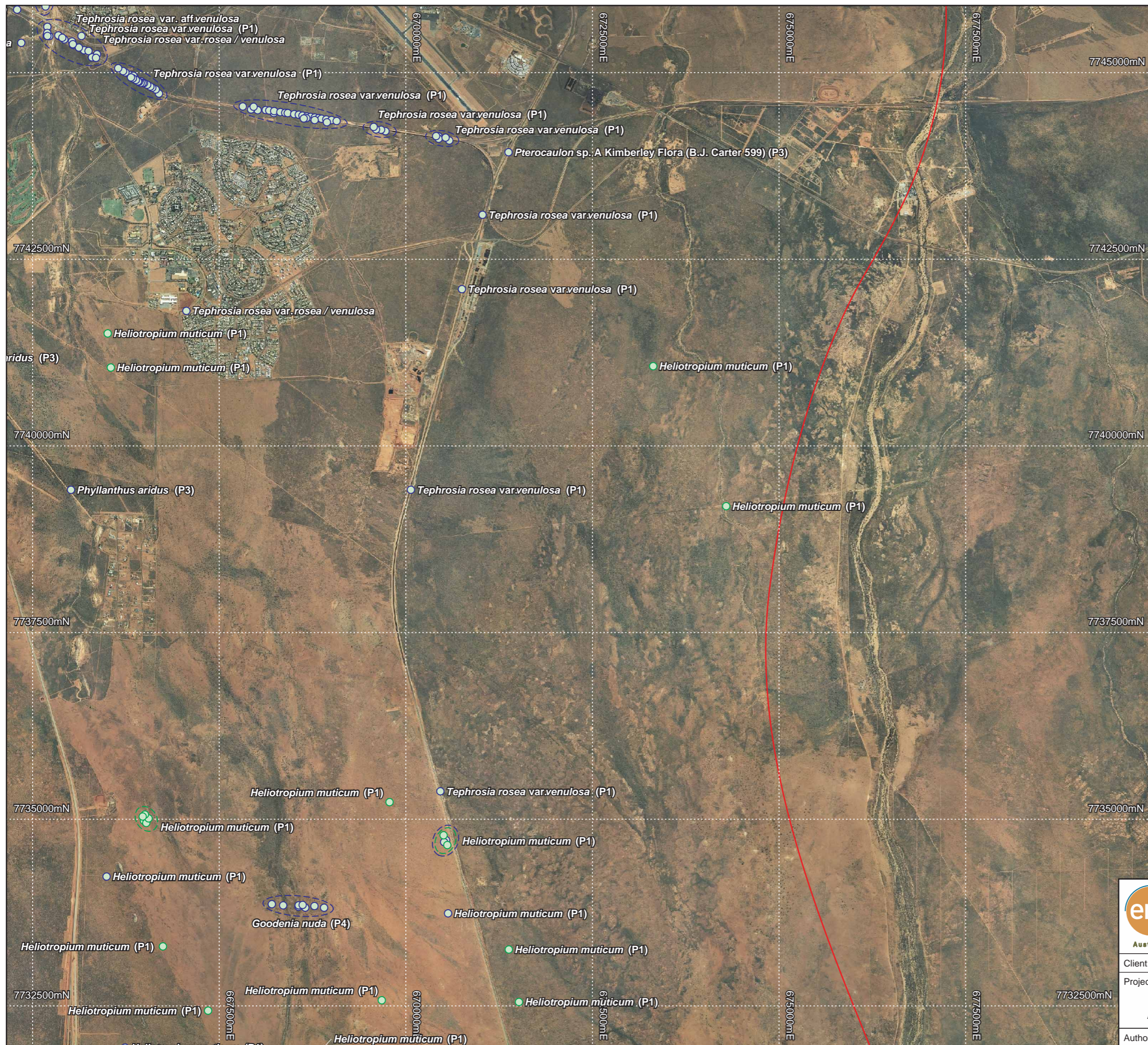


**LOCATION OF PRIORITY FLORA**

A3

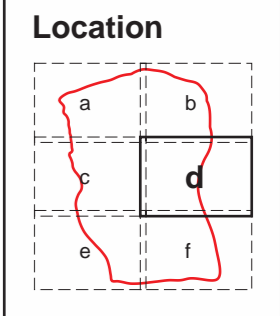
Client: <b>BHPBIO</b>	Date: 27 October 2011
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000
	Job No: J100489
Author: E.Carroll	Figure No. <b>4c</b>
Drawn: S.Coleman	Plan No. <b>PH-026</b>





**Legend**

- Priority Flora Location - Current Survey (ENV 2011)
- Priority Flora Location - Other Surveys



SCALE 1 : 50 000



Kilometres  
 MAP GRID OF AUSTRALIA  
 Grid based on Transverse Mercator Projection  
 GDA 1994 MGA Zone 50

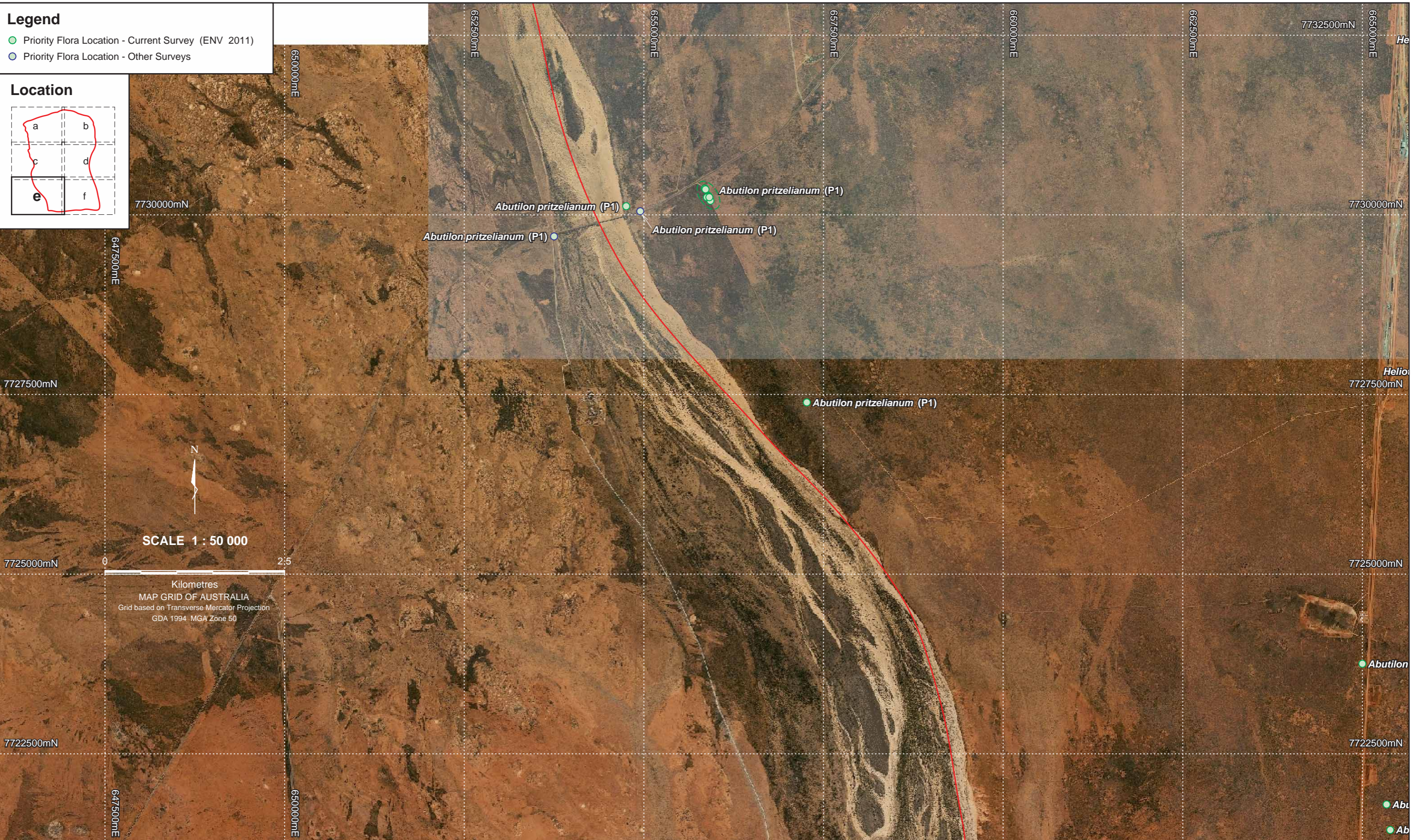
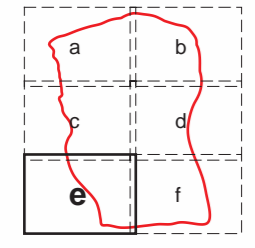
	<b>LOCATION OF PRIORITY FLORA</b>		A3
	Client: <b>BHPBIO</b>	Date: 27 October 2011	
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000		Job No: J100489
Author: E.Carroll	Drawn: S.Coleman	Figure No. <b>4d</b>	Plan No. <b>PH-027</b>



**Legend**

- Priority Flora Location - Current Survey (ENV 2011)
- Priority Flora Location - Other Surveys

**Location**



7730000mN

7732500mN

7727500mN

7727500mN

SCALE 1 : 50 000

7725000mN

7725000mN

Kilometres  
MAP GRID OF AUSTRALIA  
Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50

7722500mN

7722500mN

Client: **BHPBIO**

Date: 27 October 2011

7720000mN

Project: **PORT HEDLAND  
REGIONAL FLORA  
AND VEGETATION ASSESSMENT**

Scale: 1:50 000

Job No: J100489

Figure No. **4e**

Author: E.Carroll

Drawn: S.Coleman

Plan No. **PH-028**

7720000mN



**LOCATION OF  
PRIORITY FLORA**

A3

652500mE

655000mE

657500mE

660000mE

662500mE

665000mE

647500mE

660000mE

662500mE

665000mE

667500mE

670000mE

672500mE

675000mE

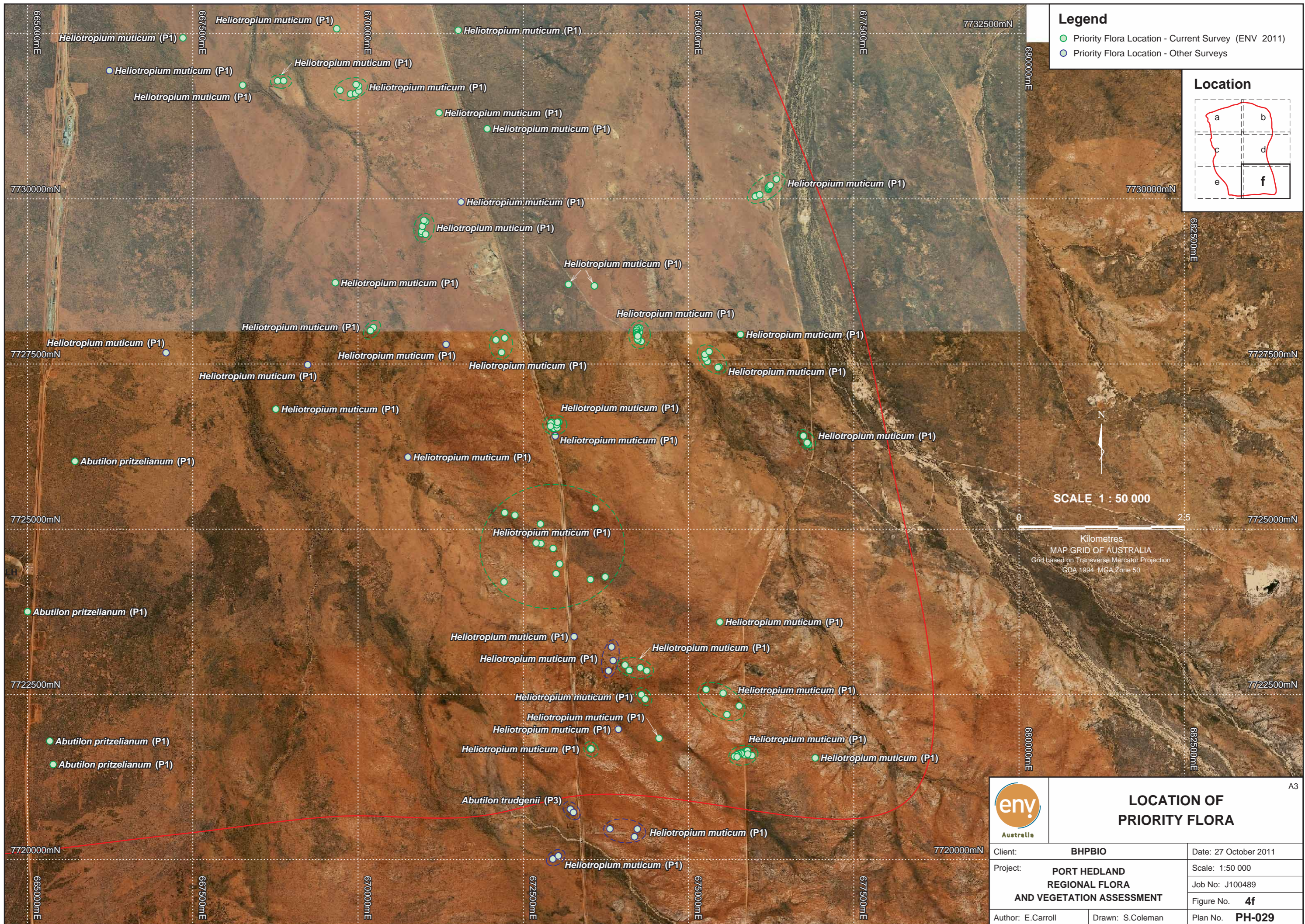
Helio

Abutilon

Ab

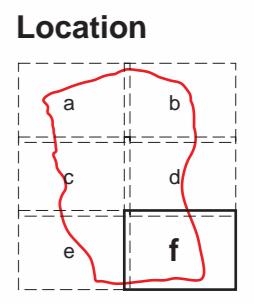
Ab





**Legend**

- Priority Flora Location - Current Survey (ENV 2011)
- Priority Flora Location - Other Surveys



SCALE 1 : 50 000

Kilometres  
MAP GRID OF AUSTRALIA  
Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50

	<b>LOCATION OF PRIORITY FLORA</b>		A3
	Client: <b>BHPBIO</b>	Date: 27 October 2011	
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000		Job No: J100489
	Author: E.Carroll		Figure No. <b>4f</b>
Drawn: S.Coleman	Plan No. <b>PH-029</b>		



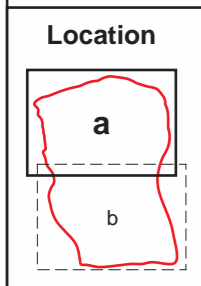


# LOCATION OF SPECIES OF INTEREST

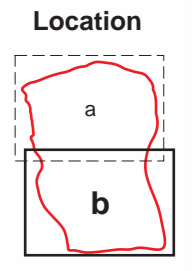
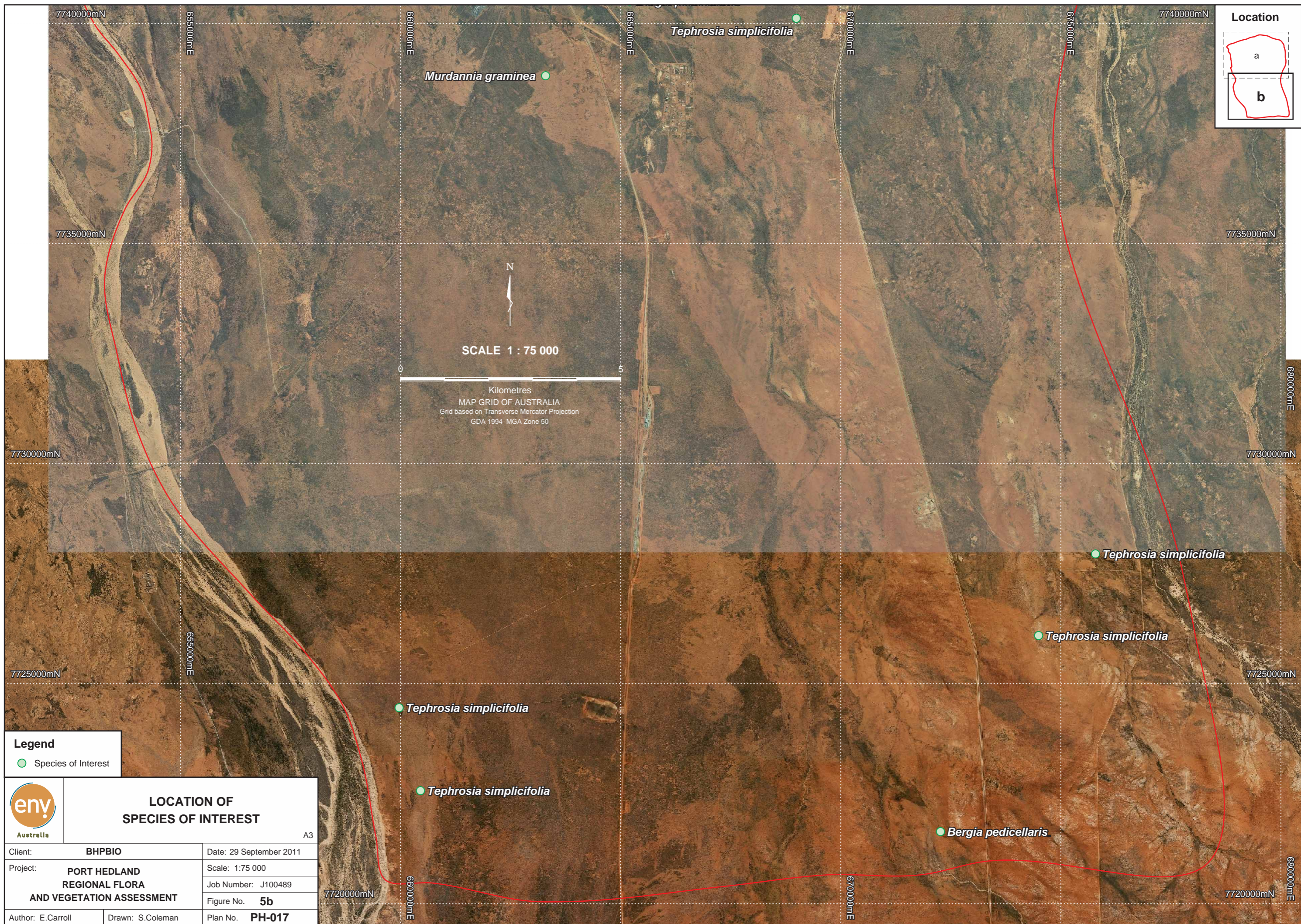
A3

Client: <b>BHPBIO</b>	Date: 29 September 2011
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:75 000
	Job Number: J100489
	Figure No. <b>5a</b>
Author: E.Carroll	Plan No. <b>PH-016</b>
Drawn: S.Coleman	

**Legend**  
 Species of Interest







N

**SCALE 1 : 75 000**

Kilometres

MAP GRID OF AUSTRALIA  
Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50

**Legend**

● Species of Interest

**env**  
Australia

**LOCATION OF SPECIES OF INTEREST**

A3

Client: <b>BHPBIO</b>	Date: 29 September 2011
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:75 000
	Job Number: J100489
Author: E.Carroll	Figure No. <b>5b</b>
Drawn: S.Coleman	Plan No. <b>PH-017</b>



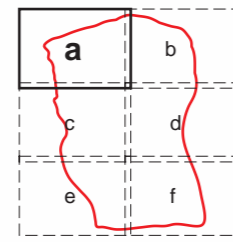
**Legend** ● Introduced Flora

- \**Aerva javanica* - Population Boundary
- \**Cenchrus ciliaris* - Population Boundary

**Introduced Flora**

- \*A.j \**Aerva javanica*
- \*A.v \**Aloe vera*
- \*C.b \**Chloris barbata*
- \*C.ci \**Cenchrus ciliaris*
- \*C.co \**Citrullus colocynthis*
- \*C.d \**Cynodon dactylon*
- \*Cm.a \**Cucumis melo* subsp. *agrestis*
- \*C.s \**Cenchrus setiger*
- \*C.v \**Chloris virgata*
- \*D.c \**Digitaria ciliaris*
- \*E.co \**Echinochloa colona*
- \*E.cu \**Eragrostis curvula*
- \*F.t \**Flaveria trinervia*
- \*I.o \**Indigofera oblongifolia*
- \*I.s \**Indigofera sessiliflora*
- \*M.a \**Malvastrum americanum*
- \*M.d \**Merremia dissecta*
- \*O.s \**Opuntia stricta*
- \*P.a \**Physalis angulata*
- \*P.o \**Portulaca oleracea*
- \*S.h \**Stylosanthes hamata*
- \*S.v \**Setaria verticillata*
- \*T.a \**Tamarix aphylla*
- \*V.f \**Vachellia farnesiana*
- \*V.h \**Vaccaria hispanica*
- \*V.t \**Vitex trifolia* var. *subtrisecta*
- \*W.f \**Washingtonia filifera*
- \*Y.a \**Yucca aloifolia*

**Location**



SCALE 1 : 50 000

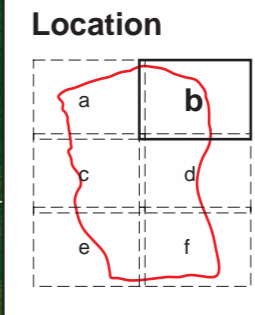
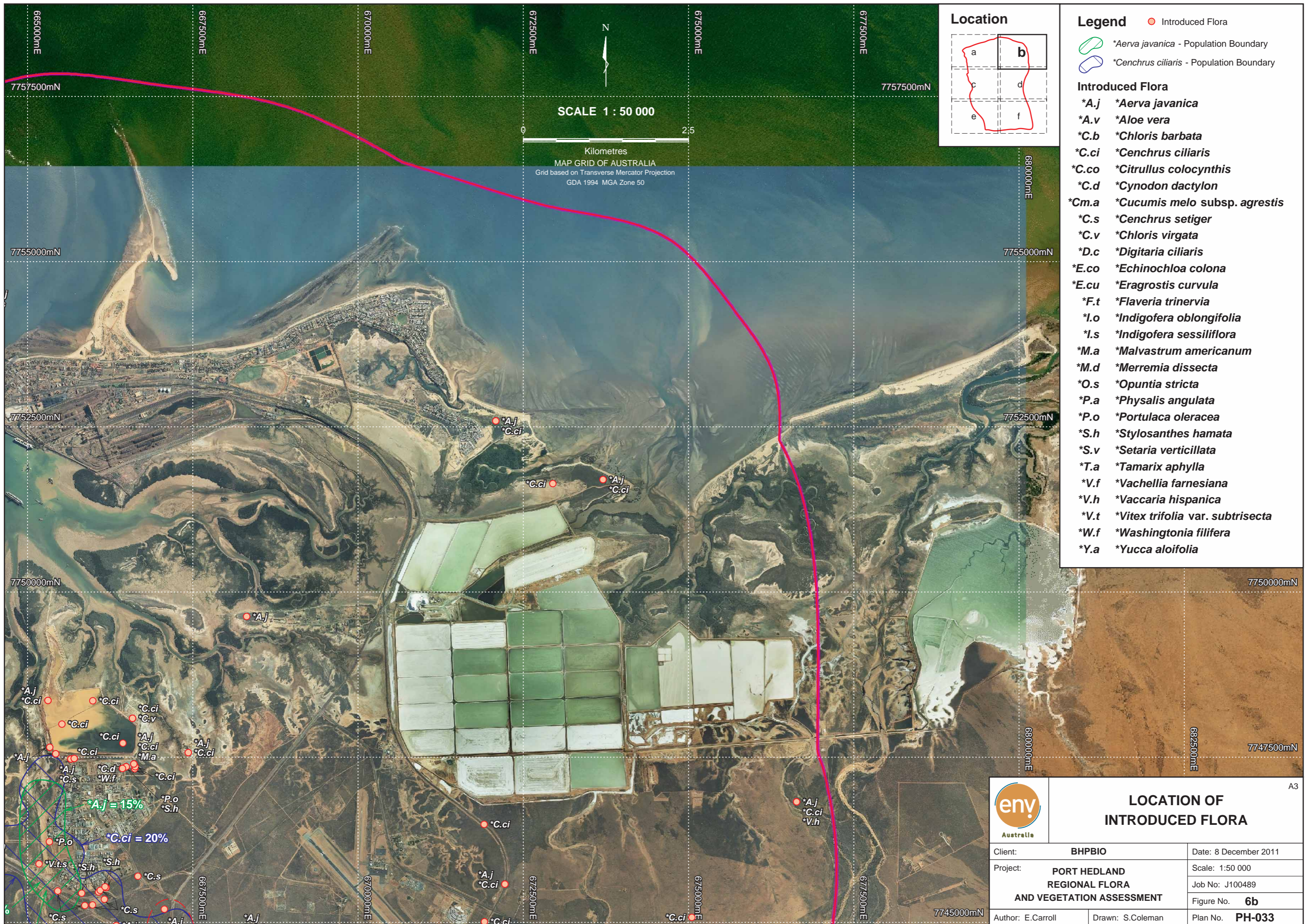
Kilometres  
MAP GRID OF AUSTRALIA  
Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50

	<b>LOCATION OF INTRODUCED FLORA</b>	
	Client: <b>BHPBIO</b>	Date: 8 December 2011
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000	Job No: J100489
Author: E.Carroll	Drawn: S.Coleman	Figure No. <b>6a</b>
	Plan No. <b>PH-032</b>	

A3

7745000mN





- Legend**
- Introduced Flora
  - \*Aerva javanica - Population Boundary
  - \*Cenchrus ciliaris - Population Boundary
- Introduced Flora**
- \*A.j \*Aerva javanica
  - \*A.v \*Aloe vera
  - \*C.b \*Chloris barbata
  - \*C.ci \*Cenchrus ciliaris
  - \*C.co \*Citrullus colocynthis
  - \*C.d \*Cynodon dactylon
  - \*Cm.a \*Cucumis melo subsp. agrestis
  - \*C.s \*Cenchrus setiger
  - \*C.v \*Chloris virgata
  - \*D.c \*Digitaria ciliaris
  - \*E.co \*Echinochloa colona
  - \*E.cu \*Eragrostis curvula
  - \*F.t \*Flaveria trinervia
  - \*I.o \*Indigofera oblongifolia
  - \*I.s \*Indigofera sessiliflora
  - \*M.a \*Malvastrum americanum
  - \*M.d \*Merremia dissecta
  - \*O.s \*Opuntia stricta
  - \*P.a \*Physalis angulata
  - \*P.o \*Portulaca oleracea
  - \*S.h \*Stylosanthes hamata
  - \*S.v \*Setaria verticillata
  - \*T.a \*Tamarix aphylla
  - \*V.f \*Vachellia farnesiana
  - \*V.h \*Vaccaria hispanica
  - \*V.t \*Vitex trifolia var. subtrisecta
  - \*W.f \*Washingtonia filifera
  - \*Y.a \*Yucca aloifolia

\*A.j = 15%

\*C.ci = 20%

**LOCATION OF INTRODUCED FLORA**

A3

Client: BHPBIO	Date: 8 December 2011
Project: PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT	Scale: 1:50 000
	Job No: J100489
	Figure No: <b>6b</b>
Author: E.Carroll	Plan No: <b>PH-033</b>
Drawn: S.Coleman	



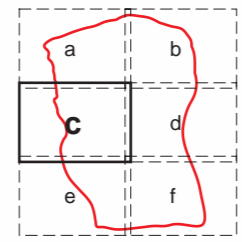
**Legend** ● Introduced Flora

- \*Aerva javanica - Population Boundary
- \*Cenchrus ciliaris - Population Boundary

**Introduced Flora**

- \*A.j \*Aerva javanica
- \*A.v \*Aloe vera
- \*C.b \*Chloris barbata
- \*C.ci \*Cenchrus ciliaris
- \*C.co \*Citrullus colocynthis
- \*C.d \*Cynodon dactylon
- \*Cm.a \*Cucumis melo subsp. agrestis
- \*C.s \*Cenchrus setiger
- \*C.v \*Chloris virgata
- \*D.c \*Digitaria ciliaris
- \*E.co \*Echinochloa colona
- \*E.cu \*Eragrostis curvula
- \*F.t \*Flaveria trinervia
- \*I.o \*Indigofera oblongifolia
- \*I.s \*Indigofera sessiliflora
- \*M.a \*Malvastrum americanum
- \*M.d \*Merremia dissecta
- \*O.s \*Opuntia stricta
- \*P.a \*Physalis angulata
- \*P.o \*Portulaca oleracea
- \*S.h \*Stylosanthes hamata
- \*S.v \*Setaria verticillata
- \*T.a \*Tamarix aphylla
- \*V.f \*Vachellia farnesiana
- \*V.h \*Vaccaria hispanica
- \*V.t \*Vitex trifolia var. subtrisecta
- \*W.f \*Washingtonia filifera
- \*Y.a \*Yucca aloifolia

**Location**



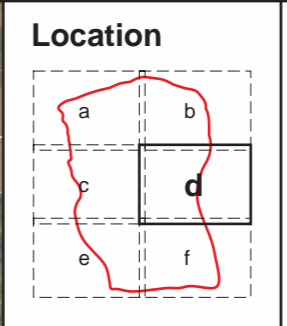
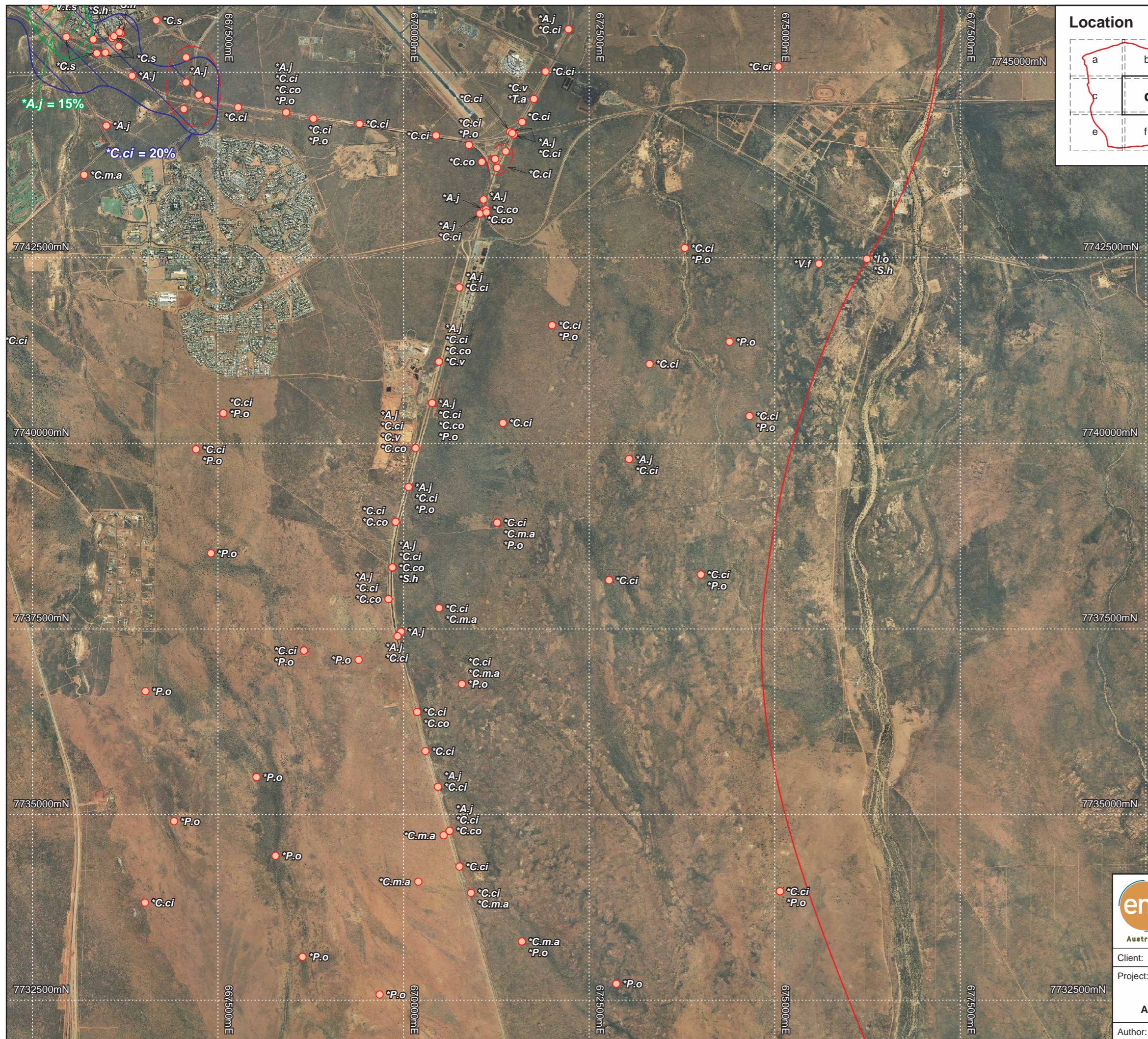
SCALE 1 : 50 000



Kilometres  
MAP GRID OF AUSTRALIA  
Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50

	<b>LOCATION OF INTRODUCED FLORA</b>		A3
	Client: <b>BHPBIO</b>	Date: 8 December 2011	
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000		
	Job No: J100489		
Author: E.Carroll	Drawn: S.Coleman	Figure No. <b>6c</b>	
		Plan No. <b>PH-034</b>	





- Legend**
- Introduced Flora
  - \*Aerva javanica - Population Boundary
  - \*Cenchrus ciliaris - Population Boundary
- Introduced Flora**
- \*A.j \*Aerva javanica
  - \*A.v \*Aloe vera
  - \*C.b \*Chloris barbata
  - \*C.ci \*Cenchrus ciliaris
  - \*C.co \*Citrullus colocynthis
  - \*C.d \*Cynodon dactylon
  - \*Cm.a \*Cucumis melo subsp. agrestis
  - \*C.s \*Cenchrus setiger
  - \*C.v \*Chloris virgata
  - \*D.c \*Digitaria ciliaris
  - \*E.co \*Echinochloa colona
  - \*E.cu \*Eragrostis curvula
  - \*F.t \*Flaveria trinervia
  - \*I.o \*Indigofera oblongifolia
  - \*I.s \*Indigofera sessiliflora
  - \*M.a \*Malvastrum americanum
  - \*M.d \*Merremia dissecta
  - \*O.s \*Opuntia stricta
  - \*P.a \*Physalis angulata
  - \*P.o \*Portulaca oleracea
  - \*S.h \*Stylosanthes hamata
  - \*S.v \*Setaria verticillata
  - \*T.a \*Tamarix aphylla
  - \*V.f \*Vachellia farnesiana
  - \*V.h \*Vaccaria hispanica
  - \*V.t \*Vitex trifolia var. subtrisecta
  - \*W.f \*Washingtonia filifera
  - \*Y.a \*Yucca aloifolia



SCALE 1 : 50 000





Kilometres  
 MAP GRID OF AUSTRALIA  
 Grid based on Transverse Mercator Projection  
 GDA 1994 MGA Zone 50

	<b>LOCATION OF INTRODUCED FLORA</b>		A3
	Client: <b>BHPBIO</b>	Date: 8 December 2011	
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000		Job No: J100489
Author: E.Carroll	Drawn: S.Coleman	Figure No: <b>6d</b>	Plan No: <b>PH-035</b>



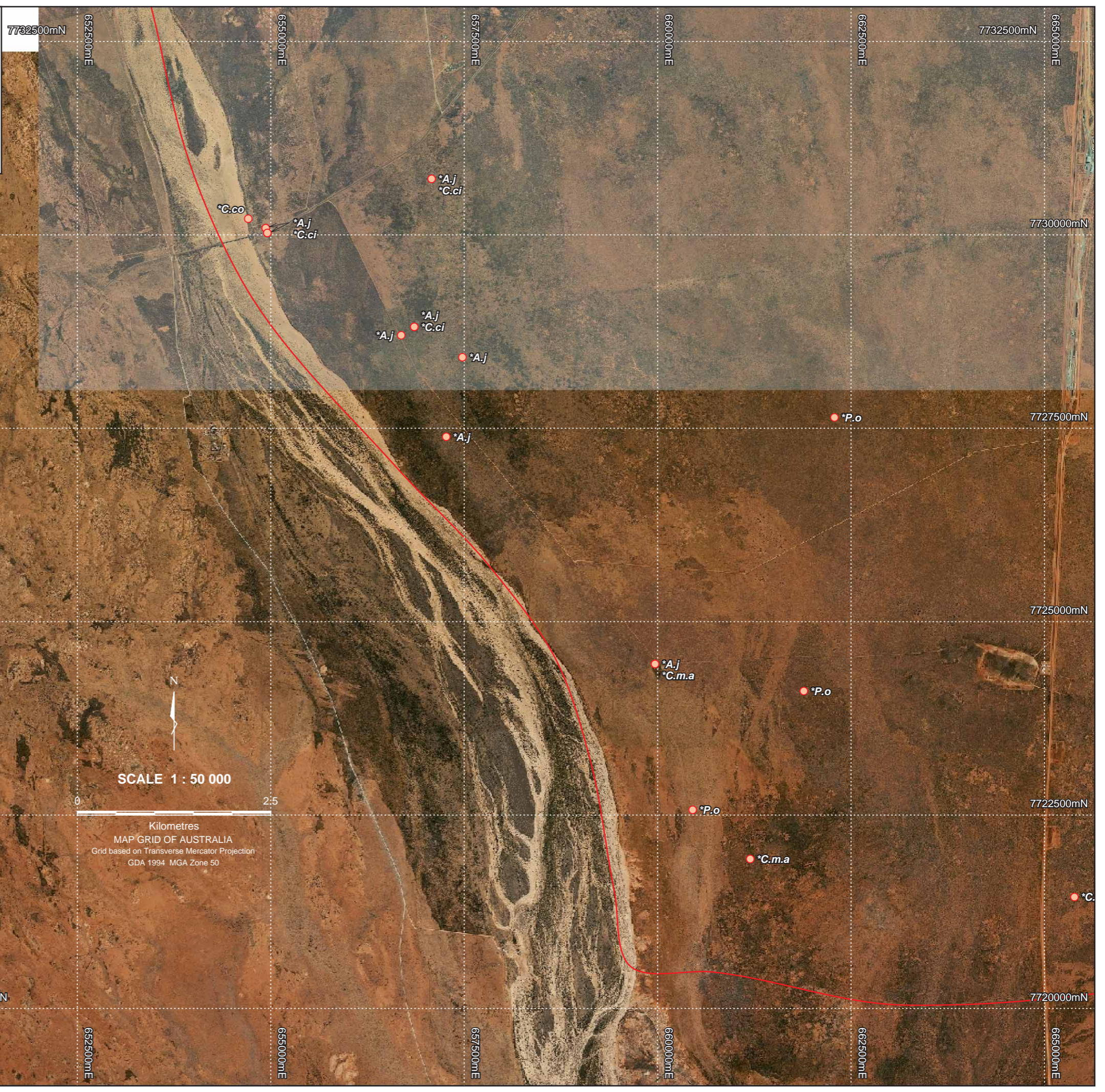
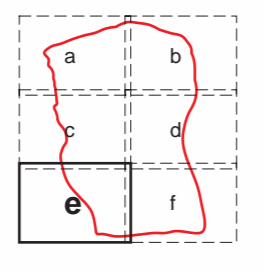
**Legend**    ● Introduced Flora


-  \**Aerva javanica* - Population Boundary
-  \**Cenchrus ciliaris* - Population Boundary

**Introduced Flora**

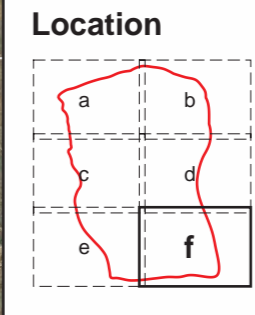
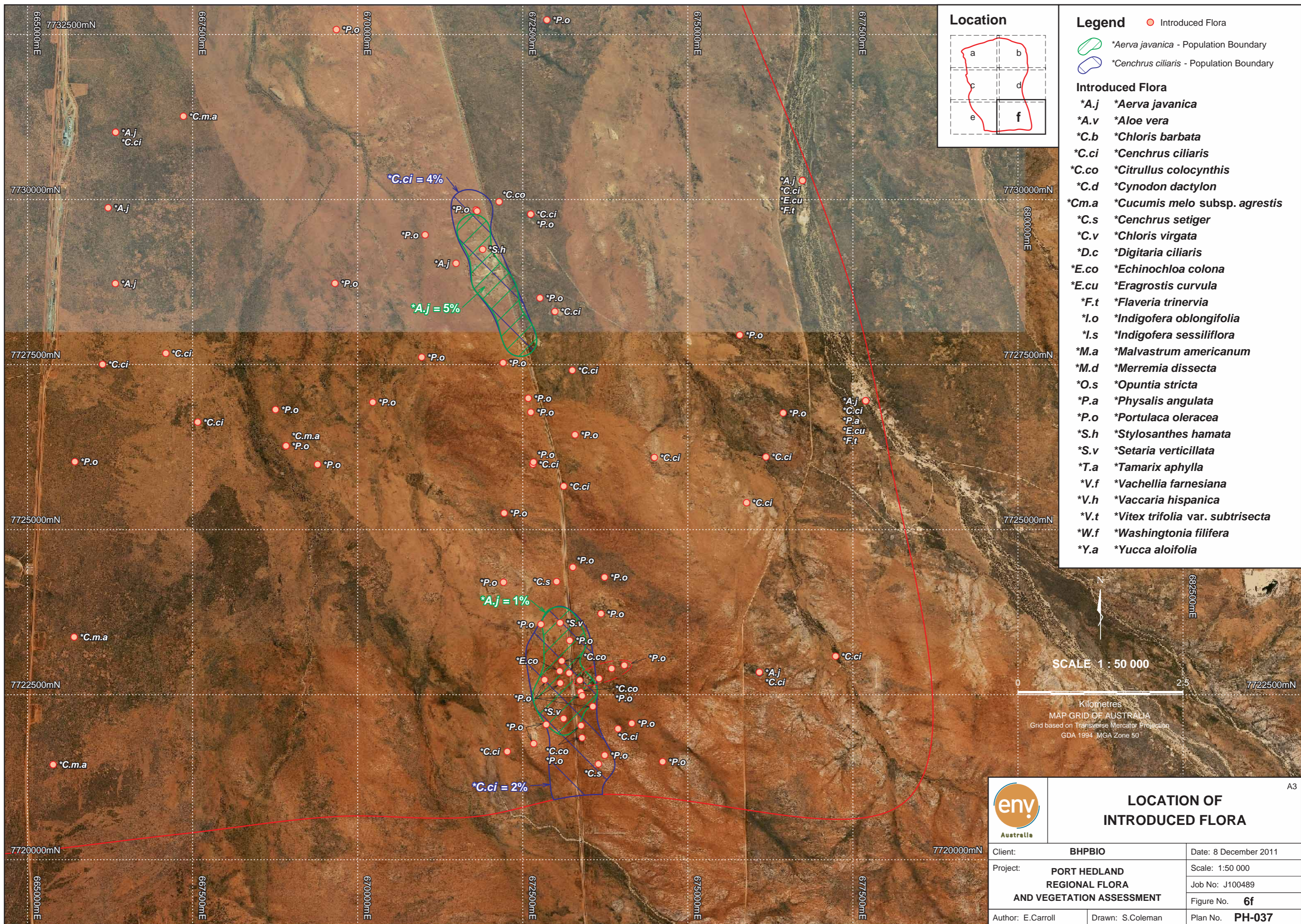
- \*A.j \**Aerva javanica*
- \*A.v \**Aloe vera*
- \*C.b \**Chloris barbata*
- \*C.ci \**Cenchrus ciliaris*
- \*C.co \**Citrullus colocynthis*
- \*C.d \**Cynodon dactylon*
- \*Cm.a \**Cucumis melo* subsp. *agrestis*
- \*C.s \**Cenchrus setiger*
- \*C.v \**Chloris virgata*
- \*D.c \**Digitaria ciliaris*
- \*E.co \**Echinochloa colona*
- \*E.cu \**Eragrostis curvula*
- \*F.t \**Flaveria trinervia*
- \*I.o \**Indigofera oblongifolia*
- \*I.s \**Indigofera sessiliflora*
- \*M.a \**Malvastrum americanum*
- \*M.d \**Merremia dissecta*
- \*O.s \**Opuntia stricta*
- \*P.a \**Physalis angulata*
- \*P.o \**Portulaca oleracea*
- \*S.h \**Stylosanthes hamata*
- \*S.v \**Setaria verticillata*
- \*T.a \**Tamarix aphylla*
- \*V.f \**Vachellia farnesiana*
- \*V.h \**Vaccaria hispanica*
- \*V.t \**Vitex trifolia* var. *subtrisecta*
- \*W.f \**Washingtonia filifera*
- \*Y.a \**Yucca aloifolia*

**Location**



	<b>LOCATION OF INTRODUCED FLORA</b>		A3
	Client: <b>BHPBIO</b>	Date: 8 December 2011	
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000	Job No: J100489	
	Figure No. <b>6e</b>	Plan No. <b>PH-036</b>	
	Author: E.Carroll	Drawn: S.Coleman	





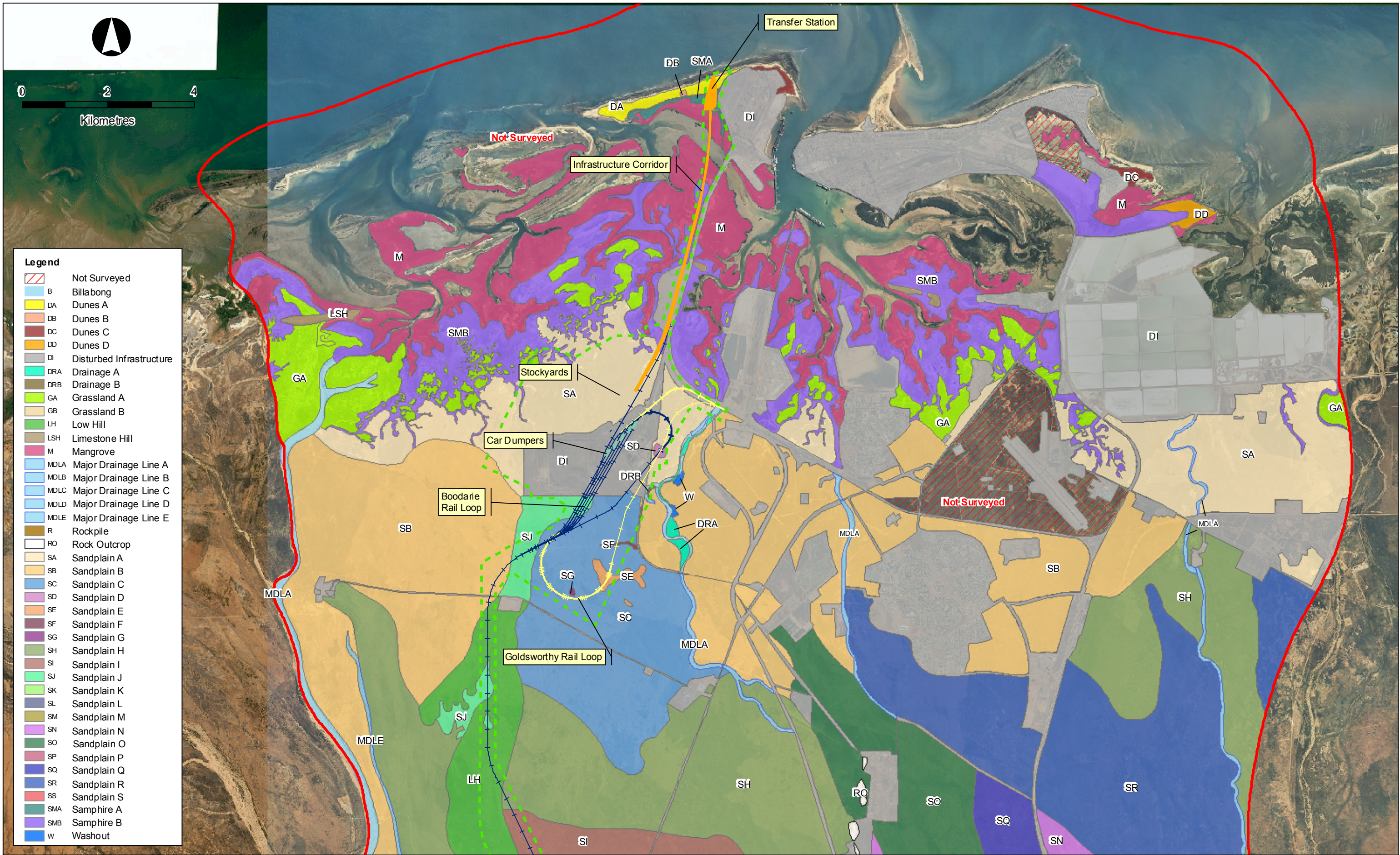
- Legend**
- Introduced Flora
  - \*Aerva javanica - Population Boundary
  - \*Cenchrus ciliaris - Population Boundary
- Introduced Flora**
- \*A.j \*Aerva javanica
  - \*A.v \*Aloe vera
  - \*C.b \*Chloris barbata
  - \*C.ci \*Cenchrus ciliaris
  - \*C.co \*Citrullus colocynthis
  - \*C.d \*Cynodon dactylon
  - \*Cm.a \*Cucumis melo subsp. agrestis
  - \*C.s \*Cenchrus setiger
  - \*C.v \*Chloris virgata
  - \*D.c \*Digitaria ciliaris
  - \*E.co \*Echinochloa colona
  - \*E.cu \*Eragrostis curvula
  - \*F.t \*Flaveria trinervia
  - \*I.o \*Indigofera oblongifolia
  - \*I.s \*Indigofera sessiliflora
  - \*M.a \*Malvastrum americanum
  - \*M.d \*Merremia dissecta
  - \*O.s \*Opuntia stricta
  - \*P.a \*Physalis angulata
  - \*P.o \*Portulaca oleracea
  - \*S.h \*Stylosanthes hamata
  - \*S.v \*Setaria verticillata
  - \*T.a \*Tamarix aphylla
  - \*V.f \*Vachellia farnesiana
  - \*V.h \*Vaccaria hispanica
  - \*V.t \*Vitex trifolia var. subtrisecta
  - \*W.f \*Washingtonia filifera
  - \*Y.a \*Yucca aloifolia

SCALE 1 : 50 000

Kilometres  
MAP GRID OF AUSTRALIA  
Grid based on Transverse Mercator Projection  
GDA 1994 MGA Zone 50

	<b>LOCATION OF INTRODUCED FLORA</b>	
	Client: <b>BHPBIO</b>	Date: 8 December 2011
Project: <b>PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT</b>	Scale: 1:50 000	
	Job No: J100489	
Author: E.Carroll	Drawn: S.Coleman	Figure No. <b>6f</b>
		Plan No. <b>PH-037</b>





- Legend**
- Not Surveyed
  - B Billabong
  - DA Dunes A
  - DB Dunes B
  - DC Dunes C
  - DD Dunes D
  - DI Disturbed Infrastructure
  - DRA Drainage A
  - DRB Drainage B
  - GA Grassland A
  - GB Grassland B
  - LH Low Hill
  - LSH Limestone Hill
  - M Mangrove
  - MDLA Major Drainage Line A
  - MDLB Major Drainage Line B
  - MDLC Major Drainage Line C
  - MDLD Major Drainage Line D
  - MDLE Major Drainage Line E
  - R Rockpile
  - RO Rock Outcrop
  - SA Sandplain A
  - SB Sandplain B
  - SC Sandplain C
  - SD Sandplain D
  - SE Sandplain E
  - SF Sandplain F
  - SG Sandplain G
  - SH Sandplain H
  - SI Sandplain I
  - SJ Sandplain J
  - SK Sandplain K
  - SL Sandplain L
  - SM Sandplain M
  - SN Sandplain N
  - SO Sandplain O
  - SP Sandplain P
  - SQ Sandplain Q
  - SR Sandplain R
  - SS Sandplain S
  - SMA Samphire A
  - SMB Samphire B
  - W Washout

CLIENT  
BHPBIO

AUTHOR  
E. Carroll

SCALE  
1:80,000 @ A3

JOB NO.  
J100489

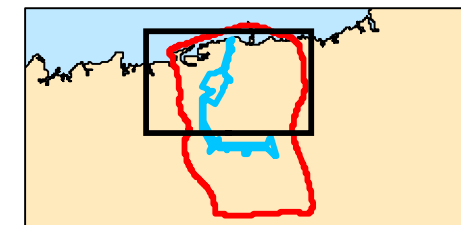
DATE  
30-09-2011

FIGURE  
**7a**

DRAWN  
M. Mikkonen

PROJECTION  
GDA 94 MGA 50

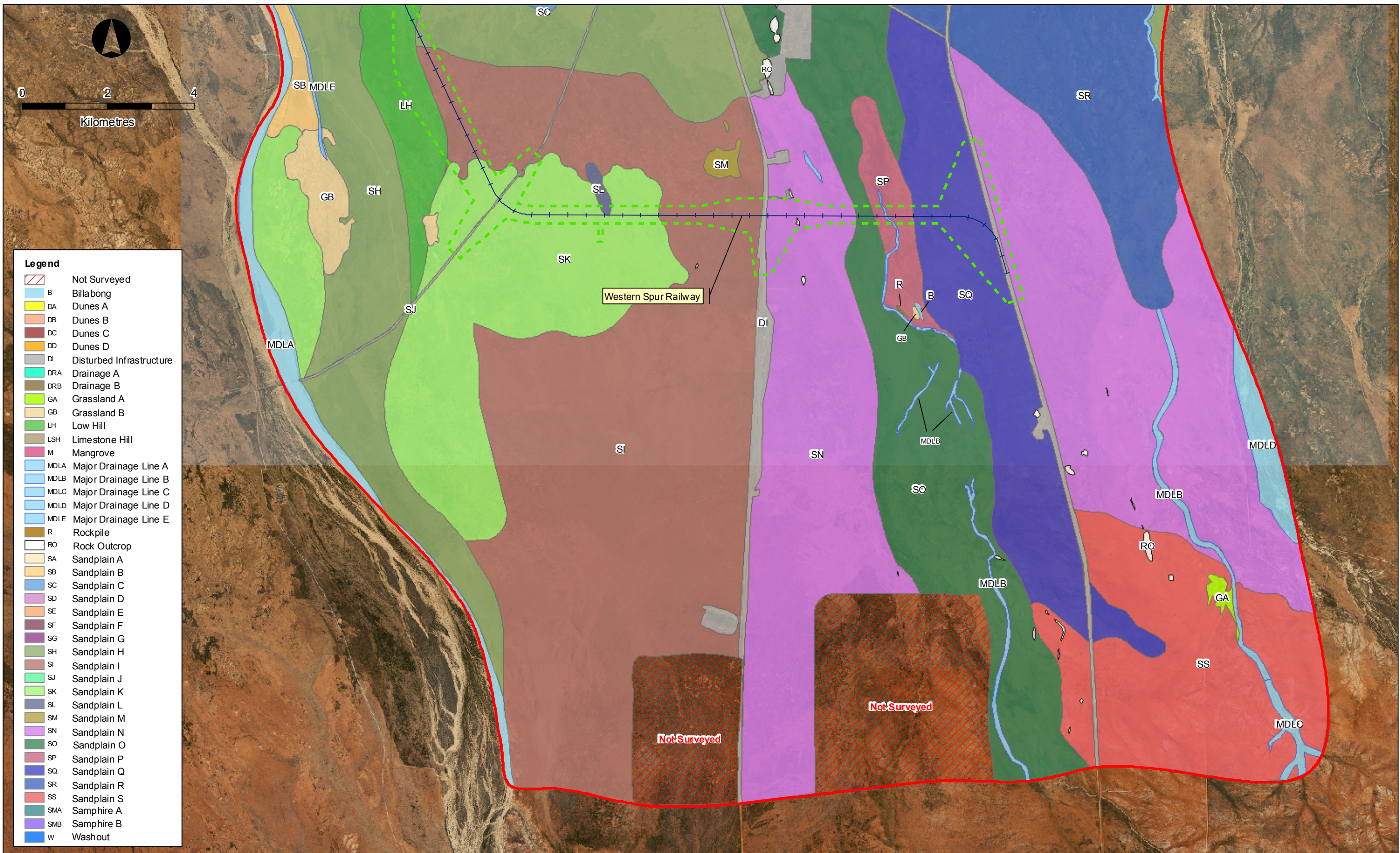
- Legend**
- PH\_Regional\_Survey\_Boundary
  - Disturbance Envelope
  - Proposed Infrastructure Corridor
  - Proposed Car Dumper
  - Proposed Goldsworthy Rail Loop
  - Proposed Western Spur Railway



## Vegetation Mapping

### Port Hedland Regional Flora and Vegetation Assessment





- Legend**
- Not Surveyed
  - B Billabong
  - DA Dunes A
  - DB Dunes B
  - DC Dunes C
  - DD Dunes D
  - DI Disturbed Infrastructure
  - DRA Drainage A
  - DRB Drainage B
  - GA Grassland A
  - GB Grassland B
  - LH Low Hill
  - LSH Limestone Hill
  - M Mangrove
  - MDLA Major Drainage Line A
  - MDLB Major Drainage Line B
  - MDLC Major Drainage Line C
  - MDLD Major Drainage Line D
  - MDLE Major Drainage Line E
  - R Rockpile
  - RO Rock Outcrop
  - SA Sandplain A
  - SB Sandplain B
  - SC Sandplain C
  - SD Sandplain D
  - SE Sandplain E
  - SF Sandplain F
  - SG Sandplain G
  - SH Sandplain H
  - SI Sandplain I
  - SJ Sandplain J
  - SK Sandplain K
  - SL Sandplain L
  - SM Sandplain M
  - SN Sandplain N
  - SO Sandplain O
  - SP Sandplain P
  - SQ Sandplain Q
  - SR Sandplain R
  - SS Sandplain S
  - SMA Samphire A
  - SMB Samphire B
  - W Washout



CLIENT  
BHPBIO

AUTHOR  
E. Carroll

SCALE  
1:80,000 @ A3

DRAWN  
M. Mikkonen

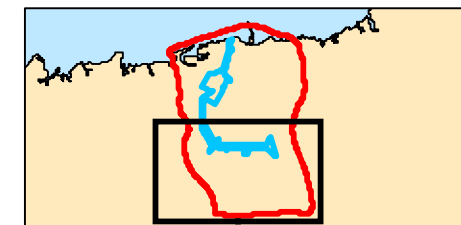
PROJECTION  
GDA 94 MGA 50

JOB NO.  
J100489

DATE  
30-09-2011

FIGURE  
**7b**

- Legend**
- PH\_Regional\_Survey\_Boundary
  - Disturbance Envelope
  - Proposed Infrastructure Corridor
  - Proposed Car Dumper
  - Proposed Goldsworthy Rail Loop
  - Proposed Western Spur Railway



## Vegetation Mapping

### Port Hedland Regional Flora and Vegetation Assessment



# Vegetation Legend

	Not Surveyed	
	B	Billabong - Scattered low <i>Eucalyptus victrix</i> trees over scattered mixed grasses.
	DA	Dunes A - Scattered <i>Acacia bivenosa</i> shrubs over a low open <i>Crotalaria cunninghamii</i> shrubland over a * <i>Cenchrus ciliaris</i> tussock grassland over scattered * <i>Aerva javanica</i> herbs.
	DB	Dunes B - An <i>Atalaya hemiglauca</i> , <i>Santalum lanceolatum</i> and <i>Acacia bivenosa</i> shrubland over a * <i>Cenchrus ciliaris</i> tussock grassland.
	DC	Dunes C - A low open <i>Acacia stellaticeps</i> , <i>Acacia bivenosa</i> and <i>Acacia ampliceps</i> shrubland over a <i>Spinifex longifolius</i> and * <i>Cenchrus ciliaris</i> open grassland over scattered <i>Gomphrena canescens</i> herbs.
	DD	Dunes D - Scattered <i>Scaevola ambylanthera</i> var. <i>centralis</i> low shrubs over <i>Bonamia alatisemina</i> and * <i>Aerva javanica</i> open hermland over * <i>Cenchrus ciliaris</i> open tussock grassland over <i>Triodia epactia</i> very open hummock grassland.
	DI	Disturbed Infrastructure
	DRA	Drainage A - A low open <i>Eucalyptus victrix</i> woodland over a high open <i>Acacia ampliceps</i> and <i>Acacia trachycarpa</i> shrubland over a low open <i>Acacia stellaticeps</i> , <i>Pluchea ferdinandi-muelleri</i> and <i>Corchorus incanus</i> subsp. <i>incanus</i> shrubland over a <i>Triodia epactia</i> hummock grassland over an <i>Aristida holathera</i> var. <i>latifolia</i> , <i>Eriachne obtusa</i> and * <i>Cenchrus ciliaris</i> tussock grassland.
	DRB	Drainage B - A low open <i>Eucalyptus victrix</i> woodland over a high open <i>Acacia ampliceps</i> shrubland over a low open <i>Acacia stellaticeps</i> and <i>Pluchea ferdinandi-muelleri</i> shrubland over a closed <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grassland over an open <i>Eriachne obtusa</i> , <i>Aristida holathera</i> var. <i>latifolia</i> and * <i>Cenchrus ciliaris</i> tussock grassland.
	GA	Grassland A - <i>Triodia secunda</i> and <i>Triodia epactia</i> hummock grassland.
	GB	Grassland B - <i>Triodia epactia</i> hummock grassland.
	LH	Low Hill - An <i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland over a low <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland.
	LSH	Limestone Hill - An <i>Acacia bivenosa</i> and <i>Hakea lorea</i> subsp. <i>lorea</i> shrubland over scattered low <i>Rhagodia eremaea</i> and <i>Scaevola spinescens</i> shrubs over a scattered <i>Eriachne obtusa</i> tussock grasses.
	M	Mangroves - A high closed <i>Rhizophora stylosa</i> and <i>Avicennia marina</i> shrubland.
	MDLA	Major Drainage Line A - Scattered low <i>Eucalyptus victrix</i> trees over a high open <i>Melaleuca argentea</i> , <i>Acacia ampliceps</i> and <i>Acacia trachycarpa</i> shrubland over scattered <i>Adriana tomentosa</i> var. <i>tomentosa</i> and <i>Pluchea ferdinandi-muelleri</i> shrubs over an open <i>Triodia epactia</i> hummock grassland.
	MDLB	Major Drainage Line B - Low open <i>Eucalyptus victrix</i> woodland over an <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia coleii</i> var. <i>coleii</i> shrubland over a very open <i>Triodia epactia</i> hummock grassland.
	MDLC	Major Drainage Line C - Low open <i>Corymbia candida</i> subsp. <i>lautifolia</i> woodland over high open <i>Acacia coleii</i> var. <i>coleii</i> , <i>Acacia trachycarpa</i> and <i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland over <i>Triodia epactia</i> open tussock grassland.
	MDLD	Major Drainage Line D - Low open <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> , <i>Melaleuca lasiandra</i> and <i>Melaleuca argentea</i> woodland over scattered <i>Acacia trachycarpa</i> shrubs over open * <i>Cenchrus ciliaris</i> and <i>Chloris pectinata</i> tussock grassland over scattered <i>Triodia epactia</i> hummock grasses.
	MDLE	Major Drainage Line E - Open <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> woodland over <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Cajanus cinereus</i> shrubland over very open <i>Triodia epactia</i> hummock grassland.
	R	Rockpile - Scattered low <i>Ficus brachypoda</i> , <i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i> and <i>Carissa lanceolata</i> trees over scattered herbs.
	RO	Rock Outcrop - Scattered <i>Acacia coleii</i> var. <i>coleii</i> and <i>Acacia inaequilatera</i> shrubs over scattered herbs over scattered <i>Triodia spp.</i> hummock grasses.
	SA	Sandplain A - Low <i>Acacia stellaticeps</i> shrublands over <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands/ <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands mosaic.
	SB	Sandplain B - An open <i>Acacia coleii</i> var. <i>coleii</i> shrublands over low <i>Acacia stellaticeps</i> shrublands over <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands/low <i>Acacia stellaticeps</i> shrublands over <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands mosaic.
	SC	Sandplain C - Low open <i>Corymbia flavescens</i> woodland over an open <i>Acacia coleii</i> var. <i>coleii</i> shrubland over a low <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland/ low <i>Acacia stellaticeps</i> shrublands over <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands/ <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grasslands mosaic.
	SD	Sandplain D - Low <i>Eucalyptus victrix</i> woodland over an <i>Acacia coleii</i> var. <i>coleii</i> shrubland over a low open <i>Acacia stellaticeps</i> and <i>Pluchea tetranthera</i> shrubland over a <i>Triodia epactia</i> hummock grassland.
	SE	Sandplain E - Low open <i>Corymbia flavescens</i> and <i>Eucalyptus victrix</i> woodland over an <i>Acacia coleii</i> var. <i>coleii</i> and <i>Acacia sericophylla</i> shrubland over a low open <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland.
	SF	Sandplain F - Open <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia coleii</i> var. <i>coleii</i> shrubland over an open <i>Triodia epactia</i> hummock grassland.
	SG	Sandplain G - Low open <i>Corymbia flavescens</i> woodland over an <i>Acacia coleii</i> var. <i>coleii</i> , <i>Carissa lanceolata</i> and <i>Acacia sericophylla</i> shrubland over a <i>Triodia epactia</i> hummock grassland over a very open * <i>Cenchrus ciliaris</i> , <i>Chrysopogon fallax</i> and <i>Eriachne obtusa</i> tussock grassland.
	SH	Sandplain H - <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia coleii</i> var. <i>coleii</i> shrubland over a low <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland/ low <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland mosaic.
	SI	Sandplain I - <i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland over a low <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland/ low <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland/ <i>Triodia epactia</i> hummock grassland mosaic.
	SJ	Sandplain J - Scattered low <i>Corymbia flavescens</i> trees over an open <i>Acacia tumida</i> var. <i>pilbarensis</i> shrubland over a low open <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> and <i>Triodia secunda</i> hummock grassland/ <i>Triodia secunda</i> and <i>Triodia epactia</i> hummock grassland mosaic.
	SK	Sandplain K - Scattered low <i>Owenia reticulata</i> trees over an <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia coleii</i> var. <i>coleii</i> shrubland over a low <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland/low <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> hummock grassland mosaic.
	SL	Sandplain L - Low open <i>Corymbia zygophylla</i> woodland over an open <i>Acacia coleii</i> var. <i>coleii</i> , <i>Acacia inaequilatera</i> and <i>Acacia ancistrocarpa</i> shrubland over a low <i>Acacia sericophylla</i> , <i>Acacia stellaticeps</i> , <i>Senna artemisioides</i> aff. subsp. <i>oligophylla</i> (thinly sericeous) and <i>Dodonaea coriacea</i> shrubland over a very open <i>Triodia lanigera</i> and <i>Triodia epactia</i> hummock grassland.
	SM	Sandplain M - Open <i>Acacia ancistrocarpa</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia inaequilatera</i> shrubland over a <i>Triodia lanigera</i> hummock grassland.
	SN	Sandplain N - Low open <i>Corymbia zygophylla</i> woodland over an open <i>Acacia ancistrocarpa</i> , <i>Acacia inaequilatera</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia sericophylla</i> shrubland over <i>Acacia stellaticeps</i> low open shrubland over <i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland.
	SO	Sandplain O - Scattered low <i>Eucalyptus victrix</i> and <i>Corymbia hamersleyana</i> trees over an open <i>Acacia ancistrocarpa</i> , <i>Acacia tumida</i> var. <i>pilbarensis</i> , <i>Acacia inaequilatera</i> and <i>Acacia trudgeniana</i> shrubland over a low open <i>Acacia stellaticeps</i> shrubland over a <i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland.
	SP	Sandplain P - Low open <i>Eucalyptus victrix</i> , <i>Corymbia hamersleyana</i> and <i>Corymbia flavescens</i> woodland over an open <i>Acacia coleii</i> var. <i>coleii</i> shrubland over a low open <i>Acacia stellaticeps</i> and <i>Pluchea tetranthera</i> shrubland over a <i>Triodia epactia</i> hummock grassland.
	SQ	Sandplain Q - Scattered low <i>Corymbia flavescens</i> trees over an open <i>Acacia ancistrocarpa</i> and <i>Acacia bivenosa</i> shrubland over scattered low <i>Acacia stellaticeps</i> shrubs over a <i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland.
	SR	Sandplain R - Low open <i>Corymbia candida</i> subsp. <i>lautifolia</i> and <i>Corymbia hamersleyana</i> over <i>Acacia coleii</i> var. <i>coleii</i> and <i>Acacia tumida</i> var. <i>pilbarensis</i> open shrubland over <i>Triodia epactia</i> and <i>Triodia lanigera</i> hummock grassland.
	SS	Sandplain S - Scattered <i>Acacia inaequilatera</i> shrubs over <i>Triodia epactia</i> and <i>Triodia lanigera</i> very open hummock grassland.
	SMA	Samphire A - Scattered <i>Avicennia marina</i> shrubs over a low open <i>Tecticornia halocnemoides</i> , <i>Threlkeldia diffusa</i> and <i>Tecticornia pterygosperma</i> subsp. <i>denticulata</i> shrubland over a very open <i>Eragrostis falcata</i> tussock grassland.
	SMB	Samphire B - Scattered <i>Avicennia marina</i> shrubs over a low open <i>Tecticornia halocnemoides</i> subsp. <i>tenuis</i> , <i>Tecticornia halocnemoides</i> and <i>Trianthema turgidifolia</i> shrubland.
	W	Washout

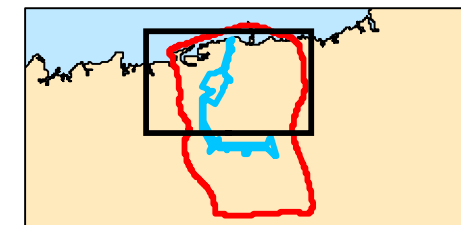




CLIENT  
 BHPBIO  
 AUTHOR  
 E. Carroll  
 SCALE  
 1:80,000 @ A3  
 DRAWN  
 M. Mikkonen  
 PROJECTION  
 GDA 94 MGA 50

JOB NO.  
 J100489  
 DATE  
 13-10-2011  
 FIGURE  
**8a**

- Legend**
- PH\_Regional\_Survey\_Boundary
  - Disturbance Envelope
  - Proposed Infrastructure Corridor
  - Proposed Car Dumper
  - Proposed Goldsworthy Rail Loop
  - Proposed Western Spur Railway



**Vegetation Mapping - Linework**  
 Port Hedland Regional Flora and Vegetation Assessment

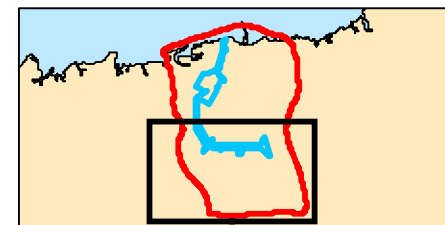




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 GDA 94 MGA 50  
 JOB NO.  
 J100489  
 DATE  
 13-10-2011  
 FIGURE  
**8b**

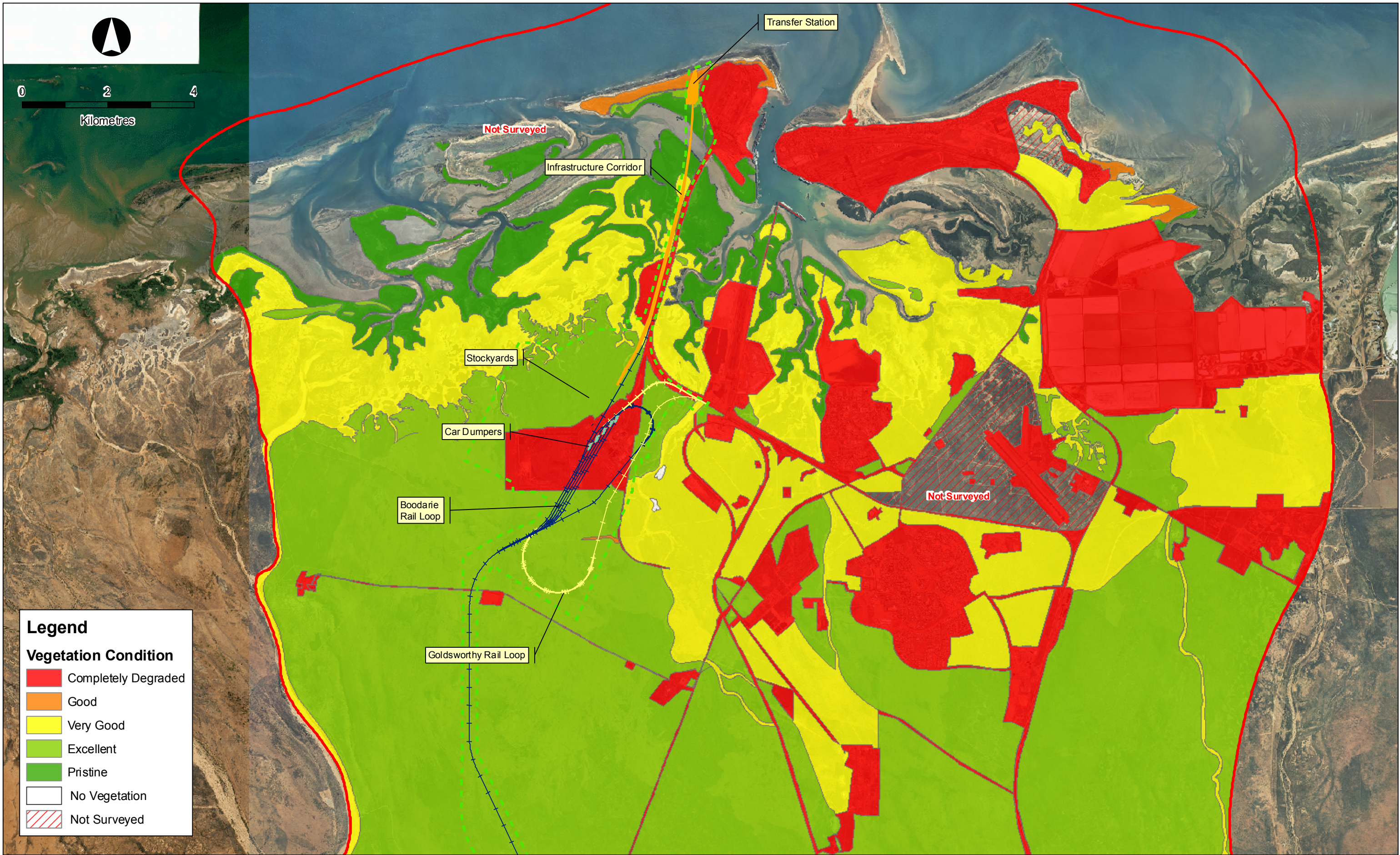
**Legend**

- PH\_Regional\_Survey\_Boundary
- Disturbance Envelope
- Proposed Infrastructure Corridor
- Proposed Car Dumper
- Proposed Goldsworthy Rail Loop
- Proposed Western Spur Railway



**Vegetation Mapping - Linework**  
 Port Hedland Regional Flora and Vegetation Assessment





**Legend**

**Vegetation Condition**

- Completely Degraded
- Good
- Very Good
- Excellent
- Pristine
- No Vegetation
- Not Surveyed



CLIENT  
BHPBIO

AUTHOR  
E. Carroll

SCALE  
1:80,000 @ A3

DRAWN  
M. Mikkonen

PROJECTION  
GDA 94 MGA 50

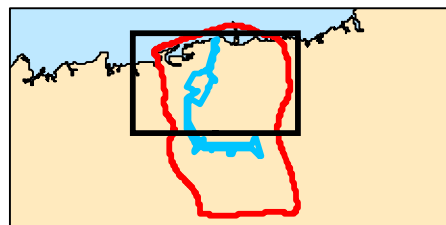
JOB NO.  
J100489

DATE  
17-10-2011

FIGURE  
**9a**

**Legend**

- PH\_Regional\_Survey\_Boundary
- Disturbance Envelope
- Proposed Infrastructure Corridor
- Proposed Car Dumper
- Proposed Goldsworthy Rail Loop
- Proposed Western Spur Railway



**Vegetation Condition**  
Port Hedland Regional Flora and Vegetation Assessment





**Legend**  
**PH\_ENV\_Vegetation\_Condition**  
**Vegetation Condition**

- Completely Degraded
- Good
- Very Good
- Excellent
- Pristine
- No Vegetation
- Not Surveyed



CLIENT  
BHPBIO

AUTHOR  
E. Carroll

SCALE  
1:80,000 @ A3

DRAWN  
M. Mikkonen

PROJECTION  
GDA 94 MGA 50

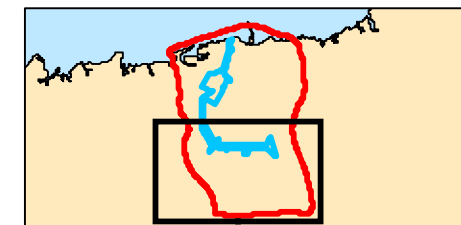
JOB NO.  
J100489

DATE  
17-10-2011

FIGURE  
**9b**

**Legend**

- PH\_Regional\_Survey\_Boundary
- Disturbance Envelope
- Proposed Infrastructure Corridor
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- Proposed Goldsworthy Rail Loop
- Proposed Western Spur Railway



**Vegetation Condition**  
 Port Hedland Regional Flora and Vegetation Assessment





**Key**

P - Pristine  
 E - Excellent  
 VG - Very Good  
 G - Good  
 CD - Completely Degraded  
 NV - No Vegetation  
 NS - Not Surveyed

CLIENT  
 BHPBIO

AUTHOR  
 E. Carroll

SCALE  
 1:80,000 @ A3

DRAWN  
 M. Mikkonen

PROJECTION  
 GDA 94 MGA 50

JOB NO.  
 J100489

DATE  
 9-12-2011

FIGURE  
**10a**

**Legend**

PH\_Regional\_Survey\_Boundary

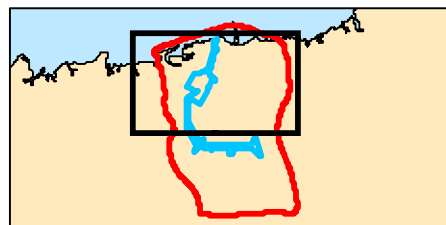
Disturbance Envelope

Proposed Infrastructure Corridor

Proposed Car Dumper

Proposed Goldsworthy Rail Loop

Proposed Western Spur Railway



**Vegetation Condition - Linework**

Port Hedland Regional Flora and Vegetation Assessment







**Key**

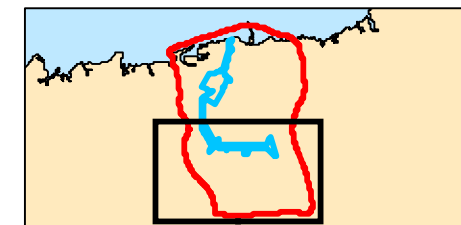
- P - Pristine
- E - Excellent
- VG - Very Good
- G - Good
- CD - Completely Degraded
- NV - No Vegetation
- NS - Not Surveyed



<b>CLIENT</b> BHPBIO	<b>JOB NO.</b> J100489
<b>AUTHOR</b> E. Carroll	<b>DATE</b> 9-12-2011
<b>DRAWN</b> M. Mikkonen	<b>FIGURE</b> <b>10b</b>
<b>SCALE</b> 1:80,000 @ A3	<b>PROJECTION</b> GDA 94 MGA 50

**Legend**

- PH\_Regional\_Survey\_Boundary
- Disturbance Envelope
- Proposed Infrastructure Corridor
- Proposed Car Dumper
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**Vegetation Condition - Linework**

Port Hedland Regional Flora and Vegetation Assessment



**APPENDIX A**

**DEFINITION OF DECLARED RARE /  
PRIORITY / THREATENED FLORA AND  
SIGNIFICANT FLORA POTENTIALLY  
OCCURRING IN THE SURVEY AREA**



## PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

### APPENDIX A

#### DEFINITIONS OF DECLARED RARE / PRIORITY / THREATENED FLORA AND SIGNIFICANT FLORA POTENTIALLY OCCURRING IN THE SURVEY AREA

##### A1: Categories of Declared Rare and Priority Flora

Conservation Code	Category
X	<p><b>Presumed Extinct Flora (Declared Rare Flora – Extinct)</b></p> <p>“Taxa which have been adequately searched for and there is no reasonable doubt that the last individual has died, and have been gazetted as such (Schedule 2 under the <i>Wildlife Conservation Act 1950</i>).”</p>
T	<p><b>Threatened Flora (Declared Rare Flora – Extant)</b></p> <p>“Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such (Schedule 1 under the <i>Wildlife Conservation Act 1950</i>).”</p> <p>“Threatened Flora (Schedule 1) are further ranked by the Department according to their level of threat using IUCN Red List criteria:</p> <ul style="list-style-type: none"> <li>• CR: Critically Endangered – considered to be facing an extremely high risk of extinction in the wild;</li> <li>• EN: Endangered – considered to be facing a very high risk of extinction in the wild;</li> <li>• VU: Vulnerable – considered to be facing a high risk of extinction in the wild.”</li> </ul>
P1	<p><b>Priority One: Poorly-known taxa</b></p> <p>“Taxa which are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, Westrail and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Taxa may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.”</p>
P2	<p><b>Priority Two: Poorly-known taxa</b></p> <p>“Taxa which are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown Land, water reserves, etc. Taxa may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.”</p>
P3	<p><b>Priority Three: Poorly-known taxa</b></p> <p>“Taxa which are known from collections or sight records from several localities not under imminent threat, or few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Taxa may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.”</p>

Conservation Code	Category
<b>P4</b>	<p><b>Priority Four: Rare, Near Threatened and other taxa in need of monitoring</b></p> <p>a. Rare. "Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands."</p> <p>b. Near Threatened. "Taxa that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable."</p> <p>c. "Taxa that have been removed from the list of threatened species during the past five years for reasons other than taxonomy."</p>
<b>P5</b>	<p><b>Priority Five: Conservation Dependent taxa</b></p> <p>"Taxa that are not threatened but are subject to a specific conservation program, the cessation of which would result in the taxon becoming threatened within five years."</p>

Source: Department of Environment and Conservation (2010). *Western Australian Flora Conservation Codes*. Department of Environment and Conservation, Perth, Western Australia. Online: <http://florabase.calm.wa.gov.au>.

## A2: Categories of Threatened Flora Species

Category Code	Category
<b>Ex</b>	<p><b>Extinct</b></p> <p>Taxa which at a particular time if, at the time, there is no reasonable doubt that the last member of the species has died.</p>
<b>ExW</b>	<p><b>Extinct in the Wild</b></p> <p>Taxa which is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.</p>
<b>CE</b>	<p><b>Critically Endangered</b></p> <p>Taxa which at a particular time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.</p>
<b>E</b>	<p><b>Endangered</b></p> <p>Taxa which is not critically endangered and it is facing a very high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.</p>
<b>V</b>	<p><b>Vulnerable</b></p> <p>Taxa which is not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.</p>
<b>CD</b>	<p><b>Conservation Dependent</b></p> <p>Taxa which at a particular time if, at that time, the species is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.</p>

Source: *Environment Protection and Biodiversity Conservation Act 1999*



**A3: Significant Flora Species Potentially Occurring in the Project Area**

Priority Taxa	Conservation Status	Habitat Preference (WAH 2011)
<i>Abutilon pritzelianum</i>	P1	Red sand dunes.
<i>Acacia glaucocaesia</i>	P3	Red loam, sandy loam and clay on floodplains.
<i>Acacia levata</i>	P3	Sand or sandy loam over granite on hillslopes.
<i>Acacia</i> sp. Marble Bar (J.G. & M.H. Simmons 3499)	P1	Information unavailable.
<i>Atriplex eremitis</i>	P1	Information unavailable.
<i>Bulbostylis burbridgeae</i>	P4	Granitic soils, granite outcrops, cliff bases
<i>Eragrostis crateriformis</i>	P3	Clayey loam, creek banks, depressions
<i>Euphorbia clementii</i>	P2	Gravelly hillsides and stony grounds.
<i>Gomphrena cucullata</i>	P2	Red sandy loam, clayey sand on open floodplains.
<i>Gomphrena leptophylla</i>	P3	Sand, sandy to clayey loam, granite, quartzite on open flats, sandy creek beds, edges salt pans & marshes and stony hillsides.
<i>Gomphrena pusilla</i>	P2	Fine beach sand behind foredunes, on limestone.
<i>Goodenia nuda</i>	P4	Information unavailable.
<i>Gymnanthera cunninghamii</i>	P3	Sandy soils.
<i>Heliotropium muticum</i>	P1	Loam, sandy loam on plains and floodplains.
<i>Nicotiana umbratica</i>	P3	Shallow soils. Rocky outcrops.
<i>Pityrodia</i> sp. Marble Bar (G. Woodman & D. Coultas GWDC Opp 4)	P1	Skeletal soils over massive ironstone.
<i>Polymeria distigma</i>	P3	Sandy soils.
<i>Pterocaulon</i> sp. A Kimberley Flora (B.J. Carter 599)	P3	Sand on coastal areas, saline sandy flats and pindan sandplains.
<i>Ptilotus appendiculatus</i> var. <i>minor</i>	P1	Information unavailable.
<i>Tephrosia rosea</i> var. <i>venulosa</i>	P1	Red sand near creeks.

Source: Department of Environment and Conservation Database Search (April 2011)

# **APPENDIX B**

## **DEFINITION OF THREATENED AND PRIORITY ECOLOGICAL COMMUNITIES**



## PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

### APPENDIX B

#### DEFINITIONS OF THREATENED AND PRIORITY ECOLOGICAL COMMUNITIES

##### B1: Definitions of Threatened Ecological Communities

###### Presumed Totally Destroyed (PD)

An ecological community will be listed as presumed totally destroyed if there are no recent records of the community being extant **and either** of the following applies (A or B);

- A) Records within the last 50 years have not been confirmed despite thorough searches or known or likely habitats **or**
- B) All occurrences recorded within the last 50 years have since been destroyed.

###### Critically Endangered (CR)

An ecological community will be listed as **Critically Endangered** when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future. This will be determined on the basis of the best available information, by it meeting **any one or more** of the following criteria (A, B or C):

- A) The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 90% and **either or both** of the following apply (i or ii)
  - i) geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is imminent (within approximately 5 years)
  - ii) modification throughout its range is continuing such that in the immediate future (within approximately 5 years) the community is unlikely to be capable of being substantially rehabilitated.
- B) Current distribution is limited, and **one or more** of the following apply (i, ii or iii):
  - i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the immediate future (within approximately 5 years)
  - ii) there are very few occurrences, each of which is small and/or isolated and extremely vulnerable to known threatening processes
  - iii) there may be many occurrences but total area is very small and each occurrence is small and/or isolated and extremely vulnerable to known threatening processes

- C) The ecological community exists only as highly modified occurrences which may be capable of being rehabilitated if such work begins in the immediate future (within approximately 5 years)

### **Endangered (EN)**

An ecological community will be listed as **Endangered** when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. This will be determined on the basis of the best available information, by it meeting **any one or more** of the following criteria (A, B or C):

- A) The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 70% and **either or both** of the following apply (i or ii)
- i) geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is likely in the short term (within approximately 10 years)
  - ii) modification throughout its range is continuing such that in the short term future (within approximately 10 years) the community is unlikely to be capable of being substantially restored or rehabilitated.
- B) Current distribution is limited, and **one or more** of the following apply (i, ii or iii):
- i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the short term future (within approximately 10 years)
  - ii) there are very few occurrences, each of which is small and/or isolated and extremely vulnerable to known threatening processes
  - iii) there may be many occurrences but total area is very small and each occurrence is small and/or isolated and extremely vulnerable to known threatening processes
- C) The ecological community exists only as highly modified occurrences which may be capable of being rehabilitated if such work begins in the short term future (within approximately 10 years).

### **Vulnerable (VU)**

An ecological community will be listed as **Vulnerable** when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction in the medium to long term future. This will be determined on the basis of the best available information, by it meeting **any one or more** of the following criteria (A, B or C):

- A) The ecological community exists largely as modified occurrences which are likely to be capable of being substantially restored or rehabilitated.
- B) The ecological community can be modified or destroyed and would be vulnerable to threatening processes, is restricted in area and/or range and/or is only found at a few locations.



- C) The ecological community may still be widespread but is believed likely to move into a category of higher threat in the medium to long term future because of existing or impending threatening processes.

Source: Department of Environment and Conservation (2010). *Definitions, Categories and Criteria for Threatened and Priority Ecological Communities*. Department of Environment and Conservation, Perth, Western Australia. Online: [www.naturebase.net/](http://www.naturebase.net/)

## **B2: Definitions of Priority Ecological Communities**

Possible threatened ecological communities that do not meet survey criteria or that are not adequately defined are added to the Priority Ecological Community Lists under Priorities 1, 2 and 3. These three categories are ranked in order of priority for survey and/or definition of the community, and evaluation of conservation status, so that consideration can be given to their declaration as threatened ecological communities. Ecological Communities that are adequately known, and are rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

**Priority One:** Poorly known ecological communities Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.

**Priority Two:** Poorly known ecological communities. Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation.

Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.

**Priority Three:** Poorly known ecological communities

- (i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:
- (ii) Communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or;
- (iii) Communities made up of large, and/or widespread occurrences, that may or not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, and inappropriate fire regimes.

Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.

**Priority Four:** Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.

- (a) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands.
- (b) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
- (c) Ecological communities that have been removed from the list of threatened communities during the past five years.

**Priority Five:** Conservation Dependent ecological communities. Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

Source: Department of Environment and Conservation (2010). *Definitions, Categories and Criteria for Threatened and Priority Ecological Communities*. Department of Environment and Conservation, Perth, Western Australia. Online: [www.naturebase.net/](http://www.naturebase.net/)



# **APPENDIX C**

## **ENVIRONMENTAL WEEDS AND DECLARED PLANT CATEGORIES**

## PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

### APPENDIX C

#### ENVIRONMENTAL WEEDS AND DECLARED PLANT CATEGORIES

##### C1: Criteria used for Ranking Environmental Weeds

The Environmental Weed Strategy for Western Australia (CALM 1999) contains criteria for the assessment and ranking of weeds in terms of their environmental impact on biodiversity. These criteria are as follows:

- **Invasiveness** – ability to invade bushland in good to excellent condition or ability to invade waterways. (Score as yes or no).
- **Distribution** – wide current or potential distribution including consideration of known history of wide spread distribution elsewhere in the world. (Score as yes or no).
- **Environmental Impacts** – ability to change the structure, composition and function of ecosystems. In particular an ability to form a monoculture in a vegetation community. (Score as yes or no).

The rating of each weed is determined by the following scoring system:

- **High** - a weed species would have to score yes for all three criteria. Rating a weed species as high would indicate prioritising this weed for control and/or research i.e. prioritising funding to it.
- **Moderate** -a weed species would have to score yes for two of the above criteria. Rating a weed species as moderate would indicate that control or research effort should be directed to it if funds are available, however it should be monitored (possibly a reasonably high level of monitoring).
- **Mild** – a weed species scoring one of the criteria. A mild rating would indicate monitoring of the weed and control where appropriate.
- **Low** – a weed species would score none of the criteria. A low ranking would mean that this species would require a low level of monitoring.

Source: Department of Conservation and Land Management (1999). *Environmental Weed Strategy for Western Australia*. Department of Conservation and Land Management, Perth, Western Australia.



## **C2: Standard Meanings of Declared Plant Categories**

### **P1**

Prohibits movement.

The movement of plants or their seeds is prohibited within the State.

This prohibits the movement of contaminated machinery and produce including livestock and fodder.

### **P2**

Aim is to eradicate infestation.

Treat all plants to destroy and prevent propagation each year until no plants remain. The infested area must be managed in such a way that prevents the spread of seed or plant parts on or in livestock, fodder, grain, vehicles and/or machinery.

### **P3**

Aims to control infestation by reducing area and/or density of infestation.

The infested area must be managed in such a way that prevents the spread of seed or plant parts within and from the property on or in livestock, fodder, grain, vehicles and/or machinery.

Treat to destroy and prevent seed set all plants:

- \* Within 50m inside of the boundaries of the infestation;
- \* within 50m of roads and high water mark on waterways;
- \* within 50m of sheds, stock yards and houses.

Treatment must be done prior to seed set each year.

Properties with less than 20ha of infestation must treat the entire infestation.

Additional areas may be ordered to be treated.

### **P4**

Aims to prevent infestation spreading beyond existing boundaries of infestation

The infested area must be managed in such a way that prevents the spread of seed or plant parts within and from the property on or in livestock, fodder, grain, vehicles and/or machinery.

Treat to destroy and prevent seed set all plants:

- \* within 50m inside of the boundaries of the infested property for one-leaf and 20m for two-leaf;
- \* within 50m of roads and high water mark on waterways;
- \* within 50m of sheds, stock yards and houses.

Treatment must be done prior to seed set each year. Properties with less than 20ha of infestation must treat the entire infestation.

Additional areas may be ordered to be treated.

Special considerations.

In the case of P4 infestations where they continue across property boundaries there is no requirement to treat the relevant part of the property boundaries as long as the boundaries of the infestation as a whole are treated. There must be agreement between neighbours in relation to the treatment of these areas.

## **P5**

Aims to control infestations on public lands.

Source: Department of Agriculture and Food (2008). *List of Declared Plants*. Department of Agriculture and Food, Western Australia. Online: <http://www.agric.wa.gov.au/>.



# **APPENDIX D**

## **BUSH FOREVER VEGETATION CONDITION SCALE**

## PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

### APPENDIX D

#### BUSH FOREVER VEGETATION CONDITION SCALE

Condition Scale Code	Condition Scale
<b>P</b>	<b>Pristine (1)</b> Pristine or nearly so, no obvious signs of disturbance
<b>E</b>	<b>Excellent (2)</b> Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
<b>VG</b>	<b>Very Good (3)</b> Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
<b>G</b>	<b>Good (4)</b> Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
<b>D</b>	<b>Degraded (5)</b> Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
<b>CD</b>	<b>Completely Degraded (6)</b> The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Source: Government of Western Australia (2000). *Bush Forever Volume 2: Directory of Bush Forever Sites*. Department of Environmental Protection, Perth, Western Australia.



# **APPENDIX E**

## **CHAIN OF CUSTODY AND RARE FLORA REPORT FORMS**



**CHAIN OF CUSTODY**

Submission of flora specimens to BHPB funded botanist

Company ENV Australia

Date submitted 21-Jul-11

Date results required ASAP

Project Area	Specimen No	Consultant ID	Habit	Habitat	Consultant Comment	Steve Dillon ID	ID date	Steve Dillon Comment
	PSOPCW24	Abutilon pritzelianum MS	0.5 m	Plain		<i>Abutilon pritzelianum</i>		
	PSOPCW25	Abutilon pritzelianum MS	1.5 m	Plain		<i>Abutilon pritzelianum</i>		
	PSOPCW79	Abutilon pritzelianum MS	0.2 m	Plain		<i>Abutilon pritzelianum</i>		
	PSOPKM22	Abutilon pritzelianum MS	1 m	Plain		<i>Abutilon pritzelianum</i>		
	PSOPKM25	Abutilon pritzelianum MS	1 m	Plain		<i>Abutilon pritzelianum</i>		
	PSOPEC34	Goodenia nuda	0.3 m	Plain		<i>Goodenia ? tridiophila</i>		Sterile so ID is tentative
	PSOPEC99	Goodenia nuda	0.3 m	Plain		<i>Goodenia ? tridiophila</i>		Sterile so ID is tentative
11.079 - Port Hedland	PSOPBW10	Goodenia nuda	0.3 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPBW11	Goodenia nuda	0.3 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPBW35	Goodenia nuda	0.3 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPCW77	Goodenia nuda	0.3 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPEC10	Goodenia nuda	0.3 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPEC11	Goodenia nuda	0.3 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPEC38	Goodenia nuda	0.3 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPEC41	Goodenia nuda	0.3 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPKM06	Goodenia nuda	0.2 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPKM46	Goodenia nuda	0.3 m	Plain		<i>Goodenia tridiophila</i>		
	PSOPBW15	Heliotropium muticum	0.1-0.3 m	Plain		<i>Heliotropium muticum</i>		
	PSOPBW22	Heliotropium muticum	0.2 m	Plain		<i>Heliotropium muticum</i>		
	PSOPCW36	Heliotropium muticum	0.2 m	Plain		<i>Heliotropium muticum</i>		
	PSOPCW38	Heliotropium muticum	0.2 m	Plain		<i>Heliotropium muticum</i>		
	PSOPCW47	Heliotropium muticum	0.2-0.4 m	Plain		<i>Heliotropium muticum</i>		
	PSOPCW49	Heliotropium muticum	0.3 m	Plain		<i>Heliotropium muticum</i>		
	PSOPCW52	Heliotropium muticum	0.2 m	Plain		<i>Heliotropium muticum</i>		
	PSOPCW74	Heliotropium muticum	0.2 m	Plain		<i>Heliotropium muticum</i>		
	PSOPEC49	Heliotropium muticum	0.2 m	Plain		<i>Heliotropium muticum</i>		
	PSOPKM31	Heliotropium muticum	0.3 m	Plain		<i>Heliotropium muticum</i>		
	PSOPKM35	Heliotropium muticum	0.3 m	Plain		<i>Heliotropium muticum</i>		
	PSOPKM37	Heliotropium muticum	0.3 m	Plain		<i>Heliotropium muticum</i>		
	PSOPKM38	Heliotropium muticum	0.3 m	Plain		<i>Heliotropium muticum</i>		
	PSOPKM39	Heliotropium muticum	0.1 m	Plain		<i>Heliotropium muticum</i>		
	PSOPKM41	Heliotropium muticum	0.3 m	Plain		<i>Heliotropium muticum</i>		
	PSOPKM42	Heliotropium muticum	0.3 m	Plain		<i>Heliotropium muticum</i>		
	PSOPKM51	Heliotropium muticum	0.1-0.3 m	Plain		<i>Heliotropium muticum</i>		
	PSOPKM52	Heliotropium muticum	0.2 m	Plain		<i>Heliotropium muticum</i>		





**CHAIN OF CUSTODY**

Submission of flora specimens to BHPB funded botanist

Company ENV Australia

Date submitted 9-Sep-11

Date results required ASAP



Project Area	Specimen No	Consultant ID	Habit	Habitat	Consultant Comment	Steve Dillon ID	ID date	Steve Dillon Comment
Port Hedland	PSOPEC24					<i>Peplidium ? muelleri</i>		Bteer material would be required to be certain of the ID. The indumentum of eglandular hairs along with the leaf shape & size places this as <i>Peplidium muelleri</i> , although it is quite small compared to the ref. herb. material. This genus is difficult even with good material. Now in Phrymaceae.
	PI44.09					<i>Rotala diandra</i>		
	PI80.01					<i>Vigna lanceolata var. lanceolata</i>		
	PSOPEC25					<i>Bergia ? pusilla</i>		Elatinaceae. Keys out to this (4 stamens, 4 sepals, glabrous, elliptic to obovate leaves, seeds smooth to faintly alveolate ) but difficult to be 100% certain of the ID as we only have 1 collection in WA (the other one is a mis-ID - who let Mr Sedgewick loose with ID slips?) and the material is only in fruit. It's one hell of a range extension but this isn't uncommon for wet area species (water fowl get around). I've attached the image of the type from the Kew website. If it's not this then it would be an undescribed species. Probably worth lodging (but better material would be nice).



**CHAIN OF CUSTODY**

Submission of flora specimens to BHPB funded botanist

Company ENV Australia

Date submitted 19-Sep-11

Date results required ASAP



Project Area	Specimen No	Consultant ID	Habit	Habitat	Consultant Comment	Steve Dillon ID	ID date	Steve Dillon Comment
11,079 - Port Hedland	PI125.02	Heliotropium muticum		Sand plain		<i>Heliotropium muticum</i>		
Priorities	PI099.11	Heliotropium muticum	0.3 m	Sand plain		<i>Heliotropium muticum</i>		
	PI030.06	Heliotropium muticum	0.2 m	Sand plain		<i>Heliotropium muticum</i>		
	PI152.01	Heliotropium muticum	0.2 m	Sand plain		<i>Heliotropium muticum</i>		
	PI117.04	Heliotropium muticum	0.2 m	Sand plain		<i>Heliotropium muticum</i>		
	PI124.07	Heliotropium muticum	0.2 m	Sand plain		<i>Heliotropium muticum</i>		
	PI114.04	Heliotropium muticum	0.3 m	Sand plain		<i>Heliotropium muticum</i>		
	PI128.09	Heliotropium muticum	0.2 m	Sand plain		<i>Heliotropium muticum</i>		
	PI126.02	Heliotropium muticum	0.2 m	Sand plain		<i>Heliotropium muticum</i>		
	PI034.09	Heliotropium muticum	0.3 m	Sand plain		<i>Heliotropium muticum</i>		
	PI116.06	Heliotropium muticum	0.05 m	Sand plain		<i>Heliotropium muticum</i>		
	PI116.03	Heliotropium muticum	0.2 m	Sand plain		<i>Heliotropium muticum</i>		
	PI140.01	Heliotropium muticum	0.2 m	Sand plain		<i>Heliotropium muticum</i>		
	PI118.08	Heliotropium muticum	0.3 m	Sand plain		<i>Heliotropium muticum</i>		
	PSOPKM01	Tephrosia rosea var. venulosa	0.4 m	Sand plain		<i>Tephrosia rosea</i> var. ? <i>venulosa</i>		Indumentum not as crisped as typical var. <i>venulosa</i>
	PSOPKM02	Tephrosia rosea var. venulosa	0.5 m	Sand plain		<i>Tephrosia rosea</i> var. <i>venulosa</i>		
	PSOPKM04	Tephrosia rosea var. venulosa	0.5 m	Sand plain		<i>Tephrosia rosea</i> var. <i>venulosa</i>		
	PSOPKM05	Tephrosia rosea var. venulosa	0.4 m	Sand plain		<i>Tephrosia rosea</i> var. ? <i>venulosa</i>		Indumentum not as crisped as typical var. <i>venulosa</i>
	PSOPCW02	Tephrosia rosea var. venulosa	0.4 m	Sand plain		<i>Tephrosia rosea</i> var. <i>venulosa</i>		
	PI008.02a	Tephrosia rosea var. venulosa	0.4 m	Sand plain		<i>Tephrosia rosea</i>		Not var. <i>venulosa</i> .
	PSOPCW01	Tephrosia rosea var. venulosa	0.4 m	Sand plain		<i>Tephrosia rosea</i> var. ? <i>venulosa</i>		Indumentum not as crisped as typical var. <i>venulosa</i>
	PI161.05	Abutilon pritzelianum	1.3 m	Sand plain		<i>Abutilon pritzelianum</i>		
	PI137.04	Abutilon pritzelianum	0.4 m	Sand plain		<i>Abutilon pritzelianum</i>		
	PI108.07	Abutilon pritzelianum	1 m	Sand plain		<i>Abutilon pritzelianum</i>		
	PI130.05	Abutilon pritzelianum	1.5 m	Sand plain		<i>Abutilon</i> ? <i>pritzelianum</i>		Male plant. Atypical in that it has glandular hairs on the stems & petioles & the flowers are quite small for this taxon.
	PI070.36	Abutilon pritzelianum	1.2 m	Sand plain		<i>Abutilon pritzelianum</i>		
11,079 - Port Hedland								
Range Extention	PI068.22	Dentella minutissima	Crepper	Major riverbed		<i>Dentella asperata</i>		<i>D. minutissima</i> has smaller leaves that are spatulate with a distinct & relatively long petiole.
	PI069.11	Dentella minutissima	Prostrate	Wide flat drainage line		<i>Dentella asperata</i>		See note above
	PI059.06	Mimulus uvedaliae	0.02 m	Sand plain		<i>Stemodia lathraia</i>		Unusual in that it's an annual but apart from that it's an exact match for this species. Not sure how you got this to <i>Mimulus</i>
	PI077.09	Mimulus uvedaliae	0.2 m	Sand plain/ flood plain		<i>Stemodia lathraia</i>		See note above
	PI141.01	Mimulus uvedaliae	0.1 m	Sand plain		<i>Stemodia lathraia</i>		See note above
	PI046.10	Mimulus uvedaliae	0.1 m	Sand plain		<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>		
	PI044.07	Mimulus uvedaliae	0.1 m	Plain		<i>Stemodia lathraia</i>		2 different taxa in this bag.
	PI044.07	Mimulus uvedaliae	0.1 m	Plain		<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>		2 different taxa in this bag.
	PI086.08	Eriachne sulcata	0.2 m	Sand plain		<i>Eriachne glauca</i> var. <i>glauca</i>		The specimen of <i>E. sulcata</i> in the Reference Herbarium is actually <i>E. glauca</i> . The fine hairs on the glumes, the contracted & relatively dense panicle, the glabrous nodes & the vesicles on the upper leaf surface place this as <i>E. glauca</i> . This appears to be a highly variable species, especially in regards to overall size & the length & curvature of the lemma awns, & it is possible there are more than the 2 varieties currently recognised.
	PI115.05	Eriachne sulcata	0.15 m	Small creek		<i>Eriachne glauca</i> var. <i>glauca</i>		See above note
	PSOPEC09	Tephrosia simplicifolia	0.3 m	Unknown		<i>Tephrosia simplicifolia</i>		Worth lodging
	PI123.37	Tephrosia simplicifolia	0.3 m	Low hill with quartz outcrops		<i>Tephrosia simplicifolia</i>		
	PI156.11	Tephrosia simplicifolia	0.1 m	Low rocky hill		<i>Tephrosia simplicifolia</i>		
	PI089.07	Tephrosia simplicifolia	0.3 m	Sand plain		<i>Tephrosia simplicifolia</i>		Worth lodging
	PI032.08	Tephrosia simplicifolia	0.1 m	Sand plain		<i>Tephrosia simplicifolia</i>		Worth lodging
	PI053.04	Calandrinia creethiae	Crepper	Sand plain		<i>Calandrinia stagnensis</i>		
	PSOPEC15	Calandrinia creethiae	0.05 m	Sand plain		<i>Calandrinia pumila</i>		
	PSOPEC17	Calandrinia creethiae	0.1 m	Veg. T. secunda		<i>Calandrinia stagnensis</i>		
	PI068.11	Calandrinia creethiae	0.03 m	Major riverbed		<i>Calandrinia quadrivalvis</i>		In the broad sense
	PI145.04	Calandrinia creethiae	Prostrate	Plain		<i>Calandrinia stagnensis</i>		
	PI083.04	Calandrinia creethiae	0.1 m	Plain		<i>Calandrinia stagnensis</i>		
	PI020.07	Drosera burmanni	0.1 m	Plain		<i>Drosera burmanni</i>		Mouldy, not worth lodging
	PI045.02	Drosera burmanni	0.05 m	Plain		<i>Drosera burmanni</i>		Worth lodging
	PSOPEC08	Drosera burmanni	0.1 m	Plain		<i>Drosera burmanni</i>		Worth lodging

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Mitrosacme connata</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>N/A</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)	<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0659237</u>	No. satellites: _____	Map used: _____
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7739702</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>		
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	
Dead	
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____
<b>DATUM:</b>		<b>Land manager present:</b> <input type="checkbox"/>
<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	<b>METHOD USED:</b>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0665716</u>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7736596</u>	No. satellites: _____ Map used: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____	Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	_____
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)	<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0665711</u>	No. satellites: _____	Map used: _____
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7736533</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>		
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	40+
Dead	
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____
<b>DATUM:</b>		<b>Land manager present:</b> <input type="checkbox"/>
<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	<b>METHOD USED:</b>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0667436</u>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7737014</u>	No. satellites: _____ Map used: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	15
Dead	
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0667333</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7736661</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			20+
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b>		No. _____    Size _____    Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:**    Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)


**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)	<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0668552</u>	No. satellites: _____	Map used: _____
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7735406</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>		
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	_____
	_____
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	_____
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	Percentage in flower: _____ %
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

GDA94 / MGA94  DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map   
 AGD84 / AMG84  **Lat / Northing:** 0668272 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 WGS84  **Long / Easting:** 7735341 Boundary polygon captured:  Map scale: \_\_\_\_\_  
 Unknown  **ZONE:** 50

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve   
 National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve   
 Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive				6
Dead				

Area of pop (m<sup>2</sup>): \_\_\_\_\_  
Note: Pls record count as numbers (not percentages) for database.

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0667402</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7736996</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			11
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b>		No. _____    Size _____    Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
		Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____ %	

**CONDITION OF PLANTS:**    Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0667175</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7736693</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			8
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____    Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:**    Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_    Sheet No.: \_\_\_\_\_    Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)	<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0667228</u>	No. satellites: _____	Map used: _____
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7736682</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>		
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	7
Dead	
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	Percentage in flower: _____ %
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b> (Refer to field manual for additional values)				
	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## CONDITION OF SOIL:

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____
<b>DATUM:</b>		<b>Land manager present:</b> <input type="checkbox"/>
<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	<b>METHOD USED:</b>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0667511</u>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7736767</u>	No. satellites: _____ Map used: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)


**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0667538</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7736919</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			6
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0668451</u> <b>Long / Easting:</b> <u>7735424</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	5
Dead	
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)	<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0668388</u>	No. satellites: _____	Map used: _____
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7735140</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>		
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	20
Dead	
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)	<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0668544</u>	No. satellites: _____	Map used: _____
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7735146</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>		
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	5
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____	
<b>ATTACHED:</b>	Map <input type="checkbox"/>	Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____			

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)	<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0669954</u>	No. satellites: _____	Map used: _____
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7735525</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>		
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	_____
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)	<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0669782</u>	No. satellites: _____	Map used: _____
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7735229</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>		
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	_____
Dead	_____
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals: Alive</b>	_____
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Land manager present:</b> <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0668783</u> <b>Long / Easting:</b> <u>7731786</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>
		Rail reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/>
		SLK/Pole _____ to _____
		Shire road reserve <input type="checkbox"/>
		Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	2
Dead	
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals: Alive</b>	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0668875</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7731787</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			6
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____    Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_    Sheet No.: \_\_\_\_\_    Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____
<b>DATUM:</b>		<b>Land manager present:</b> <input type="checkbox"/>
<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	<b>METHOD USED:</b>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0669728</u>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7731644</u>	No. satellites: _____ Map used: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____	Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	_____
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0669888</u> <b>Long / Easting:</b> <u>7731587</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____								
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____								
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)								
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>									
<b>TOTAL POP'N STRUCTURE:</b>									
Alive	<table border="1"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td></td> <td></td> <td></td> <td>3</td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:				3
Mature:	Juveniles:	Seedlings:	Totals:						
			3						
Dead									
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____								
<b>Summary Quad. Totals:</b> Alive									
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	Percentage in flower: _____ %								
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>									

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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# Threatened and Priority Flora Report Form

Version 1.0 January 2010

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<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

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2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0669961</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7731593</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			8
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1.	_____
2.	_____
3.	_____
4.	_____
	_____

**ASSOCIATED SPECIES:**

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____	
<b>ATTACHED:</b>	Map <input type="checkbox"/>	Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____			

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0670012</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7731634</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			16
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____    Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:**    Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:**

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0670009</u> <b>Long / Easting:</b> <u>7731708</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	4
Dead	
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)


**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)	<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0669971</u>	No. satellites: _____	Map used: _____
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7731730</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>		
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____												
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____												
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)												
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
<b>TOTAL POP'N STRUCTURE:</b>													
	<table border="1"> <thead> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td>Alive</td> <td></td> <td></td> <td>1</td> </tr> <tr> <td>Dead</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Mature:	Juveniles:	Seedlings:	Totals:	Alive			1	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
Alive			1										
Dead													
	Area of pop (m <sup>2</sup> ): _____												
	Note: Pls record count as numbers (not percentages) for database.												
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____												
<b>Summary Quad. Totals:</b> Alive													
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %												

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____
<b>ATTACHED:</b>	Map <input type="checkbox"/> Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____		

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0671226</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7731303</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			8
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0671226</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7731303</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			8
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____    Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0672172</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727677</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			1
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0672219</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727895</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			5
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>		Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1.	_____
2.	_____
3.	_____
4.	_____
	_____

**ASSOCIATED SPECIES:**

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____	
<b>ATTACHED:</b>	Map <input type="checkbox"/>	Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____			

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____
<b>DATUM:</b>		<b>Land manager present:</b> <input type="checkbox"/>
<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	<b>METHOD USED:</b>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0672086</u>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7727865</u>	No. satellites: _____ Map used: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals: Alive</b>	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0670232</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7728053</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			12
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0670188</u> <b>Long / Easting:</b> <u>7728006</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	4
Dead	
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0673050</u> <b>Long / Easting:</b> <u>7724475</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____												
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____												
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)												
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
<b>TOTAL POP'N STRUCTURE:</b>													
Alive	<table border="1"> <thead> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>3</td> </tr> <tr> <td>Dead</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Mature:	Juveniles:	Seedlings:	Totals:				3	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
			3										
Dead													
	Area of pop (m <sup>2</sup> ): _____												
	Note: Pls record count as numbers (not percentages) for database.												
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____												
<b>Summary Quad. Totals:</b> Alive													
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %												

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0672997</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7724328</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			2
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____    Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:**    Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0668255</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7731721</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			25
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0666746</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7733296</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			11
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____    Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0666492</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7734980</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			17
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

GDA94 / MGA94  DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map   
 AGD84 / AMG84  **Lat / Northing:** 0666523 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 WGS84  **Long / Easting:** 7734950 Boundary polygon captured:  Map scale: \_\_\_\_\_  
 Unknown  **ZONE:** 50

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve   
 National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve   
 Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive				24
Dead				

Area of pop (m<sup>2</sup>): \_\_\_\_\_  
Note: Pls record count as numbers (not percentages) for database.

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b> (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0666554</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7735011</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			19
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0666505</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7735062</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			15
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>		Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____
<b>ATTACHED:</b>	Map <input type="checkbox"/> Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____		

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0666475</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7735036</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			18
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____    Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:**    Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0666048</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7741050</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			1
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Bridget Watkins</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0664428</u> <b>Long / Easting:</b> <u>7741713</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____												
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____												
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)												
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
<b>TOTAL POP'N STRUCTURE:</b>													
	<table border="1"> <thead> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td>Alive</td> <td></td> <td></td> <td>1</td> </tr> <tr> <td>Dead</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Mature:	Juveniles:	Seedlings:	Totals:	Alive			1	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
Alive			1										
Dead													
	Area of pop (m <sup>2</sup> ): _____												
	Note: Pls record count as numbers (not percentages) for database.												
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____												
<b>Summary Quad. Totals:</b> Alive													
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %												

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b> (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Abutilon pritzelianum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> <u>Pilbara</u>	<b>LGA:</b> _____	<b>Reserve No.:</b> _____
<b>DATUM:</b>		<b>Land manager present:</b> <input type="checkbox"/>
<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	<b>METHOD USED:</b>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0655858</u>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7730355</u>	No. satellites: _____ Map used: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	_____
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Abutilon pritzelianum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> <u>Pilbara</u>	<b>LGA:</b> _____	<b>Reserve No.:</b> _____
<b>DATUM:</b>		<b>Land manager present:</b> <input type="checkbox"/>
<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	<b>METHOD USED:</b>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0665849</u>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7730367</u>	No. satellites: _____ Map used: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675808</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7721621</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			2
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____    Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675858</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7721637</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			2
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

GDA94 / MGA94  DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map   
 AGD84 / AMG84  **Lat / Northing:** 0675880 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 WGS84  **Long / Easting:** 7721649 Boundary polygon captured:  Map scale: \_\_\_\_\_  
 Unknown  **ZONE:** 50

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve   
 National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve   
 Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive				2
Dead				

Area of pop (m<sup>2</sup>): \_\_\_\_\_  
Note: Pls record count as numbers (not percentages) for database.

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive

--	--	--	--

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0675891</u> <b>Long / Easting:</b> <u>7721649</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____												
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____												
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)												
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
<b>TOTAL POP'N STRUCTURE:</b>													
Alive	<table border="1"> <thead> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>Dead</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Mature:	Juveniles:	Seedlings:	Totals:				2	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
			2										
Dead													
	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.												
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____												
<b>Summary Quad. Totals:</b> Alive													
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %												

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0675899</u> <b>Long / Easting:</b> <u>7721583</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____												
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____												
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)												
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
<b>TOTAL POP'N STRUCTURE:</b>													
Alive	<table border="1"> <thead> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>Dead</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Mature:	Juveniles:	Seedlings:	Totals:				2	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
			2										
Dead													
	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.												
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____												
<b>Summary Quad. Totals:</b> Alive													
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %												

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____
<b>ATTACHED:</b>	Map <input type="checkbox"/> Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____		

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0675959</u> <b>Long / Easting:</b> <u>7721577</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____												
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____												
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)												
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
<b>TOTAL POP'N STRUCTURE:</b>													
Alive	<table border="1"> <thead> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>Dead</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Mature:	Juveniles:	Seedlings:	Totals:				2	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
			2										
Dead													
	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.												
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____												
<b>Summary Quad. Totals:</b> Alive													
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %												

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)


**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0675845</u> <b>Long / Easting:</b> <u>7721587</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
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Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____												
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____												
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**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
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• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
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Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

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## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0675895</u> <b>Long / Easting:</b> <u>7721598</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
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Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____								
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____								
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)								
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>									
<b>TOTAL POP'N STRUCTURE:</b>									
Alive	<table border="1"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td></td> <td></td> <td></td> <td>12+</td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:				12+
Mature:	Juveniles:	Seedlings:	Totals:						
			12+						
Dead									
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____								
<b>Summary Quad. Totals:</b> Alive									
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____ %								

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____
<b>DATUM:</b>		<b>Land manager present:</b> <input type="checkbox"/>
<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		
GDA94 / MGA94 <input type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	<b>METHOD USED:</b>
AGD84 / AMG84 <input type="checkbox"/>	<b>Lat / Northing:</b> <u>0673004</u>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
WGS84 <input checked="" type="checkbox"/>	<b>Long / Easting:</b> <u>7726547</u>	No. satellites: _____ Map used: _____
Unknown <input type="checkbox"/>	<b>ZONE:</b> <u>50</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>
Alive	_____
Dead	_____
	_____
	_____
	_____
	_____
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals: Alive</b>	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1.	_____
2.	_____
3.	_____
4.	_____
	_____

**ASSOCIATED SPECIES:**

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____	
<b>ATTACHED:</b>	Map <input type="checkbox"/>	Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____			

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0673039</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7726622</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			2
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____    Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____
<b>ATTACHED:</b>	Map <input type="checkbox"/> Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____		

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0673022</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7726615</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			2
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>		Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Reserve No.:</b> _____	Land manager present: <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0673014</u> <b>Long / Easting:</b> <u>7726609</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	_____
Dead	_____
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals:</b> Alive	_____
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Land manager present:</b> <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0672923</u> <b>Long / Easting:</b> <u>7726544</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>
		Rail reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/>
		SLK/Pole _____ to _____
		Shire road reserve <input type="checkbox"/>
		Other Crown reserve <input type="checkbox"/>
		Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>	
	<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____
Alive	2
Dead	
	Area of pop (m <sup>2</sup> ): _____
	Note: Pls record count as numbers (not percentages) for database.
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____
<b>Summary Quad. Totals: Alive</b>	
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	Percentage in flower: _____ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

GDA94 / MGA94  DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map   
 AGD84 / AMG84  **Lat / Northing:** 0674238 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 WGS84  **Long / Easting:** 7727913 Boundary polygon captured:  Map scale: \_\_\_\_\_  
 Unknown  **ZONE:** 50

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve   
 National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve   
 Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive				14
Dead				

Area of pop (m<sup>2</sup>): \_\_\_\_\_  
Note: Pls record count as numbers (not percentages) for database.

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive

--	--	--	--

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_ %

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674238</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727910</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			7
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674236 - 0674240</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727906 - 7727884</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____ <small>(Refer to field manual for list)</small>	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			34
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>		Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____ %	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.)  
; 3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**ASSOCIATED SPECIES:** \_\_\_\_\_

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674284</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727744</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map

GDA94 / MGA94  **Lat / Northing:** 0674234 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_

AGD84 / AMG84  **Long / Easting:** 7727860 Boundary polygon captured:  Map scale: \_\_\_\_\_

WGS84  **ZONE:** 50 Unknown

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve

National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve

Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				6	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map

GDA94 / MGA94  **Lat / Northing:** 0674227 - 0674228 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_

AGD84 / AMG84  **Long / Easting:** 7727879 - 7727921 Boundary polygon captured:  Map scale: \_\_\_\_\_

WGS84  **ZONE:** 50

Unknown

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve

National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve

Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				65+	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675285</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727540</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map

GDA94 / MGA94  **Lat / Northing:** 0675285 - 0675352 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_

AGD84 / AMG84  **Long / Easting:** 7727540 - 7727514 Boundary polygon captured:  Map scale: \_\_\_\_\_

WGS84  **ZONE:** 50

Unknown

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve

National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve

Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				40+	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675462</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727456</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:**  GDA94 / MGA94  AGD84 / AMG84  WGS84  Unknown

**COORDINATES:** (If UTM coords provided, **Zone** is also required)  
 DecDegrees  DegMinSec  UTM  **Lat / Northing:** 0675445  
**Long / Easting:** 7727448  
**ZONE:** 50

**METHOD USED:**  
 GPS  Differential GPS  Map   
 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 Boundary polygon captured:  Map scale: \_\_\_\_\_

**LAND TENURE:**

<input type="checkbox"/> Nature reserve	<input type="checkbox"/> Timber reserve	<input type="checkbox"/> Private property	<input type="checkbox"/> Rail reserve	<input type="checkbox"/> Shire road reserve
<input type="checkbox"/> National park	<input type="checkbox"/> State forest	<input type="checkbox"/> Pastoral lease	<input type="checkbox"/> MRWA road reserve	<input type="checkbox"/> Other Crown reserve
<input type="checkbox"/> Conservation park	<input type="checkbox"/> Water reserve	<input type="checkbox"/> UCL	<input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				2	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

**Record entered by:** \_\_\_\_\_ **Sheet No.:** \_\_\_\_\_ **Record Entered in Database**

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_  
**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_  
**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0676208</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730144</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0676207</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730158</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_  
**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_  
**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

GDA94 / MGA94  DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map   
 AGD84 / AMG84  **Lat / Northing:** 0676209 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 WGS84  **Long / Easting:** 7730177 Boundary polygon captured:  Map scale: \_\_\_\_\_  
 Unknown  **ZONE:** 50

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve   
 National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve   
 Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				9+	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0676222</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730190</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> _____ <b>Juveniles:</b> _____ <b>Seedlings:</b> _____ <b>Totals:</b> _____	
Alive		20+	
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/>		Dehisced fruit <input type="checkbox"/> Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0676237</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730206</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0676330 - 0676332</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730300 - 7730262</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_  
**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_  
**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674202</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739456</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674197</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739450</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
Specify other: <u>Mining Tenement</u>							

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:      Juveniles:      Seedlings:      Totals:</b>	
Alive		6	
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674204</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739441</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____    Size _____    Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/>		Dehisced fruit <input type="checkbox"/> Percentage in flower: _____%	

**CONDITION OF PLANTS:**    Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674201</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739437</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Cathy</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:**  GDA94 / MGA94  AGD84 / AMG84  WGS84  Unknown

**COORDINATES:** (If UTM coords provided, **Zone** is also required)  
 DecDegrees  DegMinSec  UTM  **Lat / Northing:** 0674198  
**Long / Easting:** 7739412  
**ZONE:** 50

**METHOD USED:**  
 GPS  Differential GPS  Map   
 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 Boundary polygon captured:  Map scale: \_\_\_\_\_

**LAND TENURE:**

<input type="checkbox"/> Nature reserve	<input type="checkbox"/> Timber reserve	<input type="checkbox"/> Private property	<input type="checkbox"/> Rail reserve	<input type="checkbox"/> Shire road reserve
<input type="checkbox"/> National park	<input type="checkbox"/> State forest	<input type="checkbox"/> Pastoral lease	<input type="checkbox"/> MRWA road reserve	<input type="checkbox"/> Other Crown reserve
<input type="checkbox"/> Conservation park	<input type="checkbox"/> Water reserve	<input type="checkbox"/> UCL	SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
 (Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive				15
Dead				

Area of pop (m<sup>2</sup>): \_\_\_\_\_  
 Note: Pls record count as numbers (not percentages) for database.

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

Summary Quad. Totals: Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674200 - 0674213</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739401 - 7739349</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/> Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:      Juveniles:      Seedlings:      Totals:</b>	
Alive		42	
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input checked="" type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674230 - 0674233</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739292 - 7739282</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:      Juveniles:      Seedlings:      Totals:</b>	
Alive		_____	
Dead		_____	
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input checked="" type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Abutilon pritzelianum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Cathy</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0665000</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7723753</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	L	H	_____
• Introduced Flora	L	M	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Drosera burmannii</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>30/04/2011</u>		<b>CONSERVATION STATUS:</b> <u>N/A</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Emma Carroll</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0662004</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7744983</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Tephrosia simplicifolia</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>30/04/2011</u>		<b>CONSERVATION STATUS:</b> <u>N/A</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> <u>Emma Carroll</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0661985</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7745112</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____    Size _____    Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:**    Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>30/04/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Emma Carroll</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0661172</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7742696</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>30/04/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Emma Carroll</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0661410</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7742696</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive		10	
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Emma Carroll</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0664912</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7740163</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive		4	
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	L	H	_____
• Introduced Flora	L	M	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Emma Carroll</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0668712</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7735457</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia Nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> New population <input type="checkbox"/>	
<b>OBSERVER/S:</b> _____		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> _____		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place): \_\_\_\_\_

<b>DEC DISTRICT:</b> <u>Pilbara</u>		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0668767</u>		No. satellites: _____    Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7735483</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive		_____    _____    _____    5	
Dead		_____    _____    _____    _____	
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. <u>OPCOLL</u> Size _____    Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>		_____    _____    _____    _____	
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/>		Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____%	

**CONDITION OF PLANTS:**    Healthy     Moderate     Poor     Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_  
**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_  
**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>04/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Emma Carroll</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0664545</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7741532</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive		1	
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>30/04/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0661685</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7746486</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_  
**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_  
**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Abutilon pritzelianum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>01/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0654754</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730120</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			2
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Abutilon pritzelianum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0655899</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730259</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Abutilon pritzelianum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>02/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0655834</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730244</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ <small>Note: Pls record count as numbers (not percentages) for database.</small>
	Alive			2	
	Dead				

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	L	H	_____
• Introduced Flora	L	M	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____
<b>ATTACHED:</b>	Map <input type="checkbox"/> Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____		

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675797</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7721608</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

### ASSOCIATED

#### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

#### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675759</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7721601</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675735</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7721589</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_  
**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_  
**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675728</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7721582</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675695</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7721563</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>			
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			1
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b> No. _____ Size _____		Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>			
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map

GDA94 / MGA94  **Lat / Northing:** 0675735 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_

AGD84 / AMG84  **Long / Easting:** 7721555 Boundary polygon captured:  Map scale: \_\_\_\_\_

WGS84  **ZONE:** 50 Unknown

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve

National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve

Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				1	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0675474</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7723597</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0673514</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7721680</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	L	H	_____
• Introduced Flora	L	M	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0673526</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7721675</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____													
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____													
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____													
<small>(Refer to field manual for list)</small>															
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
<b>TOTAL POP'N STRUCTURE:</b>															
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:25%;">Mature:</th> <th style="width:25%;">Juveniles:</th> <th style="width:25%;">Seedlings:</th> <th style="width:25%;">Totals:</th> </tr> <tr> <td style="text-align:center">Alive</td> <td></td> <td></td> <td style="text-align:center">1</td> </tr> <tr> <td style="text-align:center">Dead</td> <td></td> <td></td> <td></td> </tr> </table>		Mature:	Juveniles:	Seedlings:	Totals:	Alive			1	Dead			
Mature:	Juveniles:	Seedlings:	Totals:												
Alive			1												
Dead															
		Area of pop (m <sup>2</sup> ): _____													
<small>Note: Pls record count as numbers (not percentages) for database.</small>															
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____													
<b>Summary Quad. Totals: Alive</b>															
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%													

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:**  GDA94 / MGA94  AGD84 / AMG84  WGS84  Unknown

**COORDINATES:** (If UTM coords provided, **Zone** is also required)  
 DecDegrees  DegMinSec  UTM  **Lat / Northing:** 0672956  
**Long / Easting:** 7726524  
**ZONE:** 50

**METHOD USED:**  
 GPS  Differential GPS  Map   
 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 Boundary polygon captured:  Map scale: \_\_\_\_\_

**LAND TENURE:**  
 Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve   
 National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve   
 Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
 (Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive				1
Dead				

Area of pop (m<sup>2</sup>): \_\_\_\_\_  
 Note: Pls record count as numbers (not percentages) for database.

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

Summary Quad. Totals: Alive

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map

GDA94 / MGA94  **Lat / Northing:** 0672970 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_

AGD84 / AMG84  **Long / Easting:** 7726526 Boundary polygon captured:  Map scale: \_\_\_\_\_

WGS84  **ZONE:** 50

Unknown

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve

National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve

Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				4	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

**Record entered by:** \_\_\_\_\_ **Sheet No.:** \_\_\_\_\_ **Record Entered in Database**



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0673013</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7726536</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float: right;">New population <input type="checkbox"/></span>
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0673013</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7726536</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive		1	
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

GDA94 / MGA94  DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map   
 AGD84 / AMG84  **Lat / Northing:** 0672014 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 WGS84  **Long / Easting:** 7726620 Boundary polygon captured:  Map scale: \_\_\_\_\_  
 Unknown  **ZONE:** 50

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve   
 National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve   
 Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive				5
Dead				

Area of pop (m<sup>2</sup>): \_\_\_\_\_  
Note: Pls record count as numbers (not percentages) for database.

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

Summary Quad. Totals: Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0672912</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7726560</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
Specify other: <u>Mining Tenement</u>							

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____													
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____													
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____													
<small>(Refer to field manual for list)</small>															
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
<b>TOTAL POP'N STRUCTURE:</b>															
		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">Mature:</th> <th style="width:25%;">Juveniles:</th> <th style="width:25%;">Seedlings:</th> <th style="width:25%;">Totals:</th> </tr> </thead> <tbody> <tr> <td style="text-align:center">Alive</td> <td></td> <td></td> <td style="text-align:center">1</td> </tr> <tr> <td style="text-align:center">Dead</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Mature:	Juveniles:	Seedlings:	Totals:	Alive			1	Dead			
Mature:	Juveniles:	Seedlings:	Totals:												
Alive			1												
Dead															
		Area of pop (m <sup>2</sup> ): _____													
<small>Note: Pls record count as numbers (not percentages) for database.</small>															
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____													
<b>Summary Quad. Totals: Alive</b>															
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%													

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0673184</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7728706</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674238</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727966</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	L	H	_____
• Introduced Flora	L	M	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map

GDA94 / MGA94  **Lat / Northing:** 0674241 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_

AGD84 / AMG84  **Long / Easting:** 7727970 Boundary polygon captured:  Map scale: \_\_\_\_\_

WGS84  **ZONE:** 50

Unknown

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve

National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve

Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				3	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674248</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727980</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674255</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739127</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	L	H	_____
• Introduced Flora	L	M	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674258</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727985</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____
<b>ATTACHED:</b>	Map <input type="checkbox"/> Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____		

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674263</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727946</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
				Land manager present: <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674239</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7728047</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float: right;">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
				Land manager present: <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674218</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7728032</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674213</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7728012</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>		No. satellites: _____ Map used: _____	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674216</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727982</u>					
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
Specify other: <u>Mining Tenement</u>							

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____	<b>LGA:</b> _____	<b>Land manager present:</b> <input type="checkbox"/>
<b>DATUM:</b> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	<b>COORDINATES:</b> (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0674213</u> <b>Long / Easting:</b> <u>7727968</u> <b>ZONE:</b> <u>50</u>	<b>METHOD USED:</b> GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____
<b>LAND TENURE:</b>		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/> MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/> Specify other: <u>Mining Tenement</u>

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m <sup>2</sup> ): _____								
<b>EFFORT:</b> Time spent surveying (minutes): _____	No. of minutes spent / 100 m <sup>2</sup> : _____								
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: _____ (Refer to field manual for list)								
<b>WHAT COUNTED:</b> Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>									
<b>TOTAL POP'N STRUCTURE:</b>									
Alive	<table border="1"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td></td> <td></td> <td></td> <td>2</td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:				2
Mature:	Juveniles:	Seedlings:	Totals:						
			2						
Dead	<table border="1"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:				
Mature:	Juveniles:	Seedlings:	Totals:						
<b>QUADRATS PRESENT:</b> No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): _____								
<b>Summary Quad. Totals:</b> Alive									
<b>REPRODUCTIVE STATE:</b> Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	Percentage in flower: _____%								
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>									

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674217</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727947</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674228</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727937</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Development	L	H	_____
• Introduced Flora	L	M	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674232</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727924</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674252 - 0675248</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7727593 - 7727647</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ **Fire Intensity:** High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674292</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739193</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_  
**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_  
**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> <b>Lat / Northing:</b> <u>0674318</u> <b>Long / Easting:</b> <u>7739016</u> <b>ZONE:</b> <u>50</u>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>
Alive			1
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/>		Dehisced fruit <input type="checkbox"/> Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, <b>Zone</b> is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674262</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739112</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive		1	
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P3</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:**  GDA94 / MGA94  AGD84 / AMG84  WGS84  Unknown

**COORDINATES:** (If UTM coords provided, **Zone** is also required)  
 DecDegrees  DegMinSec  UTM  **Lat / Northing:** 0674255  
**Long / Easting:** 7739127  
**ZONE:** 50

**METHOD USED:**  
 GPS  Differential GPS  Map   
 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 Boundary polygon captured:  Map scale: \_\_\_\_\_

**LAND TENURE:**

<input type="checkbox"/> Nature reserve	<input type="checkbox"/> Timber reserve	<input type="checkbox"/> Private property	<input type="checkbox"/> Rail reserve	<input type="checkbox"/> Shire road reserve
<input type="checkbox"/> National park	<input type="checkbox"/> State forest	<input type="checkbox"/> Pastoral lease	<input type="checkbox"/> MRWA road reserve	<input type="checkbox"/> Other Crown reserve
<input type="checkbox"/> Conservation park	<input type="checkbox"/> Water reserve	<input type="checkbox"/> UCL	<input type="checkbox"/> SLK/Pole _____ to _____	Specify other: <u>Mining Tenement</u>

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
 (Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive				1
Dead				

Area of pop (m<sup>2</sup>): \_\_\_\_\_  
 Note: Pls record count as numbers (not percentages) for database.

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

Summary Quad. Totals: Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

<b>SPECIMEN:</b>	Collectors No: _____	WA Herb. <input type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other: _____
<b>ATTACHED:</b>	Map <input type="checkbox"/> Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other: _____
<b>COPY SENT TO:</b>	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: _____		

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Goodenia nuda</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>03/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P3</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0674255 - 0674257</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7739127 - 7739190</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
Note: Pls record count as numbers (not percentages) for database.			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0676784 - 0676738</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7726317 - 7726413</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
		UCL <input type="checkbox"/>		SLK/Pole _____ to _____	
				Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
		(Refer to field manual for list)	
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
		Note: Pls record count as numbers (not percentages) for database.	
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
		Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map

GDA94 / MGA94  **Lat / Northing:** 0676738 - 0676843 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_

AGD84 / AMG84  **Long / Easting:** 7726413 - 7726278 Boundary polygon captured:  Map scale: \_\_\_\_\_

WGS84  **ZONE:** 50

Unknown

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve

National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve

Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				47	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____		<b>Land manager present:</b> <input type="checkbox"/>	
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>			
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/>		Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0676023</u>		No. satellites: _____		Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730049</u>		Boundary polygon captured: <input type="checkbox"/>		Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>					
<b>LAND TENURE:</b>							
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>		MRWA road reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
						Other Crown reserve <input type="checkbox"/>	
						Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database



# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora, Species and Communities Branch.**

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>		<b>TPFL Pop. No.:</b> _____	
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>		<b>CONSERVATION STATUS:</b> <u>P1</u> <span style="float:right">New population <input type="checkbox"/></span>	
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>		<b>PHONE:</b> <u>9214 6100</u>	
<b>ROLE:</b> <u>Botanist</u>		<b>ORGANISATION:</b> <u>ENV. Australia</u>	

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

<b>DEC DISTRICT:</b> _____		<b>LGA:</b> _____		<b>Reserve No.:</b> _____	
		Land manager present: <input type="checkbox"/>			
<b>DATUM:</b>		<b>COORDINATES:</b> (If UTM coords provided, Zone is also required)		<b>METHOD USED:</b>	
GDA94 / MGA94 <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		<b>Lat / Northing:</b> <u>0676011</u>		No. satellites: _____ Map used: _____	
WGS84 <input checked="" type="checkbox"/>		<b>Long / Easting:</b> <u>7730037</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		<b>ZONE:</b> <u>50</u>			
<b>LAND TENURE:</b>					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
				Specify other: <u>Mining Tenement</u>	

<b>AREA ASSESSMENT:</b> Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>		Area observed (m <sup>2</sup> ): _____	
<b>EFFORT:</b> Time spent surveying (minutes): _____		No. of minutes spent / 100 m <sup>2</sup> : _____	
<b>POP'N COUNT ACCURACY:</b> Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>		Count method: _____	
<small>(Refer to field manual for list)</small>			
<b>WHAT COUNTED:</b>		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
<b>TOTAL POP'N STRUCTURE:</b>			
		<b>Mature:</b> <b>Juveniles:</b> <b>Seedlings:</b> <b>Totals:</b>	
Alive			
Dead			
		Area of pop (m <sup>2</sup> ): _____	
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
<b>QUADRATS PRESENT:</b>		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): _____	
<b>Summary Quad. Totals: Alive</b>			
<b>REPRODUCTIVE STATE:</b>		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

**RECORDS:** Please forward to **Administrative Officer, Flora**, Species and Communities Branch.

Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

## COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

Please return completed form to DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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# Threatened and Priority Flora Report Form

Version 1.0 January 2010

Please complete as much of the form as possible, with emphasis on those sections bordered in black.

<b>TAXON:</b> <u>Heliotropium muticum</u>	<b>TPFL Pop. No.:</b> _____
<b>OBSERVATION DATE:</b> <u>05/05/2011</u>	<b>CONSERVATION STATUS:</b> <u>P1</u> <input type="checkbox"/> New population <input type="checkbox"/>
<b>OBSERVER/S:</b> <u>Kellie McMaster</u>	<b>PHONE:</b> <u>9214 6100</u>
<b>ROLE:</b> <u>Botanist</u>	<b>ORGANISATION:</b> <u>ENV. Australia</u>

**DESCRIPTION OF LOCATION** (Provide at least nearest town/named locality, and the distance and direction to that place):  
Port Hedland

**Reserve No.:** \_\_\_\_\_

**DEC DISTRICT:** \_\_\_\_\_ **LGA:** \_\_\_\_\_ **Land manager present:**

**DATUM:** \_\_\_\_\_ **COORDINATES:** (If UTM coords provided, **Zone** is also required) **METHOD USED:**

DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map

GDA94 / MGA94  **Lat / Northing:** 0675932 - 0676076 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_

AGD84 / AMG84  **Long / Easting:** 7730049 - 7730063 Boundary polygon captured:  Map scale: \_\_\_\_\_

WGS84  **ZONE:** 50

Unknown

**LAND TENURE:**

Nature reserve  Timber reserve  Private property  Rail reserve  Shire road reserve

National park  State forest  Pastoral lease  MRWA road reserve  Other Crown reserve

Conservation park  Water reserve  UCL  SLK/Pole \_\_\_\_\_ to \_\_\_\_\_ Specify other: Mining Tenement

**AREA ASSESSMENT:** Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>): \_\_\_\_\_

**EFFORT:** Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_

**POP'N COUNT ACCURACY:** Actual  Extrapolation  Estimate  Count method: \_\_\_\_\_  
(Refer to field manual for list)

**WHAT COUNTED:** Plants  Clumps  Clonal stems

<b>TOTAL POP'N STRUCTURE:</b>	<b>Mature:</b>	<b>Juveniles:</b>	<b>Seedlings:</b>	<b>Totals:</b>	Area of pop (m <sup>2</sup> ): _____ Note: Pls record count as numbers (not percentages) for database.
Alive				17	
Dead					

**QUADRATS PRESENT:** No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_

**Summary Quad. Totals:** Alive \_\_\_\_\_

**REPRODUCTIVE STATE:** Clonal  Vegetative  Flowerbud  Flower   
Immature fruit  Fruit  Dehisced fruit  Percentage in flower: \_\_\_\_\_%

**CONDITION OF PLANTS:** Healthy  Moderate  Poor  Senescent

**COMMENT:** \_\_\_\_\_

<b>THREATS - type, agent and supporting information:</b>	<b>Current impact (N-E)</b>	<b>Potential Impact (L-E)</b>	<b>Potential Threat Onset (S-L)</b>
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. <b>Specify agent</b> where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
• Development	<u>L</u>	<u>H</u>	_____
• Introduced Flora	<u>L</u>	<u>M</u>	_____
•	_____	_____	_____

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# Threatened and Priority Flora Report Form

Version 1.0 January 2010

## HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific <b>Landform</b> Element: _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

## VEGETATION

### CLASSIFICATION\*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);  
2. Open shrubland (Hibbertia sp., Acacia spp.);  
3. Isolated clumps of sedges (Mesomelaena tetragona)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## ASSOCIATED

### SPECIES:

Other (non-dominant) spp \_\_\_\_\_

\* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

**CONDITION OF HABITAT:** Pristine  Excellent  Very good  Good  Degraded  Completely degraded

### COMMENT:

**FIRE HISTORY:** Last Fire: Season/Month: \_\_\_\_\_ Year: \_\_\_\_\_ Fire Intensity: High  Medium  Low  No signs of fire

**FENCING:** Not required  Present  Replace / repair  Required  Length req'd: \_\_\_\_\_

**ROADSIDE MARKERS:** Not required  Present  Replace / reposition  Required  Quantity req'd: \_\_\_\_\_

**OTHER COMMENTS:** (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: \_\_\_\_\_ Role: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: / /

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Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

# **APPENDIX F**

## **FLORA QUADRAT AND RELEVÉ DATA SHEETS**

## PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

## APPENDIX F

## FLORA QUADRAT AND RELEVÉ DATA SHEETS

**Port Hedland RS**      **Site** PI001  
**Described by** EC                      **Date** 1/07/2011 **Type** Q                      50x50 m

**Location** Port Hedland  
**MGA Zone** 50 659705 mE 7754027 mN  
**Habitat** Sand dune  
**Soil** Light orange sand  
**Rock Type** N/A  
**Vegetation** Low Shrubland of *Acacia stellaticeps* over Open Tussock Grassland of *\*Cenchrus ciliaris* and *Spinifex longifolius* over Very Open Herbs of *\*Aerva javanica*, *Trianthema glossostigma* and *Ptilotus exaltatus*  
**Veg Condition** Very good  
**Fire Age** Old  
**Notes** Aspect: Undulating  
 Bare Ground: 50%  
 Litter Cover: +% Logs, 5% Twigs, 20% Lvs  
 Disturbance: Weeds, tracks and rubbish



## SPECIES LIST:

Name	Cover	Height	Specimen	Notes
<i>Acacia bivenosa</i>	+	1 m	PI121.09	
<i>Acacia stellaticeps</i>	20%	0.4 m	PI083.01	
<i>*Aerva javanica</i>	5%	0.3 m	PI076.05	
<i>*Cenchrus ciliaris</i>	10%	0.3 m	PI103.06	
<i>Cleome viscosa</i>	+	0.3 m	PI065.17	
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>	+	0.5 m	PI006.06	
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI001.03	
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	0.3 m	PI013.10	
<i>Ptilotus exaltatus</i>	1%	0.3 m	PI013.01	
<i>Rhynchosia minima</i>	+	0.3 m	PI001.07	
<i>Salsola tragus</i> subsp. <i>grandiflora</i>	1%	0.5 m	PI001.01	
<i>Spinifex longifolius</i>	4%	0.3 m	PI001.02	
<i>Threlkeldia diffusa</i>	+	0.3 m	PI001.04	
<i>Trianthema glossostigma</i>	2%	0.3 m	PI013.09	
<i>Tribulus macrocarpus</i>	+	0.2 m	PI084.11	
<i>Tricoryne corynothecoides</i>	+	0.3 m	PI001.05	
<i>Whiteochloa airoides</i>	+	0.3 m	PI001.06	

**Port Hedland RS Site PI002**

**Described by** EC **Date** 1/07/2011 **Type** Q **50x50 m**

**Location** Port Hedland

**MGA Zone** 50 671284 mE 7752324 mN

**Habitat** Salt flat/plain

**Soil** Light brown clayey loam/sand with salt crust

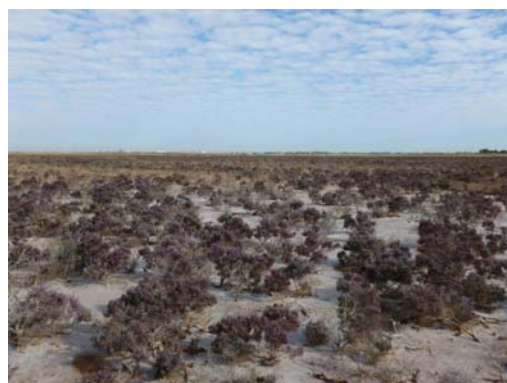
**Rock Type** N/A

**Vegetation** Low Shrubland of *Tecticornia auriculata*, *Tecticornia indica* subsp. *bidens* and *Tecticornia* sp. Dennys Crossing (K.A.Shepherd & J. English KS 552) over Scattered Grasses of *Cyperus rigidellus*

**Veg Condition** Excellent to very good

**Fire Age** Old

**Notes** Aspect: N/A  
Bare Ground: 80%  
Litter Cover: 0% Logs, +% Twigs, 1% Lvs  
Disturbance: Rubbish and tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Cyperus rigidellus</i>	(1%)	0.2 m	PI002.05
<i>Frankenia ambita</i>	+	0.3 m	PI002.02
<i>Tecticornia auriculata</i>	20%	0.3 m	PI002.01
<i>Tecticornia indica</i> subsp. <i>bidens</i>	2%	0.3 m	PI002.04
<i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)	1%	0.3 m	PI002.03



**Port Hedland RS Site PI003**

Described by BW Date 1/07/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 672084 mE 7752590 mN

Habitat Sand dune

Soil Yellow sand

Rock Type

Vegetation Low Shrubland of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia epactia*

Veg Condition Good

Fire Age Old

Notes Aspect: North  
Bare Ground: 90%  
Litter Cover: 0% Logs, 1% Twigs, 3% Lvs  
Disturbance: Weeds, tracks and litter**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	20%	0.6 m	PI043.01
* <i>Aerva javanica</i>	+	0.6 m	PI156.12
<i>Amaranthus undulatus</i>	+	0.4 m	PI133.03
* <i>Cenchrus ciliaris</i>	+	0.4 m	PI052.06
<i>Cleome viscosa</i>	(+)	0.3 m	PI026.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI042.04
<i>Dentella asperata</i>	+	prostrate	PI069.11
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI056.08
<i>Rhynchosia minima</i>	+	0.2 m	PI113.03
<i>Tephrosia leptoclada</i>	+	0.3 m	PI003.03
<i>Triodia epactia</i>	5%	0.3 m	PI003.02

**Port Hedland RS**      **Site**    PI004

**Described by** BW                                      **Date**    30/06/2011    **Type**    Q                                      50x50 m

**Location**      Port Hedland

**MGA Zone**    50 672331 mE 7751680 mN

**Habitat**       Mangroves

**Soil**            Brown mud

**Rock Type**

**Vegetation**      Closed Scrub of *Avicennia marina*.

**Veg Condition**    Excellent

**Fire Age**        Very old

**Notes**            Aspect: N/A  
Bare Ground: 99%  
Litter Cover: 0% Logs, 0% Twigs, 0% Lvs  
Disturbance: Litter



**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Avicennia marina</i>	90%	2-3 m	PI015.02

**Port Hedland RS Site PI005**

**Described by** BW **Date** 30/06/2011 **Type** Q **Size** 50x50 m

**Location** Port Hedland

**MGA Zone** 50 672947 mE 7751641 mN

**Habitat** Samphire flat

**Soil** Pale brown silt with salt crust

**Rock Type** N/A

**Vegetation** Low open Shrubland of *Tecticornia indica* subsp. *bidens* over Scattered Tussock Grasses of *\*Cenchrus ciliaris*, *Sporobolus australasicus* and *Eragrostis falcata*

**Veg Condition** Very good

**Fire Age** Very old

**Notes** Aspect: N/A  
Bare Ground: 99%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Weeds and tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>*Cenchrus ciliaris</i>	(+)	0.3 m	PI052.06
<i>Dactyloctenium radulans</i>	(+)	0.2 m	PI037.14
<i>Eragrostis falcata</i>	+	0.2 m	PI011.03
<i>Neobassia astrocarpa</i>	+	0.3 m	PI005.01
<i>Portulaca pilosa</i>	+	0.3 m	PI030.01
<i>Sporobolus australasicus</i>	+	0.2 m	PI145.03
<i>Sporobolus virginicus</i>	+	0.2 m	PI011.06
<i>Tecticornia indica</i> subsp. <i>bidens</i>	7%	0.5 m	PI011.01

**Port Hedland RS Site PI006**

**Described by** EC **Date** 30/06/2011 **Type** Q **Size** 50x50 m

**Location** Port Hedland

**MGA Zone** 50 673706 mE 7751702 mN

**Habitat** Sand plain on top of a sand dune

**Soil** Light brown sand with shell grit

**Rock Type** N/A

**Vegetation** Open Hummock Grassland of *Triodia epactia* and Open Tussock Grassland of *\*Cenchrus ciliaris* with Very Open Herbs of *Bonamia alatisemina* and *\*Aerva javanica*

**Veg Condition** Very good to good

**Fire Age** Old

**Notes** Aspect: N/A

Bare Ground: 40%

Litter Cover: +% Logs, 2% Twigs, 10% Lvs

Disturbance: Weeds, rubbish and tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Adriana tomentosa</i>	+	1 m	PI006.03
<i>*Aerva javanica</i>	1%	0.4 m	PI076.05
<i>Bonamia alatisemina</i>	4%	1 m	PI083.10
<i>*Cenchrus ciliaris</i>	30%	0.3 m	PI103.06
<i>Chrysopogon fallax</i>	+	0.4 m	PI084.10
<i>Cleome viscosa</i>	+	0.3 m	PI065.17
<i>Codonocarpus cotinifolius</i>	+	0.5 m	PI006.04
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>	+	0.6 m	PI006.06
<i>Cucumis maderaspatanus</i>	+	cr	PI141.04
<i>Euphorbia australis</i>	+	0.2 m	PI084.08
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	0.3 m	PI013.10
<i>Melhania oblongifolia</i>	+	0.3 m	PI006.05
<i>Rhagodia eremaea</i>	+	1 m	PI006.08
<i>Rhynchosia minima</i>	+	cr	PI094.11
<i>Scaevola amblyanthera</i> var. <i>centralis</i>	1%	0.3 m	PI006.07
<i>Tephrosia leptoclada</i>	+	0.5 m	PI006.01
<i>Triodia epactia</i>	12%	0.4 m	PI006.02



**Port Hedland RS Site PI007**

Described by HA Date 27/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 676635 mE 7746825 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Scattered Low Shrubs of *Triumfetta chaetocarpa* over  
Open Hummock Grassland of *Triodia epactia* over  
Open Tussock Grassland of *\*Cenchrus ciliaris*

Veg Condition Very good to Good

Fire Age Old

Notes Aspect: N/A

Bare Ground: 50%

Litter Cover: +% Logs, +% Twigs, 1% Lvs

Disturbance: Buffel, Kapok and cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	2.5 m	PI070.38	
<i>*Aerva javanica</i>	+	0.3 m	PI147.05	
<i>Amaranthus undulatus</i>	+	0.6 m	PI007.08	
<i>Bonamia media</i> var. <i>villosa</i>	+	0.1 m	PI007.05	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Calandrinia pumila</i>	+	cr	PI086.02	
<i>*Cenchrus ciliaris</i>	25%	0.3 m	PI070.29	
<i>Cleome viscosa</i>	+	0.4 m	PI099.07	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI070.02	
<i>Crotalaria ramosissima</i>	+	0.3 m	PI007.01	
<i>Eriachne benthamii</i>	+	0.1 m	PI007.06	
<i>Eriachne mucronata</i>	+	0.3 m	PI114.03	
<i>Euphorbia alsiniflora</i>	+	0.15 m	PI072.10	
<i>Euphorbia australis</i>	+	cr	PI108.12	
<i>Heliotropium cunninghamii</i>	+	0.2 m	PI046.19	
<i>Hybanthus aurantiacus</i>	+	0.5 m	PI099.02	
<i>Indigofera linifolia</i>	+	0.2 m	PI007.10	
<i>Kennedia prorepens</i>	+	cr	PI007.09	
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Portulaca pilosa</i>	+	0.1 m	PI147.22	
<i>Pterocaulon sphaeranthoides</i>	+	0.1 m	PI007.07	
<i>Tephrosia rosea</i> var. <i>rosea</i>	+	0.3 m	PI007.12	
<i>Tephrosia simplicifolia</i>	+	0.1 m	PI032.08	Range ext
<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)	+	0.3 m	PI007.11	
<i>Tinospora smilacina</i>	+	cr	PI087.09	
<i>Tricoryne corynothecoides</i>	+	0.4 m	PI007.03	
<i>Triodia epactia</i>	20%	0.4 m	PI007.02	
<i>Triumfetta chaetocarpa</i>	1%	0.3 m	PI007.04	

<i>*Vaccaria hispanica</i>	+	0.2 m	PI007.13
<i>Whiteochloa airoides</i>	+	0.5 m	PI007.14
<i>Zornia muelleriana</i>	+	cr	PI080.05

**Port Hedland RS Site PI008**

Described by HA Date 27/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 674942 mE 7745420 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Shrubland of *Acacia stellaticeps* over *Triodia epactia* and *Triodia secunda* hummock grasslands/  
*Triodia epactia* and *Triodia secunda* hummock grasslands mosaic.

Veg Condition Excellent to very good

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 40%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle scatts

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	45%	0.3 m	PI070.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10	
<i>Bonamia alatisemina</i>	+	cr	PI008.04	
<i>Bonamia rosea</i>	1%	0.3 m	PI008.03	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Calandrinia pumila</i>	+	0.2 m	PI086.02	
<i>Chrysopogon fallax</i>	+	1 m	PI070.21	
<i>Cleome viscosa</i>	+	0.4 m	PI099.07	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI070.02	
<i>Dodonaea coriacea</i>	+	0.3 m	PI032.03	
<i>Eriachne mucronata</i>	1%	0.3 m	PI008.01	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI008.06	
<i>Fimbristylis dichotoma</i>	2%	0.3 m	PI081.07	
<i>Goodenia microptera</i>	+	0.2 m	PI008.05	
<i>Hibiscus brachychlaenus</i>	+	0.2 m	PI008.08	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02	
<i>Indigofera monophylla</i>	+	0.3 m	PI072.03	
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Ptilotus astrolasius</i>	+	0.5 m	PI089.05	
<i>Ptilotus polystachyus</i>	+	0.3 m	PI147.19	
<i>Senna notabilis</i>	+	0.2 m	PI070.14	
<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)	+	0.2 m	PI007.11	
<i>Triodia epactia</i>	5%	0.5 m	PI008.02	
<i>Triodia schinzii</i>	5%	0.4 m	PI008.07	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06	

**Port Hedland RS Site PI008a**

Described by BW Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 675050 mE 7745076 mN

Habitat Sandplain

Soil Orange brown silty sand

Rock Type N/A

Vegetation Scattered Low Shrubs of *Acacia stellaticeps* and *Bonamia rosea* over Very Open Hummock Grassland of *Triodia schinzii* and Scattered Tussock Grass of *Digitaria brownii*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 95%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle and powerlines near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	2%	0.4 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07
<i>Bonamia media</i> var. <i>villosa</i>	+	0.2 m	PI008a.05
<i>Bonamia rosea</i>	1%	0.3 m	PI030.04
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01
* <i>Cenchrus ciliaris</i>	+	0.4 m	PI052.06
<i>Cleome viscosa</i>	+	0.3 m	PI101.04
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI042.04
<i>Corchorus tectus</i>	+	0.3 m	PI030.02
<i>Corymbia hamersleyana</i>	+	0.8 m	PI008a.04
<i>Digitaria brownii</i>	1%	0.3 m	PI008a.06
<i>Eragrostis eriopoda</i>	+	0.4 m	PI047.02
<i>Eriachne aristidea</i>	+	0.3 m	PI136.03
<i>Eriachne mucronata</i>	+	0.3 m	PI049.01
<i>Hibiscus burtonii</i>	+	0.3 m	PI008a.01
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Indigofera monophylla</i>	+	0.3 m	PI146.02
<i>Mollugo molluginea</i>	+	0.1 m	PI043.29
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Portulaca pilosa</i>	+	0.3 m	PI030.01
<i>Ptilotus astrolasius</i>	+	0.4 m	PI056.18
<i>Ptilotus polystachyus</i>	+	0.3 m	PI030.03
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.1 m	PI043.14
<i>Solanum diversiflorum</i>	+	0.2 m	PI049.04
<i>Tephrosia rosea</i>	+	0.4 m	PI008a.02
<i>Trianthema pilosa</i>	+	0.1 m	PI052.09
<i>Triodia schinzii</i>	3%	0.3 m	PI008a.07



**Port Hedland RS Site PI009**

Described by LD Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 673107 mE 7745572 mN

Habitat Sandy plain

Soil Orange Brown sandy loam

Rock Type N/A

Vegetation Low Shrubland of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia schinzii* and Very Open Tussock Grassland of *Eriachne mucronata*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A

Bare Ground: 80%

Litter Cover: 0% Logs, +% Twigs, +% Lvs

Disturbance: Tracks and infrastructure near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	0.5 m	PI091.12
<i>Acacia stellaticeps</i>	25%	0.3 m	PI065.01
<i>Bonamia alatisemina</i>	+	0.1 m	PI117.11
<i>Bonamia rosea</i>	+	0.3 m	PI090.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18
<i>Chrysopogon fallax</i>	+	0.5 m	PI051.04
<i>Eriachne mucronata</i>	6%	0.4 m	PI109.05
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI117.03
<i>Evolvulus alsinoides</i> var. <i>decumbens</i>	+	0.1 m	PI094.10
<i>Fimbristylis oxystachya</i>	+	0.1 m	PI025.05
<i>Goodenia forrestii</i>	+	0.2 m	PI009.03
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Indigofera monophylla</i>	+	0.2 m	PI065.13
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10
<i>Ptilotus astrolasius</i>	+	0.2 m	PI009.02
<i>Ptilotus calostachyus</i>	+	1 m	PI109.10
<i>Ptilotus fusiformis</i>	+	0.5 m	PI065.28
<i>Ptilotus polystachyus</i>	+	0.5 m	PI025.13
<i>Schizachyrium fragile</i>	+	0.2 m	PI075.02
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03
<i>Triodia schinzii</i>	8%	0.3 m	PI009.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI010**

Described by EC Date 30/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 676039 mE 7743430 mN

Habitat Plain

Soil Light orange brown sandy loam with pebble cover

Rock Type N/A

Vegetation Scattered Shrubs of *Acacia trachycarpa* over Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Very good

Fire Age Moderate

Notes Aspect: N/A

Bare Ground: 70%

Litter Cover: +% Logs, +% Twigs, 1% Lvs

Disturbance: Rubbish and diggings

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia pyrifolia</i>	+	1.2 m	PI107.03
<i>Acacia trachycarpa</i>	1%	1 m	PI010.01
<i>Acacia trachycarpa</i> x <i>tumida</i>	+	1.2 m	PI010.02
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI123.18
<i>Bonamia alatisemina</i>	+	cr	PI083.10
<i>Bonamia rosea</i>	+	0.3 m	PI123.05
<i>Bulbostylis barbata</i>	+	0.2 m	PI121.05
<i>Calandrinia pentavalvis</i>	+	0.2 m	PI123.38
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI084.06
<i>Crotalaria ramosissima</i>	+	0.3 m	PI027.05
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI123.36
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI123.25
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI121.06
<i>Goodenia microptera</i>	+	0.3 m	PI123.12
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1 m	PI051.03
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI123.03
<i>Indigofera monophylla</i>	+	0.3 m	PI123.02
<i>Mitrasacme connata</i>	+	0.2 m	PI010.03
<i>Pluchea tetranthera</i>	+	0.3 m	PI083.11
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI083.12
<i>Polygala linariifolia</i>	+	0.2 m	PI019.01
<i>Ptilotus fusiformis</i>	+	0.3 m	PI083.08
<i>Schizachyrium fragile</i>	+	0.3 m	PI076.06
<i>Trianthema pilosa</i>	+	0.3 m	PI065.03
<i>Triodia epactia</i>	30%	0.3 m	PI010.05
<i>Triodia lanigera</i>	5%	0.3 m	PI010.06
<i>Triumfetta ramosa</i>	+	0.3 m	PI010.04
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI084.03

**Port Hedland RS**      **Site**    PI011**Described by** BW                                      **Date**    30/06/2011   **Type**    Q                                      50x50 m**Location**      Port Hedland**MGA Zone**    50 669588 mE 7749349 mN**Habitat**        Samphire flat**Soil**             Brown salty sand**Rock Type**    N/A**Vegetation**    Scattered Low Shrubs of *Tecticornia halocnemoides* subsp. *tenuis*, *Tecticornia indica* subsp. *bidens* and *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552) over Scattered Tussock Grasses of *Eragrostis falcata***Veg Condition**    Very good to excellent**Fire Age**        Old**Notes**            Aspect: N/A  
Bare Ground: 98%  
Litter Cover: 0% Logs, 0% Twigs, +% Lvs  
Disturbance: Tracks and houses near by**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Eragrostis falcata</i>	1%	0.2 m	PI011.03
<i>Muellerolimon salicorniaceum</i>	+	0.2 m	PI011.04
<i>Sporobolus virginicus</i>	+	0.2 m	PI011.06
<i>Tecticornia halocnemoides</i> subsp. <i>tenuis</i>	+	0.2 m	PI011.05
<i>Tecticornia indica</i> subsp. <i>bidens</i>	+	0.2 m	PI011.01
<i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)	+	0.2 m	PI011.02
<i>Xerochloa laniflora</i>	+	0.3 m	PI011.07

**Port Hedland RS**      **Site**    PI012

**Described by** EC                                      **Date**    30/06/2011 **Type**    Q                                      50x50 m

**Location**      Port Hedland

**MGA Zone**    50 668162 **mE** 7749789 **mN**

**Habitat**       Mangroves and flats

**Soil**            Brown silty mud

**Rock Type**    N/A

**Vegetation**    High Shrubland of *Avicennia marina* and *Rhizophora stylosa* over Scattered Low Shrubs of *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)

**Veg Condition**    Excellent

**Fire Age**        Old

**Notes**            Aspect: N/A  
                       Bare Ground: 80%  
                       Litter Cover: +% Logs, +% Twigs, +% Lvs  
                       Disturbance: Tracks



**SPECIES LIST:**

<b>Name</b>	<b>Cover</b>	<b>Height</b>	<b>Specimen Notes</b>
<i>Avicennia marina</i>	30%	1-3 m	PI012.02
<i>Rhizophora stylosa</i>	25%	1-4 m	PI012.03
<i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)	1%	0.3 m	PI012.01



**Port Hedland RS Site PI013**

Described by EC Date 30/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 668315 mE 7749630 mN

Habitat Low limestone hill

Soil Skeletal light brown loam with exposed rock

Rock Type Limestone

Vegetation Scattered Shrubs of *Scaevola spinescens* and *Acacia bivenosa* over Very Open Hummock Grassland *Triodia schinzii*

Veg Condition Very good

Fire Age Moderate

Notes Aspect: South-east

Bare Ground: 60%

Litter Cover: 0% Logs, +% Twigs, 5% Lvs

Disturbance: Rubbish, Kapok and tracks nearby

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia bivenosa</i>	1%	1 m	PI121.09
* <i>Aerva javanica</i>	+	0.4 m	PI076.05
<i>Boerhavia coccinea</i>	+	0.2 m	PI123.29
<i>Cleome viscosa</i>	+	0.3 m	PI065.17
<i>Corchorus tectus</i>	+	0.3 m	PI123.35
<i>Corymbia hamersleyana</i>	+	3 m	PI013.03
<i>Eriachne mucronata</i>	+	0.3 m	PI076.13
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI123.36
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	0.3 m	PI013.10
<i>Goodenia microptera</i>	+	0.2 m	PI123.12
<i>Heliotropium ovalifolium</i>	+	0.3 m	PI013.08
<i>Heliotropium tenuifolium</i>	+	0.3 m	PI013.11
<i>Indigofera monophylla</i>	+	0.3 m	PI123.02
<i>Pluchea tetranthera</i>	+	0.3 m	PI083.11
<i>Ptilotus axillaris</i>	+	0.2 m	PI013.06
<i>Ptilotus exaltatus</i>	+	0.3 m	PI013.01
<i>Scaevola amblyanthera</i> var. <i>centralis</i>	+	0.3 m	PI013.05
<i>Scaevola spinescens</i>	2%	1.2 m	PI013.02
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	+	0.2 m	PI013.07
<i>Trianthema glossostigma</i>	+	0.3 m	PI013.09
<i>Tribulus macrocarpus</i>	+	0.1 m	PI084.11
<i>Triodia schinzii</i>	35%	0.3 m	PI013.04

**Port Hedland RS Site PI014**

**Described by** EC **Date** 30/06/2011 **Type** Q **50x50 m**

**Location** Port Hedland

**MGA Zone** 50 671068 mE 7746304 mN

**Habitat** Sand plain. An island between tidal samphire flats

**Soil** Light orange brown loam

**Rock Type**

**Vegetation** Hummock Grassland of *Triodia secunda* over Very Open Tussock Grassland of *Schizachyrium fragile*, *Eragrostis eriopoda* and *Aristida holathera* var. *holathera*

**Veg Condition** Very good

**Fire Age** Moderate

**Notes** Aspect: N/A

Bare Ground: 40%

Litter Cover: 0% Logs, +% Twigs, 5% Lvs

Disturbance: Rubbish and tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	+	0.5 m	PI083.01	
<i>Aristida holathera</i> var. <i>holathera</i>	1%	0.3 m	PI123.18	
<i>Bulbostylis barbata</i>	+	0.1 m	PI121.05	
<i>Calandrinia pentavalvis</i>	+	0.3 m	PI123.38	
<i>Cleome viscosa</i>	+	1 m	PI065.17	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.2 m	PI084.06	
<i>Crotalaria ramosissima</i>	+	0.3 m	PI027.05	
<i>Drosera indica</i>	+	0.2 m	PI045.01	
<i>Eragrostis eriopoda</i>	2%	0.3 m	PI084.04	
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI123.36	
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI121.06	
<i>Fimbristylis simulans</i>	+	0.3 m	PI014.02	
<i>Gomphrena sordida</i>	+	cr	PI014.05	
<i>Heliotropium inexplicitum</i>	+	0.2 m	PI014.04	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI123.03	
<i>Mitrasacme connata</i>	+	0.2 m	PI010.03	
<i>Murdannia graminea</i>	+	0.3 m	PI020.10	
<i>Portulaca pilosa</i>	+	0.3 m	PI123.17	
<i>Ptilotus polystachyus</i>	+	0.3 m	PI076.02	
<i>Schizachyrium fragile</i>	2%	0.3 m	PI076.06	
<i>Senna notabilis</i>	+	0.2 m	PI123.20	
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	+	0.2 m	PI014.01	
<i>Stackhousia intermedia</i>	+	0.2 m	PI046.03	
<i>Triodia secunda</i>	55%	0.3 m	PI121.07	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.3 m	PI083.02	
<i>Zornia muelleriana</i>	+	0.3 m	PI014.03	



**Port Hedland RS**      **Site**    PI016**Described by** HA                      **Date**    1/07/2011 **Type** Q                      50x50 m**Location**    Port Hedland**MGA Zone** 50 667162 **mE** 7747748 **mN****Habitat**      Mudflats**Soil**          Brown clayey sand**Rock Type**    N/A**Vegetation** Low Shrubland of *Muellerolimon salicorniaceum* and *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552) over Scattered Tussock Grasses of *Eragrostis falcata***Veg Condition**    Excellent to very good**Fire Age**        Old**Notes**          Aspect: N/A  
Bare Ground: 85%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Rubbish**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Avicennia marina</i>	+	0.5 m	PI017.01
<i>Eragrostis falcata</i>	+	0.2 m	PI016.03
<i>Muellerolimon salicorniaceum</i>	8%	0.2 m	PI016.01
<i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)	10%	0.2 m	PI016.02



**Port Hedland RS**      **Site**    PI017

**Described by**   HA                                      **Date**    29/06/2011    **Type**    Q                                      50x50 m

**Location**      Port Hedland  
**MGA Zone**    50 667139 mE 7747938 mN  
**Habitat**       Mangrove  
**Soil**            Brown mud  
**Rock Type**    N/A  
**Vegetation**   Closed Scrub of *Avicennia marina*  
**Veg Condition**    Excellent  
**Fire Age**       Very old  
**Notes**         Aspect: N/A  
                     Bare Ground: 60%  
                     Litter Cover: +% Logs, +% Twigs, +% Lvs  
                     Disturbance: None



**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Avicennia marina</i>	80%	1.5 m	PI017.01
<i>Threlkeldia diffusa</i>	+	0.3 m	PI017.02

**Port Hedland RS Site PI018**

Described by EC Date 29/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 667432 mE 7747570 mN

**Habitat** Plain island between salt flats

**Soil** light orange brown/salmon sandy loam

**Rock Type** N/A

**Vegetation** Scattered Low Shrubs of *Pterocaulon sphacelatum* over Closed Hummock Grassland of *Triodia secunda* over Scattered Tussock Grasses of *\*Cenchrus ciliaris*

**Veg Condition** Very good

**Fire Age** Old

**Notes** Aspect: N/A  
Bare Ground: 10%  
Litter Cover: 0% Logs, 1% Twigs, 10% Lvs  
Disturbance: Buffel, rubbish and tracks near by and within site

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>*Aerva javanica</i>	+	0.5 m	PI076.05
<i>Bulbostylis barbata</i>	+	0.2 m	PI121.05
<i>*Cenchrus ciliaris</i>	1%	0.3 m	PI103.06
<i>Cleome viscosa</i>	+	0.3 m	PI065.17
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI123.36
<i>Neobassia astrocarpa</i>	+	0.3	PI018.04
<i>Panicum decompositum</i>	+	0.4 m	PI018.03
<i>Pterocaulon sphacelatum</i>	1%	0.3 m	PI020.02
<i>Sarcostemma viminale</i> subsp. <i>australe</i>	+	0.5 m	PI037.10
<i>Swainsona pterostylis</i>	+	0.3 m	PI018.02
<i>Triodia secunda</i>	90%	0.3 m	PI121.07
<i>Whiteochloa airoides</i>	+	0.4 m	PI018.01

**Port Hedland RS Site PI019**

Described by EC Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 668251 mE 7747759 mN

Habitat Sand plain

Soil Light orange brown sandy loam

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia secunda* over Very Open Tussock Grassland of *Eriachne mucronata*

Veg Condition Excellent to very good

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 25%  
Litter Cover: 0% Logs, 0% Twigs, +% Lvs  
Disturbance: Tracks near by**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	0.8 m	PI076.14	
<i>Acacia stellaticeps</i>	2%	0.5 m	PI083.01	
<i>Aristida inaequiglumis</i>	+	0.4 m	PI034.08	
<i>Bulbostylis barbata</i>	+	0.2 m	PI121.05	
<i>Calandrinia pentavalvis</i>	+	0.3 m	PI123.38	
<i>Cassutha capillaris</i>	+	cr	PI019.05	
<i>Commelina ensifolia</i>	(+)	cr	PI019.02	
<i>Crotalaria ramosissima</i>	+	0.2 m	PI027.05	
<i>Cyperus cunninghamii</i> subsp. <i>cunninghamii</i>	+	0.3 m	PI034.06	
<i>Desmodium filiforme</i>	+	cr	PI019.04	
<i>Drosera indica</i>	+	0.2 m	PI045.01	
<i>Eriachne mucronata</i>	10%	0.3 m	PI076.13	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI123.36	
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI121.06	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI123.03	
<i>Indigofera linifolia</i>	+	0.3 m	PI076.10	
<i>Indigofera</i> sp.	+	0.2 m	PI019.03	Material inadequate
<i>Mitrasacme connata</i>	+	0.2 m	PI072.07	
<i>Murdannia graminea</i>	+	0.4 m	PI020.10	
<i>Panicum decompositum</i>	+	0.3 m	PI018.03	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI083.12	
<i>Polygala linariifolia</i>	+	0.2 m	PI019.01	
<i>Ptilotus polystachyus</i>	+	0.3 m	PI076.02	
<i>Schizachyrium fragile</i>	+	0.2 m	PI076.06	
<i>Stackhousia intermedia</i>	+	0.3 m	PI046.03	
<i>Triodia secunda</i>	70%	0.3 m	PI121.07	
<i>Vigna lanceolata</i> var. <i>filiformis</i>	+	0.3 m	PI020.01	
<i>Whiteochloa airoides</i>	+	0.4 m	PI018.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI084.03	

**Port Hedland RS Site PI020**

Described by EC Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 666950 mE 7746092 mN

Habitat Plain

Soil Light orange brown loam

Rock Type

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia schinzii* and *Triodia secunda* and Very Open Tussock Grassland of *Eriachne mucronata* and *Bulbostylis barbata*

Veg Condition Excellent to very good

Fire Age Moderate to old

Notes Aspect: N/A  
Bare Ground: 10%  
Litter Cover: 0% Logs, 0% Twigs, 30% Lvs  
Disturbance: Tracks near by and in site

Dense but lots of small herbs and dead plants

**SPECIES LIST:**

Quad	Name	Cover	C Class	Height	Specimen	Notes
	<i>Acacia stellaticeps</i>	5%		0.4 m	PI083.01	
	<i>Aristida holathera</i> var. <i>holathera</i>	+		0.3 m	PI123.18	
	<i>Aristida inaequiglumis</i>	+		0.4 m	PI034.08	
	<i>Bulbostylis barbata</i>	1%		0.1 m	PI121.05	
	<i>Calandrinia pentavalvis</i>	+		0.2 m	PI123.38	
	<i>Calandrinia pumila</i>	+		0.1 m	PI020.08	
	<i>Chrysopogon fallax</i>	+		0.3 m	PI084.10	
	<i>Cyperus cunninghamii</i> subsp. <i>cunninghamii</i>	1%		0.4 m	PI020.05	
	<i>Drosera burmanni</i>	+		0.1 m	PI020.07	
	<i>Drosera indica</i>	2%		0.1 m	PI045.01	
	<i>Eriachne mucronata</i>	2%		0.3 m	PI076.13	
	<i>Fimbristylis simulans</i>	+		0.3 m	PI072.08	
	<i>Goodenia stobbsiana</i>	+		0.3 m	PI123.23	
	<i>Mimulus gracilis</i>	+		0.2 m	PI020.06	
	<i>Mitrasacme connata</i>	1%		0.3 m	PI072.07	
	<i>Murdannia graminea</i>	+		0.2 m	PI020.10	Range ext
	<i>Paraneurachne muelleri</i>	+		0.3 m	PI084.09	
	<i>Pluchea rubelliflora</i>	+		0.2 m	PI020.04	
	<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+		0.2 m	PI083.12	
	<i>Polygala linariifolia</i>	+		0.1 m	PI033.02	
	<i>Pterocaulon sphacelatum</i>	+		0.2 m	PI020.02	
	<i>Ptilotus fusiformis</i>	+		0.3 m	PI083.08	
	<i>Schizachyrium fragile</i>	+		0.3 m	PI076.06	
	<i>Streptoglossa decurrens</i>	+		0.2 m	PI121.02	
	<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+		0.1 m	PI020.03	
	<i>Triodia schinzii</i>	5%		0.3 m	PI020.09	
	<i>Triodia secunda</i>	25%		0.3 m	PI121.07	
	<i>Vigna lanceolata</i> var. <i>filiformis</i>	+		0.3 m	PI020.01	



**Port Hedland RS Site PI021**

Described by LD Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 672073 mE 7744505 mN

Habitat Sandy plain

Soil Orange Brown sandy loam

Rock Type N/A

Vegetation Scattered Low Shrubs of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia* over Open Tussock Grassland of *Eriachne mucronata* and *Chrysopogon fallax*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 42%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Tracks and mining near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	1%	0.4 m	PI065.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1 m	PI150.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI094.04	
<i>Bonamia alatisemina</i>	+	0.1 m	PI117.11	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI066.03	
<i>Cassutha capillaris</i>	+	cr	PI091.09	
<i>Chrysopogon fallax</i>	3%	0.6 m	PI051.04	
<i>Cleome viscosa</i>	+	0.3 m	PI065.17	
<i>Cyperus cunninghamii</i> subsp. <i>cunninghamii</i>	+	0.3 m	PI021.06	
<i>Eragrostis speciosa</i>	+	1 m	PI022.20	
<i>Eriachne mucronata</i>	20%	0.3 m	PI021.05	
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI117.03	
<i>Evolvulus alsinoides</i> var. <i>decumbens</i>	+	0.2 m	PI094.10	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13	
<i>Ipomoea muelleri</i>	+	cr	PI021.04	
<i>Mitrasacme connata</i>	+	0.1 m	PI010.03	
<i>Pluchea tetranthera</i>	1%	0.3 m	PI066.22	
<i>Polycarpha corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Pterocaulon sphacelatum</i>	+	0.3 m	PI021.02	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI065.28	
<i>Ptilotus polystachyus</i>	+	0.4 m	PI025.13	
<i>Salsola tragus</i> subsp. <i>grandiflora</i>	+	0.2 m	PI091.15	
<i>Schizachyrium fragile</i>	+	0.3 m	PI075.02	
<i>Triodia epactia</i>	28%	0.3 m	PI021.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08	

**Port Hedland RS Site PI022**

Described by LD Date 29/06/2011 Type Q 70x30 m

Location Port Hedland

MGA Zone 50 673789 mE 7742632 mN

Habitat Major Drainage line and banks

Soil Orange Brown sandy loam

Rock Type N/A

Vegetation Low Open Woodland of *Eucalyptus victrix* over Open Shrubland of *Acacia trachycarpa* and *Acacia tumida* var. *pilbarensis* over Very Open Hummock Grassland of *Triodia epactia*

Veg Condition Very good

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 93%  
Litter Cover: 0% Logs, +% Twigs, 1% Lvs  
Disturbance: Tracks, rubbish and weeds**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	+	1-2 m	PI022.01	Hybrid with unknown
<i>Acacia colei</i> var. <i>colei</i>	+	1-2 m	PI091.12	
<i>Acacia trachycarpa</i>	7%	1.5-2 m	PI107.02	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	2%	1-2 m	PI150.07	
<i>Amaranthus undulatus</i>	+	0.2 m	PI022.10	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI094.04	
<i>Bonamia media</i> var. <i>villosa</i>	+	0.1 m	PI022.04	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI022.02	
* <i>Cenchrus ciliaris</i>	1%	0.4 m	PI103.06	
<i>Chloris pectinata</i>	+	0.3 m	PI022.16	
<i>Chrysopogon fallax</i>	+	0.6 m	PI051.04	
<i>Cleome viscosa</i>	+	0.5 m	PI065.17	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI094.08	
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>	+	0.7 m	PI022.13	PH; 274-275
<i>Cyperus ixiocarpus</i>	+	0.3 m	PI022.03	
<i>Dysphania kalpari</i>	+	0.1 m	PI022.09	
<i>Dysphania saxatilis</i>	+	0.2 m	PI090.11	
<i>Eragrostis cumingii</i>	+	0.2 m	PI080.06	
<i>Eragrostis eriopoda</i>	+	0.2 m	PI090.04	
<i>Eragrostis speciosa</i>	+	0.3-0.7 m	PI022.06	
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03	
<i>Eriachne mucronata</i>	+	0.2 m	PI049.01	
<i>Eucalyptus victrix</i>	4%	7-10 m	PI022.14	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI117.03	
<i>Euphorbia australis</i>	+	0.3 m	PI139.02	
<i>Fimbristylis oxystachya</i>	+	0.1 m	PI025.05	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13	

<i>Ipomoea muelleri</i>	+	cr	PI103.12	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Paspalidium tabulatum</i>	+	0.2 m	PI117.07	
<i>Pluchea rubelliflora</i>	+	0.05 m	PI154.10	
<i>Pluchea tetranthera</i>	+	0.3 m	PI022.18	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04	
<i>Portulaca pilosa</i>	+	0.2 m	PI090.15	
<i>Ptilotus fusiformis</i>	+	0.1 m	PI065.28	
<i>Schizachyrium fragile</i>	+	0.1 m	PI075.02	
<i>Senna notabilis</i>	+	0.3 m	PI051.12	
<i>Senna venusta</i>	+	0.6 m	PI022.11	
<i>Setaria dielsii</i>	+	0.3 m	PI022.17	
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.2 m	PI154.05	
<i>Sorghum</i> sp.	+	0.8 m	PI022.19	Material inadequate
<i>Stemodia grossa</i>	+	0.2 m	PI022.21	
<i>Striga squamigera</i>	+	0.2 m	PI022.15	
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+	0.01 m	PI022.08	
<i>Triodia epactia</i>	5%	0.4 m	PI022.07	
<i>Wahlenbergia tumidifructa</i>	+	0.2 m	PI022.05	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08	

**Port Hedland RS Site PI023**

**Described by** BW **Date** 29/06/2011 **Type** Q **Size** 50x50 m

**Location** Port Hedland  
**MGA Zone** 50 671444 mE 7743570 mN  
**Habitat** Sand plain  
**Soil** Orange brown clayey sand  
**Rock Type** N/A  
**Vegetation** Low Open Shrubland of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia schinzii*  
**Veg Condition** Pristine  
**Fire Age** Moderate  
**Notes** Aspect: N/A  
 Bare Ground: 95%  
 Litter Cover: 0% Logs, +% Twigs, +% Lvs  
 Disturbance: None

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	6%	0.5 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07
<i>Bonamia rosea</i>	+	0.3 m	PI030.04
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01
<i>Chrysopogon fallax</i>	+	0.4 m	PI042.09
<i>Crotalaria ramosissima</i>	+	0.3 m	PI029.01
<i>Eragrostis eriopoda</i>	+	0.3 m	PI047.02
<i>Eriachne aristidea</i>	+	0.3 m	PI136.03
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI056.08
<i>Indigofera monophylla</i>	+	0.3 m	PI052.03
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Ptilotus astrolasius</i>	+	0.3 m	PI056.18
<i>Ptilotus calostachyus</i>	+	0.7 m	PI140.03
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11
<i>Ptilotus polystachyus</i>	+	0.4 m	PI030.03
<i>Triodia schinzii</i>	4%	0.4 m	PI023.01



**Port Hedland RS Site PI024**

Described by HA Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 672001 mE 7741592 mN

Habitat Sand plain

Soil Orange brown loamy sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia schinzii* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 50%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: None**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	5%	0.5 m	PI070.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI070.10	
<i>Aristida inaequiglumis</i>	+	0.8 m	PI070.24	
<i>Bonamia rosea</i>	+	0.2 m	PI088.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
* <i>Cenchrus ciliaris</i>	+	0.3 m	PI070.29	
<i>Codonocarpus cotinifolius</i>	+	1 m	PI050.06	
<i>Cucumis maderaspatanus</i>	+	cr	PI077.11	
<i>Dolichandrone heterophylla</i>	+	1 m	PI148.05	
<i>Dysphania saxatilis</i>	+	0.3 m	PI053.07	
<i>Eriachne mucronata</i>	+	0.3 m	PI024.02	
<i>Euphorbia alsiniflora</i>	+	0.15 m	PI072.10	
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI081.07	
<i>Fimbristylis simulans</i>	+	0.1 m	PI072.08	
<i>Goodenia microptera</i>	+	0.4 m	PI040.12	
<i>Goodenia stobbsiana</i>	+	0.5 m	PI024.04	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI099.02	
<i>Mitrasacme connata</i>	+	0.2 m	PI072.07	
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Pimelea ammocharis</i>	+	0.6 m	PI070.23	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02	
* <i>Portulaca oleracea</i>	+	0.2 m	PI086.11	
<i>Ptilotus calostachyus</i>	+	0.8 m	PI032.04	
<i>Schizachyrium fragile</i>	+	0.3 m	PI110.05	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x subsp. <i>helmsii</i>	+	1 m	PI024.05	
<i>Triodia lanigera</i>	2%	0.3 m	PI024.03	
<i>Triodia schinzii</i>	45%	0.5 m	PI024.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06	

**Port Hedland RS Site PI025**

Described by LD Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 662119 mE 7744614 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia schinzii* and *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate to old

Notes Aspect: N/A

Bare Ground: 70%

Litter Cover: 0% Logs, 1% Twigs, 2% Lvs

Disturbance: Infrastructure near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	4%	0.6 m	PI065.01
<i>Bonamia rosea</i>	+	0.4 m	PI025.01
<i>Bulbostylis barbata</i>	+	0.1 m	PI066.04
<i>Chrysopogon fallax</i>	+	0.4 m	PI051.04
<i>Desmodium filiforme</i>	+	0.05 m	PI025.11
<i>Digitaria brownii</i>	+	0.2 m	PI025.07
<i>Drosera indica</i>	+	0.1 m	PI045.01
<i>Eriachne helmsii</i>	+	0.4 m	PI027.02
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI025.12
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI025.06
<i>Fimbristylis oxystachya</i>	+	0.1 m	PI025.05
<i>Hybanthus aurantiacus</i>	+	0.1 m	PI043.13
<i>Kennedia prorepens</i>	+	cr	PI025.08
<i>Mitrasacme connata</i>	+	0.2 m	PI025.09
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04
<i>Ptilotus fusiformis</i>	+	0.4 m	PI065.28
<i>Ptilotus polystachyus</i>	+	0.5 m	PI025.13
<i>Senna notabilis</i>	+	0.1 m	PI051.12
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI058.05
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	+	0.3 m	PI025.10
<i>Solanum diversiflorum</i>	+	0.2 m	PI048.09
<i>Solanum ellipticum</i>	+	0.4 m	PI065.26
<i>Triodia epactia</i>	9%	0.4 m	PI025.02
<i>Triodia schinzii</i>	15%	0.4 m	PI025.03
<i>Waltheria indica</i>	+	0.3 m	PI065.27
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08

**Port Hedland RS Site PI026**

Described by BW Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 662355 mE 7743634 mN

Habitat Plain

Soil Orange brown clayey sand

Rock Type N/A

Vegetation Scattered Low Trees of *Eucalyptus victrix* over Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia schinzii*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 45%  
Litter Cover: +% Logs, 1% Twigs, 3% Lvs  
Disturbance: Tracks near by**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	2%	0.6 m	PI043.01
<i>Alternanthera nana</i>	+	0.3 m	PI026.07
<i>Bonamia alatisemina</i>	+	0.2 m	PI026.11
<i>Bulbostylis barbata</i>	+	0.1 m	PI067.01
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI049.11
<i>Carissa lanceolata</i>	+	0.7 m	PI052.07
<i>Chrysopogon fallax</i>	+	0.6 m	PI042.09
<i>Cleome viscosa</i>	(+)	0.3 m	PI026.10
<i>Crotalaria ramosissima</i>	+	0.2 m	PI026.01
* <i>Cucumis melo subsp. agrestis</i>	+	0.2 m	PI026.08
<i>Cyperus vaginatus</i>	+	0.3 m	PI026.12
<i>Drosera indica</i>	+	0.1 m	PIOPBW01a
<i>Eriachne mucronata</i>	+	0.3 m	PI049.01
<i>Eucalyptus victrix</i>	1%	7 m	PI026.05
<i>Glycine canescens</i>	+	0.2 m	PI026.03
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI026.02
<i>Mitrasacme connata</i>	+	0.2 m	PI071.03
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11
<i>Schizachyrium fragile</i>	+	0.3 m	PI026.04
<i>Senna notabilis</i>	+	0.3 m	PI043.09
<i>Solanum ellipticum</i>	+	0.3 m	PI026.13
<i>Triodia schinzii</i>	40%	0.5 m	PI026.06
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06
<i>Zornia muelleriana</i>	+	0.2 m	PI026.09

**Port Hedland RS Site PI027**

Described by LD Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 664708 mE 7744848 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Scattered Low Shrubs of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia schinzii* over Very Open Tussock Grassland of *Eriachne helmsii*

Veg Condition Good

Fire Age Moderate

Notes Aspect: N/A

Bare Ground: 70%

Litter Cover: 0% Logs, +% Twigs, 1% Lvs

Disturbance: Powerlines, other infrastructure and a main highway near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	1%	0.6 m	PI065.01
<i>Bonamia alatisemina</i>	+	0.1 m	PI027.06
<i>Bonamia media</i> var. <i>villosa</i>	+	0.1 m	PI027.06a
<i>Bulbostylis barbata</i>	+	0.1 m	PI027.03
<i>Chrysopogon fallax</i>	+	0.6 m	PI051.04
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI027.04
<i>Crotalaria ramosissima</i>	+	0.2 m	PI027.05
<i>Cucumis maderaspatanus</i>	+	cr	PI045.15
<i>Eragrostis eriopoda</i>	+	0.2 m	PI065.04
<i>Eriachne helmsii</i>	5%	0.3 m	PI027.02
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI025.12
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.05 m	PI027.09
<i>Glycine canescens</i>	+	0.1 m	PI027.08
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04
<i>Portulaca pilosa</i>	+	0.2 m	PI027.11
<i>Ptilotus fusiformis</i>	+	0.4 m	PI065.28
<i>Ptilotus polystachyus</i>	+	0.7 m	PI025.13
<i>Senna notabilis</i>	+	0.2 m	PI051.12
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.3 m	PI027.07
<i>Solanum ellipticum</i>	+	0.4 m	PI027.12
<i>Tribulopsis angustifolia</i>	+	cl	PI027.10
<i>Triodia schinzii</i>	6%	0.3 m	PI027.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08



**Port Hedland RS Site PI028**

Described by BW Date 23/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 665068 mE 7744485 mN

**Habitat** Plain

**Soil** Orange brown sand

**Rock Type** N/A

**Vegetation** Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia* and *Triodia schinzii*

**Veg Condition** Excellent

**Fire Age** Moderate

**Notes** Aspect: N/A  
Bare Ground: 80%  
Litter Cover: 0% Logs, +% Twigs, 2% Lvs  
Disturbance:

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	3%	0.5 m	PI043.01
<i>Bulbostylis barbata</i>	+	0.05 m	PI067.01
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI049.11
<i>Chrysopogon fallax</i>	+	0.6 m	PI042.09
<i>Digitaria brownii</i>	+	0.3 m	PI028.04
<i>Drosera indica</i>	+	0.1 m	PIOPBW01a
<i>Eriachne mucronata</i>	+	0.3 m	PI049.01
<i>Fimbristylis simulans</i>	+	0.3 m	PI028.03
<i>Indigofera monophylla</i>	+	0.4 m	PI028.02
<i>Mitrasacme connata</i>	+	0.2 m	PI071.03
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06
<i>Polymeria ambigua</i>	+	cr	PI028.01
<i>Ptilotus fusiformis</i>	+	0.3 m	PI043.11
<i>Triodia epactia</i>	10%	0.4 m	PI028.05
<i>Triodia schinzii</i>	4%	0.5 m	PI026.06
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI029**

Described by BW Date 27/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 665697 mE 7743618 mN

Habitat Sand plain

Soil Orange brown clayey sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* and *Bonamia rosea* over Very Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate to old

Notes Aspect: N/A  
Bare Ground: 85%  
Litter Cover: 0% Logs, 1% Twigs, 2% Lvs  
Disturbance: Road near by**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	1.5 m	PI043.16
<i>Acacia stellaticeps</i>	4%	0.5 m	PI043.01
<i>Bonamia rosea</i>	1%	0.4 m	PI030.04
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01
<i>Calandrinia stagnensis</i>	+	0.2 m	PI145.04
<i>Chrysopogon fallax</i>	+	0.5 m	PI042.09
<i>Crotalaria ramosissima</i>	+	0.4 m	PI029.01
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI026.08
<i>Digitaria brownii</i>	+	0.2 m	PI028.04
<i>Dysphania saxatilis</i>	+	0.2 m	PI056.15
<i>Eragrostis eriopoda</i>	+	0.4 m	PI047.02
<i>Eriachne mucronata</i>	+	0.4 m	PI049.01
<i>Euphorbia australis</i>	+	prostrate	PI104.02
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1.5 m	PI043.07
<i>Indigofera monophylla</i>	+	0.3 m	PI052.03
<i>Portulaca pilosa</i>	+	0.3 m	PI030.01
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11
<i>Ptilotus polystachyus</i>	+	0.5 m	PI030.03
<i>Santalum lanceolatum</i>	+	1.2 m	PI029.02
<i>Triodia epactia</i>	8%	0.4 m	PI029.03
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI030**

Described by BW Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 666006 mE 7741507 mN

Habitat Plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation Scattered Low Trees of *Corymbia candida* subsp. *dipsodes* over Very Open Hummock Grassland of *Triodia epactia* over Very Open Tussock Grassland of *Eriachne mucronata*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 90%  
Litter Cover: 0% Logs, +% Twigs, 1% Lvs  
Disturbance: Tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	+	0.4 m	PI043.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI049.07	
<i>Bonamia rosea</i>	1%	0.4 m	PI030.04	
<i>Bulbostylis barbata</i>	+	0.1 m	PI056.01	
<i>Calandrinia stagnensis</i>	+	0.2 m	PI145.04	
<i>Carissa lanceolata</i>	+	1.6 m	PI052.07	
<i>Chrysopogon fallax</i>	+	0.6 m	PI042.09	
<i>Cleome viscosa</i>	+	0.5 m	PI026.10	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI042.04	
<i>Corchorus tectus</i>	+	0.4 m	PI030.02	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	1.8 m	PI146.07	
<i>Eragrostis eriopoda</i>	+	0.4 m	PI047.02	
<i>Eriachne mucronata</i>	6%	0.4 m	PI049.01	
<i>Euphorbia australis</i>	+	prostrate	PI104.02	
<i>Goodenia microptera</i>	+	0.4 m	PI060.02	
<i>Gossypium australe</i>	+	0.6 m	PI104.08	
<i>Heliotropium muticum</i>	+	0.3 m	PI030.06	12 ind. Photo; 592-596 LD
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03	
<i>Mitrasacme connata</i>	+	0.2 m	PI049.10	
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI043.15	
<i>Pluchea tetranthera</i>	+	0.5 m	PI064.02	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06	
<i>Portulaca pilosa</i>	+	0.3 m	PI030.01	
<i>Ptilotus astrolasius</i>	+	0.4 m	PI056.18	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11	
<i>Ptilotus polystachyus</i>	+	0.6 m	PI030.03	

<i>Senna notabilis</i>	+	0.4 m	PI043.09
<i>Sida clementii</i>	+	0.4 m	PI069.01
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI043.14
<i>Trianthema pilosa</i>	+	0.2 m	PI052.09
<i>Triodia epactia</i>	2%	0.4 m	PI030.05
<i>Waltheria indica</i>	+	0.6 m	PI104.06
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08



**Port Hedland RS Site PI031**

Described by LD Date 27/06/2011 Type Q 50x50 m

**Location** Port Hedland  
**MGA Zone** 50 669879 mE 7742265 mN  
**Habitat** Sandy plain  
**Soil** Orange brown sandy loam  
**Rock Type** N/A  
**Vegetation** Low Open Heath of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia schinzii*  
**Veg Condition** Excellent  
**Fire Age** Moderate  
**Notes** Aspect: N/A  
 Bare Ground: 78%  
 Litter Cover: 0% Logs, 1% Twigs, 3% Lvs  
 Disturbance: Weeds

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	42%	0.6 m	PI065.01
<i>Bonamia rosea</i>	+	0.2 m	PI090.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18
<i>Chrysopogon fallax</i>	+	0.4 m	PI051.04
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.1 m	PI094.08
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	1 m	PI051.02
<i>Cucumis maderaspatanus</i>	+	cl	PI045.15
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI025.12
<i>Goodenia forrestii</i>	+	0.2 m	PI031.02
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13
<i>Indigofera monophylla</i>	+	0.3 m	PI065.13
<i>Mollugo molluginea</i>	(+)	0.1 m	PI132.04
<i>Paraneurachne muelleri</i>	+	0.2 m	PI090.12
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.05 m	PI058.10
<i>Polymeria ambigua</i>	+	cr	PI117.10
<i>Portulaca pilosa</i>	+	0.1 m	PI090.15
<i>Ptilotus astrolasius</i>	+	0.4 m	PI090.03
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28
<i>Senna notabilis</i>	+	0.1 m	PI051.12
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03
<i>Triodia schinzii</i>	16%	0.2 m	PI031.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI032**

**Described by** HA **Date** 27/06/2011 **Type** Q **50x50 m**  
**Season**

**Location** Port Hedland

**MGA Zone** 50 669913 mE 7743388 mN

**Habitat** Sand plain

**Soil** Orange brown sandy loam

**Rock Type** N/A

**Vegetation** Low Shrubland of *Acacia stellaticeps* over Hummock  
Grassland of *Triodia schinzii*

**Veg Condition** Excellent

**Fire Age** Moderate

**Notes** Aspect: N/A  
Bare Ground: 30%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance: None (near by town)

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	35%	0.5 m	PI070.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10	
<i>Bonamia alatisemina</i>	+	cr	PI053.02	
<i>Bonamia rosea</i>	+	0.3 m	PI088.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Cassylia capillaris</i>	+	cr	PI055.03	
<i>Chrysopogon fallax</i>	+	0.7 m	PI070.21	
<i>Cleome viscosa</i>	+	0.3 m	PI099.07	
<i>Crotalaria ramosissima</i>	+	0.3 m	PI089.02	
<i>Dodonaea coriacea</i>	+	0.5 m	PI032.03	
<i>Eriachne benthamii</i>	+	0.3 m	PI032.02	
<i>Euphorbia alsiniflora</i>	+	0.15 m	PI072.10	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.7 m	PI070.05	
<i>Heliotropium inexplicitum</i>	+	0.1 m	PI032.09	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02	
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03	
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>	+	0.5 m	PI032.06	
<i>Mollugo molluginea</i>	+	0.15 m	PI070.35	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02	
<i>Polygala linariifolia</i>	+	0.1 m	PI032.07	
<i>Polymeria ambigua</i>	+	cr	PI086.06	
<i>Ptilotus astrolasius</i>	+	0.5 m	PI089.05	
<i>Ptilotus calostachyus</i>	+	0.6 m	PI032.04	
<i>Senna notabilis</i>	+	0.15 m	PI070.14	
<i>Tephrosia simplicifolia</i>	+	0.1 m	PI032.08	Range ext
<i>Tribulopsis angustifolia</i>	+	cr	PI032.05	
<i>Triodia schinzii</i>	40%	0.4 m	PI032.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06	

**Port Hedland RS Site PI033**

Described by EC Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 672141 mE 7740707 mN

Habitat Plain

Soil Light orange brown sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia lanigera* and *Triodia epactia*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 40%  
Litter Cover: 0% Logs, 0% Twigs, 1% Lvs  
Disturbance:**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	1.5 m	PI076.14
<i>Acacia stellaticeps</i>	10%	0.5 m	PI083.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI123.18
<i>Aristida inaequiglumis</i>	+	0.4 m	PI034.08
<i>Bonamia alatisemina</i>	+	0.1 m	PI083.10
<i>Bonamia rosea</i>	+	0.3 m	PI033.01
<i>Bulbostylis barbata</i>	+	0.1 m	PI121.05
<i>Chrysopogon fallax</i>	+	0.4 m	PI084.10
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11
<i>Eriachne mucronata</i>	+	0.3 m	PI076.13
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI123.36
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1.2 m	PI043.07
<i>Indigofera monophylla</i>	+	0.3 m	PI123.02
<i>Paraneurachne muelleri</i>	+	0.3 m	PI084.09
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI083.12
<i>Polygala linariifolia</i>	+	0.1 m	PI033.02
<i>Ptilotus calostachyus</i>	+	0.4 m	PI109.10
<i>Ptilotus fusiformis</i>	+	0.3 m	PI083.08
<i>Ptilotus polystachyus</i>	+	0.5 m	PI076.02
<i>Schizachyrium fragile</i>	+	0.3 m	PI076.06
<i>Solanum ellipticum</i>	+	0.3 m	PI065.26
<i>Triodia epactia</i>	10%	0.3 m	PI076.16
<i>Triodia lanigera</i>	40%	0.3 m	PI076.17
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI084.03

**Port Hedland RS Site PI034**

Described by EC Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 673314 mE 7741068 mN

Habitat Plain

Soil Light orange brown sand

Rock Type N/A

Vegetation High Open Shrubland of *Acacia tumida* var. *pilbarensis* over Scattered Shrubs of *Acacia colei* var. *colei* over Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 40%  
Litter Cover: 0% Logs, 0% Twigs, 1% Lvs  
Disturbance: Buffel

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	1%	1-2 m	PI076.14	
<i>Acacia sericophylla</i>	+	1 m	PI034.04	
<i>Acacia stellaticeps</i>	5%	0.5-1 m	PI083.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	2%	3.5 m	PI076.15	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI123.18	
<i>Aristida inaequiglumis</i>	+	0.4 m	PI034.08	
<i>Bonamia alatisemina</i>	+	0.1 m	PI083.10	
<i>Bulbostylis barbata</i>	+	0.1 m	PI121.05	
<i>Carissa lanceolata</i>	+	1.2 m	PI034.03	
* <i>Cenchrus ciliaris</i>	+	0.3 m	PI103.06	
<i>Cleome viscosa</i>	+	0.3 m	PI065.17	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI084.06	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	1 m	PI141.08	
<i>Cucumis maderaspatanus</i>	+	cr	PI141.04	
<i>Cyperus cunninghamii</i> subsp. <i>cunninghamii</i>	+	0.3 m	PI034.06	
<i>Eragrostis eriopoda</i>	+	0.3 m	PI084.04	
<i>Eriachne mucronata</i>	+	0.3 m	PI076.13	
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI123.36	
<i>Euphorbia australis</i>	+	0.2 m	PI084.08	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI123.25	
<i>Goodenia microptera</i>	+	0.3 m	PI123.12	
<i>Goodenia triodiophila</i>	+	0.3 m	PI034.10	1 ind
<i>Heliotropium muticum</i>	+	0.2 m	PI034.09	1 ind
<i>Hibiscus leptocladus</i>	+	0.3 m	PI034.01	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI034.05	
<i>Indigofera monophylla</i>	+	0.3 m	PI123.02	
<i>Mollugo molluginea</i>	+	0.2 m	PI123.09	
<i>Paraneurachne muelleri</i>	+	0.3 m	PI084.09	



<i>Pluchea tetranthera</i>	+	0.3 m	PI083.11
<i>Portulaca pilosa</i>	+	0.3 m	PI123.17
<i>Ptilotus astrolasius</i>	+	0.3 m	PI034.07
<i>Ptilotus polystachyus</i>	+	0.4 m	PI076.02
<i>Schizachyrium fragile</i>	+	0.3 m	PI076.06
<i>Senna notabilis</i>	+	0.1 m	PI123.20
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.3 m	PI034.02
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI123.04
<i>Solanum ellipticum</i>	+	0.3 m	PI065.26
<i>Triodia epactia</i>	55%	0.3 m	PI076.16
<i>Triodia lanigera</i>	2%	0.3 m	PI076.17
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI083.02

**Port Hedland RS Site PI035**

Described by HA Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 674392 mE 7741369 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 45%  
Litter Cover: % Logs, % Twigs, % Lvs  
Disturbance: None**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	1.2 m	PI070.38
<i>Acacia sericophylla</i>	+	0.9 m	PI099.13
<i>Acacia stellaticeps</i>	10%	0.5 m	PI070.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI070.10
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21
<i>Cleome viscosa</i>	+	0.4 m	PI040.10
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17
<i>Eriachne aristidea</i>	+	0.2 m	PI070.28
<i>Euphorbia australis</i>	+	cr	PI108.12
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI081.07
<i>Paraneurachne muelleri</i>	+	0.2 m	PI054.09
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11
<i>Ptilotus calostachyus</i>	+	0.6 m	PI032.04
<i>Ptilotus fusiformis</i>	+	0.4 m	PI070.22
<i>Ptilotus polystachyus</i>	+	0.5 m	PI147.19
<i>Schizachyrium fragile</i>	+	0.3 m	PI110.05
<i>Solanum lasiophyllum</i>	+	0.2 m	PI070.37
<i>Triodia epactia</i>	45%	0.5 m	PI035.01
<i>Triodia lanigera</i>	2%	0.3 m	PI035.02
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI036**

Described by HA Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 656373 mE 7746513 mN

Habitat Sand plain

Soil

Rock Type N/A

Vegetation Scattered Low Shrubs of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia schinzii* over Very Open Tussock Grassland of *Eriachne mucronata*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Some cattle tracks**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	0.5 m	PI070.38	
<i>Acacia stellaticeps</i>	1%	0.2 m	PI070.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10	
<i>Bonamia alatisemina</i>	+	0.1 m	PI036.04	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14	
<i>Chrysopogon fallax</i>	+	0.4 m	PI070.21	
<i>Cyperus dactyloides</i>	+	0.4 m	PI036.07	
<i>Digitaria brownii</i>	+	0.5 m	PI036.08	
<i>Drosera indica</i>	+	0.1 m	PI053.11	
<i>Eriachne mucronata</i>	10%	0.3 m	PI046.07	
<i>Fimbristylis simulans</i>	+	0.15 m	PI072.08	
<i>Goodenia triodiophila</i>	+	0.3 m	PI036.01	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.5 m	PI070.05	
<i>Hibiscus burtonii</i>	+	0.3 m	PI036.06	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI099.02	
<i>Leptosema anomalum</i>	+	0.2 m	PI153.13	
<i>Mitrasacme connata</i>	+	0.1 m	PI036.10	
<i>Mollugo molluginea</i>	+	0.15 m	PI070.35	
<i>Murdannia graminea</i>	(+)	0.1 m	PI046.13	Range ext
<i>Pluchea tetranthera</i>	+	0.3 m	PI046.18	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.15 m	PI072.02	
<i>Schizachyrium fragile</i>	+	0.2 m	PI046.12	
<i>Senna notabilis</i>	+	0.4 m	PI070.14	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI070.03	
<i>Stackhousia intermedia</i>	+	0.15 m	PI046.03	
<i>Tephrosia leptoclada</i>	+	0.2 m	PI036.02	
<i>Triodia schinzii</i>	30%	0.2 m	PI036.05	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06	
<i>Zornia muelleriana</i>	+	cr	PI036.09	

**Port Hedland RS Site PI037**

Described by HA Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 654401 mE 7747340 mN

Habitat Sand plain/saline flat

Soil Light orange sand

Rock Type N/A

Vegetation Low Open Shrubland of *Tecticornia auriculata* and *Maireana tomentosa* over Hummock Grassland of *Triodia secunda* over Scattered Tussock Grass of *Sporobolus australasicus*

Veg Condition Very good

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 50%  
Litter Cover: +% Logs, +% Twigs, 1% Lvs  
Disturbance: Cattle and weeds

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>*Aerva javanica</i>	+	0.4 m	PI147.05
<i>Atriplex codonocarpa</i>	+	0.3 m	PI037.01
<i>*Cenchrus ciliaris</i>	+	0.3 m	PI070.29
<i>Chrysopogon fallax</i>	+	0.6 m	PI070.21
<i>Dactyloctenium radulans</i>	+	0.15 m	PI037.14
<i>Dichanthium sericeum</i> subsp. <i>humilius</i>	+	0.3 m	PI037.11
<i>Eragrostis falcata</i>	+	0.3 m	PI037.18
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI040.14
<i>Indigofera trita</i>	+	0.4 m	PI037.19
<i>Maireana tomentosa</i>	1%	0.3 m	PI037.03
<i>Neptunia dimorphantha</i>	+	0.2 m	PI037.20
<i>Panicum decompositum</i>	+	0.5 m	PI037.09
<i>Paspalidium tabulatum</i>	+	0.1 m	PI037.16
<i>Pluchea rubelliflora</i>	+	0.15 m	PI037.15
<i>*Portulaca oleracea</i>	+	0.1 m	PI053.03
<i>Portulaca pilosa</i>	+	0.1 m	PI037.17
<i>Sarcostemma viminale</i> subsp. <i>australe</i>	+	0.3 m	PI037.10
<i>Sesbania cannabina</i>	+	2 m	PI037.08
<i>Sida fibulifera</i>	+	0.2 m	PI037.12
<i>Sporobolus australasicus</i>	1%	0.1 m	PI037.07
<i>Swainsona kingii</i>	+	cr	PI037.06
<i>Swainsona pterostylis</i>	+	0.2 m	PI037.04
<i>Tecticornia auriculata</i>	2%	0.6 m	PI037.02
<i>Trianthema triquetra</i>	+	0.2 m	PI037.05
<i>Triodia secunda</i>	40%	0.2 m	PI037.13



**Port Hedland RS Site PI038**

**Described by** HA **Date** 23/06/2011 **Type** Q **Size** 50x50 m

**Location** Port Hedland

**MGA Zone** 50 655188 mE 7748094 mN

**Habitat** Mangrove flats

**Soil** Brown clayey mud

**Rock Type** N/A

**Vegetation** Scattered low trees of *Bruguiera exaristata* over Low Closed Heath of *Muellerolimon salicorniaceum* and *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552).

**Veg Condition** Excellent

**Fire Age** Old

**Notes** Aspect: N/A  
Bare Ground: 20%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Tracks and rubbish

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Avicennia marina</i>	+	0.5 m	PI038.06
<i>Bruguiera exaristata</i>	1%	0.8 m	PI038.01
<i>Eragrostis cumingii</i>	+		PI038.13
<i>Muellerolimon salicorniaceum</i>	50%	0.2 m	PI038.02
<i>Sporobolus virginicus</i>	+	0.15 m	PI038.04
<i>Tecticornia halocnemoides</i> subsp. <i>tenuis</i>	+	0.3 m	PI038.05
<i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)	30%	0.4 m	PI038.03



**Port Hedland RS Site PI040**

Described by HA Date 23/06/2011 Type Q 100x25 m

**Location** Port Hedland

**MGA Zone** 50 652988 mE 7749119 mN

**Habitat** Limestone ridge top

**Soil** Brown loam with exposed calcrete rock

**Rock Type** Calcrete

**Vegetation** Open Shrubland of *Acacia bivenosa* over Open Hummock Grassland of *Triodia epactia* over Open Tussock of *\*Cenchrus ciliaris*

**Veg Condition** Good

**Fire Age** Old

**Notes** Aspect: N/A  
Bare Ground: 50%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Buffel and Kapok

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia bivenosa</i>	3%	2 m	PI040.01	
<i>*Aerva javanica</i>	1-2%	0.4 m	PI147.05	
<i>Boerhavia coccinea</i>	+	cr	PI040.25	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>*Cenchrus ciliaris</i>	15%	0.4 m	PI070.29	
<i>Cleome viscosa</i>	+	0.3 m	PI040.10	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI070.02	
<i>Enneapogon caeruleus</i>	+	0.1 m	PI040.17	
<i>Enneapogon</i> sp.	+	0.2 m	PI040.23	Material inadequate
<i>Eriachne mucronata</i>	+	0.3 m	PI040.22	
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI040.14	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI040.16	
<i>Gomphrena pusilla</i>	+	0.2 m	PI040.07	
<i>Goodenia microptera</i>	+	0.2 m	PI040.12	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1 m	PI070.05	
<i>Indigofera colutea</i>	+	0.1 m	PI040.18	
<i>Indigofera linifolia</i>	+	0.1 m	PI040.13	
<i>Indigofera monophylla</i>	+	0.3 m	PI072.03	
<i>Indigofera trita</i>	+	0.1 m	PI040.05	
<i>Melhania oblongifolia</i>	+	0.2 m	PI040.06	
<i>Myoporum montanum</i>	+	0.3 m	PI040.11	
<i>*Portulaca oleracea</i>	+	0.1 m	PI040.09	
<i>Ptilotus axillaris</i>	+	cr	PI040.03	
<i>Rhagodia eremaea</i>	+	0.3 m	PI040.15	
<i>Rhynchosia minima</i>	+	cr	PI040.04	
<i>Scaevola amblyanthera</i> var. <i>centralis</i>	+	0.2 m	PI040.08	
<i>Scaevola sericophylla</i>	+	0.2 m	PI040.19	
<i>Solanum lasiophyllum</i>	+	0.4 m	PI070.37	
<i>Trianthema pilosa</i>	+	0.15 m	PI072.13	
<i>Triodia epactia</i>	30%	0.4 m	PI040.02	
<i>Whiteochloa airoides</i>	+	0.5 m	PI040.20	

**Port Hedland RS Site PI041**

**Described by** HA **Date** 23/06/2011 **Type** Q 100x25 m

**Location** Port Hedland

**MGA Zone** 50 652933 mE 7746615 mN

**Habitat** Sandy river

**Soil** Orange brown sand

**Rock Type** N/A

**Vegetation** Tall Open Shrubland of *Melaleuca argentea* and *Acacia trachycarpa* over Scattered Tussock Grasses of *\*Cenchrus ciliaris*, *Eriachne aristidea* and *Aristida holathera* var. *holathera*

**Veg Condition** Very good to good

**Fire Age** Old

**Notes** Aspect: N/A  
Bare Ground: 98%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Lots of tracks and rubbish.

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ampliceps</i>	+	0.5 m	PI041.06
<i>Acacia pyrifolia</i>	+	0.4 m	PI041.02
<i>Acacia trachycarpa</i>	1%	3 m	PI068.03
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.6 m	PI041.03
<i>Cajanus cinereus</i>	+	1.5 m	PI068.08
<i>Calandrinia pentavalvis</i>	+	0.2 m	PI072.14
<i>Cassutha capillaris</i>	+	cl	PI068.21
<i>*Cenchrus ciliaris</i>	+	0.3 m	PI070.29
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>	+	1.8 m	PI041.01
<i>Cyperus vaginatus</i>	+	0.8 m	PI068.16
<i>Eriachne aristidea</i>	+	0.4 m	PI041.04
<i>Euphorbia alsiniflora</i>	+	0.5 m	PI040.14
<i>Melaleuca argentea</i>	2%	3 m	PI068.10
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Sporobolus virginicus</i>	+	0.3 m	PI041.05
<i>Tephrosia rosea</i> var. <i>clementii</i>	+	0.4 m	PI041.07



**Port Hedland RS Site PI042**

Described by BW Date 21/06/2011 Type Q 50x50 m

**Location** Port Hedland  
**MGA Zone** 50 653561 mE 7745248 mN  
**Habitat** Plain  
**Soil** Orange brown clayey sand  
**Rock Type** N/A  
**Vegetation** Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia schinzii*  
**Veg Condition** Pristine  
**Fire Age** Moderate  
**Notes** Aspect: N/A  
 Bare Ground: 70%  
 Litter Cover: 0% Logs, +% Twigs, 1% Lvs  
 Disturbance: None

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	4%	0.5 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.5 m	PI042.07
<i>Bonamia alatisemina</i>	+	0.2 m	PI042.11
<i>Bulbostylis barbata</i>	+	0.1 m	PI042.02
<i>Carissa lanceolata</i>	+	0.5 m	PI042.12
<i>Chrysopogon fallax</i>	+	0.6 m	PI042.09
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI042.04
<i>Cyperus dactyloides</i>	+	0.5 m	PI042.10
<i>Eragrostis eriopoda</i>	+	0.4 m	PI042.05
<i>Goodenia triodiophila</i>	+	0.3 m	PI042.01
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Paraneurachne muelleri</i>	+	0.3 m	PI043.15
<i>Pluchea tetranthera</i>	+	0.3 m	PI042.03
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06
<i>Triodia epactia</i>	+	0.3 m	PI043.03
<i>Triodia schinzii</i>	22%	0.4 m	PI042.08
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI043**

Described by BW Date 21/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 653904 mE 7744091 mN

Habitat Plain

Soil orange brown sandy clay

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A

Bare Ground: 70%

Litter Cover: 0% Logs, +% Twigs, 2% Lvs

Disturbance: Tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	1.2 m	PI043.16
<i>Acacia stellaticeps</i>	2%	0.5 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.6 m	PI043.25
<i>Bonamia media</i> var. <i>villosa</i>	+	cr	PI043.19
<i>Bulbostylis barbata</i>	+	0.02 m	PI043.33
<i>Chrysopogon fallax</i>	+	0.5 m	PI043.20
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.1 m	PI043.30
<i>Desmodium filiforme</i>	+	0.1 m	PI043.18
<i>Drosera indica</i>	+	0.2 m	PIOPBW01a
<i>Eriachne aristidea</i>	+	0.3 m	PI043.04
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI043.26
<i>Goodenia lamprosperma</i>	+	0.3 m	PI043.21
<i>Goodenia triodiophila</i>	+	0.3 m	PI043.05
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1 m	PI043.07
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Mollugo molluginea</i>	+	0.1 m	PI043.29
<i>Paraneurachne muelleri</i>	+	0.3 m	PI043.10
<i>Pluchea ferdinandi-muelleri</i>	+	0.3 m	PI043.23
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06
<i>Polygala linariifolia</i>	+	0.1 m	PI043.12
<i>Polymeria ambigua</i>	+	0.02 m	PI043.22
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11
<i>Senna notabilis</i>	+	0.2 m	PI043.09
<i>Sida fibulifera</i>	+	0.1 m	PI043.32
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI043.14
<i>Stackhousia muricata</i>	+	0.3 m	PI043.28
<i>Triodia epactia</i>	25%	0.4 m	PI043.03
<i>Triodia lanigera</i>	+	0.1 m	PI043.02
<i>Urochloa holosericea</i> subsp. <i>velutina</i>	+	0.4 m	PI043.24
<i>Waltheria indica</i>	+	0.3 m	PI043.27
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08

**Port Hedland RS Site PI044**

**Described by** LD **Date** 23/06/2011 **Type** Q **50x50 m**

**Location** Port Hedland

**MGA Zone** 50 655687 mE 7744480 mN

**Habitat** Plain

**Soil** Orange brown sand

**Rock Type** N/A

**Vegetation** Scattered Low Shrubs of *Acacia colei* var. *colei* over Very Open Hummock Grassland of *Triodia secunda* and *Triodia epactia*

**Veg Condition** Excellent

**Fire Age** Moderate

**Notes** Aspect: N/A  
Bare Ground: 82%  
Litter Cover: 0% Logs, 0% Twigs, +% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.8 m	PI045.14	
<i>Bergia pedicellaris</i>	+	0.05 m	PI044.11	
<i>Bulbostylis barbata</i>	+	0.1 m	PI066.04	
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18	
<i>Chrysopogon fallax</i>	+	0.7 m	PI051.04	
<i>Cyperus dactyloides</i>	+	0.4 m	PI044.06	
<i>Drosera indica</i>	+	0.1 m	PI045.01	
<i>Eriachne mucronata</i>	+	0.4 m	PI044.02	
<i>Eulalia fulva</i>	+	0.4 m	PI044.04	
<i>Fimbristylis simulans</i>	+	0.1 m	PI044.03	
<i>Marsilea mutica</i>	+	0.02 m	PI044.08	
<i>Mimulus gracilis</i>	+	0.1 m	PI044.10	
<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>	+	0.1 m	PI044.07	
<i>Mitrasacme connata</i>	+	0.05 m	PI045.04	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Murdannia graminea</i>	+	0.3 m	PI045.21	Range ext
<i>Pluchea tetranthera</i>	+	0.2 m	PI066.22	
<i>Polygala linariifolia</i>	+	0.1 m	PI045.22	
<i>Ptilotus fusiformis</i>	+	0.7 m	PI065.28	
<i>Rotala diandra</i>	+	0.05 m	PI044.09	
<i>Stylidium desertorum</i>	+	0.05 m	PI045.19	
<i>Triodia epactia</i>	4%	0.3 m	PI044.01	
<i>Triodia secunda</i>	5%	0.3 m	PI048.05	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI065.09	

**Port Hedland RS Site PI045**

**Described by** LD **Date** 22/06/2011 **Type** Q **50x50 m**

**Location** Port Hedland  
**MGA Zone** 50 660672 mE 7741644 mN  
**Habitat** Plain  
**Soil** Orange brown sand  
**Rock Type** N/A  
**Vegetation** Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia*  
**Veg Condition** Excellent  
**Fire Age** Moderate  
**Notes** Aspect: N/A  
 Bare Ground: 70%  
 Litter Cover: 0% Logs, 1% Twigs, +% Lvs  
 Disturbance: Cattle



**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	+	1.5 m	PI045.14	
<i>Acacia sericophylla</i>	+	2 m	PI045.08	
<i>Acacia stellaticeps</i>	3%	0.6 m	PI065.01	
<i>Acacia tumida</i> var. <i>tumida</i>	+	2 m	PI045.07	
<i>Amaranthus undulatus</i>	+	0.3 m	PI045.16	
<i>Bulbostylis barbata</i>	+	0.1 m	PI066.04	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI066.03	
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18	
<i>Cassutha capillaris</i>	+	cl	PI051.06	
<i>Chrysopogon fallax</i>	+	0.3 m	PI051.04	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.1 m	PI045.17	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	2 m	PI051.02	
<i>Crotalaria ramosissima</i>	+	0.2 m	PI045.13	
<i>Cucumis maderaspatanus</i>	+	cl	PI045.15	
<i>Desmodium filiforme</i>	+	0.05 m	PI045.24	
<i>Drosera burmanni</i>	+	0.05 m	PI045.02	
<i>Drosera indica</i>	+	0.1 m	PI045.01	
<i>Eragrostis cumingii</i>	+	0.05 m	PI045.23	
<i>Eriachne mucronata</i>	+	0.4 m	PI065.05	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI045.09	
<i>Fimbristylis oxystachya</i>	+	0.1 m	PI025.05	
<i>Fimbristylis simulans</i>	+	0.1 m	PI065.07	
<i>Hibiscus leptocladus</i>	+	0.3 m	PI045.10	
<i>Indigofera monophylla</i>	+	0.3 m	PI065.13	
<i>Mimulus gracilis</i>	+	0.1 m	PI045.20	
<i>Mitrasacme connata</i>	+	0.1 m	PI045.04	
<i>Murdannia graminea</i>	+	0.3 m	PI045.21	Range ext
<i>Pluchea ferdinandi-muelleri</i>	+	0.6 m	PI045.05	
<i>Polygala linariifolia</i>	+	0.1 m	PI045.22	
* <i>Portulaca oleracea</i>	+	0.1 m	PI066.21	
<i>Ptilotus astrolasius</i>	+	0.4 m	PI045.06	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28	
<i>Schizachyrium fragile</i>	+	0.2 m	PI045.12	



<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	+	0.3 m	PI065.23
<i>Solanum ellipticum</i>	+	0.2 m	PI065.26
<i>Stackhousia intermedia</i>	+	0.2 m	PI066.14
<i>Stylidium desertorum</i>	+	0.01 m	PI045.19
<i>Triodia epactia</i>	25%	0.4 m	PI045.03
<i>Waltheria indica</i>	+	0.2 m	PI065.27
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI065.09

**Port Hedland RS Site PI046**

Described by HA Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 661418 mE 7742589 mN

Habitat Sand plain

Soil Orange brown sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia epactia* and *Triodia schinzii* over Scattered Tussock Grass of *Eriachne mucronata*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 55%  
Litter Cover: % Logs, % Twigs, % Lvs  
Disturbance: Tracks nearby**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.5 m	PI070.38	
<i>Acacia stellaticeps</i>	5%	0.3 m	PI070.01	
<i>Calandrinia pentavalvis</i>	+	0.2 m	PI072.14	
<i>Carissa lanceolata</i>	+	0.8 m	PI046.14	
<i>Chrysopogon fallax</i>	+	0.8 m	PI070.21	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI070.02	
<i>Desmodium filiforme</i>	+	cr	PI046.11	
<i>Drosera indica</i>	+	0.03 m	PI053.11	
<i>Eragrostis speciosa</i>	+	0.3 m	PI046.15	
<i>Eriachne aristidea</i>	+	0.3 m	PI070.28	
<i>Eriachne mucronata</i>	1%	0.3 m	PI046.07	
<i>Fimbristylis simulans</i>	+	0.1 m	PI072.08	
<i>Heliotropium cunninghamii</i>	+	0.1 m	PI046.19	
<i>Hibiscus burtonii</i>	+	0.3 m	PI046.04	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02	
<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>	+	0.1 m	PI046.10	
<i>Mitrasacme connata</i>	+	0.1 m	PI046.01	
<i>Mollugo molluginea</i>	+	0.2 m	PI070.35	
<i>Murdannia graminea</i>	+	0.1 m	PI046.13	Range ext
<i>Pluchea tetranthera</i>	+	0.3 m	PI046.18	
<i>Polygala linariifolia</i>	+	0.2 m	PI046.17	
* <i>Portulaca oleracea</i>	+	0.0.1 m	PI053.03	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22	
<i>Schizachyrium fragile</i>	+	0.2 m	PI046.12	
<i>Senna notabilis</i>	+	0.2 m	PI070.14	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI070.03	
<i>Solanum lasiophyllum</i>	+	0.6 m	PI070.37	
<i>Stackhousia intermedia</i>	+	0.15 m	PI046.03	
<i>Stylidium desertorum</i>	+	0.08 m	PI046.02	
<i>Triodia epactia</i>	30%	0.4 m	PI046.06	
<i>Triodia schinzii</i>	10%	0.5 m	PI046.05	

<i>Triumfetta ramosa</i>	+	0.2 m	PI046.09
<i>Waltheria indica</i>	+	0.5 m	PI053.14
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI046.16

**Port Hedland RS Site PI047**

Described by BW Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 657856 mE 7741848 mN

Habitat Plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation Scattered Shrubs of *Acacia colei* var. *colei* and *Acacia stellaticeps* over Scattered Low Shrubs of *Sida* sp. Pilbara (A.A. Mitchell PRP 1543) over Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 82%  
Litter Cover: 0% Logs, +% Twigs, 1% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	1%	1-1.6 m	PI043.16
<i>Acacia stellaticeps</i>	+	0.5 m	PI049.02
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI049.07
<i>Bonamia alatisemina</i>	+	cr	PI047.06
<i>Bulbostylis barbata</i>	+	0.1 m	PI067.01
<i>Calandrinia creethiae</i>	+	prostrate	PI064.06
<i>Chrysopogon fallax</i>	+	0.7 m	PI042.09
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI042.04
<i>Eragrostis eriopoda</i>	+	0.3 m	PI047.02
<i>Eriachne mucronata</i>	+	0.2 m	PI049.01
<i>Fimbristylis dichotoma</i>	+	0.2 m	PI049.15
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.7 m	PI043.07
<i>Hibiscus burtonii</i>	+	0.4 m	PI049.09
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	+	0.3 m	PI047.03
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Mitrasacme connata</i>	+	0.3 m	PI047.01
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Pluchea ferdinandi-muelleri</i>	+	0.4 m	PI067.02
<i>Pluchea tetranthera</i>	+	0.4 m	PI064.02
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Ptilotus fusiformis</i>	+	0.3 m	PI043.11
<i>Senna notabilis</i>	+	0.3 m	PI043.09
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.3 m	PI047.05
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	1%	0.6 m	PI043.14
<i>Triodia epactia</i>	16%	0.4 m	PI047.04
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06



**Port Hedland RS Site PI048**

**Described by** LD **Date** 22/06/2011 **Type** Q **50x50 m**

**Location** Port Hedland

**MGA Zone** 50 659481 mE 7741044 mN

**Habitat** Plain

**Soil** Orange brown sandy loam

**Rock Type**

**Vegetation** Scattered Shrubs of *Acacia colei* var. *colei* and *Acacia tumida* var. *tumida* over Scattered Low Shrubs of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia secunda* and *Triodia epactia*

**Veg Condition** Excellent

**Fire Age** Young - moderate

**Notes** Aspect: N/A  
 Bare Ground: 80%  
 Litter Cover: 0% Logs, +% Twigs, +% Lvs  
 Disturbance: Weeds?



**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.6-2 m	PI045.14	
<i>Acacia stellaticeps</i>	1%	0.4 m	PI065.01	
<i>Acacia tumida</i> var. <i>tumida</i>	+	2 m	PI045.07	
<i>Bonamia alatisemina</i>	+	0.1 m	PI048.06	
<i>Bulbostylis barbata</i>	+	0.1 m	PI066.04	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI066.03	
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18	
<i>Cassutha capillaris</i>	+	cl	PI051.06	
<i>Chrysopogon fallax</i>	+	0.5 m	PI051.04	
<i>Drosera indica</i>	+	0.1 m	PI045.01	
<i>Eragrostis eriopoda</i>	+	0.5 m	PI065.04	
<i>Eriachne mucronata</i>	+	0.2 m	PI048.10	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI048.03	
<i>Hibiscus burtonii</i>	+	0.3 m	PI048.08	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Murdannia graminea</i>	+	0.2 m	PI045.21	Range ext
<i>Pluchea ferdinandi-muelleri</i>	+	0.4 m	PI045.05	
<i>Pluchea tetranthera</i>	+	0.2 m	PI066.22	
<i>Polygala linariifolia</i>	+	0.1 m	PI045.22	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI065.28	
<i>Senna notabilis</i>	+	0.2 m	PI051.12	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI048.02	
<i>Solanum diversiflorum</i>	+	0.2 m	PI048.09	
<i>Solanum ellipticum</i>	+	0.3 m	PI065.26	
<i>Stackhousia intermedia</i>	+	0.2 m	PI066.14	
<i>Triodia epactia</i>	8%	0.4 m	PI048.07	
<i>Triodia secunda</i>	12%	0.2 m	PI048.05	
<i>Waltheria indica</i>	+	0.4 m	PI048.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI065.09	

**Port Hedland RS Site PI049**

Described by BW Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 660374 mE 7740273 mN

Habitat Plain

Soil Orange brown slity sand

Rock Type N/A

Vegetation Scattered Shrubs of *Acacia inaequilatera* over  
Scattered Low Shrubs of *Acacia stellaticeps* over Open  
Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia inaequilatera</i>	+	2 m	PI049.06
<i>Acacia stellaticeps</i>	+	0.3-1 m	PI049.02
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1.1 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.6 m	PI049.07
<i>Bulbostylis barbata</i>	+	0.1 m	PI067.01
<i>Calandrinia creethiae</i>	+	prostrate	PI064.06
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI049.11
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI042.04
<i>Drosera indica</i>	+	0.2 m	PIOPBW01a
<i>Eriachne mucronata</i>	+	0.2 m	PI049.01
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI049.15
<i>Fimbristylis oxystachya</i>	+	0.3 m	PI049.08
<i>Hibiscus burtonii</i>	+	0.4 m	PI049.09
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI049.03
<i>Leptosema anomalum</i>	+	0.1 m	PI049.12
<i>Mitrasacme connata</i>	+	0.1 m	PI049.10
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Pluchea tetranthera</i>	+	0.3 m	PI064.02
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11
<i>Senna notabilis</i>	+	0.4 m	PI043.09
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.4 m	PI049.05
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI043.14
<i>Solanum diversiflorum</i>	+	0.3 m	PI049.04
<i>Stackhousia muricata</i>	+	0.2 m	PI043.28
<i>Triodia epactia</i>	16%	0.4 m	PI049.13
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI042.06

**Port Hedland RS Site PI050**

Described by HA Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 658359 mE 7739665 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Shrubland of *Acacia stellaticeps* and *Acacia tumida* var. *pilbarensis* over Very Open Hummock  
Grassland of *Triodia epactia* over Open Tussock  
Grassland of *Eragrostis eriopoda*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 50%  
Litter Cover: +% Logs, 2% Twigs, 1% Lvs  
Disturbance: Some cattle tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	10%	0.4 m	PI070.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	1%	0.8 m	PI070.30	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI070.10	
<i>Bonamia alatisemina</i>	+		PI053.02	
<i>Bonamia media</i> var. <i>villosa</i>	+	cr	PI050.08	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Chrysopogon fallax</i>	+	0.8 m	PI070.21	
<i>Cleome viscosa</i>	(+)	0.3 m	PI050.10	
<i>Codonocarpus cotinifolius</i>	+	0.5 m	PI050.06	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.5 m	PI070.02	
<i>Dysphania saxatilis</i>	+	0.03 m	PI053.07	
<i>Eragrostis eriopoda</i>	25%	0.3 m	PI070.13	
<i>Eriachne aristidea</i>	+	0.2 m	PI070.28	
<i>Euphorbia australis</i>	+	cr	PI147.10	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI050.03	
<i>Hibiscus burtonii</i>	+	0.3 m	PI050.02	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI099.02	
<i>Indigofera monophylla</i>	+	0.5 m	PI072.03	
<i>Ipomoea muelleri</i>	+	cr	PI050.07	
<i>Mollugo molluginea</i>	+	0.2 m	PI070.35	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI054.09	
<i>Pluchea tetranthera</i>	+	0.4 m	PI050.05	
<i>Ptilotus astrolasius</i>	+	0.4 m	PI050.09	
<i>Senna notabilis</i>	+	0.2 m	PI070.14	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.6 m	PI070.03	
<i>Solanum lasiophyllum</i>	1%	0.5 m	PI070.37	
<i>Triodia epactia</i>	10%	0.3 m	PI050.01	
<i>Waltheria indica</i>	+	0.4 m	PI053.14	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06	

**Port Hedland RS Site PI051**

Described by LD Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 659348 mE 7737258 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A

Bare Ground: 70%

Litter Cover: 0% Logs, 1% Twigs, +% Lvs

Disturbance: Tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia sericophylla</i>	+	2 m	PI051.08	
<i>Acacia stellaticeps</i>	12%	0.6 m	PI065.01	Fl; yellow
<i>Acacia trudgeniana</i>	+	1.5 m	PI065.31	
<i>Bulbostylis barbata</i>	+	0.05 m	PI066.04	
<i>Cassyltha capillaris</i>	+	cl	PI051.06	
<i>Chrysopogon fallax</i>	+	0.5 m	PI051.04	
<i>Codonocarpus cotinifolius</i>	+	1 m	PI051.03	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.05 m	PI051.11	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	2 m	PI051.02	
<i>Cucumis maderaspatanus</i>	+	cr	PI051.10	
<i>Pluchea tetranthera</i>	+	0.4 m	PI051.09	
<i>Schizachyrium fragile</i>	+	0.2 m	PI051.07	
<i>Senna notabilis</i>	+	0.2 m	PI051.12	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI051.05	
<i>Stackhousia intermedia</i>	+	0.1 m	PI066.14	
<i>Triodia epactia</i>	20%	0.5 m	PI051.01	



**Port Hedland RS Site PI052**

Described by BW Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 660761 mE 7738308 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Open Heath of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia* over Scattered Tussock Grass of *\*Cenchrus ciliaris*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, 1% Twigs, 2% Lvs  
Disturbance: Old fence near by**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	1.2 m	PI043.16
<i>Acacia sericophylla</i>	+	1.8 m	PI052.01
<i>Acacia stellaticeps</i>	40%	0.6 m	PI043.01
<i>Amaranthus undulatus</i>	+	0.6 m	PI052.10
<i>Bulbostylis barbata</i>	+	0.1 m	PI067.01
<i>Bulbostylis turbinata</i>	+	0.2 m	PI052.04
<i>Carissa lanceolata</i>	+	2 m	PI052.07
<i>*Cenchrus ciliaris</i>	0.5%	0.4 m	PI052.06
<i>Chrysopogon fallax</i>	+	0.5 m	PI042.09
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	2 m	PI146.07
<i>Eriachne benthamii</i>	+	0.1 m	PI052.02
<i>Eriachne mucronata</i>	+	0.2 m	PI064.04
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI052.08
<i>Goodenia forrestii</i>	+	0.3 m	PI052.05
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Trianthema pilosa</i>	+	prostrate	PI052.09
<i>Triodia epactia</i>	15%	0.5 m	PI052.11

**Port Hedland RS Site PI053**

Described by HA Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 658728 mE 7738738 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type

Vegetation Low Shrubland of *Acacia stellaticeps* and *Acacia colei* var. *colei* over Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance:**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	1%	0.5 m	PI070.38
<i>Acacia inaequilatera</i>	+	1 m	PI054.05
<i>Acacia stellaticeps</i>	15%	0.2 m	PI070.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10
<i>Aristida inaequiglumis</i>	+	0.2 m	PI053.06
<i>Bonamia alatisemina</i>	+	cr	PI053.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Calandrinia stagnensis</i>	+	cr	PI053.04
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	2.9 m	PI053.08
<i>Drosera indica</i>	+	0.05 m	PI053.11
<i>Dysphania saxatilis</i>	+	0.1 m	PI053.07
<i>Eragrostis eriopoda</i>	+	0.3 m	PI070.13
<i>Eragrostis speciosa</i>	+	0.1 m	PI053.05
<i>Eriachne aristidea</i>	+	0.1 m	PI070.28
<i>Euphorbia australis</i>	+	cr	PI147.10
<i>Fimbristylis simulans</i>	+	0.1 m	PI053.16
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.2 m	PI070.05
<i>Hibiscus leptocladus</i>	+	0.1 m	PI053.12
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI099.02
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03
<i>Mitrasacme connata</i>	+	0.2 m	PI072.07
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
* <i>Portulaca oleracea</i>	+	cr	PI053.03
<i>Ptilotus fusiformis</i>	+	0.2 m	PI070.22
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI053.09
<i>Solanum lasiophyllum</i>	+	0.2 m	PI070.37
<i>Triodia epactia</i>	20%	0.2 m	PI053.01
<i>Waltheria indica</i>	+	0.4 m	PI053.14
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI054**

Described by HA Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 657753 mE 7737033 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type

Vegetation Low Open Heath of *Acacia stellaticeps* over Hummock  
Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 20%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Some cattle tracks**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.7 m	PI070.38
<i>Acacia inaequilatera</i>	+	1.5 m	PI054.05
<i>Acacia pyrifolia</i>	+	0.4 m	PI054.10
<i>Acacia sericophylla</i>	+	2.5 m	PI070.04
<i>Acacia stellaticeps</i>	40%	0.7 m	PI070.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	0.8 m	PI070.30
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Bulbostylis turbinata</i>	+	0.15 m	PI054.06
<i>Chrysopogon fallax</i>	+	0.8 m	PI070.21
<i>Cleome viscosa</i>	+	0.3 m	PI054.04
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17
<i>Eriachne aristidea</i>	+	0.2 m	PI054.03
<i>Eriachne mucronata</i>	+	0.3 m	PI054.02
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI072.10
<i>Euphorbia australis</i>	+	cr	PI147.10
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>	+	0.3 m	PI054.11
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09
<i>Pimelea ammodarid</i>	+	0.6 m	PI070.23
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
<i>Portulaca pilosa</i>	+	0.15 m	PI147.22
<i>Senna notabilis</i>	+	0.1 m	PI070.14
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	+	0.05 m	PI054.08
<i>Triodia epactia</i>	50%	0.5 m	PI054.01
<i>Waltheria indica</i>	+	0.01 m	PI054.07
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.05 m	PI072.06

**Port Hedland RS Site PI055**

Described by HA Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 659874 mE 7736335 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Scattered Shrubs of *Acacia inaequilatera* over Low Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia epactia*

Veg Condition Pristine to excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 30%  
Litter Cover: 1% Logs, 2% Twigs, +% Lvs  
Disturbance: Highway near by**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia inaequilatera</i>	1%	2 m	PI054.05	
<i>Acacia sericophylla</i>	+	2.5 m	PI070.04	
<i>Acacia stellaticeps</i>	20%	0.6 m	PI070.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	0.8 m	PI070.30	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI070.10	
<i>Aristida inaequiglumis</i>	+	0.2 m	PI070.24	
<i>Bonamia rosea</i>	+	0.1 m	PI055.04	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Cassutha capillaris</i>	+	cr	PI055.03	
<i>Chrysopogon fallax</i>	+	1 m	PI070.21	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI070.02	
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17	
<i>Dysphania saxatilis</i>	+	0.1 m	PI053.07	
<i>Eragrostis eriopoda</i>	+	0.3 m	PI070.13	
<i>Eriachne aristidea</i>	+	0.2 m	PI070.28	
<i>Eriachne mucronata</i>	+	0.3 m	PI055.02	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.2 m	PI070.05	
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03	
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02	
<i>Polymeria ambigua</i>	+	cr	PI096.04	
<i>Ptilotus astrolasius</i>	+	0.3 m	PI089.05	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI070.22	
<i>Senna notabilis</i>	+	0.2 m	PI070.14	
<i>Sida</i> sp.	+	0.1 m	PI055.05	Material inadequate
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI070.03	
<i>Triodia epactia</i>	60%	0.5 m	PI055.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI072.06	



**Port Hedland RS Site PI056**

Described by BW Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 663299 mE 7737645 mN

Habitat Plain

Soil Orange brown slity sand

Rock Type N/A

Vegetation Scattered Low Trees of *Owenia reticulata* over Low Open Shrubland of *Acacia colei* var. *colei* and *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 90%  
Litter Cover: +% Logs, 1% Twigs, 1% Lvs  
Disturbance: Cattle and tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	1%	0.7 m	PI043.16
<i>Acacia inaequilatera</i>	+	1-2 m	PI049.06
<i>Acacia stellaticeps</i>	1%	0.5 m	PI043.01
<i>Amaranthus undulatus</i>	+	0.4 m	PI056.05
<i>Aristida holathera</i> var. <i>holathera</i>	2%	0.5 m	PI049.07
<i>Boerhavia coccinea</i>	+	0.1 m	PI067.15
<i>Bulbostylis barbata</i>	+	0.1 m	PI056.01
<i>Calandrinia pentavalvis</i>	+	0.2 m	PI049.11
<i>Carissa lanceolata</i>	+	0.8 m	PI052.07
<i>Cleome viscosa</i>	+	0.4 m	PI026.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI042.04
<i>Dysphania saxatilis</i>	+	0.3 m	PI056.11
<i>Eragrostis eriopoda</i>	+	0.2 m	PI047.02
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI056.08
<i>Euphorbia australis</i>	+	prostrate	PI056.10
<i>Fimbristylis dichotoma</i>	+	0.2 m	PI049.15
<i>Fimbristylis simulans</i>	+	0.2 m	PI028.03
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.8 m	PI043.07
<i>Hibiscus burtonii</i>	+	0.4 m	PI049.09
<i>Hibiscus leptocladus</i>	+	0.4 m	PI056.14
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Mollugo molluginea</i>	+	0.1 m	PI043.29
<i>Owenia reticulata</i>	1%	5-7 m	PI067.17
<i>Paraneurachne muelleri</i>	+	0.3 m	PI056.16
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Polymeria calycina</i>	+	0.2 m	PI056.06
* <i>Portulaca oleracea</i>	+	0.1 m	PI056.07
<i>Ptilotus astrolasius</i>	+		PI056.18

<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11
<i>Senna notabilis</i>	+	0.3 m	PI043.09
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.4 m	PI056.13
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI056.09
<i>Trianthema pilosa</i>	+	0.1 m	PI056.02
<i>Tribulopsis angustifolia</i>	+	0.2 m	PI056.17
<i>Triodia epactia</i>	5%	0.4 m	PI056.03
<i>Triodia lanigera</i>	1%	0.1 m	PI056.04
<i>Waltheria indica</i>	+	0.3 m	PI056.12
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI042.06

**Port Hedland RS Site PI057**

Described by HA Date 30/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 660453 mE 7722568 mN

Habitat Sand plain

Soil Orange brown loamy sand

**Rock Type****Vegetation** High Open Shrubland of *Acacia inaequilatera* and *Acacia colei* var. *colei* over Hummock Grassland of *Triodia epactia***Veg Condition** Excellent**Fire Age** Moderate**Notes** Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, +% Twigs, 1% Lvs  
Disturbance: Some cattle tracks**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	1.2 m	PI131.04
<i>Acacia colei</i> var. <i>colei</i>	+	0.9 m	PI070.38
<i>Acacia inaequilatera</i>	3%	3 m	PI054.05
<i>Acacia stellaticeps</i>	+	0.3 m	PI070.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	1%	0.25 m	PI070.30
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI070.10
<i>Boerhavia coccinea</i>	+	cr	PI072.12
<i>Bonamia alatisemina</i>	+	cr	PI053.02
<i>Bonamia rosea</i>	+	0.3 m	PI088.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21
<i>Cleome viscosa</i>	+	0.4 m	PI040.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI070.02
<i>Crotalaria ramosissima</i>	+	0.3 m	PI089.02
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17
<i>Dysphania saxatilis</i>	+	0.1 m	PI053.07
<i>Eriachne aristidea</i>	+	0.3 m	PI070.28
<i>Euphorbia australis</i>	+	cr	PI108.12
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI070.07
<i>Fimbristylis dichotoma</i>	+	0.2 m	PI081.07
<i>Goodenia microptera</i>	+	0.3 m	PI096.01
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02
<i>Indigofera monophylla</i>	+	0.3 m	PI072.03
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.15 m	PI072.02
<i>Polymeria ambigua</i>	+	cr	PI086.06
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11
<i>Ptilotus axillaris</i>	+	0.1 m	PI057.03

<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22	
<i>Senna glaucifolia</i>	+	0.6 m	PI057.02	
<i>Senna notabilis</i>	+	0.2 m	PI070.14	
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.4 m	PI105.08	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI070.03	
<i>Solanum lasiophyllum</i>	+	0.3 m	PI070.37	
<i>Tephrosia simplicifolia</i>	+	0.1 m	PI032.08	Range ext
<i>Tinospora smilacina</i>	+	cl	PI087.09	
<i>Triodia epactia</i>	40%	0.5 m	PI057.01	
<i>Triumfetta ramosa</i>	+	0.3 m	PI099.05	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06	



**Port Hedland RS Site PI058**

Described by LD Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 661891 mE 7734858 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type

Vegetation Scattered Shrubs of *Acacia trudgeniana* over Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 70%  
Litter Cover: +% Logs, 1% Twigs, 1% Lvs  
Disturbance: Tracks near by**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	2%	0.8-1 m	PI065.01	
<i>Acacia trudgeniana</i>	1%	2-3 m	PI065.31	
<i>Acacia tumida</i> var. <i>tumida</i>	+	2-3 m	PI045.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI058.07	
<i>Aristida inaequiglumis</i>	+	1 m	PI058.04	
<i>Bonamia alatisemina</i>	+	0.1 m	PI027.06	
<i>Bulbostylis barbata</i>	+	0.1 m	PI066.04	
<i>Chrysopogon fallax</i>	+	0.3 m	PI051.04	
<i>Cucumis maderaspatanus</i>	+	cl	PI045.15	
<i>Dysphania saxatilis</i>	+	0.2 m	PI058.12	
<i>Eriachne helmsii</i>	+	0.4 m	PI027.02	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI058.08	
<i>Fimbristylis oxystachya</i>	+	0.2 m	PI025.05	
<i>Hybanthus aurantiacus</i>	+	0.1 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.3 m	PI065.13	
<i>Paraneurachne muelleri</i>	+	0.3 m	PI058.06	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Ptilotus astrolasius</i>	+	0.2 m	PI058.09	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28	
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	+	0.2 m	PI058.11	
<i>Senna notabilis</i>	+	0.2 m	PI051.12	
<i>Sida clementii</i>	+	0.3 m	PI065.21	
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.2 m	PI150.06	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.6 m	PI058.05	
<i>Solanum ellipticum</i>	+	0.2 m	PI065.26	
<i>Triodia epactia</i>	13%	0.4 m	PI058.03	
<i>Triodia lanigera</i>	6%	0.4 m	PI058.01	
<i>Waltheria indica</i>	+	0.3 m	PI065.27	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08	

**Port Hedland RS Site PI059**

Described by BW Date 27/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 664541 mE 7741390 mN

Habitat Sand plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation Low Open Woodland of *Eucalyptus victrix* and *Corymbia candida* subsp. *dipsodes* over Very Open Hummock Grassland of *Triodia epactia* over Scattered Grass of *Chrysopogon fallax*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 88%  
Litter Cover: +% Logs, +% Twigs, 2% Lvs  
Disturbance: Cattle, weeds and tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.5 m	PI043.16
<i>Acacia sericophylla</i>	+	2 m	PI104.07
<i>Acacia stellaticeps</i>	+	0.4 m	PI043.01
<i>Alternanthera nana</i>	+	0.4 m	PI059.04
<i>Amaranthus undulatus</i>	+	0.4 m	PI059.08
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI049.07
<i>Bonamia rosea</i>	+	0.4 m	PI030.04
<i>Calandrinia stagnensis</i>	+	0.2 m	PI145.04
<i>Calandrinia pumila</i>	+	prostrate	PI045.18
<i>Carissa lanceolata</i>	+	0.8 m	PI052.07
* <i>Cenchrus ciliaris</i>	+	0.5 m	PI052.06
<i>Chrysopogon fallax</i>	1%	0.6 m	PI042.09
<i>Cleome viscosa</i>	(+)	0.4 m	NC
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI042.04
<i>Corchorus tectus</i>	+	0.4 m	PI030.02
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	3-4 m	PI146.07
<i>Cyperus dactyloides</i>	+	0.6 m	PI059.10
<i>Desmodium filiforme</i>	+	0.2 m	PI059.02
<i>Drosera indica</i>	+	0.2 m	PIOPBW01a
<i>Eriachne benthamii</i>	+	0.4 m	PI092.06
<i>Eriachne mucronata</i>	+	0.4 m	PI049.01
<i>Eucalyptus victrix</i>	4%	7-10 m	PI059.03
<i>Euphorbia alsiniflora</i>	+	0.4 m	PI056.08
<i>Goodenia lamprosperma</i>	+	0.4 m	PI043.21
<i>Goodenia triodiophila</i>	+	0.4 m	PI059.05
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.7 m	PI043.07
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Indigofera linifolia</i>	+	0.4 m	PI133.06

<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Stemodia lathraia</i>	+	0.02 m	PI059.06
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Pluchea tetranthera</i>	+	0.4 m	PI066.22
<i>Rhynchosia minima</i>	+	cr	PI059.07
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI043.14
<i>Solanum diversiflorum</i>	+	0.3 m	PI049.04
<i>Stylidium desertorum</i>	+	0.02 m	PI045.19
<i>Tephrosia leptoclada</i>	+	0.2 m	PI059.09
<i>Triodia epactia</i>	7%	0.3 m	PI059.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI060**

Described by BW Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 660742 mE 7734177 mN

Habitat Plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate to old

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, 1% Twigs, 1% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia inaequilatera</i>	+	1.6 m	PI049.06
<i>Acacia stellaticeps</i>	2%	0.6 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07
<i>Bulbostylis barbata</i>	+	0.1 m	PI056.01
<i>Calandrinia pentavalvis</i>	+	0.2 m	PI049.11
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>	+	0.4 m	PI060.01
<i>Digitaria brownii</i>	+	0.4 m	PI028.04
<i>Dysphania saxatilis</i>	+	0.3 m	PI069.03
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI056.08
<i>Fimbristylis dichotoma</i>	+	0.2 m	PI049.15
<i>Fimbristylis simulans</i>	+	0.2 m	PI028.03
<i>Goodenia microptera</i>	+	0.4 m	PI060.02
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Polymeria calycina</i>	+	0.2 m	PI060.04
* <i>Portulaca oleracea</i>	+	0.1 m	PI056.07
<i>Ptilotus astrolasius</i>	+	0.3 m	PI056.18
<i>Ptilotus fusiformis</i>	+	0.3 m	PI043.11
<i>Senna notabilis</i>	+	0.4 m	PI043.09
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.2 m	PI060.05
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.1 m	PI056.09
<i>Tribulus hirsutus</i>	+	prostrate	PI060.03
<i>Triodia lanigera</i>	15%	0.4 m	PI060.06
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI042.06



**Port Hedland RS Site PI061**

Described by HA Date 30/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 662706 mE 7731505 mN

Habitat Sand plain

Soil Orange brown loamy sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia lanigera* and *Triodia epactia* over Scattered Tussock Grasses of *Aristida holathera* var. *holathera* over Scattered Sedges of *Fimbristylis dichotoma*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 55%  
Litter Cover: +% Logs, +% Twigs, 2% Lvs  
Disturbance: None

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia inaequilatera</i>	+	2.3 m	PI054.05	
<i>Acacia sericophylla</i>	+	0.5 m	PI070.04	
<i>Acacia stellaticeps</i>	2%	0.5 m	PI070.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	3 m	PI070.30	
<i>Aristida holathera</i> var. <i>holathera</i>	1%	0.3 m	PI061.02	
<i>Boerhavia coccinea</i>	+	cr	PI072.12	
<i>Bonamia alatisemina</i>	+	cr	PI053.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Cleome viscosa</i>	+	0.3 m	PI099.07	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.2 m	PI070.02	
<i>Crotalaria ramosissima</i>	+	0.2 m	PI089.02	
<i>Dolichandrone heterophylla</i>	+	1.2 m	PI061.05	
<i>Dysphania saxatilis</i>	+	0.2 m	PI053.07	
<i>Eriachne aristidea</i>	+	0.3 m	PI070.28	
<i>Euphorbia australis</i>	+	cr	PI108.12	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI070.07	
<i>Fimbristylis dichotoma</i>	1%	0.4 m	PI081.07	
<i>Fimbristylis simulans</i>	+	0.3 m	PI072.08	
<i>Goodenia microptera</i>	+	0.3 m	PI096.01	
<i>Gossypium australe</i>	+	0.3 m	PI105.15	
<i>Hibiscus brachychlaenus</i>	+	0.3 m	PI061.04	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02	
<i>Indigofera monophylla</i>	+	0.3 m	PI072.03	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02	
<i>Polymeria ambigua</i>	+	cr	PI096.04	
<i>Ptilotus astrolasius</i>	+	0.5 m	PI089.05	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22	
<i>Ptilotus polystachyus</i>	+	0.4 m	PI147.19	

<i>Schizachyrium fragile</i>	+	0.3 m	PI110.05
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	+	1.2 m	PI061.06
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Solanum lasiophyllum</i>	+	0.5 m	PI070.37
<i>Trianthema pilosa</i>	+	cr	PI072.13
<i>Triodia epactia</i>	5%	0.5 m	PI061.03
<i>Triodia lanigera</i>	30%	0.4 m	PI061.01
<i>Triumfetta ramosa</i>	+	0.3 m	PI099.05
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI062**

Described by BW Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 663201 mE 7733037 mN

Habitat Plain

Soil Orange brown clayey sand

Rock Type N/A

Vegetation Scattered shrubs of *Acacia inaequilatera* over Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, +% Twigs, 1% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	1.5 m	PI062.03
<i>Acacia colei</i> var. <i>colei</i>	+	1.7 m	PI043.16
<i>Acacia inaequilatera</i>	1%	1-2 m	PI049.06
<i>Acacia stellaticeps</i>	3%	0.6 m	PI043.01
<i>Bulbostylis barbata</i>	+	0.1 m	PI056.01
<i>Chrysopogon fallax</i>	+	0.6 m	PI042.09
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	1.5 m	PI146.07
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI026.08
<i>Digitaria brownii</i>	+	0.4 m	PI062.05
<i>Eriachne aristidea</i>	+	0.2 m	PI062.02
<i>Eriachne mucronata</i>	+	0.2 m	PI049.01
<i>Euphorbia australis</i>	+	0.2 m	PI062.06
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI062.04
<i>Fimbristylis dichotoma</i>	+	0.2 m	PI049.15
<i>Fimbristylis simulans</i>	+	0.2 m	PI028.03
<i>Goodenia microptera</i>	+	0.4 m	PI060.02
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Polymeria calycina</i>	+	0.2 m	PI056.06
<i>Ptilotus astrolasius</i>	+	0.4 m	PI056.18
<i>Senna notabilis</i>	+	0.2 m	PI043.09
<i>Sida clementii</i>	+	0.1 m	PI069.01
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI043.14
<i>Solanum diversiflorum</i>	+	0.2 m	PI049.04
<i>Triodia lanigera</i>	15%	0.4 m	PI062.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI042.06

**Port Hedland RS Site PI063**

Described by LD Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 659695 mE 7733018 mN

Habitat Plain

Soil Orange brown sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia schinzii* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Old tracks near by**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	2%	0.7 m	PI065.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	0.3 m	PI150.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.1 m	PI063.09	
<i>Aristida inaequiglumis</i>	+	0.7 m	PI058.04	
<i>Bonamia media</i> var. <i>villosa</i>	+	0.1 m	PI063.05	
<i>Bulbostylis barbata</i>	+	0.1 m	PI027.03	
<i>Chrysopogon fallax</i>	+	0.5 m	PI051.04	
<i>Digitaria brownii</i>	+	0.4 m	PI063.07	
<i>Eriachne aristidea</i>	+	0.4 m	PI063.03	
<i>Eriachne mucronata</i>	+	0.5 m	PI063.04	
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI025.12	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI063.10	
<i>Fimbristylis oxystachya</i>	+	0.2 m	PI025.05	
<i>Goodenia microptera</i>	+	0.2 m	PI063.14	
<i>Hibiscus brachychlaenus</i>	+	0.1 m	PI063.11	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.2 m	PI065.13	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI058.06	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI063.08	
<i>Polymeria calycina</i>	+	0.1 m	PI063.13	
<i>Portulaca pilosa</i>	+	0.2 m	PI090.15	
<i>Ptilotus astrolasius</i>	+	0.2 m	PI045.06	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28	
<i>Ptilotus polystachyus</i>	+	0.6 m	PI025.13	
<i>Senna notabilis</i>	+	0.2 m	PI051.12	
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03	
<i>Triodia lanigera</i>	6%	0.4 m	PI063.01	
<i>Triodia schinzii</i>	11%	0.4 m	PI063.02	
<i>Triumfetta ramosa</i>	+	0.1 m	PI063.12	
<i>Waltheria indica</i>	+	0.05 m	PI063.06	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08	





**Port Hedland RS Site PI065**

Described by LD Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 656220 mE 7733162 mN

Habitat Sandy plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Scattered Low Shrubs of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera* over Scattered Tussock Grasses of *Aristida holathera* var. *holathera* and *Eriachne mucronata*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 75%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Tracks and power lines near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	1%	0.6 m	PI065.01	Fl; yellow
<i>Acacia trudgeniana</i>	+	0.8 m	PI065.31	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	0.2 m	PI065.19	
<i>Aristida holathera</i> var. <i>holathera</i>	1%	0.3 m	PI065.06	
<i>Boerhavia coccinea</i>	+	cr	PI065.20	
<i>Bonamia alatisemina</i>	+	cr	PI065.11	
<i>Bonamia media</i> var. <i>villosa</i>	+	0.2 m	PI065.18	
<i>Bulbostylis barbata</i>	+	0.05 m	PI066.04	
<i>Cleome viscosa</i>	+	0.4 m	PI065.17	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI065.15	
<i>Eragrostis eriopoda</i>	+	0.2 m	PI065.04	
<i>Eriachne mucronata</i>	+	0.3 m	PI065.05	
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI065.30	
<i>Euphorbia australis</i>	+	0.1 m	PI065.25	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.3 m	PI065.16	
<i>Fimbristylis simulans</i>	+	0.3 m	PI065.07	
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	1.5 m	PI065.29	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	2 m	PI065.32	
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	+	0.2 m	PI065.14	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.5 m	PI065.13	Fl; pink
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI065.08	
<i>Portulaca pilosa</i>	+	0.1 m	PI065.24	
<i>Ptilotus fusiformis</i>	+	0.5 m	PI065.28	
<i>Senna notabilis</i>	+	0.1 m	PI051.12	
<i>Sida clementii</i>	+	0.7 m	PI065.21	
<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	+	0.4 m	PI065.23	

<i>Solanum ellipticum</i>	+	0.2 m	PI065.26	
<i>Trianthera pilosa</i>	+	0.1 m	PI065.03	Fl; purple
<i>Triodia epactia</i>	20%	0.6 m	PI065.02	
<i>Triodia lanigera</i>	6%	0.5 m	PI065.12	
<i>Waltheria indica</i>	+	0.2 m	PI065.27	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI065.09	

**Port Hedland RS Site PI066**

Described by LD Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 655392 mE 7734336 mN

Habitat Sandy plain

Soil Orange brown sandy loam with crust

Rock Type N/A

Vegetation Open Hummock Grassland of *Triodia epactia* over Scattered Tussock Grasses of *Sporobolus australasicus* and *Aristida holathera* var. *holathera*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: 0% Logs, +% Twigs, 1% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI066.11
<i>Bulbostylis barbata</i>	+	0.05 m	PI066.04
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI066.03
<i>Centipeda minima</i> subsp. <i>macrocephala</i>	+	0.1 m	PI066.15a
<i>Dactyloctenium radulans</i>	+	0.1 m	PI066.08
<i>Eragrostis cumingii</i>	+	0.3 m	PI066.17
<i>Eragrostis pergracilis</i>	+	0.1 m	PI066.09
<i>Eriachne aristidea</i>	+	0.2 m	PI066.07
<i>Fimbristylis dichotoma</i>	+	0.2 m	PI066.06
<i>Fimbristylis simulans</i>	+	0.1 m	PI065.07
<i>Gomphrena sordida</i>	+	0.1 m	PI066.10
<i>Ipomoea coptica</i>	+	cr	PI066.16
<i>Marsilea hirsuta</i>	+	0.02 m	PI066.20
<i>Pluchea rubelliflora</i>	+	0.2 m	PI066.16a
<i>Pluchea tetranthera</i>	+	0.1 m	PI066.22
* <i>Portulaca oleracea</i>	+	0.1 m	PI066.21
<i>Pterocaulon sphaeranthoides</i>	+	0.2 m	PI066.19
<i>Ptilotus murrayi</i>	+	0.01 m	PI066.12
<i>Senna notabilis</i>	+	0.05 m	PI051.12
<i>Solanum ellipticum</i>	+	0.1 m	PI066.23
<i>Sporobolus australasicus</i>	1%	0.1 m	PI066.02
<i>Stackhousia intermedia</i>	+	0.2 m	PI066.14
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+	0.02 m	PI066.13
<i>Trianthema triquetra</i>	+	0.1 m	PI066.15
<i>Triodia epactia</i>	17%	0.4 m	PI066.01
<i>Xerochloa laniflora</i>	+	0.3 m	PI066.24



**Port Hedland RS Site PI067**

Described by BW Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 654256 mE 7734411 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Scattered Low Trees of *Owenia reticulata* over Open Shrubland of *Acacia colei* var. *colei* over Scattered Low Shrubs of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 73%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	2%	1-2 m	PI043.16
<i>Acacia stellaticeps</i>	1%	0.6 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.5 m	PI067.07
<i>Boerhavia coccinea</i>	+	0.1 m	PI067.15
<i>Bulbostylis barbata</i>	+	0.1 m	PI067.01
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.5 m	PI067.08
<i>Cucumis maderaspatanus</i>	+	cr	PI067.16
<i>Desmodium filiforme</i>	+	prostrate	PI067.10
<i>Drosera indica</i>	+	0.1 m	PIOPBW01a
<i>Eragrostis cumingii</i>	+	0.1 m	PI067.04
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.3 m	PI067.14
<i>Fimbristylis oxystachya</i>	+	0.1 m	PI067.03
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.8 m	PI043.07
<i>Ipomoea polymorpha</i>	+	0.1 m	PI067.13
<i>Owenia reticulata</i>	1%	6 m	PI067.17
<i>Pluchea ferdinandi-muelleri</i>	+	0.4 m	PI067.02
<i>Polygala linariifolia</i>	+	0.2 m	PI067.09
<i>Senna notabilis</i>	+	0.1 m	PI043.09
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.4 m	PI069.07
<i>Solanum lasiophyllum</i>	+	0.6 m	PI067.06
<i>Stackhousia muricata</i>	+	0.2 m	PI043.28
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+	0.1 m	PI067.12
<i>Triodia epactia</i>	25%	0.5 m	PI067.18
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI042.06

**Port Hedland RS Site PI068**

Described by HA Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 653602 mE 7733204 mN

Habitat Major riverbed

Soil Light brown sand

Rock Type N/A

Vegetation Low Open Woodland of *Eucalyptus camaldulensis* subsp. *refulgens* and *Melaleuca argentea* over High Open Shrubland of *Acacia trachycarpa* and *Acacia ampliceps* over Scattered Hummock Grasses of *Triodia lanigera* and *Triodia epactia*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Some buffel

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ampliceps</i>	1%	3 m	PI068.19	
<i>Acacia dictyophleba</i>	+	3.5 m	PI068.20	
<i>Acacia stellaticeps</i>	+	0.3 m	PI070.01	
<i>Acacia trachycarpa</i>	2%	2.3 m	PI068.03	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	3 m	PI070.30	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI068.06	
<i>Cajanus cinereus</i>	+	2 m	PI068.08	
<i>Calandrinia quadrivalvis</i>	+	0.03 m	PI068.11	
<i>Cassutha capillaris</i>	+	cl	PI068.21	
** <i>Cenchrus ciliaris</i>	+	0.5 m	PI070.29	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.5 m	PI068.04	
<i>Cyperus vaginatus</i>	1%	1 m	PI068.16	
<i>Dentella asperata</i>	+	cr	PI068.22	
<i>Eriachne aristidea</i>	+	0.3 m	PI068.05	
<i>Eriachne mucronata</i>	+	0.2 m	PI068.24	
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	1%	6 m	PI068.01	
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI068.12	
<i>Hybanthus aurantiacus</i>	+	0.5 m	PI099.02	
<i>Melaleuca argentea</i>	2%	4.5 m	PI068.10	
<i>Melaleuca glomerata</i>	+	2.8 m	PI068.09	
<i>Melaleuca linophylla</i>	+	1 m	PI068.02	
<i>Pimelea ammodarid</i>	+	1 m	PI070.23	
<i>Pluchea rubelliflora</i>	+	0.1 m	PI068.18	
<i>Pterocaulon sphaeranthoides</i>	+	0.02 m	PI068.17	
<i>Schoenoplectus laevis</i>	+	0.05 m	PI068.23	
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	1 m	PI068.13	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	+	0.3 m	PI068.15	
<i>Triodia epactia</i>	+	0.5 m	PI068.07	
<i>Triodia lanigera</i>	1%	0.5 m	PI068.14	

**Port Hedland RS Site PI069**

Described by BW Date 21/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 654412 mE 7738963 mN

Habitat Wide flat drainage line

Soil Orange brown silty sand

Rock Type N/A

Vegetation Open Woodland of *Eucalyptus camaldulensis* subsp. *refulgens* over High Shrubland *Acacia tumida* var. *pilbarensis*, *Cajanus cinereus* and *Acacia pyrifolia* over Very Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: 1% Logs, 3% Twigs, 4% Lvs  
Disturbance: Fire

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia pyrifolia</i>	1%	0.8 m	PI069.06	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	15%	1.7 m	PI069.09	
<i>Bonamia media</i> var. <i>villosa</i>	+	prostrate	PI069.12	
<i>Cajanus cinereus</i>	15%	1.6 m	PI069.04	
<i>Chrysopogon fallax</i>	+	0.5 m	PI042.09	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI042.04	
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>	+	1.2 m	PI069.10	
<i>Dentella asperata</i>	+	prostrate	PI069.11	
<i>Dysphania saxatilis</i>	+	0.1 m	PI069.03	
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	4%	10-20 m	PI069.08	
<i>Goodenia forrestii</i>	+	0.2 m	PI069.02	
<i>Goodenia triodiophila</i>	+	0.3 m	PI069.13	2 ind.
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13	
<i>Mollugo molluginea</i>	+	0.02 m	PI043.29	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI043.15	
<i>Senna notabilis</i>	+	0.3 m	PI043.09	
<i>Sida clementii</i>	+	0.8 m	PI069.01	
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	1 m	PI069.07	
<i>Triodia epactia</i>	6%	0.4 m	PI069.15	

**Port Hedland RS Site PI070**

Described by HA Date 21/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 653434 mE 7740914 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Open Heath of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia*

Veg Condition

Fire Age

Notes

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Abutilon pritzelianum</i> ms	+	1.2 m	PI070.36	
<i>Acacia colei</i> var. <i>colei</i>	+	1.5 m	PI070.38	
<i>Acacia sericophylla</i>	+	2 m	PI070.04	
<i>Acacia stellaticeps</i>	40%	0.9 m	PI070.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	2 m	PI070.30	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.5 m	PI070.10	
<i>Aristida inaequiglumis</i>	+	0.7 m	PI070.24	
<i>Bonamia alatisemina</i>	+	cr	PI070.18	
<i>Bonamia media</i> var. <i>villosa</i>	+	cr	PI070.08	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Calandrinia pentavalvis</i>	+	cr	PI070.20	
* <i>Cenchrus ciliaris</i>	+	0.2 m	PI070.29	
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI070.02	
<i>Desmodium filiforme</i>	+	0.1 m	PI070.32	
<i>Eragrostis cumingii</i>	+	0.2 m	PI070.11	
<i>Eragrostis eriopoda</i>	+	0.3 m	PI070.13	
<i>Eriachne aristidea</i>	+	0.2 m	PI070.28	
<i>Eriachne mucronata</i>	+	0.3 m	PI070.12	
<i>Euphorbia australis</i>	+	0.1 m	PI070.06	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI070.07	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1.5 m	PI070.05	
<i>Hibiscus burtonii</i>	+	0.4 m	PI070.39	
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	+	0.4 m	PI070.31	
<i>Mollugo molluginea</i>	+	0.2 m	PI070.35	
<i>Paraneurachne muelleri</i>	+	0.3 m	PI070.19	
<i>Pimelea ammocharis</i>	+	0.7 m	PI070.23	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI070.15	
* <i>Portulaca oleracea</i>	+	cr	PI070.34	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22	
<i>Senna notabilis</i>	+	0.2 m	PI070.14	



<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI070.03
<i>Solanum lasiophyllum</i>	+	0.5 m	PI070.37
<i>Tribulopsis angustifolia</i>	+	cr	PI070.26
<i>Tribulus occidentalis</i>	+	cr	PI070.27
<i>Triodia epactia</i>	20%	0.5 m	PI070.09
<i>Waltheria indica</i>	+	0.3 m	PI070.25

**Port Hedland RS Site PI071**

Described by BW Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 655929 mE 7741813 mN

Habitat Plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation High Open Shrubland of *Acacia colei* var. *colei* over  
Low Open Shrubland of *Acacia stellaticeps* over Open  
Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 72%  
Litter Cover: +% Logs, 1% Twigs, 2% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	3%	2.5 m	PI043.16
<i>Acacia stellaticeps</i>	4%	0.7 m	PI043.01
<i>Bulbostylis barbata</i>	+	0.1 m	PI067.01
<i>Calandrinia creethiae</i>	+	prostrate	PI064.06
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI049.11
<i>Chrysopogon fallax</i>	+	0.6 m	PI042.09
<i>Cucumis maderaspatanus</i>	+	cr	PI071.01
<i>Drosera indica</i>	+	0.1 m	PIOPBW01a
<i>Eriachne mucronata</i>	+	0.3 m	PI049.01
<i>Fimbristylis dichotoma</i>	+	0.1 m	PI049.15
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13
<i>Ipomoea muelleri</i>	+	cr	PI071.02
<i>Mitrasacme connata</i>	+	0.2 m	PI071.03
<i>Paspalidium tabulatum</i>	+	0.2 m	PI071.08
<i>Pluchea ferdinandi-muelleri</i>	+	0.5 m	PI067.02
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Senna notabilis</i>	+	0.3 m	PI043.09
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.1 m	PI071.06
<i>Stylidium desertorum</i>	+	0.1 m	PI071.05
<i>Triodia epactia</i>	25%	0.4 m	PI071.09
<i>Waltheria indica</i>	+	0.3 m	PI071.07

**Port Hedland RS Site PI072**

Described by HA Date 21/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 655582 mE 7740428 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Open Shrubland of *Acacia stellaticeps* and *Acacia tumida* var. *pilbarensis* over Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance: Young**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.7 m	PI070.38
<i>Acacia stellaticeps</i>	3%	0.3 m	PI070.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	1%	1.2 m	PI070.30
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.5 m	PI070.10
<i>Boerhavia coccinea</i>	+	cr	PI072.12
<i>Bonamia media</i> var. <i>villosa</i>	+	0.1 m	PI072.11
<i>Bonamia rosea</i>	+	0.4 m	PI072.09
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14
<i>Chrysopogon fallax</i>	+	0.8 m	PI070.21
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI070.02
<i>Eragrostis eriopoda</i>	+	0.3 m	PI070.13
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI072.10
<i>Fimbristylis simulans</i>	+	0.1 m	PI072.08
<i>Hibiscus burtonii</i>	+	0.5 m	PI072.15
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI072.05
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03
<i>Mitrasacme connata</i>	+	0.2 m	PI072.07
<i>Mollugo molluginea</i>	+	0.2 m	PI070.35
<i>Paraneurachne muelleri</i>			PI054.09
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
<i>Ptilotus fusiformis</i>	+	0.2 m	PI070.22
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sida fibulifera</i>	+	0.2 m	PI072.04
<i>Solanum lasiophyllum</i>	+	0.6 m	PI070.37
<i>Trianthema pilosa</i>	+	0.2 m	PI072.13
<i>Triodia epactia</i>	40%	0.5 m	PI072.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.05 m	PI072.06

**Port Hedland RS Site PI073**

Described by HA Date 21/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 655835 mE 7739083 mN

**Habitat** Sand plain

**Soil** Brown sandy loam

**Rock Type** N/A

**Vegetation** Open Shrubland of *Acacia tumida* var. *pilbarensis* over Scattered Low Shrubs of *Dolichandrone heterophylla* over Open Hummock Grassland of *Triodia epactia* over Open Tussock Grassland of *Eragrostis eriopoda*

**Veg Condition** Excellent

**Fire Age** Young

**Notes** Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Old cattle tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	+	0.2 m	PI070.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	6%	1.5 m	PI070.30	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI073.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Chrysopogon fallax</i>	+	0.8 m	PI070.21	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.6 m	PI070.02	
<i>Dolichandrone heterophylla</i>	1%	0.5 m	PI073.01	
<i>Eragrostis eriopoda</i>	20%	0.4 m	PI070.13	
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI072.10	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI073.10	
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	1.5 m	PI073.06	
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	+	0.2 m	PI073.09	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02	
<i>Ipomoea polymorpha</i>	+	0.2 m	PI073.13	
<i>Mollugo molluginea</i>	+	0.2 m	PI070.35	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.05 m	PI072.02	
<i>Portulaca pilosa</i>	+	0.1 m	PI073.03	
<i>Senna notabilis</i>	+	0.4 m	PI070.14	
<i>Sida fibulifera</i>	+	cr	PI072.04	
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.6 m	PI073.04	
<i>Solanum ellipticum</i>	+	0.3 m	PI073.12	
<i>Solanum lasiophyllum</i>	+	0.1 m	PI070.37	
<i>Trianthema pilosa</i>	+	0.1 m	PI072.13	
<i>Tribulopsis angustifolia</i>	+	cr	PI073.08	
<i>Triodia epactia</i>	15%	0.5 m	PI073.05	
<i>Waltheria indica</i>	+	0.1 m	PI073.11	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06	



**Port Hedland RS Site PI074**

Described by LD Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 671261 mE 7738932 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Open Woodland of *Corymbia candida* subsp. *dipsodes* over Open Shrubland of *Acacia bivenosa* and *Acacia sphaerostachya* over Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia lanigera* and *Triodia epactia*

Veg Condition Very good

Fire Age Moderate to old

Notes Aspect: N/A  
Bare Ground: 50%  
Litter Cover: +% Logs, 1% Twigs, 1% Lvs  
Disturbance: Tracks, cattle and weeds

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia bivenosa</i>	1%	1 m	PI117.05	
<i>Acacia colei</i> var. <i>colei</i>	+	2 m	PI091.12	
<i>Acacia sericophylla</i>	+	2 m	PI117.14	
<i>Acacia sphaerostachya</i>	1%	2 m	PI134.01	
<i>Acacia stellaticeps</i>	4%	0.7 m	PI065.01	
<i>Acacia trudgeniana</i>	+	2 m	PI065.31	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI094.04	
<i>Bonamia alatisemina</i>	+	0.1 m	PI117.11	
<i>Bonamia rosea</i>	+	0.3 m	PI090.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18	
<i>Carissa lanceolata</i>	+	1 m	PI094.09	
* <i>Cenchrus ciliaris</i>	1%	0.4 m	PI103.06	
<i>Chrysopogon fallax</i>	+	0.4 m	PI051.04	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI094.08	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	3%	3 m	PI074.01	
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI154.04	
<i>Dysphania saxatilis</i>	+	0.2 m	PI090.11	
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03	
<i>Eriachne mucronata</i>	+	0.3 m	PI109.05	
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	+	6 m	PI079.01	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI117.03	
<i>Fimbristylis oxystachya</i>	(+)	0.1 m	PI025.05	
<i>Goodenia lamprosperma</i>	+	0.1 m	PI079.03	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Paspalidium tabulatum</i>	+	0.1 m	PI117.07	
<i>Pimelea ammocharis</i>	+	0.8 m	PI090.05	

<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04
<i>Ptilotus fusiformis</i>	+	0.4 m	PI065.28
<i>Senna notabilis</i>	+	0.2 m	PI051.12
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.2 m	PI154.05
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI058.05
<i>Solanum diversiflorum</i>	+	0.2 m	PI048.09
<i>Solanum ellipticum</i>	+	0.4 m	PI103.10
<i>Sporobolus australasicus</i>	+	0.1 m	PI066.02
<i>Triodia epactia</i>	20%	0.6 m	PI074.02
<i>Triodia lanigera</i>	28%	0.6 m	PI074.03
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI075**

Described by BW Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 671339 mE 7740276 mN

Habitat Port Hedland

Soil Orange brown silty sand

Rock Type N/A

Vegetation Open Shrubland of *Acacia colei* var. *colei* and *Acacia sericophylla* over Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 70%  
Litter Cover: +% Logs, +% Twigs, 2% Lvs  
Disturbance: Cattle and weeds

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	1%	1-2 m	PI043.16	
<i>Acacia sericophylla</i>	1%	1-2 m	PI104.07	
<i>Acacia stellaticeps</i>	2%	0.6 m	PI043.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI049.07	
<i>Aristida inaequiglumis</i>	+	0.5 m	PI075.01	
<i>Bonamia rosea</i>	+	0.4 m	PI030.04	
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01	
* <i>Cenchrus ciliaris</i>	+	0.4 m	PI052.06	
<i>Chrysopogon fallax</i>	2%	0.5 m	PI042.09	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.5 m	PI042.04	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	2-3 m	PI146.07	
<i>Crotalaria ramosissima</i>	+	0.3 m	PI029.01	
<i>Digitaria brownii</i>	+	0.3 m	PI028.04	
<i>Dysphania saxatilis</i>	+	0.2 m	PI069.03	
<i>Eriachne mucronata</i>	+	0.4 m	PI049.01	
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI056.08	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.3 m	PI052.03	
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29	
<i>Pluchea tetranthera</i>	+	0.4 m	PI064.02	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06	
<i>Portulaca pilosa</i>	+	0.2 m	PI030.01	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11	
<i>Ptilotus polystachyus</i>	+	0.3 m	PI030.03	
<i>Schizachyrium fragile</i>	+	0.4 m	PI075.02	
<i>Triodia lanigera</i>	20%	0.4 m	PI075.03	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06	

**Port Hedland RS Site PI076**

Described by EC Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 673038 mE 7739789 mN

Habitat Plain

Soil Light orange brown sandy loam

Rock Type N/A

Vegetation Open Shrubland of *Acacia tumida* var. *pilbarensis*, *Acacia stellaticeps*, *Acacia colei* var. *colei* and *Acacia sericophylla* over Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia* over Very Open Tussock Grassland of *Aristida holathera* var. *holathera*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 78%  
Disturbance: Kapok and Buffel

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	2%	1-3 m	PI076.14
<i>Acacia pyrifolia</i>	+	0.3 m	PI107.03
<i>Acacia sericophylla</i>	1%	1.5-2 m	PI141.12
<i>Acacia stellaticeps</i>	2%	0.7 m	PI083.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	3%	1-3 m	PI076.15
* <i>Aerva javanica</i>	+	0.4 m	PI076.05
<i>Aristida contorta</i>	+	0.3 m	PI076.04
<i>Aristida holathera</i> var. <i>holathera</i>	8%	0.4 m	PI076.07
<i>Boerhavia coccinea</i>	+	0.3 m	PI123.29
<i>Bonamia alatisemina</i>	+	cr	PI083.10
<i>Bulbostylis barbata</i>	+	0.1 m	PI121.05
* <i>Cenchrus ciliaris</i>	+	0.4 m	PI103.06
<i>Chrysopogon fallax</i>	+	0.3 m	PI084.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI084.06
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	2-3 m	PI141.08
<i>Cucumis maderaspatanus</i>	+	cr	PI141.04
<i>Dolichandrone heterophylla</i>	1%	1 m	PI076.11
<i>Eragrostis eriopoda</i>	+	0.3 m	PI084.04
<i>Eriachne mucronata</i>	+	0.3 m	PI076.13
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI123.36
<i>Euphorbia australis</i>	+	0.2 m	PI084.08
<i>Goodenia forrestii</i>	+	0.3 m	PI076.08
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	1 m	PI076.03
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	+	0.3 m	PI123.16
<i>Indigofera linifolia</i>	+	0.3 m	PI076.10
<i>Indigofera monophylla</i>	+	0.3 m	PI123.02
<i>Mollugo molluginea</i>	+	0.1 m	PI123.09
<i>Pimelea ammocharis</i>	+	0.3 m	PI076.01
<i>Pluchea tetranthera</i>	+	0.3 m	PI083.11



<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI083.12
<i>Portulaca pilosa</i>	+	0.2 m	PI123.17
<i>Ptilotus fusiformis</i>	+	0.3 m	PI083.08
<i>Ptilotus polystachyus</i>	+	0.4 m	PI076.02
<i>Rhynchosia minima</i>	+	0.3 m	PI076.09
<i>Schizachyrium fragile</i>	+	0.3 m	PI076.06
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI123.04
<i>Solanum ellipticum</i>	+	0.3 m	PI065.26
<i>Tinospora smilacina</i>	+	cr	PI076.12
<i>Triodia epactia</i>	5%	0.3 m	PI076.16
<i>Triodia lanigera</i>	15%	0.3 m	PI076.17
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI084.03

**Port Hedland RS Site PI077**

Described by HA Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 674005 mE 7738233 mN

Habitat Sand plain/ flood plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Woodland of *Corymbia hamersleyana* and *Corymbia candida* subsp. *dipsodes* over High Shrubland of *Acacia tumida* var. *pilbarensis* and *Acacia colei* var. *colei* over Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent to very good

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 30%  
Litter Cover: 1% Logs, 1% Twigs, 2% Lvs  
Disturbance: Some buffel

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	5%	3 m	PI070.38	
<i>Acacia sericophylla</i>	+	1.5 m	PI099.13	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	6%	3 m	PI070.30	
<i>Alternanthera nana</i>	+	cr	PI077.05a	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10	
<i>Atalaya hemiglauca</i>	+	3 m	PI077.05	
<i>Bonamia alatisemina</i>	+	4 m	PI053.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Carissa lanceolata</i>	+	2 m	PI086.09	
* <i>Cenchrus ciliaris</i>	+	0.5 m	PI070.29	
<i>Chrysopogon fallax</i>	12%	1 m	PI070.21	
<i>Cleome viscosa</i>	+	0.5 m	PI040.10	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.5 m	PI070.02	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	2%	5 m	PI088.08	
<i>Corymbia hamersleyana</i>	10%	4 m	PI077.01	
<i>Cucumis maderaspatanus</i>	+	cr	PI077.11	
<i>Digitaria</i> sp.	+	0.5 m	PI077.07	sterile
<i>Dysphania saxatilis</i>	+	0.3 m	PI053.07	
<i>Eragrostis cumingii</i>	+	0.1 m	PI077.09	atypical form
<i>Eragrostis cumingii</i>	+	0.3 m	PI077.03	
<i>Eriachne aristidea</i>	+	0.3 m	PI070.28	
<i>Eriachne helmsii</i>	+	0.3 m	PI077.06	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI072.10	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI070.07	
<i>Goodenia lamprosperma</i>	+	0.4 m	PI094.05	
<i>Goodenia triodiophila</i>	+	0.4 m	PI077.13	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI099.02	
<i>Marsilea hirsuta</i>	+	0.1 m	PI077.08	

<i>Stemodia lathraia</i>	+	0.2 m	PI077.09
<i>Paspalidium tabulatum</i>	+	0.2 m	PI077.12
<i>Pluchea rubelliflora</i>	+	0.3 m	PI077.04
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11
<i>Rhynchosia minima</i>	+	cr	PI077.10
<i>Schizachyrium fragile</i>	+	0.3 m	PI110.05
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI070.03
<i>Sporobolus australasicus</i>	+	0.1 m	PI037.07
<i>Streptoglossa decurrens</i>	+	0.3 m	PI115.18
<i>Triodia epactia</i>	30%	0.6 m	PI077.02

**Port Hedland RS Site PI078**

Described by BW Date 29/06/2011 Type Q 50x50 m

**Location** Port Hedland  
**MGA Zone** 50 670478 mE 7737780 mN  
**Habitat** Sandplain  
**Soil** Orange brown sandy clay  
**Rock Type** N/A  
**Vegetation** Low Open Woodland of *Corymbia hamersleyana* over  
 Open Shrubland of *Acacia colei* var. *colei* over  
 Hummock Grassland of *Triodia epactia*  
**Veg Condition** Excellent  
**Fire Age** Old  
**Notes** Aspect: N/A  
 Bare Ground: 35%  
 Litter Cover: +% Logs, 1% Twigs, +% Lvs  
 Disturbance: Cattle and weeds!

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Abutilon lepidum</i>	+	0.3 m	PI078.01
<i>Acacia ancistrocarpa</i>	+	1.2 m	PI062.03
<i>Acacia colei</i> var. <i>colei</i>	3%	1-2 m	PI043.16
<i>Acacia sericophylla</i>	+	1.6 m	PI104.07
<i>Acacia stellaticeps</i>	+	0.6 m	PI043.01
<i>Amaranthus undulatus</i>	(+)	0.2 m	PI133.03
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI049.07
<i>Calandrinia stagnensis</i>	+	0.3 m	PI145.04
* <i>Cenchrus ciliaris</i>	+	0.4 m	PI052.06
<i>Chrysopogon fallax</i>	1%	0.6 m	PI042.09
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI042.04
<i>Corymbia hamersleyana</i>	3%	2-4 m	PI113.01
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI026.08
<i>Euphorbia alsiniflora</i>	+	0.4 m	PI056.08
<i>Euphorbia australis</i>	+	prostrate	PI104.02
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06
<i>Rhynchosia minima</i>	+	cr	PI078.02
<i>Triodia epactia</i>	60%	0.6 m	PI078.03
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06



**Port Hedland RS Site PI079**

Described by LD Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 670786 mE 7736757 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type

Vegetation Low Open Woodland of *Eucalyptus camaldulensis* subsp. *refulgens* and *Corymbia zygophylla* over Open Shrubland of *Acacia sphaerostachya* and *Acacia colei* var. *colei* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Very good

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, +% Twigs, 1% Lvs  
Disturbance: Cattle and weeds.

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	1%	1-3 m	PI091.12	
<i>Acacia sericophylla</i>	+	1-2 m	PI117.14	
<i>Acacia sphaerostachya</i>	2%	1.5 m	PI134.01	
<i>Acacia stellaticeps</i>	+	0.6 m	PI065.01	
<i>Acacia trudgeniana</i>	+	1-2.5 m	PI065.31	
<i>Alternanthera nana</i>	+	0.2 m	PI094.07	
<i>Amaranthus undulatus</i>	+	0.3 m	PI045.16	
<i>Aristida inaequiglumis</i>	+	0.4 m	PI058.04	
<i>Boerhavia coccinea</i>	+	0.1 m	PI079.07	
<i>Bonamia alatisemina</i>	+	cr	PI117.11	
<i>Bonamia rosea</i>	+	0.2 m	PI090.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI066.03	
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18	
<i>Carissa lanceolata</i>	+	1 m	PI094.09	
* <i>Cenchrus ciliaris</i>	+	0.3 m	PI103.06	
<i>Chrysopogon fallax</i>	1%	0.6 m	PI051.04	
<i>Cleome viscosa</i>	+	0.6 m	PI065.17	
<i>Corymbia zygophylla</i>	2%	2-4 m	PI112.02	
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI154.04	
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11	
<i>Eragrostis cumingii</i>	+	0.1 m	PI080.06	
<i>Eragrostis eriopoda</i>	+	0.2 m	PI134.06	
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03	
<i>Eriachne glauca</i> var. <i>glauca</i>	+	0.1 m	PI079.05	
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	4%	6-9 m	PI079.01	
<i>Goodenia lamprosperma</i>	+	0.1 m	PI079.03	
<i>Goodenia triodiophila</i>	+	0.15 m	PI079.04	

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<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13
<i>Indigofera monophylla</i>	+	0.2 m	PI065.13
<i>Marsilea mutica</i>	+	0.05 m	PI044.08
<i>Mimulus gracilis</i>	+	0.05 m	PI094.06
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04
<i>Paraneurachne muelleri</i>	+	0.2 m	PI117.09
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04
<i>Ptilotus fusiformis</i>	+	0.4 m	PI065.28
<i>Senna notabilis</i>	+	0.2 m	PI051.12
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.1 m	PI154.05
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.1 m	PI079.08
<i>Sporobolus australasicus</i>	+	0.1 m	PI066.02
<i>Triodia epactia</i>	20%	0.5 m	PI079.02
<i>Triodia lanigera</i>	8%	0.4 m	PI079.06
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08
<i>Zornia muelleriana</i>	+	0.05 m	PI080.05

**Port Hedland RS Site PI080**

Described by LD Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 668275 mE 7734444 mN

Habitat Plain

Soil Orange Brown clayey sandy loam

Rock Type N/A

Vegetation Low Open Woodland of *Eucalyptus victrix* over Very Open Hummock Grassland of *Triodia epactia* over Tussock Grassland of *Chrysopogon fallax*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A

Bare Ground: 30%

Litter Cover: +% Logs, 1% Twigs, 2% Lvs

Disturbance: Tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	0.6 m	PI091.12
<i>Acacia trudgeniana</i>	+	1.5 m	PI065.31
<i>Acacia tumida</i> var. <i>pilbarensis</i>	3%	1-2 m	PI150.07
<i>Alternanthera nana</i>	+	0.2 m	PI094.07
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI090.08
<i>Aristida inaequiglumis</i>	+	0.4 m	PI058.04
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI066.03
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18
<i>Chrysopogon fallax</i>	32%	0.6 m	PI051.04
<i>Cleome viscosa</i>	+	0.3 m	PI065.17
<i>Corchorus tectus</i>	+	0.3 m	PI091.07
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	2 m	PI051.02
<i>Crotalaria ramosissima</i>	+	0.2 m	PI027.05
<i>Ehretia saligna</i> var. <i>saligna</i>	+	0.4 m	PI091.08
<i>Eragrostis cumingii</i>	+	0.2 m	PI080.06
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03
<i>Eriachne glauca</i> var. <i>glauca</i>	+	0.2 m	PI097.03
<i>Eucalyptus victrix</i>	5%	6 m	PI094.03
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI025.12
<i>Euphorbia australis</i>	+	0.01 m	PI103.13
<i>Goodenia lamprosperma</i>	+	0.2 m	PI094.05
<i>Goodenia triodiophila</i>	+	0.3 m	PI080.07
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Indigofera colutea</i>	+	0.1 m	PI103.11
<i>Indigofera linifolia</i>	+	0.2 m	PI090.13
<i>Mimulus gracilis</i>	+	0.1 m	PI080.03
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04

<i>Perotis rara</i>	+	0.1 m	PI106.11
<i>Pluchea rubelliflora</i>	+	0.2 m	PI080.02
<i>Pluchea tetranthera</i>	+	0.2 m	PI066.22
* <i>Portulaca oleracea</i>	+	0.2 m	PI128.04
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI058.05
<i>Solanum ellipticum</i>	+	0.2 m	PI065.26
<i>Stylidium desertorum</i>	+	0.05 m	PI045.19
<i>Triodia epactia</i>	8%	0.4 m	PI080.04
<i>Vigna lanceolata</i> var. <i>lanceolata</i>	1%	cr	PI080.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08
<i>Zornia muelleriana</i>	+	0.1 m	PI080.05



**Port Hedland RS Site PI081**

Described by HA Date 28/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 672866 mE 7732720 mN

Habitat Sand plain

Soil Orange brown loamy sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia epactia* and *Triodia lanigera* over Very Open Tussock Grassland of *Eriachne mucronata* and *Dactyloctenium radulans*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle tracks**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	+	1.2 m	PI070.38
<i>Acacia inaequilatera</i>	OUT	1.5 m	PI054.05
<i>Acacia stellaticeps</i>	8%	0.5 m	PI070.01
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Dactyloctenium radulans</i>	1%	0.1 m	PI037.14
<i>Eragrostis cumingii</i>	+	0.1 m	PI081.06
<i>Eriachne mucronata</i>	1%	0.2 m	PI102.06
<i>Eriachne glauca</i> var. <i>glauca</i>	+	0.1 m	PI081.02
<i>Fimbristylis dichotoma</i>	(1%)	0.3 m	PI081.07
<i>Goodenia lamprosperma</i>	+	0.2 m	PI086.04
<i>Pluchea rubelliflora</i>	+	0.2 m	PI127.05
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11
<i>Pterocaulon serrulatum</i>	+	0.2 m	PI081.05
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI070.03
<i>Sporobolus australasicus</i>	+	0.2 m	PI037.07
<i>Trianthema triquetra</i>	+	0.1 m	PI081.03
<i>Triodia epactia</i>	35%	0.4 m	PI081.01
<i>Triodia lanigera</i>	+	0.3 m	PI081.04
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI082**

Described by HA Date 28/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 675071 mE 7733966 mN

Habitat Sand plain/ flood plain

Soil Brown orange loamy sand

Rock Type N/A

Vegetation Low Open Woodland of *Corymbia candida* subsp. *dipsodes* over Open Shrubland of *Acacia inaequilatera* over Very Open Tussock Grassland of *Chrysopogon fallax*

**Veg Condition****Fire Age**

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance:

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.6 m	PI070.38	
<i>Acacia inaequilatera</i>	2%	2 m	PI054.05	
<i>Amaranthus undulatus</i>	+	0.5 m	PI120.10	
<i>Aristida inaequiglumis</i>	+	0.8 m	PI070.24	
<i>Boerhavia coccinea</i>	+	cr	PI072.12	
<i>Bonamia alatisemina</i>	+	cr	PI053.02	
<i>Bulbostylis barbata</i>	+	0.15 m	PI070.17	
<i>Calandrinia pumila</i>	+	cr	PI086.02	
<i>Carissa lanceolata</i>	+	0.15 m	PI086.09	
* <i>Cenchrus ciliaris</i>	+	0.5 m	PI070.29	
<i>Chrysopogon fallax</i>	5%	1.2 m	PI070.21	
<i>Cleome viscosa</i>	+	0.3 m	PI099.07	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	1%	0.4 m	PI070.02	
<i>Corchorus tectus</i>	+	0.3 m	PI095.02	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	3%	4 m	PI088.08	
<i>Dysphania saxatilis</i>	+	0.2 m	PI053.07	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.15 m	PI070.07	
<i>Fimbristylis dichotoma</i>	+	0.5 m	PI081.07	
<i>Goodenia triodiophila</i>	+	0.3 m	PI082.04	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1.5 m	PI070.05	
<i>Heliotropium cunninghamii</i>	+	0.4 m	PI046.19	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI082.01	
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI054.09	
<i>Pluchea rubelliflora</i>	+	0.1 m	PI127.05	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.15 m	PI072.02	
<i>Polymeria calycina</i>	+	0.1 m	PI082.02	
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11	

<i>Portulaca pilosa</i>	+	0.4 m	PI147.22
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Senna notabilis</i>	+	0.3 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	1%	0.6 m	PI070.03
<i>Solanum lasiophyllum</i>	+	0.5 m	PI070.37
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+	cr	PI082.03
<i>Triodia epactia</i>	+	0.2 m	PI082.05
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI083**

Described by EC Date 28/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 675754 mE 7731735 mN

Habitat Plain

Soil Light orange brown sandy loam with surface crust in areas

Rock Type

Vegetation Low Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate to old

Notes Aspect: N/A  
Bare Ground: 30%  
Litter Cover: 0% Logs, 0% Twigs, +% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	30%	0.8 m	PI083.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI123.18	
<i>Bonamia alatisemina</i>	+	cr	PI083.10	
<i>Bulbostylis barbata</i>	+	0.2 m	PI121.05	
<i>Calandrinia stagnensis</i>	+	0.1 m	PI083.04	
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	+	0.2 m	PI083.07	
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI083.03	
<i>Indigofera monophylla</i>	+	0.3 m	PI123.02	
<i>Mollugo molluginea</i>	+	0.2 m	PI123.09	
<i>Pluchea rubelliflora</i>	+	0.2 m	PI083.05	
<i>Pluchea tetranthera</i>	+	0.3 m	PI083.11	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI083.12	
<i>Ptilotus calostachyus</i>	+	0.2 m	PI109.10	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI083.08	
<i>Senna notabilis</i>	+	0.2 m	PI123.20	
<i>Sporobolus australasicus</i>	+	0.2 m	PI121.01	
<i>Streptoglossa decurrens</i>	+	0.3 m	PI121.02	
<i>Triodia epactia</i>	35%	0.3 m	PI083.09	
<i>Triodia lanigera</i>	25%	0.3 m	PI083.06	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI083.02	



**Port Hedland RS Site PI084**

Described by EC Date 28/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 674644 mE 7730614 mN

Habitat Plain

Soil Light orange brown sandy loam

Rock Type N/A

Vegetation Open Shrubland of *Acacia inaequilatera* and *Acacia tumida* var. *pilbarensis* over Low Shrubland of *Corchorus tectus* and *Sida* sp. Pilbara (A.A. Mitchell PRP 1543) over Very Open Tussock Grassland of *Chrysopogon fallax* and *Eriachne eriopoda* over Scattered Sedges of *Bulbostylis barbata*

Veg Condition Very good

Fire Age Young - moderate

Notes Aspect: N/A  
Bare Ground: 75%  
Litter Cover: 0% Logs, 0% Twigs, +% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia inaequilatera</i>	2%	1-1.5 m	PI123.15
<i>Acacia tumida</i> var. <i>pilbarensis</i>	2%	0.4 m	PI123.08
<i>Aristida contorta</i>	+	0.2 m	PI084.14
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI123.18
<i>Bonamia alatisemina</i>	+	cr	PI083.10
<i>Bulbostylis barbata</i>	1%	0.2 m	PI121.05
<i>Calandrinia stagnensis</i>	1%	0.1 m	PI083.04
<i>Calandrinia pentavalvis</i>	+	0.2 m	PI123.38
<i>Chrysopogon fallax</i>	1%	0.4 m	PI084.10
<i>Cleome viscosa</i>	+	0.3 m	PI065.17
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI084.06
<i>Corchorus tectus</i>	10%	0.4 m	PI123.35
<i>Dysphania saxatilis</i>	+	0.2 m	PI090.11
<i>Eragrostis eriopoda</i>	1%	0.3 m	PI084.04
<i>Eriachne glauca</i> var. <i>glauca</i>	+	0.2 m	PI084.13
<i>Euphorbia australis</i>	+	0.2 m	PI084.08
<i>Fimbristylis dichotoma</i>	1%	0.3 m	PI083.03
<i>Goodenia lamprosperma</i>	+	0.2 m	PI084.15
<i>Goodenia microptera</i>	+	0.3 m	PI123.12
<i>Hibiscus burtonii</i>	+	0.4 m	PI084.01
<i>Indigofera colutea</i>	+	0.2 m	PI084.07
<i>Mitrasacme connata</i>	+	0.2 m	PI072.07
<i>Mollugo molluginea</i>	+	0.2 m	PI123.09
<i>Paraneurachne muelleri</i>	+	0.3 m	PI084.09
<i>Pluchea rubelliflora</i>	+	0.3 m	PI083.05
<i>Pluchea tetranthera</i>	+	0.2 m	PI083.11
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI083.12
<i>Portulaca pilosa</i>	+	0.2 m	PI123.17

<i>Senna notabilis</i>	+	0.3 m	PI123.20
<i>Sida clementii</i>	2%	0.4 m	PI084.02
<i>Sida rohlenae subsp. rohlenae</i>	+	0.3 m	PI084.05
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	10%	0.5 m	PI123.04
<i>Solanum diversiflorum</i>	+	0.3 m	PI048.09
<i>Solanum ellipticum</i>	+	0.4 m	PI065.26
<i>Sporobolus australasicus</i>	+	0.2 m	PI121.01
<i>Streptoglossa decurrens</i>	+	0.3 m	PI121.02
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+	0.01 m	PI084.12
<i>Tribulus macrocarpus</i>	+	cr	PI084.11
<i>Triodia epactia</i>	1%	0.3 m	PI083.09
<i>Yakirra australiensis</i> var. <i>australiensis</i>	1%	0.2 m	PI084.03

**Port Hedland RS Site PI085**

Described by BW Date 28/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 671954 mE 7731060 mN

Habitat Sandplain

Soil Orange brown clayey sand

Rock Type N/A

Vegetation Scattered Shrubs of *Acacia synchronicia* and *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	+	1-2 m	PI062.03	
<i>Acacia inaequilatera</i>	+	1.5-2 m	PI049.06	
<i>Acacia stellaticeps</i>	+	0.6 m	PI043.01	
<i>Acacia synchronicia</i>	1%	1-2 m	PI140.10	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07	
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01	
<i>Calandrinia stagnensis</i>	+	0.2 m	PI145.04	
<i>Cleome viscosa</i>	+	0.2 m	PI101.04	
<i>Dentella asperata</i>	+	prostrate	PI069.11	
<i>Dysphania saxatilis</i>	+	0.2 m	PI056.15	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	+	0.2 m	PI140.06	
<i>Euphorbia australis</i>	+	prostrate	PI104.02	
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI049.15	
<i>Gomphrena leptoclada</i> subsp. <i>leptoclada</i>	+	prostrate	PI085.03	
<i>Goodenia microptera</i>	+	0.4 m	PI060.02	
<i>Heliotropium muticum</i>	+	0.2 m	PI030.06	12 ind
<i>Indigofera monophylla</i>	+	0.3 m	PI146.02	
<i>Isotropis atropurpurea</i>	+	0.4 m	PI145.10	
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29	
<i>Pluchea rubelliflora</i>	+	0.2 m	PI122.01	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06	
<i>Polycarpaea holtzei</i>	+	0.1 m	PI140.07	
<i>Polymeria ambigua</i>	+	prostrate	PI145.07	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11	
<i>Senna notabilis</i>	+	0.3 m	PI043.09	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI043.14	
<i>Sporobolus australasicus</i>	+	0.2 m	PI145.03	
<i>Tephrosia supina</i>	+	0.6 m	PI085.01	
<i>Triodia epactia</i>	1%	0.3 m	PI085.04	
<i>Triodia lanigera</i>	15%	0.3 m	PI085.02	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06	

**Port Hedland RS Site PI086**

Described by HA Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 669395 mE 7737084 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type

Vegetation Low Open Shrubland of *Indigofera monophylla*,  
*Corchorus tectus* and *Acacia stellaticeps* over Open  
Hummock Grassland of *Triodia epactia* and *Triodia  
lanigera*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 65%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance: Recently burnt

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	0.5 m	PI086.05
<i>Acacia colei</i> var. <i>colei</i>	+	1 m	PI070.38
<i>Acacia inaequilatera</i>	+	2 m	PI054.05
<i>Acacia stellaticeps</i>	1%	0.2 m	PI070.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10
<i>Boerhavia coccinea</i>	+	cr	PI072.12
<i>Bonamia alatisemina</i>	+	cr	PI053.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14
<i>Calandrinia pumila</i>	1%	cr	PI086.02
<i>Carissa lanceolata</i>	+	0.6 m	PI086.09
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21
<i>Cleome viscosa</i>	+	0.5 m	PI040.10
<i>Corchorus tectus</i>	2%	0.3 m	PI095.02
<i>Dysphania saxatilis</i>	+	0.4 m	PI053.07
<i>Eriachne mucronata</i>	+	0.15 m	PI102.06
<i>Eriachne glauca</i> var. <i>glauca</i>	1%	0.2 m	PI086.08
<i>Euphorbia australis</i>	+	cr	PI108.12
<i>Goodenia lamprosperma</i>	+	0.15 m	PI086.04
<i>Goodenia microptera</i>	+	0.3 m	PI096.01
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1.5 m	PI070.05
<i>Hibiscus burtonii</i>	+	0.3 m	PI086.10
<i>Indigofera monophylla</i>	2%	0.3 m	PI072.03
<i>Mimulus gracilis</i>	+	0.15 m	PI086.03
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35
<i>Pluchea rubelliflora</i>	+	0.15 m	PI086.07
<i>Pluchea tetranthera</i>	+	0.3 m	PI088.09
<i>Polymeria ambigua</i>	+	cr	PI086.06



<i>*Portulaca oleracea</i>	+	cr	PI086.11
<i>Ptilotus fusiformis</i>	+	0.4 m	PI070.22
<i>Senna notabilis</i>	+	0.3 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI070.03
<i>Streptoglossa decurrens</i>	+	0.2 m	PI115.18
<i>Tribulus occidentalis</i>	+	cr	PI070.27
<i>Triodia epactia</i>	30%	0.3 m	PI086.01
<i>Triodia lanigera</i>	+	0.3 m	PI086.12
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI087**

Described by HA Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 668658 mE 7737209 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Open Shrubland of *Acacia stellaticeps* and *Acacia pyrifolia* over Low Open Shrubland of *Sida* sp. Pilbara (A.A. Mitchell PRP 1543), *Bonamia rosea* and *Corchorus tectus* over Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Very good

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance: Buffel

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	+	1.5 m	PI070.38	
<i>Acacia pyrifolia</i>	1%	2 m	PI054.10	
<i>Acacia stellaticeps</i>	2%	0.2 m	PI070.01	
<i>Aristida holathera</i> var. <i>holathera</i>	1%	0.4 m	PI070.10	
<i>Boerhavia coccinea</i>	+	cr	PI072.12	
<i>Bonamia alatisemina</i>	+	cl	PI087.11	
<i>Bonamia rosea</i>	1%	0.4 m	PI088.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14	
<i>Carissa lanceolata</i>	+	0.6 m	PI086.09	
* <i>Cenchrus ciliaris</i>	+	0.5 m	PI070.29	
<i>Chrysopogon fallax</i>	+	1 m	PI070.21	
<i>Cleome viscosa</i>	+	0.2 m	PI087.02	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.5 m	PI070.02	
<i>Corchorus tectus</i>	1%	0.4 m	PI095.02	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	1.5 m	PI088.08	
<i>Drosera indica</i>	+	0.1 m	PI053.11	
<i>Dysphania saxatilis</i>	1%	0.2 m	PI053.07	
<i>Eragrostis eriopoda</i>	+	0.3 m	PI088.07	
<i>Eriachne aristidea</i>	+	0.3 m	PI070.28	
<i>Euphorbia australis</i>	+	cr	PI108.12	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI087.03	
<i>Goodenia microptera</i>	+	0.4 m	PI096.01	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1 m	PI070.05	
<i>Hibiscus burtonii</i>	+	0.5 m	PI086.10	
<i>Indigofera monophylla</i>	+	0.3 m	PI072.03	
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Paraneurachne muelleri</i>	+	0.3 m	PI087.10	

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<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
<i>Polymeria ambigua</i>	+	cr	PI086.06
* <i>Portulaca oleracea</i>	1%	cr	PI053.03
<i>Ptilotus astrolasius</i>	+	0.4 m	PI089.05
<i>Ptilotus axillaris</i>	ASS	cr	PI087.12
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Ptilotus polystachyus</i>	+	1 m	PI147.19
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	1%	0.7 m	PI070.03
<i>Streptoglossa decurrens</i>	+	0.5 m	PI087.12a
<i>Tinospora smilacina</i>	+	cr	PI087.09
<i>Trianthema pilosa</i>	+	cr	PI088.04
<i>Tribulus occidentalis</i>	+	cr	PI070.27
<i>Triodia epactia</i>	30%	0.3 m	PI087.01
<i>Triodia lanigera</i>	2%	0.3 m	PI087.04
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI088**

Described by HA Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 669040 mE 7738579 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Open Heath of *Acacia stellaticeps* and *Acacia sphaerostachya* over Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 25%  
Litter Cover: +% Logs, 2% Twigs, 2% Lvs  
Disturbance:**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	2 m	PI131.04
<i>Acacia sphaerostachya</i>	1%	0.8 m	PI088.03
<i>Acacia stellaticeps</i>	30%	0.5 m	PI070.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10
<i>Bonamia alatisemina</i>	+	cr	PI053.02
<i>Bonamia rosea</i>	+	0.4 m	PI088.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21
<i>Cleome viscosa</i>	+	0.4 m	PI040.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.1 m	PI070.02
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	3 m	PI088.08
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17
<i>Dysphania saxatilis</i>	+	0.1 m	PI053.07
<i>Eragrostis eriopoda</i>	+	0.3 m	PI088.07
<i>Eriachne aristidea</i>	+	0.3 m	PI088.06
<i>Euphorbia alsiniflora</i>	+	0.15 m	PI072.10
<i>Euphorbia australis</i>	+	cr	PI108.12
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35
<i>Pluchea tetranthera</i>	+	0.5 m	PI088.09
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.15 m	PI072.02
<i>Portulaca pilosa</i>	+	0.2 m	PI147.22
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.4 m	PI105.08
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.1 m	PI070.03
<i>Trianthema pilosa</i>	+	cr	PI088.04
<i>Triodia epactia</i>	20%	0.5 m	PI088.05
<i>Triodia lanigera</i>	20%	0.3 m	PI088.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.15 m	PI072.06



**Port Hedland RS Site PI089**

Described by HA Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 668991 mE 7740119 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia schinzii* and *Triodia epactia* over Scattered Tussock Grass of *Eriachne aristidea*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 20%  
Litter Cover: +% Logs, 1% Twigs, 1% Lvs  
Disturbance: None, tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	+	3 m	PI131.04	
<i>Acacia sericophylla</i>	+	2 m	PI070.04	
<i>Acacia stellaticeps</i>	5%	0.4 m	PI070.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10	
<i>Bonamia rosea</i>	+	0.4 m	PI088.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Chrysopogon fallax</i>	+	1 m	PI070.21	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	3 m	PI088.08	
<i>Crotalaria ramosissima</i>	+	0.2 m	PI089.02	
<i>Desmodium filiforme</i>	+	cr	PI089.06	
<i>Drosera indica</i>	+	0.15 m	PI053.11	
<i>Dysphania saxatilis</i>	+	0.15 m	PI053.07	
<i>Eragrostis eriopoda</i>	+	0.3 m	PI088.07	
<i>Eriachne aristidea</i>	1%	0.3 m	PI088.06	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI072.10	
<i>Gossypium australe</i>	+	0.2 m	PI105.15	
<i>Heliotropium inexplicitum</i>	+	cr	PI089.03	
<i>Hybanthus aurantiacus</i>	+	0.5 m	PI099.02	
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03	
<i>Kennedia prorepens</i>	+	0.2 m	PI089.08	
<i>Mitrasacme connata</i>	+	0.2 m	PI072.07	
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.15 m	PI072.02	
<i>Polymeria ambigua</i>	+	cr	PI096.04	
<i>Portulaca pilosa</i>	+	0.2 m	PI147.22	
<i>Ptilotus astrolasius</i>	+	0.2 m	PI089.05	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22	

<i>Ptilotus polystachyus</i>	+	0.2 m	PI147.19	
<i>Schizachyrium fragile</i>	+	0.3 m	PI110.05	
<i>Senna notabilis</i>	+	0.2 m	PI070.14	
<i>Solanum lasiophyllum</i>	+	0.2 m	PI070.37	
<i>Tephrosia rosea</i> var. <i>clementii</i>	+	0.5 m	PI089.09	
<i>Tephrosia simplicifolia</i>	+	0.3 m	PI089.07	Range ext
<i>Triodia epactia</i>	10%	0.5 m	PI089.04	
<i>Triodia schinzii</i>	60%	0.5 m	PI089.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.15 m	PI072.06	

**Port Hedland RS Site PI090**

Described by LD Date 26/06/2011 Type Q 50x50 m

**Location** Port Hedland  
**MGA Zone** 50 667572 mE 7740406 mN  
**Habitat** Sandy plain  
**Soil** Orange brown sand  
**Rock Type** N/A  
**Vegetation** Scattered Low Shrubs of *Bonamia rosea* over Open Hummock Grassland of *Triodia schinzii*  
**Veg Condition** Very good  
**Fire Age** Moderate to old  
**Notes** Aspect: N/A  
 Bare Ground: 83%  
 Litter Cover: 0% Logs, +% Twigs, +% Lvs  
 Disturbance: Weeds, houses near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia sericophylla</i>	+	2 m	PI090.17
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI090.08
<i>Bonamia alatisemina</i>	+	cr	PI090.10
<i>Bonamia rosea</i>	1%	0.3 m	PI090.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18
* <i>Cenchrus ciliaris</i>	+	0.5 m	PI103.06
<i>Cleome viscosa</i>	+	0.6 m	PI065.17
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.2 m	PI090.20
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	2 m	PI051.02
<i>Corymbia hamersleyana</i>	+	1.5 m	PI090.21
<i>Dysphania saxatilis</i>	+	0.3 m	PI090.11
<i>Eragrostis eriopoda</i>	+	0.5 m	PI090.04
<i>Euphorbia australis</i>	+	0.01 m	PI103.13
<i>Goodenia forrestii</i>	+	0.2 m	PI090.06
<i>Goodenia microptera</i>	+	0.2 m	PI090.14
<i>Gossypium australe</i>	+	0.4 m	PI090.09
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	2 m	PI065.29
<i>Hibiscus leptocladus</i>	+	0.3 m	PI090.16
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13
<i>Indigofera linifolia</i>	+	0.3 m	PI090.13
<i>Mollugo molluginea</i>	+	0.2 m	PI132.04
<i>Paraneurachne muelleri</i>	+	0.2 m	PI090.12
<i>Pimelea ammocharis</i>	+	0.9 m	PI090.05
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10
* <i>Portulaca oleracea</i>	+	0.1 m	PI128.04
<i>Portulaca pilosa</i>	+	0.2 m	PI090.15
<i>Ptilotus astrolasius</i>	+	0.3 m	PI090.03
<i>Ptilotus polystachyus</i>	+	0.9 m	PI025.13

<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	+	0.1 m	PI090.07
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI058.05
<i>Solanum lasiophyllum</i>	+	0.2 m	PI090.22
<i>Tinospora smilacina</i>	+	cl	PI103.08
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03
<i>Tribulus hirsutus</i>	+	0.1 m	PI106.08
<i>Triodia schinzii</i>	12%	0.4 m	PI090.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08



**Port Hedland RS Site PI091**

Described by LD Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 667204 mE 7739920 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Scattered Low Trees of *Corymbia candida* subsp. *dipsodes* over Low Open Shrubland of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent - very good

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 90%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Weeds and tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Abutilon otocarpum</i>	+	0.4 m	PI091.10
<i>Acacia colei</i> var. <i>colei</i>	+	0.5 m	PI091.12
<i>Acacia stellaticeps</i>	2%	0.3 m	PI065.01
<i>Acacia trudgeniana</i>	+	0.7 m	PI065.31
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI090.08
<i>Boerhavia coccinea</i>	+	0.2 m	PI103.09
<i>Bonamia alatisemina</i>	+	cr	PI091.04
<i>Bonamia rosea</i>	1%	0.3 m	PI090.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI027.03
<i>Cassylia capillaris</i>	+	cl	PI091.09
* <i>Cenchrus ciliaris</i>	+	0.4 m	PI103.06
<i>Chrysopogon fallax</i>	+	0.5 m	PI051.04
<i>Cleome viscosa</i>	+	0.3 m	PI065.17
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI090.20
<i>Corchorus tectus</i>	+	0.3 m	PI091.07
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	2-3 m	PI051.02
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11
<i>Ehretia saligna</i> var. <i>saligna</i>	+	1 m	PI091.08
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03
<i>Eriachne benthamii</i>	+	0.3 m	PI106.01
<i>Euphorbia australis</i>	+	0.01 m	PI103.13
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	0.2 m	PI091.14
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI091.11
<i>Goodenia microptera</i>	+	0.3 m	PI090.14
<i>Goodenia triodiophila</i>	+	0.3 m	PI091.03
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1 m	PI091.01
<i>Hibiscus burtonii</i>	+	0.2 m	PI091.06
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13

<i>Indigofera linifolia</i>	+	0.2 m	PI090.13
<i>Indigofera monophylla</i>	+	0.2 m	PI065.13
<i>Ipomoea polymorpha</i>	+	0.1 m	PI103.05
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04
<i>Paraneurachne muelleri</i>	+	0.2 m	PI058.06
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10
* <i>Portulaca oleracea</i>	+	0.1 m	PI128.04
<i>Portulaca pilosa</i>	+	0.2 m	PI090.15
<i>Ptilotus astrolasius</i>	+	0.2 m	PI090.03
<i>Ptilotus polystachyus</i>	+	0.7 m	PI025.13
<i>Salsola tragus</i> subsp. <i>grandiflora</i>	+	1 m	PI091.15
<i>Senna glaucifolia</i>	+	1 m	PI091.16
<i>Senna notabilis</i>	+	0.4 m	PI051.12
<i>Sida fibulifera</i>	+	0.1 m	PI091.13
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	1%	0.1-0.6 m	PI091.05
<i>Solanum diversiflorum</i>	+	0.2 m	PI048.09
<i>Tinospora smilacina</i>	+	cl	PI103.08
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03
<i>Tribulus hirsutus</i>	+	0.05 m	PI106.08
<i>Triodia epactia</i>	4%	0.3 m	PI091.02
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI092**

Described by BW Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 665205 mE 7740510 mN

Habitat Floodplain

Soil Orange brown clayey loam

Rock Type N/A

Vegetation Low Open Woodland of *Eucalyptus victrix* over  
Scattered Hummock Grasses of *Triodia epactia* over  
Very Open Tussock Grassland of *Eriachne benthamii*  
and *Digitaria brownii*

Veg Condition Excellent

Fire Age Moderate to old

Notes Aspect: N/A  
Bare Ground: 87%  
Litter Cover: +% Logs, 1% Twigs, 5% Lvs  
Disturbance: Tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.8 m	PI043.16
<i>Alternanthera angustifolia</i>	+	0.4 m	PI092.02
<i>Ammannia multiflora</i>	+	0.03 m	PI092.04
<i>Bergia pedicellaris</i>	+	0.05 m	PI092.09
<i>Calandrinia pumila</i>	+	prostrate	PI092.07
<i>Carissa lanceolata</i>	+	1.1 m	PI052.07
<i>Chrysopogon fallax</i>	+	0.5 m	PI042.09
<i>Digitaria brownii</i>	1%	0.6 m	PI028.04
<i>Eriachne benthamii</i>	4%	0.6 m	PI092.06
<i>Eucalyptus victrix</i>	5%	7-10 m	PI092.01
<i>Goodenia lamprosperma</i>	+	0.4 m	PI043.21
<i>Marsilea mutica</i>	+	0.03 m	PI092.03
<i>Mimulus gracilis</i>	+	0.05 m	PI092.05
<i>Triodia epactia</i>	1%	0.4 m	PI092.08

**Port Hedland RS Site PI093**

Described by BW Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 665510 mE 7738915 mN

Habitat Plain

Soil Orange brown clayey loam

Rock Type N/A

Vegetation Low Open Woodland of *Eucalyptus victrix* over Very Open Hummock Grassland of *Triodia epactia* over Very Open Tussock Grassland of *Eriachne benthamii* and *Chrysopogon fallax*

Veg Condition Pristine

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 85%  
Litter Cover: +% Logs, 1% Twigs, 2% Lvs  
Disturbance:

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	0.8 m	PI043.16
<i>Aristida contorta</i>	+	0.3 m	PI093.02
<i>Calandrinia stagnensis</i>	+	0.2 m	PI145.04
<i>Calandrinia pumila</i>	+	prostrate	PI092.07
<i>Carissa lanceolata</i>	+	1.2 m	PI052.07
<i>Chrysopogon fallax</i>	1%	0.6 m	PI042.09
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI042.04
<i>Corchorus tectus</i>	+	0.4 m	PI030.02
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	2 m	PI146.07
<i>Dysphania saxatilis</i>	+	0.3 m	PI056.15
<i>Eriachne benthamii</i>	8%	0.5 m	PI092.06
<i>Eucalyptus victrix</i>	6%	5-8 m	PI092.01
<i>Goodenia lamprosperma</i>	+	0.3 m	PI043.21
<i>Indigofera monophylla</i>	1%	0.5 m	PI052.03
<i>Mimulus gracilis</i>	+	0.05 m	PI092.05
<i>Triodia epactia</i>	4%	0.4 m	PI093.01



**Port Hedland RS Site PI094**

Described by LD Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 667405 mE 7738520 mN

Habitat Plain

Soil Brown orange sandy clay

Rock Type

Vegetation Low Open Woodland of *Eucalyptus victrix* over Very Open Hummock Grassland of *Triodia epactia* over Open Tussock Grassland of *Chrysopogon fallax*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A

Bare Ground: 85%

Litter Cover: +% Logs, 1% Twigs, 1% Lvs

Disturbance: Cattle, clearing and tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	0.5 m	PI091.12	
<i>Acacia sericophylla</i>	+	1 m	PI090.17	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1-1.5 m	PI150.07	
<i>Alternanthera nana</i>	+	0.2 m	PI094.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI094.04	
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18	
<i>Carissa lanceolata</i>	+	1 m	PI094.09	
<i>Chrysopogon fallax</i>	11%	0.5 m	PI051.04	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI094.08	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	1.5-2 m	PI051.02	
<i>Eriachne benthamii</i>	+	0.3 m	PI106.01	
<i>Eucalyptus victrix</i>	4%	4-7 m	PI094.02	Photo; 203-204 LD
<i>Evolvulus alsinoides</i> var. <i>decumbens</i>	+	0.1 m	PI094.10	
<i>Goodenia lamprosperma</i>	+	0.2 m	PI094.05	
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	0.5 m	PI065.29	
<i>Indigofera monophylla</i>	+	0.2 m	PI065.13	
<i>Marsilea mutica</i>	+	0.1 m	PI044.08	
<i>Mimulus gracilis</i>	+	0.05 m	PI094.06	
<i>Paraneurachne muelleri</i>	+	0.3 m	PI090.12	
<i>Pluchea tetranthera</i>	+	0.3 m	PI066.22	
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04	
<i>Rhynchosia minima</i>	+	cr	PI094.11	
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.3 m	PI103.20	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI058.05	
<i>Solanum ellipticum</i>	+	0.2 m	PI065.26	
<i>Stemodia grossa</i>	+	0.1 m	PI094.12	
<i>Triodia epactia</i>	2%	0.3 m	PI094.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08	

**Port Hedland RS Site PI095**

Described by HA Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 666523 mE 7736662 mN

Habitat Sand plain

Soil Orange brown sand

Rock Type N/A

Vegetation Scattered Low Trees of *Eucalyptus victrix* over Low Open Shrubland of *Corchorus tectus* and *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Very good

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 70%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance:

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	0.5 m	PI070.38	
<i>Acacia stellaticeps</i>	1%	0.2 m	PI070.01	
<i>Amaranthus undulatus</i>	+	0.2 m	PI095.06	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI070.10	
<i>Bonamia alatisemina</i>	+	cr	PI095.13	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Calandrinia pentavalvis</i>	+	0.05 m	PI095.10	
<i>Carissa lanceolata</i>	+	0.5 m	PI095.15	
<i>Cassyltha capillaris</i>	+	cr	PI095.05	
<i>Chrysopogon fallax</i>	+	0.9 m	PI070.21	
<i>Cleome viscosa</i>	+	0.5 m	PI040.10	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI070.02	
<i>Corchorus tectus</i>	4%	0.3 m	PI095.02	
<i>Eriachne aristidea</i>	+	0.2 m	PI070.28	
<i>Eriachne pulchella</i>	(+)	0.2 m	PI095.12	
<i>Eucalyptus victrix</i>	1%	1.5 m	PI095.01	
<i>Goodenia lamprosperma</i>	+	0.2 m	PI095.19	
<i>Goodenia triodiophila</i>	+	0.2 m	PI095.20	
<i>Hibiscus burtonii</i>	+	0.3 m	PI095.11	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI099.02	
<i>Ipomoea optica</i>	+	cr	PI095.17	
<i>Mimulus gracilis</i>	+	0.15 m	PI095.18	
<i>Mitrasacme connata</i>	+	0.15 m	PI072.07	
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Pluchea rubelliflora</i>	+	0.15 m	PI095.14	
<i>Pluchea tetranthera</i>	+	0.3 m	PI095.16	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02	
<i>Polygala isingii</i>	+	0.05 m	PI095.09	

<i>*Portulaca oleracea</i>	+	cr	PI053.03
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI070.03
<i>Sporobolus australasicus</i>	+	0.1 m	PI037.07
<i>Streptoglossa decurrens</i>	+	0.3 m	PI095.08
<i>Tephrosia uniovulata</i>	+	0.4 m	PI095.04
<i>Triodia epactia</i>	25%	0.3 m	PI095.03
<i>Triodia lanigera</i>	1%	0.4 m	PI095.07
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI096**

Described by HA Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 666908 mE 7734910 mN

Habitat Sand plain

Soil Orange brown sand

Rock Type

**Vegetation** Scattered High Shrubs of *Acacia inaequilatera* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera* over Open Tussock Grassland of *Aristida holathera* var. *holathera*, *Eriachne aristidea* and *Yakirra australiensis* var. *australiensis*

Veg Condition Excellent

Fire Age Young

**Notes** Aspect: N/A  
Bare Ground: 70%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance:

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.2 m	PI070.38
<i>Acacia inaequilatera</i>	1%	2.5 m	PI054.05
<i>Acacia stellaticeps</i>	+	0.2 m	PI070.01
<i>Alternanthera nana</i>	+	0.2 m	PI096.10
<i>Aristida holathera</i> var. <i>holathera</i>	8%	0.4 m	PI070.10
<i>Bonamia media</i> var. <i>villosa</i>	+	cr	PI096.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14
<i>Carissa lanceolata</i>	+	0.4 m	PI095.15
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI070.02
<i>Corchorus tectus</i>	+	0.3 m	PI095.02
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	4 m	PI096.09
<i>Dysphania saxatilis</i>	+	0.1 m	PI053.07
<i>Eriachne aristidea</i>	2%	0.3 m	PI070.28
<i>Euphorbia australis</i>	+	cr	PI096.11
<i>Goodenia microptera</i>	1%	0.4 m	PI096.01
<i>Hibiscus burtonii</i>	+	0.6 m	PI096.08
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI099.02
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03
<i>Mollugo molluginea</i>	+	0.2 m	PI070.35
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09
<i>Phyllanthus erwinii</i>	+	0.3 m	PI096.05
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
<i>Polymeria ambigua</i>	+	cr	PI096.04
* <i>Portulaca oleracea</i>	+	0.1 m	PI053.03
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Senna notabilis</i>	+	0.3 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI070.03



<i>Sporobolus australasicus</i>	+	0.1 m	PI037.07
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+	cr	PI096.06
<i>Trianthema pilosa</i>	+	cr	PI072.13
<i>Triodia epactia</i>	20%	0.4 m	PI096.03
<i>Triodia lanigera</i>	+	0.3 m	PI096.07
<i>Yakirra australiensis</i> var. <i>australiensis</i>	1%	0.15 m	PI072.06

**Port Hedland RS Site PI097****Described by** LD **Date** 26/06/2011 **Type** Q **Size** 50x50 m**Location** Port Hedland**MGA Zone** 50 668019 mE 7735504 mN**Habitat** Plain**Soil** Orange Brown sandy clay with crust**Rock Type** N/A**Vegetation** Low Open Woodland of *Eucalyptus victrix* over Scattered Shrubs of *Acacia tumida* var. *pilbarensis* over Very Open Hummock Grassland of *Triodia epactia* over Very Open Tussock Grassland of *Chrysopogon fallax***Veg Condition** Excellent**Fire Age** Moderate - old**Notes** Aspect: N/A  
Bare Ground: 92%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: tracks near by**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	+	1-2 m	PI091.12	
<i>Acacia sericophylla</i>	+	1 m	PI051.08	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	1%	1-2 m	PI150.07	
<i>Aeschynomene indica</i>	+	1.2 m	PI097.07	
<i>Alternanthera nana</i>	+	0.2 m	PI094.07	
<i>Aristida contorta</i>	+	0.2 m	PI097.02	
<i>Aristida inaequiglumis</i>	+	0.5 m	PI058.04	
<i>Atalaya hemiglauc</i>	+	1 m	PI097.04	
<i>Carissa lanceolata</i>	+	1-1.5 m	PI094.09	
<i>Cassya capillaris</i>	+	cl	PI091.09	
<i>Chrysopogon fallax</i>	3%	0.6 m	PI051.04	
<i>Cleome viscosa</i>	+	0.4 m	PI065.17	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI094.08	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	2 m	PI051.02	
<i>Ehretia saligna</i> var. <i>saligna</i>	+	0.7 m	PI091.08	
<i>Eriachne glauca</i> var. <i>glauca</i>	+	0.2 m	PI097.03	
<i>Eucalyptus victrix</i>	2%	3-7 m	PI094.03	
<i>Fimbristylis oxystachya</i>	+	0.05 m	PI025.05	
<i>Goodenia lamprosperma</i>	+	0.2 m	PI094.05	
<i>Mimulus gracilis</i>	+	0.05 m	PI094.06	
<i>Pluchea rubelliflora</i>	+	0.1 m	PI097.05	
<i>Polymeria ambigua</i>	+	cr	PI097.06	
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04	
<i>Rhynchosia minima</i>	+	cl	PI094.11	
<i>Sporobolus australasicus</i>	+	0.1 m	PI066.02	
<i>Triodia epactia</i>	2%	0.4 m	PI097.01	

**Port Hedland RS Site PI098**

Described by LD Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 668639 mE 7733083 mN

Habitat Plain with minor drainage line

Soil Orange Brown clayey loam with crust

Rock Type N/A

Vegetation Low woodland of *Eucalyptus victrix* over Very Open Hummock Grassland of *Triodia epactia* over Very Open Tussock Grassland of *Chrysopogon fallax*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A

Bare Ground: 50%

Litter Cover: 0% Logs, +% Twigs, 1% Lvs

Disturbance: Tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	0.1 m	PI091.12	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	0.8 m	PI150.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI090.08	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18	
<i>Carissa lanceolata</i>	+	1 m	PI094.09	
<i>Centipeda minima</i> subsp. <i>macrocephala</i>	+	0.1 m	PI098.02	
<i>Chrysopogon fallax</i>	5%	0.4 m	PI051.04	
<i>Cleome viscosa</i>	+	0.3 m	PI065.17	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI094.08	
<i>Corchorus tectus</i>	+	0.2 m	PI091.07	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	1 m	PI051.02	
<i>Cullen stipulaceum</i>	+	0.3 m	PI098.05	
<i>Eragrostis cumingii</i>	+	0.1 m	PI080.06	
<i>Eucalyptus victrix</i>	11%	2-7 m	PI094.03	
<i>Euphorbia australis</i>	+	0.01 m	PI103.13	
<i>Goodenia lamprosperma</i>	+	0.2 m	PI094.05	
<i>Goodenia triodiophila</i>	+	0.2 m	PI080.07	
<i>Ipomoea coptica</i>	+	cr	PI098.07	
<i>Mimulus gracilis</i>	+	0.1 m	PI094.06	
<i>Neptunia dimorphantha</i>	+	0.1 m	PI098.03	
<i>Pluchea rubelliflora</i>	+	0.2 m	PI080.02	
<i>Polymeria ambigua</i>	+	cr	PI098.04	
* <i>Portulaca oleracea</i>	+	0.1 m	PI128.04	
<i>Ptilotus murrayi</i>	+	0.1 m	PI098.06	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI058.05	
<i>Sporobolus australasicus</i>	+	0.1 m	PI066.02	
<i>Stackhousia intermedia</i>	+	0.1 m	PI066.14	
<i>Triodia epactia</i>	8%	0.4 m	PI098.01	
<i>Waltheria indica</i>	+	cr	PI103.15	

**Port Hedland RS Site PI099**

Described by HA Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 669678 mE 7732575 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Scattered Low Trees of *Corymbia candida* subsp. *dipsodes* over Low Open Shrubland of *Acacia Indigofera monophylla* and *Tephrosia uniovulata* over Very Open Hummock Grassland of *Triodia lanigera*.

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance:

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	0.4 m	PI131.04
<i>Acacia inaequilatera</i>	+	1.5 m	PI054.05
<i>Acacia maitlandii</i>	+	0.1 m	PI099.09
<i>Acacia sericophylla</i>	+	0.5 m (2 m)	PI099.13
<i>Acacia sphaerostachya</i>	+	0.6 m	PI088.03
<i>Acacia stellaticeps</i>	+	0.3 m	PI070.01
<i>Acacia trachycarpa</i>	2%	0.5 m	PI099.10
<i>Acacia trachycarpa</i> x <i>tumida</i>	+	0.6 m	PI099.14
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10
<i>Bonamia alatisemina</i>	+	cr	PI053.02
<i>Bonamia rosea</i>	+	0.3 m	PI088.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21
<i>Cleome viscosa</i>	+	0.3 m	PI099.07
<i>Corchorus tectus</i>	+	0.3 m	PI095.02
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	2.5 m	PI088.08
<i>Desmodium filiforme</i>	+	cr	PI089.06
<i>Dysphania saxatilis</i>	+	0.1 m	PI053.07
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	(+)	0.2 m	PI099.04
<i>Goodenia microptera</i>	+	0.3 m	PI096.01
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1.2 m	PI099.12
<i>Heliotropium muticum</i>	+	0.3 m	PI099.11
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02
<i>Indigofera monophylla</i>	2%	0.3 m	PI099.06
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.15 m	PI072.02
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11



<i>Ptilotus astrolasius</i>	+	0.2 m	PI089.05
<i>Ptilotus calostachyus</i>	+	0.3 m	PI032.04
<i>Scaevola browniana</i> subsp. <i>browniana</i>	+	0.3 m	PI099.08
<i>Schizachyrium fragile</i>	+	0.2 m	PI110.05
<i>Senna notabilis</i>	+	0.4 m	PI070.14
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.4 m	PI105.08
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.5 m	PI070.03
<i>Tephrosia uniovulata</i>	1%	0.3 m	PI099.03
<i>Tinospora smilacina</i>	+	cl	PI087.09
<i>Triodia lanigera</i>	8%	0.3 m	PI099.01
<i>Triumfetta ramosa</i>	+	0.2 m	PI099.05
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI100**

Described by BW Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 667351 mE 7732436 mN

Habitat Plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation Open Shrubland of *Acacia inaequilatera* and *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 95%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle and tracks near by**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia inaequilatera</i>	1%	0.5-2 m	PI049.06	mostly between 1-2 m
<i>Acacia stellaticeps</i>	1%	0.4 m	PI043.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07	
<i>Bonamia alatisemina</i>	+	prostrate	PI145.11	
<i>Bonamia rosea</i>	+	0.4 m	PI030.04	
<i>Bulbostylis barbata</i>	+	0.1 m	PI104.01	
<i>Calandrinia stagnensis</i>	+	0.2 m	PI145.04	
<i>Cleome viscosa</i>	+	0.3 m	PI101.04	
<i>Corchorus tectus</i>	+	0.4 m	PI030.02	
<i>Dysphania saxatilis</i>	+	0.2 m	PI069.03	
<i>Eragrostis eriopoda</i>	+	0.4 m	PI047.02	
<i>Eriachne aristidea</i>	+	0.2 m	PI136.03	
<i>Goodenia microptera</i>	+	0.4 m	PI060.02	
<i>Heliotropium muticum</i>	+	0.3 m	PI030.06	26 ind
<i>Hibiscus leptocladus</i>	+	0.4 m	PI145.08	
<i>Indigofera monophylla</i>	+	0.3 m	PI052.03	
<i>Isotropis atropurpurea</i>	+	0.4 m	PI145.10	
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11	
<i>Senna notabilis</i>	+	0.2 m	PI043.09	
<i>Sida clementii</i>	+	0.5 m	PI100.02	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI043.14	
<i>Tephrosia uniovulata</i>	+	0.4 m	PI100.01	
<i>Tribulus hirsutus</i>	+	prostrate	PI060.03	
<i>Triodia epactia</i>	2%	0.4 m	PI100.03	
<i>Triodia lanigera</i>	1%	0.4 m	PI100.04	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08	

**Port Hedland RS Site PI101**

Described by BW Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 667361 mE 7731262 mN

Habitat Plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation Scattered Low Trees of *Corymbia candida* subsp. *dipsodes* over Open Shrubland of *Acacia inaequilatera* and *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 85%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle and tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	1.5 m	PI062.03
<i>Acacia inaequilatera</i>	2%	1-3 m	PI049.06
<i>Acacia sericophylla</i>	+	1.5 m	PI101.01
<i>Acacia stellaticeps</i>	2%	0.6 m	PI043.01
<i>Amaranthus undulatus</i>	+	0.3 m	PI133.03
<i>Boerhavia coccinea</i>	+	prostrate	PI067.15
<i>Bulbostylis barbata</i>	+	0.1 m	PI104.01
<i>Calandrinia stagnensis</i>	+	prostrate	PI145.04
<i>Cleome viscosa</i>	+	0.3 m	PI101.04
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI042.04
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	2-3 m	PI146.07
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>	+	0.4 m	PI101.03
<i>Cucumis maderaspatanus</i>	+	cr	PI067.16
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI026.08
<i>Dysphania saxatilis</i>	+	0.1 m	PI069.03
<i>Eragrostis eriopoda</i>	+	0.3 m	PI047.02
<i>Eriachne mucronata</i>	+	0.4 m	PI049.01
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI104.04
<i>Goodenia microptera</i>	+	0.4 m	PI060.02
<i>Gossypium australe</i>	+	0.4 m	PI104.08
<i>Hibiscus austrinus</i> var. <i>austrinus</i>	+	0.3 m	PI101.02
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Isotropis atropurpurea</i>	+	0.2 m	PI145.10
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06
<i>Ptilotus astrolasius</i>	+	0.2 m	PI056.18
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11

<i>Senna notabilis</i>	+	0.3 m	PI043.09
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.3 m	PI069.07
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI043.14
<i>Trianthema pilosa</i>	+	0.2 m	PI052.09
<i>Tribulus hirsutus</i>	+	0.2 m	PI060.03
<i>Triodia lanigera</i>	12%	0.4 m	PI101.05
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08



**Port Hedland RS Site PI102**

Described by HA Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 655108 mE 7731283 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation High Open Shrubland of *Acacia colei* var. *colei* over  
Low Open Heath of *Acacia stellaticeps* over Open  
Hummock Grassland of *Triodia epactia*

Veg Condition Pristine to excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 30%  
Litter Cover: +% Logs, 2% Twigs, 1% Lvs  
Disturbance: None**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	2%	3 m	PI070.38
<i>Acacia inaequilatera</i>	+	0.1 m	PI054.05
<i>Acacia stellaticeps</i>	50%	1 m	PI070.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	3.5 m	PI070.30
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10
<i>Aristida inaequiglumis</i>	+	1 m	PI070.24
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Chrysopogon fallax</i>	+	1.1 m	PI070.21
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI070.02
<i>Drosera indica</i>	+	0.1 m	PI053.11
<i>Dysphania saxatilis</i>	+	0.1 m	PI053.07
<i>Eragrostis eriopoda</i>	+	0.3 m	PI070.13
<i>Eriachne aristidea</i>	+	0.3 m	PI070.28
<i>Eriachne mucronata</i>	+	0.4 m	PI102.06
<i>Mitrasacme connata</i>	+	0.2 m	PI072.07
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09
<i>Pluchea tetranthera</i>	+	0.05 m	PI102.04
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
<i>Senna notabilis</i>	+	0.15 m	PI070.14
<i>Sida fibulifera</i>	+	cr	PI102.07
<i>Solanum lasiophyllum</i>	+	0.5 m	PI070.37
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+	cr	PI102.02
<i>Triodia epactia</i>	30%	0.6 m	PI102.01

**Port Hedland RS Site PI103**

Described by LD Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 657079 mE 7730724 mN

Habitat Plain

Soil Orange brown sand

Rock Type N/A

Vegetation Scattered Low Trees of *Owenia reticulata* over Low Open Shrubland of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera* over Very Open Tussock Grassland of *Aristida holathera* var. *holathera*, *Eragrostis eriopoda* and \**Cenchrus ciliaris*

Veg Condition Very good

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, +% Twigs, 1% Lvs  
Disturbance: Weeds

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Abutilon otocarpum</i>	+	0.5 m	PI103.18
<i>Acacia stellaticeps</i>	2%	0.6 m	PI065.01
<i>Acacia trudgeniana</i>	+	2 m	PI065.31
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1-2 m	PI150.07
* <i>Aerva javanica</i>	+	0.6 m	PI103.07
<i>Amaranthus undulatus</i>	+	0.3 m	PI045.16
<i>Aristida holathera</i> var. <i>holathera</i>	5%	0.3 m	PI103.03
<i>Boerhavia coccinea</i>	+	0.1 m	PI103.09
<i>Bulbostylis barbata</i>	+	0.1 m	PI027.03
* <i>Cenchrus ciliaris</i>	1%	0.3 m	PI103.06
<i>Chrysopogon fallax</i>	+	0.8 m	PI051.04
<i>Cleome viscosa</i>	+	0.6 m	PI065.17
<i>Cucumis maderaspatanus</i>	+	cl	PI045.15
<i>Eragrostis eriopoda</i>	3%	0.3 m	PI103.02
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03
<i>Euphorbia australis</i>	+	0.01 m	PI103.13
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI103.19
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	0.3 m	PI065.29
<i>Indigofera colutea</i>	+	0.2 m	PI103.11
<i>Indigofera monophylla</i>	+	0.2 m	PI065.13
<i>Ipomoea muelleri</i>	+	cl	PI103.12
<i>Ipomoea polymorpha</i>	+	0.1 m	PI103.05
<i>Owenia reticulata</i>	1%	2-3 m	PI103.01
<i>Polycarpha corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10
<i>Portulaca pilosa</i>	+	0.2 m	PI090.15
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x	+	1-1.5 m	PI103.14
<i>Senna notabilis</i>	+	0.1 m	PI051.12
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.3 m	PI103.20

<i>Solanum ellipticum</i>	+	0.2 m	PI103.10
<i>Tinospora smilacina</i>	+	cl	PI103.08
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03
<i>Triodia epactia</i>	2%	0.4 m	PI103.17
<i>Triodia lanigera</i>	+	0.05 m	PI063.01
<i>Triumfetta ramosa</i>	+	0.4 m	PI103.16
<i>Waltheria indica</i>	+	0.3 m	PI103.15
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI104**

Described by BW Date 25/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 660082 mE 7731299 mN

Habitat Plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation Scattered Shrubs of *Acacia inaequilatera* over Open Hummock Grassland of *Triodia lanigera*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 85%  
Litter Cover: +% Logs, 1% Twigs, 1% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	1.6 m	PI062.03
<i>Acacia colei</i> var. <i>colei</i>	+	0.7 m	PI043.16
<i>Acacia inaequilatera</i>	1%	1-2 m	PI049.06
<i>Acacia sericophylla</i>	+	1.8 m	PI104.07
<i>Acacia stellaticeps</i>	+ (6%)	0.1-0.6 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI049.07
<i>Boerhavia coccinea</i>	+	prostrate	PI067.15
<i>Bonamia rosea</i>	+	0.4 m	PI111.01
<i>Bulbostylis barbata</i>	+	0.1 m	PI104.01
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI042.04
<i>Dentella asperata</i>	+	prostrate	PI069.11
<i>Dysphania saxatilis</i>	+	0.2 m	PI069.03
<i>Eragrostis eriopoda</i>	+	0.4 m	PI047.02
<i>Eriachne aristidea</i>	+	0.4 m	PI136.03
<i>Euphorbia australis</i>	+	prostrate	PI104.02
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI104.04
<i>Fimbristylis simulans</i>	+	0.3 m	PI136.07
<i>Goodenia microptera</i>	+	0.4 m	PI060.02
<i>Gossypium australe</i>	+	0.6 m	PI104.08
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Indigofera linifolia</i>	+	0.2 m	PI133.06
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Mollugo molluginea</i>	+	0.1 m	PI043.29
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Ptilotus astrolasius</i>	+	0.4 m	PI056.18
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	+	0.3 m	PI104.05
<i>Senna notabilis</i>	+	0.3 m	PI043.09
<i>Triodia lanigera</i>	12%	0.4 m	PI104.03
<i>Triumfetta chaetocarpa</i>	+	0.4 m	PI133.04
<i>Waltheria indica</i>	+	0.7 m	PI104.06
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06



**Port Hedland RS Site PI105**

Described by HA Date 25/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 661410 mE 7729619 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type

Vegetation Scattered Shrubs of *Acacia tumida* var. *pilbarensis* over Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera* over Very Open Tussock Grassland of *Eriachne mucronata* and *Eragrostis eriopoda*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 55%  
Litter Cover: 1% Logs, 2% Twigs, +% Lvs  
Disturbance:

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Abutilon otocarpum</i>	+	0.4 m	PI105.13
<i>Acacia inaequilatera</i>	+	3.2 m	PI054.05
<i>Acacia sericophylla</i>	+	2.5 m	PI070.04
<i>Acacia stellaticeps</i>	10%	0.5 m	PI070.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	1%	2 m	PI070.30
<i>Achyranthes aspera</i>	+	0.3 m	PIOPLD01a
<i>Amaranthus undulatus</i>	+	0.2 m	PI105.06
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI070.10
<i>Bonamia alatisemina</i>	+	cr	PI053.02
<i>Bulbostylis barbata</i>	+	0.15 m	PI070.17
<i>Bulbostylis turbinata</i>	+	0.3 m	PI105.03
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.2 m	PI070.02
<i>Corymbia zygophylla</i>	+	3 m	PI105.07
<i>Crotalaria ramosissima</i>	+	0.2 m	PI105.05
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17
<i>Dolichandrone heterophylla</i>	+	0.5 m	PI108.10
<i>Dysphania saxatilis</i>	+	0.15 m	PI053.07
<i>Eragrostis eriopoda</i>	1%	0.3 m	PI070.13
<i>Eriachne mucronata</i>	2%	0.3 m	PI105.02
<i>Euphorbia australis</i>	+	cr	PI105.14
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	cr	PI070.07
<i>Goodenia forrestii</i>	+	0.3 m	PI131.07
<i>Goodenia microptera</i>	+	0.4 m	PI096.01
<i>Gossypium australe</i>	+	0.3 m	PI105.15
<i>Heliotropium inexplicitum</i>	+	0.15 m	PI105.17
<i>Hibiscus brachychlaenus</i>	+	0.3 m	PI105.18
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02

<i>Indigofera monophylla</i>	+	0.4 m	PI072.03	
<i>Ipomoea polymorpha</i>	+	0.1 m	PI105.10	Infected plant
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02	
<i>Portulaca pilosa</i>	+	0.2 m	PI147.22	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22	
<i>Schizachyrium fragile</i>	+	0.2 m	PI110.05	
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.4 m	PI105.08	
<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	+	0.2 m	PI105.11	
<i>Solanum ellipticum</i>	+	0.3 m	PI073.12	
<i>Solanum lasiophyllum</i>	+	0.2 m	PI105.04	
<i>Trianthema pilosa</i>	+	cr	PI072.13	
<i>Tribulus occidentalis</i>	+	cr	PI105.09	
<i>Triodia epactia</i>	15%	0.4 m	PI105.01	
<i>Triodia lanigera</i>	10%	0.3 m	PI105.16	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI072.06	

**Port Hedland RS Site PI106**

Described by LD Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 657477 mE 7728418 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia epactia* over Very Open Tussock Grassland of *Aristida holathera* var. *holathera* and *Eriachne benthamii*

Veg Condition Very good

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 70%  
Litter Cover: +% Logs, 1% Twigs, 1% Lvs  
Disturbance: Weeds and cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	3%	0.8 m	PI065.01	
<i>Acacia trudeniana</i>	+	2-2.5 m	PI065.31	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1-2 m	PI150.07	
* <i>Aerva javanica</i>	+	0.5 m	PI103.07	
<i>Aristida holathera</i> var. <i>holathera</i>	2%	0.3 m	PI103.03	
<i>Aristida inaequiglumis</i>	+	0.8 m	PI058.04	
<i>Boerhavia coccinea</i>	+	0.1 m	PI103.09	
<i>Bonamia rosea</i>	+	0.3 m	PI106.06	
<i>Bulbostylis barbata</i>	+	0.1 m	PI027.03	
<i>Chrysopogon fallax</i>	+	0.6 m	PI051.04	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI094.08	
<i>Cucumis maderaspatanus</i>	+	cr	PI045.15	
<i>Eragrostis eriopoda</i>	+	0.3 m	PI103.02	
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03	
<i>Eriachne benthamii</i>	1%	0.3 m	PI106.01	
<i>Euphorbia australis</i>	+	0.01 m	PI103.13	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.05 m	PI103.19	
<i>Fimbristylis oxystachya</i>	+	0.2 m	PI025.05	
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	2-3 m	PI065.29	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13	
<i>Indigofera colutea</i>	+	0.1 m	PI103.11	
<i>Ipomoea muelleri</i>	+	cr	PI103.12	
<i>Ipomoea polymorpha</i>	+	0.05 m	PI106.07	
<i>Owenia reticulata</i>	++	0.3 m	PI103.01	
<i>Perotis rara</i>	+	0.1 m	PI106.11	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Polymeria calycina</i>	+	0.05 m	PI106.10	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28	

<i>Senna notabilis</i>	+	0.2 m	PI051.12
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	+	0.1 m	PI106.03
<i>Solanum ellipticum</i>	+	0.2 m	PI103.10
<i>Tribulus hirsutus</i>	+	0.05 m	PI106.08
<i>Triodia epactia</i>	4%	0.6 m	PI106.02
<i>Triumfetta chaetocarpa</i>	+	0.1 m	PI106.09
<i>Triumfetta ramosa</i>	+	0.3 m	PI103.16
<i>Urochloa holosericea</i> subsp. <i>velutina</i>	+	0.1 m	PI106.05
<i>Waltheria indica</i>	+	0.3 m	PI106.04
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08





**Port Hedland RS Site PI108**

Described by HA Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 657268 mE 7727390 mN

Habitat Sand plain

Soil Brown orange sand

Rock Type N/A

Vegetation Shrubland of *Acacia stellaticeps*, *Acacia tumida* var. *pilbarensis* and *Acacia inaequilatera* over Open Hummock Grassland of *Triodia epactia* over Tussock Grassland of *Aristida holathera* var. *holathera* and *Eriachne mucronata*

Veg Condition Very good

Fire Age Old

Notes Aspect: N/A

Bare Ground: 70%

Litter Cover: +% Logs, +% Twigs, +% Lvs

Disturbance: Weeds (Kapok) and cattle tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Abutilon otocarpum</i>	+	0.4 m	PI108.04	
<i>Abutilon pritzelianum</i> MS	+	1 m	PI108.07	
<i>Acacia inaequilatera</i>	1%	2 m	PI054.05	
<i>Acacia stellaticeps</i>	10%	1.3 m	PI070.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	5%	2.5 m	PI070.30	
* <i>Aerva javanica</i>	+	0.6 m	PI147.05	
<i>Amaranthus undulatus</i>	+	0.5 m	PI147.06	
<i>Aristida holathera</i> var. <i>holathera</i>	50%	0.4 m	PI108.01	
<i>Boerhavia coccinea</i>	+	cr	PI108.09	
<i>Bonamia media</i> var. <i>villosa</i>	+	0.2 m	PI108.03	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Cleome viscosa</i>	+	0.4 m	PI040.10	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI070.02	
<i>Crotalaria ramosissima</i>	+	0.3 m	PI108.15	
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17	
<i>Dolichandrone heterophylla</i>	+	1.5 m	PI108.10	
<i>Eragrostis eriopoda</i>	+	0.4 m	PI070.13	
<i>Eriachne aristidea</i>	+	0.2 m	PI070.28	
<i>Eriachne mucronata</i>	5%	0.5 m	PI108.06	
<i>Euphorbia alsiniflora</i>	+	0.15 m	PI072.10	
<i>Euphorbia australis</i>	+	cr	PI108.12	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI070.07	
<i>Indigofera colutea</i>	+	0.1 m	PI108.02	
<i>Indigofera linifolia</i>	+	0.3 m	PI108.14	
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03	
<i>Ipomoea muelleri</i>	+	cr	PI108.11	
<i>Mollugo molluginea</i>	+	0.2 m	PI070.35	
<i>Pimelea ammocharis</i>	+	0.5 m	PI070.23	

<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
<i>Portulaca pilosa</i>	+	0.2 m	PI147.22
<i>Senna notabilis</i>	+	0.5 m	PI070.14
<i>Sida fibulifera</i>	+	cr	PI102.07
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.4 m	PI108.05
<i>Solanum ellipticum</i>	+	0.2 m	PI073.12
<i>Solanum lasiophyllum</i>	+	0.3 m	PI070.37
<i>Triodia epactia</i>	15%	0.4 m	PI108.08
<i>Triumfetta chaetocarpa</i>	+	0.2 m	PI108.13
<i>Waltheria indica</i>	+	0.5 m	PI053.14
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI072.06

**Port Hedland RS Site PI109**

Described by LD Date 25/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 660703 mE 7728415 mN

Habitat Sandy plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Scattered Low Trees of *Corymbia candida* subsp. *dipsodes* over Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 82%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance: Weeds, fence near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Abutilon lepidum</i>	+	0.3 m	PI109.09	
<i>Acacia stellaticeps</i>	3%	0.6 m	PI065.01	
<i>Acacia trudgeana</i>	+	2-2.5 m	PI065.31	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1-2 m	PI150.07	
<i>Amaranthus undulatus</i>	+	0.3 m	PI109.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI066.11	
<i>Aristida inaequiglumis</i>	+	0.8 m	PI058.04	
<i>Bonamia alatisemina</i>	+	0.05 m	PI027.06	
<i>Bonamia media</i> var. <i>villosa</i>	+	0.05 m	PI109.03	
<i>Bulbostylis barbata</i>	+	0.1 m	PI027.03	
<i>Cassutha capillaris</i>	+	cl	PI051.06	
<i>Chrysopogon fallax</i>	+	0.6 m	PI051.04	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	3%	2-3 m	PI051.02	
<i>Cucumis maderaspatanus</i>	+	cl	PI045.15	
<i>Dysphania saxatilis</i>	+	0.05 m	PI058.12	
<i>Eragrostis eriopoda</i>	+	0.2 m	PI134.06	
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03	
<i>Eriachne mucronata</i>	+	0.4 m	PI109.05	
<i>Euphorbia australis</i>	+	0.05 m	PI103.13	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI063.10	
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	1 m	PI065.29	
<i>Hibiscus brachychlaenus</i>	+	0.4 m	PI109.06	
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	+	0.2 m	PI109.08	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.3 m	PI065.13	
<i>Ipomoea polymorpha</i>	+	0.05 m	PI103.05	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	



<i>Ptilotus astrolasius</i>	+	0.3 m	PI045.06
<i>Ptilotus calostachyus</i>	+	0.7 m	PI109.10
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	+	0.2 m	PI058.11
<i>Senna notabilis</i>	+	0.2 m	PI051.12
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.4 m	PI109.04
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI058.05
<i>Solanum ellipticum</i>	+	0.2 m	PI103.10
<i>Tinospora smilacina</i>	+	cl	PI103.08
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03
<i>Triodia epactia</i>	11%	0.3 m	PI109.01
<i>Triodia lanigera</i>	6%	0.3 m	PI109.02
<i>Urochloa holosericea</i> subsp. <i>velutina</i>	+	0.1 m	PI106.05
<i>Waltheria indica</i>	+	0.3 m	PI106.04
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI110**

Described by HA Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 662286 mE 7727640 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia lanigera* and *Triodia epactia* over Very Open Tussock Grassland of *Aristida inaequiglumis* and *Eriachne mucronata*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 55%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance: Some cattle tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	1.3 m	PI131.04
<i>Acacia inaequilatera</i>	+	0.3 m	PI054.05
<i>Acacia sphaerostachya</i>	+	1.2 m	PI110.07
<i>Acacia stellaticeps</i>	5%	0.5 m	PI070.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1.5 m	PI070.30
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI110.02
<i>Aristida inaequiglumis</i>	1%	0.7 m	PI070.24
<i>Bulbostylis barbata</i>	+	0.15 m	PI070.17
<i>Cassylia capillaris</i>	+	cl	PI055.03
<i>Chrysopogon fallax</i>	+	0.3 m	PI070.21
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.2 m	PI070.02
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17
<i>Dysphania saxatilis</i>	+	0.15 m	PI053.07
<i>Eragrostis eriopoda</i>	+	0.3 m	PI070.13
<i>Eriachne aristidea</i>	+	0.2 m	PI070.28
<i>Eriachne benthamii</i>	+	0.3 m	PI110.04
<i>Eriachne mucronata</i>	1%	0.3 m	PI102.06
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	+	0.15 m	PI131.03
<i>Euphorbia australis</i>	+	cr	PI108.12
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI110.03
<i>Goodenia forrestii</i>	+	0.2 m	PI131.07
<i>Goodenia microptera</i>	+	0.3 m	PI096.01
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.4 m	PI070.05
<i>Hibiscus brachychlaenus</i>	+	0.5 m	PI110.09
<i>Hybanthus aurantiacus</i>	+	0.5 m	PI099.02
<i>Indigofera monophylla</i>	+	0.3 m	PI072.03
<i>Mollugo molluginea</i>	+	0.2 m	PI070.35
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09

<i>Polycarpha corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
* <i>Portulaca oleracea</i>	+	0.1 m	PI053.03
<i>Portulaca pilosa</i>	+	0.2 m	PI147.22
<i>Ptilotus astrolasius</i>	+	0.4 m	PI089.05
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	+	0.2 m	PI131.05
<i>Schizachyrium fragile</i>	+	0.2 m	PI110.05
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.6 m	PI070.03
<i>Solanum ellipticum</i>	+	0.2 m	PI073.12
<i>Solanum lasiophyllum</i>	+	0.2 m	PI070.37
<i>Tribulus hirsutus</i>	+	cr	PI110.10
<i>Triodia epactia</i>	+	0.4 m	PI110.06
<i>Triodia lanigera</i>	40%	0.4 m	PI110.01
<i>Urochloa holosericea</i> subsp. <i>velutina</i>	+	0.2 m	PI110.08
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.15 m	PI072.06

**Port Hedland RS Site PI111**

Described by BW Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 663996 mE 7727735 mN

Habitat Plain

Soil Orange brown clayey sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A

Bare Ground: 87%

Litter Cover: +% Logs, +% Twigs, 1% Lvs

Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	1-2 m	PI062.03
<i>Acacia colei</i> var. <i>colei</i>	+	1.5 m	PI043.16
<i>Acacia inaequilatera</i>	+	1-2 m	PI049.06
<i>Acacia sphaerostachya</i>	+	1.2 m	PI136.04
<i>Acacia stellaticeps</i>	10%	0.7 m	PI043.01
<i>Boerhavia coccinea</i>	+	prostrate	PI067.15
<i>Bonamia rosea</i>	+	0.4 m	PI111.01
<i>Bulbostylis barbata</i>	+	0.1 m	PI056.01
<i>Cassutha capillaris</i>	+	cr	PI111.02
<i>Chrysopogon fallax</i>	+	0.4 m	PI042.09
<i>Cleome viscosa</i>	+	0.4 m	PI111.04
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	out	1.5 m	PI146.07
<i>Dysphania saxatilis</i>	+	0.2 m	PI056.15
<i>Eragrostis eriopoda</i>	+	0.4 m	PI047.02
<i>Eriachne aristidea</i>	+	0.3 m	PI136.03
<i>Goodenia microptera</i>	+	0.3 m	PI060.02
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.8 m	PI043.07
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Senna notabilis</i>	+	0.2 m	PI043.09
<i>Sida echinocarpa</i>	+	0.2 m	PI111.03
<i>Triodia lanigera</i>	9%	0.4 m	PI136.06
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI042.06



**Port Hedland RS Site PI112**

Described by LD Date 27/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 666848 mE 7729492 mN

Habitat Plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Open Woodland of *Corymbia zygophylla* over Open Shrubland of *Acacia sphaerostachya* and *Acacia stellaticeps* over Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Tracks near by and cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia sericophylla</i>	+	0.9 m	PI090.17	
<i>Acacia sphaerostachya</i>	3%	1-1.5 m	PI134.01	
<i>Acacia stellaticeps</i>	3%	0.7 m	PI065.01	
<i>Acacia trudgeniana</i>	+	1-2 m	PI065.31	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI094.04	
<i>Boerhavia coccinea</i>	+	0.1 m	PI112.04	
<i>Bonamia alatisemina</i>	+	0.1 m	PI027.06	
<i>Bonamia media</i> var. <i>villosa</i>	+	0.1 m	PI112.11	
<i>Bonamia rosea</i>	+	0.3 m	PI090.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Chrysopogon fallax</i>	+	0.6 m	PI051.04	
<i>Cleome viscosa</i>	+	0.2 m	PI112.06	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.1 m	PI094.08	
<i>Corymbia zygophylla</i>	2%	1-3 m	PI112.02	
<i>Cucumis maderaspatanus</i>	+	cr	PI045.15	
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11	
<i>Eragrostis eriopoda</i>	+	0.3 m	PI090.04	
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03	
<i>Eriachne mucronata</i>	+	0.3 m	PI109.05	
<i>Euphorbia australis</i>	+	0.05 m	PI112.12	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI112.05	
<i>Fimbristylis oxystachya</i>	+	0.1 m	PI025.05	
<i>Goodenia microptera</i>	+	0.2 m	PI112.09	
<i>Hibiscus brachychlaenus</i>	+	0.7 m	PI112.08	
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.2 m	PI065.13	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI058.06	

<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10
<i>Ptilotus astrolasius</i>	+	0.3 m	PI090.03
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	+	1 m	PI112.10
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x subsp. <i>helmsii</i>	+	1 m	PI112.07
<i>Senna notabilis</i>	+	0.3 m	PI051.12
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03
<i>Triodia epactia</i>	30%	0.6 m	PI112.03
<i>Triodia lanigera</i>	4%	0.4 m	PI112.01
<i>Waltheria indica</i>	+	0.1 m	PI103.15
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI113**

Described by BW Date 27/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 668309 mE 7728225 mN

Habitat Floodplain

Soil Orange brown clayey loam

Rock Type N/A

Vegetation Low Open Woodland of *Eucalyptus victrix* and *Corymbia hamersleyana* over Shrubland of *Acacia colei* var. *colei* over Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: +% Logs, 1% Twigs, 3% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	15%	1-3 m	PI043.16
<i>Acacia stellaticeps</i>	+	0.3 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07
<i>Bulbostylis barbata</i>	+	0.1 m	PI104.01
<i>Chrysopogon fallax</i>	+	0.5 m	PI042.09
<i>Corchorus tectus</i>	+	0.5 m	PI030.02
<i>Corymbia hamersleyana</i>	2%	3 m	PI113.01
<i>Eragrostis cumingii</i>	+	0.4 m	PI113.04
<i>Eragrostis eriopoda</i>	+	0.4 m	PI047.02
<i>Eucalyptus victrix</i>	2%	6-10 m	PI113.02
<i>Goodenia lamprosperma</i>	+	0.4 m	PI043.21
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Mimulus gracilis</i>	+	0.1 m	PI092.05
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Polymeria ambigua</i>	+	cr	PI113.05
<i>Rhynchosia minima</i>	+	cr	PI113.03
<i>Senna notabilis</i>	+	0.4 m	PI043.09
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.5 m	PI043.14
<i>Triodia epactia</i>	15%	0.4 m	PI113.06
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI114**

Described by HA Date 27/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 669656 mE 7728731 mN

Habitat Sand plain

Soil Brown orange very sandy loam

Rock Type N/A

Vegetation Low Open Woodland of *Eucalyptus camaldulensis* subsp. *refulgens* over Hummock Grassland of *Triodia epactia* and *Triodia lanigera* over Very Open Tussock Grassland of *Aristida holathera* var. *holathera*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance:

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	0.3 m	PI086.05
<i>Acacia colei</i> var. <i>colei</i>	+	0.5 m	PI070.38
<i>Acacia inaequilatera</i>	+	1.2 m	PI054.05
<i>Acacia sericophylla</i>	+	0.6 m	PI099.13
<i>Acacia stellaticeps</i>	+	0.2 m	PI070.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	0.6 m	PI070.30
<i>Aristida holathera</i> var. <i>holathera</i>	2%	0.5 m	PI070.10
<i>Bonamia alatisemina</i>	+	cr	PI053.02
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Calandrinia pumila</i>	+	cr	PI086.02
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21
<i>Cleome viscosa</i>	+	0.3 m	PI099.07
<i>Corchorus tectus</i>	+	0.3 m	PI095.02
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	3 m	PI088.08
<i>Cyperus cunninghamii</i> subsp. <i>cunninghamii</i>	+	0.5 m	PI114.08
<i>Eragrostis eriopoda</i>	+	0.3 m	PI088.07
<i>Eriachne mucronata</i>	+	0.3 m	PI114.03
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	4%	6 m	PI068.01
<i>Fimbristylis simulans</i>	+	0.1 m	PI072.08
<i>Goodenia lamprosperma</i>	+	0.3 m	PI086.04
<i>Goodenia microptera</i>	+	0.4 m	PI096.01
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.9 m	PI070.05
<i>Heliotropium muticum</i>	+	0.3 m	PI114.04
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02
<i>Indigofera monophylla</i>	1%	0.3 m	PI072.03
<i>Isotropis atropurpurea</i>	+	0.4 m	PI114.07
<i>Mimulus gracilis</i>	+	0.1 m	PI114.05
<i>Mollugo molluginea</i>	+	0.15 m	PI070.35



<i>Pluchea tetranthera</i>	+	0.4 m	PI088.09
<i>Polymeria ambigua</i>	+	cr	PI086.06
<i>Polymeria calycina</i>	+	cr	PI114.06
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI070.03
<i>Stackhousia muricata</i>	+	0.2 m	PI114.02
<i>Triodia epactia</i>	30%	0.4 m	PI114.01
<i>Triodia lanigera</i>	2%	0.3 m	PI114.09
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI115**

Described by HA Date 26/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 670195 mE 7729520 mN

Habitat Small creek

Soil Orange brown sand

Rock Type N/A

Vegetation Low Woodland of *Eucalyptus camaldulensis* subsp. *refulgens* of Hummock Grassland of *Triodia epactia* and *Triodia longiceps* over Very Open Tussock Grassland of *Panicum decompositum* and *Chrysopogon fallax*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 50%  
Litter Cover: +% Logs, +% Twigs, 1% Lvs  
Disturbance: None

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	0.5 m	PI070.38	
<i>Acacia stellaticeps</i>	+	0.5 m	PI070.01	
<i>Acacia synchronicia</i>	+	0.3 m	PI115.20	
<i>Acacia trachycarpa</i> x <i>tumida</i>	+	0.5 m	PI099.14	
<i>Bonamia rosea</i>	+	0.2 m	PI088.02	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14	
<i>Carissa lanceolata</i>	1%	0.9 m	PI086.09	
<i>Cassutha capillaris</i>	+	cl	PI055.03	
<i>Centipeda minima</i> subsp. <i>macrocephala</i>	+	0.2 m	PI115.06	
<i>Chrysopogon fallax</i>	1%	1.2 m	PI070.21	
<i>Cleome viscosa</i>	+	0.5 m	PI040.10	
<i>Corchorus tectus</i>	+	0.4 m	PI095.02	
<i>Ehretia saligna</i> var. <i>saligna</i>	+	1 m	PI115.24	
<i>Eragrostis tenellula</i>	+	0.2 m	PI115.15	
<i>Eriachne benthamii</i>	+	0.6 m	PI115.10	
<i>Eriachne glauca</i> var. <i>glauca</i>	+	0.15 m	PI115.05	
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	15%	4 m	PI115.01	
<i>Eulalia fulva</i>	+	0.6 m	PI115.07	
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI072.10	
<i>Goodenia lamprosperma</i>	+	0.2 m	PI086.04	
<i>Goodenia triodiophila</i>	+	0.3 m	PI115.23	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	1 m	PI099.12	
<i>Indigofera monophylla</i>	+	0.3 m	PI072.03	
<i>Ipomoea coptica</i>	+	cr	PI115.13	
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Neptunia dimorphantha</i>	+	cr	PI115.14	
<i>Panicum decompositum</i>	2%	0.8 m	PI115.11	
<i>Phyllanthus maderaspatensis</i>	+	0.8 m	PI115.08	

<i>Pluchea ferdinandi-muelleri</i>	+	0.5 m	PI115.21
<i>Pluchea rubelliflora</i>	+	0.2 m	PI115.04
<i>Polymeria ambigua</i>	+	cr	PI086.06
<i>Pterocaulon sphaeranthoides</i>	+	0.5 m	PI115.09
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x	+	0.9 m	PI115.22
<i>Sesbania cannabina</i>	+	0.5 m	PI115.12
<i>Streptoglossa decurrens</i>	+	0.3 m	PI115.18
<i>Tinospora smilacina</i>	+	cr	PI087.09
<i>Trianthema triquetra</i>	+	0.1 m	PI115.19
<i>Triodia epactia</i>	45%	0.5 m	PI115.02
<i>Triodia longiceps</i>	+	0.2 m	PI115.03

**Port Hedland RS Site PI116**

Described by LD Date 26/09/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 671022 mE 7729465 mN

Habitat Plain

Soil Orange brown sandy loam.

Rock Type N/A

Vegetation Scattered Shrubs of *Acacia ancistrocarpa* and *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia lanigera*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A

Bare Ground: 90%

Litter Cover: 0% Logs, +% Twigs, +% Lvs

Disturbance: Tracks near by, cattle and horse tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	+	1 m	PI116.07	
<i>Acacia stellaticeps</i>	+	0.3 m	PI065.01	
<i>Acacia trudgeniana</i>	+	0.8 m	PI065.31	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI094.04	
<i>Bonamia alatisemina</i>	+	0.1 m	PI027.06	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Corchorus tectus</i>	+	0.3 m	PI091.07	
<i>Eragrostis pergracilis</i>	+	0.05 m	PI116.05	
<i>Euphorbia alsiniflora</i>	+	0.1 m	PI116.09	
<i>Euphorbia australis</i>	+	0.01	PI103.13	
<i>Goodenia microptera</i>	+	0.3 m	PI090.14	
<i>Goodenia triodiophila</i>	+	0.3 m	PI091.03	
<i>Heliotropium muticum</i>	+	0.2 m	PI116.03	15 ind within quadrat. Mostly occurring on the west side.
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.3 m	PI116.02	
<i>Isotropis atropurpurea</i>	+	0.2 m	PI125.05	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Pluchea rubelliflora</i>	+	0.2 m	PI080.02	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Polymeria ambigua</i>	+	cr	PI117.10	
<i>Polymeria calycina</i>	+	0.1 m	PI116.08	
* <i>Portulaca oleracea</i>	+	0.1 m	PI128.04	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28	
<i>Senna notabilis</i>	+	0.2 m	PI051.12	
<i>Sporobolus australasicus</i>	+	0.2 m	PI066.02	
<i>Streptoglossa decurrens</i>	+	0.2 m	PI116.11	
<i>Tephrosia supina</i>	+	0.2 m	PI116.10	
<i>Tephrosia uniovulata</i>	+	0.3 m	PI116.04	
<i>Triodia lanigera</i>	3%	0.3 m	PI116.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08	



**Port Hedland RS Site PI117**

Described by LD Date 28/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 673576 mE 7728683 mN

**Habitat** Sandy plain

**Soil** Orange brown sandy loam

**Rock Type** N/A

**Vegetation** Scattered Low Trees of *Eucalyptus camaldulensis* subsp. *refulgens* over open shrubland of *Acacia sericophylla* over Scattered Tussock Grass of *Paspalidium tabulatum*

**Veg Condition** Excellent

**Fire Age** Young

**Notes** Aspect: N/A  
Bare Ground: 93%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia bivenosa</i>	+	0.3 m	PI117.05	
<i>Acacia sericophylla</i>	2%	1 m	PI117.14	
<i>Acacia sphaerostachya</i>	+	0.5 m	PI134.01	
<i>Acacia trudgeniana</i>	+	0.5-1.5 m	PI065.31	
<i>Alternanthera nana</i>	+	0.1 m	PI094.07	
<i>Amaranthus undulatus</i>	+	0.3 m	PI117.08	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI117.13	
<i>Boerhavia coccinea</i>	+	cr	PI117.17	
<i>Bonamia alatisemina</i>	+	0.1 m	PI117.11	
<i>Bonamia rosea</i>	+	0.4 m	PI090.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI027.03	
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18	
<i>Cleome viscosa</i>	+	0.2 m	PI112.06	
<i>Corchorus tectus</i>	+	0.3 m	PI091.07	
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11	
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03	
<i>Eriachne mucronata</i>	+	0.2 m	PI117.12	
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	1%	2-3 m	PI117.01	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI117.03	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI117.06	
<i>Goodenia microptera</i>	+	0.3 m	PI112.09	
<i>Heliotropium muticum</i>	+	0.2 m	PI117.04	7 ind. Within quadrat
<i>Hybanthus aurantiacus</i>	+	0.1 m	PI043.13	
<i>Indigofera monophylla</i>	1%	0.4 m	PI065.13	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI117.09	
<i>Paspalidium tabulatum</i>	1%	0.2 m	PI117.07	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	

<i>Polycarpaea holtzei</i>	+	0.05 m	PI117.16
<i>Polymeria ambigua</i>	+	cr	PI117.10
<i>Polymeria calycina</i>	+	0.1 m	PI125.06
<i>Ptilotus calostachyus</i>	+	0.8 m	PI109.10
<i>Ptilotus fusiformis</i>	+	0.4 m	PI065.28
<i>Senna notabilis</i>	+	0.2 m	PI051.12
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.2 m	PI150.06
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI058.05
<i>Solanum ellipticum</i>	+	0.6 m	PI065.26
<i>Sporobolus australasicus</i>	+	0.1 m	PI117.15
<i>Swainsona formosa</i>	+	0.3 m	PIR151.06
<i>Tephrosia supina</i>	+	0.1 m	PI125.08
<i>Tephrosia uniovulata</i>	+	0.3 m	PI128.07
<i>Triodia lanigera</i>	+	0.2 m	PI117.02
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI118**

Described by HA Date 28/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 675787 mE 7727948 mN

Habitat Sand plain

Soil Brown orange loamy sand

Rock Type N/A

Vegetation Open Shrubland of *Acacia colei* var. *colei* over Low Open Shrubland of *Corchorus lasiocarpus* subsp. *lasiocarpus*, *Sida* sp. Pilbara (A.A. Mitchell PRP 1543), *Heliotropium muticum* and *Indigofera monophylla* over Very Open Hummock Grassland of *Triodia epactia* over Very Open Tussock Grassland *Eragrostis cumingii*, *Eriachne aristidea* and *Fimbristylis dichotoma*



Veg Condition Excellent to very good

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 70%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	5%	0.9 (3) m	PI070.38
<i>Acacia inaequilatera</i>	+	0.9 m	PI054.05
<i>Bonamia alatisemina</i>	+	clPI053.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Cajanus cinereus</i>	+	0.5 m	PI118.14
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14
<i>Calandrinia pumila</i>	+	cr	PI086.02
<i>Chrysopogon fallax</i>	1%	1 m	PI070.21
<i>Cleome viscosa</i>	+	0.4 m	PI099.07
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	5%	0.4 m	PI070.02
<i>Corchorus tectus</i>	+	0.3 m	PI095.02
<i>Crotalaria ramosissima</i>	+	0.3 m	PI089.02
<i>Dactyloctenium radulans</i>	+	0.1 m	PI118.12
<i>Desmodium filiforme</i>	+	cr	PI118.13
<i>Dysphania saxatilis</i>	+	0.3 m	PI053.07
<i>Eragrostis cumingii</i>	2%	0.2 m	PI118.05
<i>Eriachne aristidea</i>	1%	0.3 m	PI118.02
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI072.10
<i>Euphorbia australis</i>	+	cr	PI108.12
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.3 m	PI118.09
<i>Fimbristylis dichotoma</i>	1%	0.4 m	PI081.07
<i>Goodenia lamprosperma</i>	+	0.3 m	PI118.06
<i>Goodenia microptera</i>	+	0.4 m	PI096.01
<i>Heliotropium muticum</i>	1%	0.3 m	PI118.08
<i>Heliotropium ovalifolium</i>	+	0.4 m	PI118.07
<i>Hibiscus burtonii</i>	+	0.5 m	PI118.10
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02
<i>Indigofera monophylla</i>	1%	0.3 m	PI072.03

<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Pluchea rubelliflora</i>	+	0.2 m	PI127.05	
<i>Pluchea tetranthera</i>	+	0.1 m	PI118.03	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.15 m	PI072.02	
<i>Polymeria calycina</i>	+	cr	PI118.04	
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22	
<i>Senna notabilis</i>	+	0.2 m	PI070.14	
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.3 m	PI105.08	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	2%	0.6 m	PI118.11	
<i>Solanum lasiophyllum</i>	+	0.5 m	PI070.37	
<i>Sporobolus australasicus</i>	+	0.1 m	PI037.07	
<i>Streptoglossa decurrens</i>	+	0.2 m	PI115.18	
<i>Tephrosia simplicifolia</i>	+	0.1 m	PI032.08	Range ext
<i>Tephrosia uniovulata</i>	+	0.2 m	PI099.03	
<i>Triodia epactia</i>	3%	0.3 m	PI118.01	
<i>Waltheria indica</i>	+	0.2 m	PI118.16	



**Port Hedland RS Site PI119**

Described by HA Date 28/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 676737 mE 7730289 mN

**Habitat** Major river

**Soil** Orange brown coarse sand

**Rock Type** N/A

**Vegetation** Low Woodland of *Melaleuca lasiandra* and *Eucalyptus camaldulensis* subsp. *refulgens* over High Open Shrubland of *Acacia trachycarpa* over Very Open Hummock Grassland of *Triodia epactia* over Open Tussock Grassland of *\*Cenchrus ciliaris* and *Chloris pectinata*

**Veg Condition** Very good to good

**Fire Age** Old

**Notes** Aspect: N/A  
Bare Ground: 60%  
Litter Cover: 1% Logs, 1% Twigs, 2% Lvs  
Disturbance: Buffel and cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia trachycarpa</i>	2%	3 m	PI068.03	
<i>*Aerva javanica</i>	+	0.6 m	PI147.05	
<i>Amaranthus undulatus</i>	+	0.4 m	PI120.10	
<i>Ammannia multiflora</i>	+	0.3 m	PI120.04	
<i>Cajanus cinereus</i>	+	2 m	PI119.04	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14	
<i>Cassutha capillaris</i>	+	cr	PI055.03	
<i>*Cenchrus ciliaris</i>	15%	0.5 m	PI070.29	
<i>Chloris pectinata</i>	3%	0.3 m	PI120.05	
<i>Cleome viscosa</i>	+	0.4 m	PI040.10	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.5 m	PI070.02	
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>	+	0.5 m	PI120.09	
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17	
<i>Cynanchum floribundum</i>	+	cr	PI119.07	
<i>Cyperus vaginatus</i>	+	0.7 m	PI068.16	
<i>Desmodium filiforme</i>	+	cr	PI046.11	
<i>Eragrostis cumingii</i>	+	0.2 m	PI118.05	
<i>Eragrostis tenellula</i>	+		PI119.06	
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	1%	8 m	PI068.01	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI123.36	
<i>*Flaveria trinervia</i>	+	0.4 m	PI120.16	
<i>Goodenia lamprosperma</i>	+	0.3 m	PI094.05	
<i>Hibiscus austrinus</i> var. <i>austrinus</i>	+	0.8 m	PI120.06	
<i>Hybanthus aurantiacus</i>	+	0.6 m	PI099.02	
<i>Melaleuca lasiandra</i>	18%	3 m	PI120.01	
<i>Phyllanthus maderaspatensis</i>	+	0.1 m	PI119.03	
<i>Pluchea rubelliflora</i>	+	0.3 m	PI119.09	
<i>Polycarpha longiflora</i>	+	0.3 m	PI119.01	

<i>Polymeria ambigua</i>	+	cr	PI086.06
<i>Pterocaulon sphaeranthoides</i>	+	0.3 m	PI119.05
<i>Sesbania cannabina</i>	+	0.9 m	PI120.02
<i>Streptoglossa decurrens</i>	+	0.2 m	PI115.18
<i>Striga squamigera</i>	+	0.1 m	PI120.17
<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)	+	0.2 m	PI120.15
<i>Triodia epactia</i>	2%	0.4 m	PI119.02
<i>Wahlenbergia tumidifructa</i>	+	0.4 m	PI119.08

**Port Hedland RS Site PI120**

Described by HA Date 28/06/2011 Type Q 100x25 m

Location Port Hedland

MGA Zone 50 677694 mE 7726952 mN

Habitat Creekbed/ riverbed

Soil Orange brown coarse sand

Rock Type N/A

Vegetation Low Woodland of *Melaleuca lasiandra*, *Melaleuca argentea* and *Eucalyptus camaldulensis* subsp. *refulgens* over Open Tussock Grassland of *Chloris pectinata* and *\*Cenchrus ciliaris*

Veg Condition Good

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: 1% Logs, 1% Twigs, +% Lvs  
Disturbance: Cattle and buffel**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ampliceps</i>	+	0.5 m	PI068.19	
<i>Acacia colei</i> var. <i>colei</i>	+	1.5 m	PI070.38	
<i>Acacia trachycarpa</i>	+	0.9 m	PI068.03	
<i>*Aerva javanica</i>	+	0.5 m	PI147.05	
<i>Amaranthus undulatus</i>	+	0.3 m	PI120.10	
<i>Ammannia multiflora</i>	1%	0.4 m	PI120.04	
<i>Calandrinia pentavalvis</i>	+	cr	PI072.14	
<i>Cassutha capillaris</i>	+	cr	PI055.03	
<i>*Cenchrus ciliaris</i>	3%	0.5 m	PI070.29	
<i>Chloris pectinata</i>	(8%)	0.5 m	PI120.05	
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21	
<i>Cleome viscosa</i>	+	0.5 m	PI040.10	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.5 m	PI070.02	
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>	+	0.4 m	PI120.09	
<i>Cyperus cunninghamii</i> subsp. <i>cunninghamii</i>	+	0.1 m	PI120.11	
<i>Cyperus vaginatus</i>	+	0.6 m	PI068.16	
<i>Eragrostis cumingii</i>	+	0.2 m	PI118.05	
<i>*Eragrostis curvula</i>	+	6.6 m	PI120.08	Range extension
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	1%	4 m	PI068.01	
<i>Fimbristylis littoralis</i>	+	0.2 m	PI120.03	
<i>*Flaveria trinervia</i>	+	0.5 m	PI120.16	
<i>Hibiscus austrinus</i> var. <i>austrinus</i>	+	1 m	PI120.06	
<i>Melaleuca argentea</i>	1%	3 m	PI068.10	
<i>Melaleuca lasiandra</i>	10%	3 m	PI120.01	
<i>*Physalis angulata</i>	+	0.3 m	PI120.13	Range extension
<i>Pluchea rubelliflora</i>	+	0.1 m	PI127.05	
<i>Sesbania cannabina</i>	+	0.5 m	PI120.02	
<i>Stemodia viscosa</i>	+	0.5 m	PI120.12	

<i>Streptoglossa decurrens</i>	+	0.2 m	PI115.18
<i>Striga squamigera</i>	+	0.5 m	PI120.17
<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)	+	0.5 m	PI120.15
<i>Triodia epactia</i>	+	0.4 m	PI120.14



**Port Hedland RS Site PI121**

Described by EC Date 28/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 675890 mE 7725408 mN

Habitat Plain with depression

Soil Light orange brown sandy loam with scattered pebbles and deep areas having cracking surface

Rock Type Quartz

Vegetation Hummock Grassland of *Triodia secunda* over Open Tussock Grassland of *Sporobolus australasicus* and *Sporobolus actinocladus*

Veg Condition Excellent to very good

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 30%  
Litter Cover: 0% Logs, 0% Twigs, +% Lvs  
Disturbance: Cattle and tracks**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia bivenosa</i>	+	1 m	PI121.09	
<i>Bulbostylis barbata</i>	+	0.2 m	PI121.05	
<i>Calandrinia pentavalvis</i>	+	0.2 m	PI123.38	
* <i>Cenchrus ciliaris</i>	+	0.3 m	PI103.06	
<i>Corchorus tectus</i>	+	0.3 m	PI123.35	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI123.36	
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI121.06	
<i>Pluchea tetranthera</i>	+	0.2 m	PI121.08	
<i>Portulaca pilosa</i>	+	0.2 m	PI123.17	
<i>Sporobolus actinocladus</i>	1%	0.3 m	PI121.04	
<i>Sporobolus australasicus</i>	20%	0.2 m	PI121.01	
<i>Streptoglossa decurrens</i>	+	0.3 m	PI121.02	
<i>Trianthema triquetra</i>	+	0.2 m	PI121.03	
<i>Triodia secunda</i>	50%	0.3 m	PI121.07	

**Port Hedland RS Site PI122**

Described by BW Date 28/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 677239 mE 7723082 mN

**Habitat** Wide drainage line

**Soil** Orange brown sandy clay with very scattered pebbles

**Rock Type** Granite pebbles

**Vegetation** Low Open Woodland of *Corymbia candida* subsp. *dipsodes* over High Open Shrubland of *Acacia colei* var. *colei*, *Acacia trachycarpa* and *Acacia trachycarpa* x *tumida* over Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia*

**Veg Condition** Excellent

**Fire Age** Old

**Notes** Aspect: N/A  
Bare Ground: 70%  
Litter Cover: +% Logs, +% Twigs, 1% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	1%	5 m	PI122.07	
<i>Acacia stellaticeps</i>	5%	0.7 m	PI043.01	
<i>Acacia synchronicia</i>	+	1.5 m	PI140.10	
<i>Acacia trachycarpa</i>	3%	3-4 m	PI107.02	
<i>Acacia trachycarpa</i> x <i>tumida</i>	1%	5 m	PI122.06	
<i>Achyranthes aspera</i>	+	0.6 m	PI122.05	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI049.07	
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01	
<i>Cajanus cinereus</i>	+	1.2 m	PI122.10	
<i>Calandrinia stagnensis</i>	+	0.2 m	PI145.04	
* <i>Cenchrus ciliaris</i>	1%	0.5 m	PI052.06	
<i>Cleome viscosa</i>	(+)	0.5 m	NC	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI042.04	
<i>Corchorus tectus</i>	+	0.4 m	PI030.02	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	2%	8-10 m	PI146.07	
<i>Crotalaria ramosissima</i>	+	0.3 m	PI029.01	
<i>Cyperus vaginatus</i>	+	0.7 m	PI122.11	
<i>Eragrostis cumingii</i>	+	0.3 m	PI113.04	
<i>Fimbristylis dichotoma</i>	+	0.2 m	PI049.15	
<i>Gossypium australe</i>	+	0.5 m	PI104.08	
<i>Hibiscus austrinus</i> var. <i>austrinus</i>	+	0.4 m	PI122.04	
<i>Indigofera colutea</i>	+	0.1 m	PI122.03	
<i>Indigofera hirsuta</i>	+	0.4 m	PI122.02	
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03	
<i>Pluchea rubelliflora</i>	+	0.4 m	PI122.01	
<i>Pluchea tetranthera</i>	+	0.3 m	PI064.02	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06	
<i>Portulaca pilosa</i>	+	0.2 m	PI030.01	

<i>Senna notabilis</i>	+	0.2 m	PI043.09
<i>Sida clementii</i>	+	0.5 m	PI100.02
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.6 m	PI069.07
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI043.14
<i>Sporobolus australasicus</i>	+	0.2 m	PI145.03
<i>Streptoglossa decurrens</i>	+	0.4 m	PI122.08
<i>Striga squamigera</i>	+	0.3 m	PI122.09
<i>Trianthema pilosa</i>	+	0.2 m	PI052.09
<i>Triodia epactia</i>	25%	0.4 m	PI122.12
<i>Waltheria indica</i>	+	0.1 m	PI122.13
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI123**

Described by EC Date 28/06/2011 Type Q 100x25 m

Location Port Hedland

MGA Zone 50 674494 mE 7726093 mN

Habitat Low hill with quartz outcrops

Soil Light brown sandy loam with a cover of cobbles, pebbles and exposed rock and some boulders

Rock Type Quartz

Vegetation Open Shrubland of *Acacia tumida* var. *pilbarensis*, *Acacia inaequilatera* and *Acacia orthocarpa* over Very Open Hummock Grassland of *Triodia epactia* over Open Tussock Grassland of *Aristida holathera* var. *holathera*, \**Cenchrus ciliaris* and *Eriachne ciliata*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: Ridge runs North-south and slopes to the East and North  
Bare Ground: 75%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Buffel**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Abutilon lepidum</i>	+	0.3 m	PI123.31	
<i>Acacia ancistrocarpa</i>	+	1.5 m	PI123.13	
<i>Acacia inaequilatera</i>	1%	1-2 m	PI123.15	
<i>Acacia maitlandii</i>	+	1 m	PI123.01	
<i>Acacia orthocarpa</i>	1%	1 m	PI123.34	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	3%	0.5-1 m	PI123.08	
<i>Amaranthus undulatus</i>	+	0.3 m	PI123.32	
<i>Aristida holathera</i> var. <i>holathera</i>	10%	0.3 m	PI123.18	
<i>Boerhavia coccinea</i>	+	cr	PI123.29	
<i>Bonamia rosea</i>	1%	0.3 m	PI123.05	
<i>Calandrinia pentavalvis</i>	+	0.3 m	PI123.38	
* <i>Cenchrus ciliaris</i>	1%	0.3 m	PI103.06	
<i>Cleome viscosa</i>	+	0.3 m	PI065.17	
<i>Corchorus tectus</i>	+	0.3 m	PI123.35	
<i>Eriachne ciliata</i>	1%	0.2 m	PI123.19	
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI123.36	
<i>Euphorbia australis</i>	+	0.1 m	PI123.11	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI123.25	
<i>Gomphrena cunninghamii</i>	+	0.2 m	PI123.10	
<i>Goodenia microptera</i>	+	0.3 m	PI123.12	
<i>Goodenia stobbsiana</i>	+	0.3 m	PI123.23	
<i>Gossypium australe</i>	+	0.4 m	PI123.24	
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	1.5 m	PI123.39	
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	+	0.3 m	PI123.16	
<i>Hybanthus aurantiacus</i>	1%	0.3 m	PI123.21	
<i>Indigofera monophylla</i>	+	0.3 m	PI123.02	
<i>Mollugo molluginea</i>	+	0.2 m	PI123.09	
<i>Polycarpaea holtzei</i>	+	0.1 m	PI123.07	



<i>Polygala isingii</i>	+	0.1 m	PI123.14	
<i>Portulaca pilosa</i>	+	0.2 m	PI123.17	
<i>Ptilotus calostachyus</i>	+	0.3 m	PI109.10	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	+	0.6 m	PI123.22	
<i>Senna notabilis</i>	+	0.4 m	PI123.20	
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.3 m	PI123.26	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI123.04	
<i>Solanum diversiflorum</i>	+	0.3 m	PI048.09	
<i>Solanum ellipticum</i>	+	1 m	PI065.26	
<i>Tephrosia simplicifolia</i>	+	0.3 m	PI123.37	Range ext
<i>Tephrosia supina</i>	+	0.1 m	PI123.06	
<i>Tinospora smilacina</i>	+	cr	PI123.28	
<i>Trachymene oleracea</i> subsp. <i>oleracea</i>	+	0.3 m	PI123.30	
<i>Triodia epactia</i>	10%	0.3 m	PI123.33	
<i>Waltheria indica</i>	+	0.3 m	PI123.27	

**Port Hedland RS Site PI124**

Described by LD Date 28/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 673739 mE 7724279 mN

Habitat Plain

Soil Orange brown sandy loam with some cobbles and pebbles

Rock Type Quartz

Vegetation Open Shrubland of *Acacia bivenosa* and *Acacia trudgeniana* over Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia bivenosa</i>	2%	1-2 m	PI117.05	
<i>Acacia sphaerostachya</i>	+	1 m	PI134.01	
<i>Acacia stellaticeps</i>	4%	0.6 m	PI065.01	
<i>Acacia trudgeniana</i>	1%	1-3 m	PI065.31	
<i>Aristida holathera</i> var. <i>holathera</i>	(+)	0.3 m	PI090.08	
<i>Bonamia rosea</i>	+	0.3 m	PI090.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Cleome viscosa</i>	+	0.3 m	PI065.17	
<i>Corchorus tectus</i>	+	0.2 m	PI091.07	
<i>Cullen cinereum</i>	+	0.2 m	PI124.02	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	(+)	0.1 m	PI128.03	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI117.03	
<i>Euphorbia australis</i>	+	0.3 m	PI139.02	
<i>Gossypium australe</i>	+	0.2 m	PI124.06	
<i>Heliotropium muticum</i>	+	0.2 m	PI124.07	
<i>Hibiscus brachychlaenus</i>	+	0.2 m	PI134.04	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.3 m	PI065.13	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Polycarpaea holtzei</i>	+	0.05 m	PI117.16	
<i>Polymeria ambigua</i>	+	cr	PI117.10	
<i>Polymeria calycina</i>	+	0.1 m	PI125.06	
* <i>Portulaca oleracea</i>	+	0.1 m	PI128.04	
<i>Ptilotus astrolasius</i>	+	0.3 m	PI090.03	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28	
<i>Salsola tragus</i> subsp. <i>grandiflora</i>	+	0.3 m	PI124.05	
<i>Senna notabilis</i>	+	0.3 m	PI051.12	

<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.3 m	PI150.06
<i>Swainsona formosa</i>	+	0.3 m	PIR151.06
<i>Tephrosia supina</i>	+	0.1 m	PI125.08
<i>Tribulus hirsutus</i>	+	0.1 m	PI106.08
<i>Triodia epactia</i>	2%	0.3 m	PI124.04
<i>Triodia lanigera</i>	18%	0.3 m	PI124.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI125**

Described by LD Date 28/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 674039 mE 7722945 mN

**Habitat** Plain

**Soil** Orange Brown sandy loam with gravel, rocks, cobbles and pebbles

**Rock Type** Granit and quartz

**Vegetation** Open Shrubland of *Acacia inaequilatera* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

**Veg Condition** Excellent

**Fire Age** Moderate

**Notes** Aspect: N/A  
Bare Ground: 85%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle prints and rail near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia inaequilatera</i>	2%	0.5-2 m	PI125.01	
<i>Acacia sphaerostachya</i>	+	0.8 m	PI134.01	
<i>Acacia stellaticeps</i>	+	0.6 m	PI065.01	
<i>Bonamia alatisemina</i>	+	0.1 m	PI027.06	
<i>Bonamia rosea</i>	+	0.2 m	PI090.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Cleome viscosa</i>	+	0.2 m	PI065.17	
<i>Corchorus tectus</i>	+	0.3 m	PI091.07	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	(+)	0.1 m	PI128.03	
<i>Euphorbia australis</i>	+	0.05 m	PI103.13	
<i>Gomphrena cunninghamii</i>	+	0.1 m	PI125.10	
<i>Goodenia microptera</i>	+	0.3 m	PI112.09	
<i>Gossypium australe</i>	+	0.4 m	PI125.09	
<i>Heliotropium muticum</i>	+	0.2 m	PI125.02	
<i>Hybanthus aurantiacus</i>	+	0.1 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.2 m	PI065.13	
<i>Isotropis atropurpurea</i>	+	0.4 m	PI125.05	
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>	+	0.3 m	PI134.07	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Polycarpha corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Polymeria calycina</i>	+	0.1 m	PI125.06	
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04	
<i>Ptilotus axillaris</i>	+	cr	PI125.11	
<i>Ptilotus fusiformis</i>	+	0.2 m	PI065.28	
<i>Sporobolus australasicus</i>	+	0.1 m	PI066.02	
<i>Tephrosia supina</i>	+	0.1 m	PI125.08	
<i>Tephrosia uniovulata</i>	+	0.4 m	PI128.07	
<i>Triodia epactia</i>	8%	0.4 m	PI125.04	
<i>Triodia lanigera</i>	6%	0.4 m	PI125.03	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08	



**Port Hedland RS Site PI126**

Described by LD Date 30/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 672219 mE 7725250 mN

**Habitat** Sandy plain

**Soil** Orange Brown sandy loam with rocks

**Rock Type** Quartz

**Vegetation** Open Shrubland of *Acacia sphaerostachya* over Low Shrubland of *Isotropis atropurpurea*, *Indigofera monophylla*, *Corchorus tectus* and *Tephrosia uniovulata* over Very Open Hummock Grassland of *Triodia lanigera*

**Veg Condition** Excellent

**Fire Age** Moderate

**Notes** Aspect: N/A  
Bare Ground: 91%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Tracks near by



To the South-west *Acacia inaequilatera* is dominate in the landscape. At this quadrat not so much.

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia sphaerostachya</i>	2%	0.3-2 m	PI134.01	
<i>Acacia trudgeniana</i>	+	1-2 m	PI065.31	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1 m	PI150.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI094.04	
<i>Bonamia alatisemina</i>	+	cr	PI117.11	
<i>Bonamia rosea</i>	+	0.3 m	PI090.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Cleome viscosa</i>	+	0.2 m	PI112.06	
<i>Corchorus tectus</i>	1%	0.2 m	PI091.07	
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	+	0.1 m	PI128.03	
<i>Goodenia microptera</i>	+	0.3 m	PI112.09	
<i>Heliotropium muticum</i>	+	0.2 m	PI126.02	
<i>Hibiscus brachychlaenus</i>	+	0.5 m	PI134.04	
<i>Indigofera monophylla</i>	2%	0.2 m	PI065.13	
<i>Isotropis atropurpurea</i>	8%	0.4 m	PI126.03	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI117.09	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Polymeria ambigua</i>	+	cr	PI117.10	
<i>Polymeria calycina</i>	+	cr	PI125.06	
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04	
<i>Ptilotus astrolasius</i>	+	0.3 m	PI090.03	
<i>Ptilotus calostachyus</i>	+	1.2 m	PI109.10	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28	
<i>Senna curvistyla</i>	+	0.1 m	PI126.04	
<i>Senna notabilis</i>	+	0.05 m	PI051.12	

<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI058.05
<i>Solanum diversiflorum</i>	+	0.2 m	PI048.09
<i>Tephrosia uniovulata</i>	1%	0.4 m	PI128.07
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03
<i>Tribulus hirsutus</i>	+	0.1 m	PI126.05
<i>Triodia lanigera</i>	4%	0.2 m	PI126.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI127**

Described by HA Date 27/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 670229 mE 7726930 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Shrubland of *Acacia stellaticeps*, *Acacia ancistrocarpa* and *Acacia colei* var. *colei* and *Isotropis atropurpurea* over Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Young

Notes Aspect: N/A  
Bare Ground: 50%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance: Cattle tracks

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	1%	0.3 m	PI086.05	
<i>Acacia colei</i> var. <i>colei</i>	1%	1.5 m	PI070.38	
<i>Acacia inaequilatera</i>	+	1 m	PI054.05	
<i>Acacia stellaticeps</i>	10%	0.3 m	PI070.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	1%	0.6 m	PI070.30	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10	
<i>Bonamia alatisemina</i>	+	cr	PI053.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI072.14	
<i>Calandrinia pumila</i>	+	cr	PI086.02	
<i>Chrysopogon fallax</i>	+	1.2 m	PI070.21	
<i>Cleome viscosa</i>	+	0.3 m	PI099.07	
<i>Corchorus tectus</i>	+	0.3 m	PI095.02	
<i>Drosera indica</i>	+	0.05 m	PI053.11	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	+	0.15 m	PI127.04	
<i>Eriachne glauca</i> var. <i>glauca</i>	+	0.1 m	PI127.03	
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	+	5 m	PI068.01	
<i>Goodenia lamprosperma</i>	+	0.3 m	PI086.04	
<i>Goodenia microptera</i>	+	0.2 m	PI096.01	
<i>Goodenia triodiophila</i>	+	0.3 m	PI127.06	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.6 m	PI070.05	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI099.02	
<i>Indigofera monophylla</i>	+	0.2 m	PI072.03	
<i>Isotropis atropurpurea</i>	2%	0.3 m	PI114.07	
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35	
<i>Pluchea rubelliflora</i>	+	0.15 m	PI127.05	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02	
<i>Polymeria ambigua</i>	+	cr	PI086.06	

<i>*Portulaca oleracea</i>	+	0.1 m	PI086.11
<i>Ptilotus fusiformis</i>	+	0.4 m	PI070.22
<i>Senna notabilis</i>	+	0.1 m	PI070.14
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI070.03
<i>Solanum lasiophyllum</i>	+	0.3 m	PI105.04
<i>Stackhousia muricata</i>	+	0.1 m	PI114.02
<i>Stylidium desertorum</i>	+	0.1 m	PI127.02
<i>Triodia epactia</i>	40%	0.3 m	PI127.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.13 m	PI072.06



**Port Hedland RS Site PI128**

Described by LD Date 27/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 668756 mE 7726818 mN

**Habitat** Plain

**Soil** Orange brown sandy loam with some mixed rocks

**Rock Type** Quartz and ironstone (mixed)

**Vegetation** Open Shrubland of *Acacia trudgeniana* over Low Open Shrubland of *Acacia sphaerostachya* and *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia*

**Veg Condition** Excellent

**Fire Age** Young- moderate

**Notes** Aspect: N/A  
Bare Ground: 83%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	+	0.6 m	PI091.12	
<i>Acacia sphaerostachya</i>	1%	0.8 m	PI134.01	
<i>Acacia stellaticeps</i>	1%	0.4 m	PI065.01	
<i>Acacia trudgeniana</i>	3%	1-2 m	PI065.31	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1-1.5 m	PI150.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.1 m	PI094.04	
<i>Bonamia alatisemina</i>	+	0.1 m	PI027.06	
<i>Bulbostylis barbata</i>	+	0.05 m	PI066.04	
<i>Cassylia capillaris</i>	+	cr	PI091.09	
<i>Cleome viscosa</i>	+	0.3 m	PI112.06	
<i>Corchorus tectus</i>	+	0.3 m	PI091.07	
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11	
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	(+)	0.1 m	PI128.03	
<i>Goodenia forrestii</i>	+	0.3 m	PI128.06	
<i>Heliotropium muticum</i>	+	0.2 m	PI128.09	6 ind. Within quadrat
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13	
<i>Isotropis atropurpurea</i>	+	0.4 m	PI128.10	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Polymeria ambigua</i>	+	cr	PI128.08	
* <i>Portulaca oleracea</i>	+	0.1 m	PI128.04	
<i>Senna notabilis</i>	+	0.2 m	PI051.12	
<i>Sida echinocarpa</i>	+	0.6 m	PI128.05	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI058.05	
<i>Solanum diversiflorum</i>	+	0.2 m	PI048.09	
<i>Solanum ellipticum</i>	+	0.6 m	PI065.26	
<i>Tephrosia uniovulata</i>	+	0.4 m	PI128.07	
<i>Triodia epactia</i>	3%	0.3 m	PI128.01	
<i>Triodia lanigera</i>	12%	0.3 m	PI128.02	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08	

**Port Hedland RS Site PI129**

Described by BW Date 27/06/2011 Type Q 50x50 m

**Location****MGA Zone** 50 666694 mE 7727031 mN**Habitat** Sand plain**Soil** Orange brown silty sand**Rock Type** N/A**Vegetation** Scattered High Shrubs of *Hakea lorea* subsp. *lorea* over Open Shrubland of *Acacia colei* var. *colei*, *Acacia inaequilatera* and *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera***Veg Condition** Excellent**Fire Age** Young**Notes** Aspect: N/A  
Bare Ground: 87%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle and fence near by**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	+	0.6 m	PI062.03	
<i>Acacia colei</i> var. <i>colei</i>	1%	0.5-1 m	PI043.16	
<i>Acacia inaequilatera</i>	1%	0.6-2 m	PI049.06	
<i>Acacia stellaticeps</i>	1%	0.4 m	PI043.01	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07	
<i>Bonamia alatisemina</i>	+	cr	PI145.11	
<i>Bonamia rosea</i>	+	0.4 m	PI030.04	
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01	
<i>Chrysopogon fallax</i>	+	0.6 m	PI042.09	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI129.04	
<i>Corchorus tectus</i>	+	0.4 m	PI030.02	
<i>Dysphania saxatilis</i>	+	0.2 m	PI069.03	
<i>Eragrostis eriopoda</i>	+	0.4 m	PI047.02	
<i>Eriachne aristidea</i>	+	0.4 m	PI136.03	
<i>Euphorbia australis</i>	+	prostrate	PI104.02	
<i>Hakea lorea</i> subsp. <i>lorea</i>	1%	1.5 m	PI043.07	
<i>Indigofera monophylla</i>	+	0.3 m	PI052.03	
<i>Mollugo molluginea</i>	+	0.3 m	PI043.29	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06	
<i>Ptilotus astrolasius</i>	+	0.4 m	PI056.18	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11	
<i>Senna notabilis</i>	+	0.2 m	PI043.09	
<i>Sida clementii</i>	+	0.4 m	PI100.02	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI043.14	
<i>Solanum lasiophyllum</i>	+	0.6 m	PI067.06	
<i>Trianthema pilosa</i>	+	prostrate	PI052.09	
<i>Triodia epactia</i>	8%	0.4 m	PI129.03	
<i>Triodia lanigera</i>	+	0.4 m	PI129.02	

**Port Hedland RS Site PI130**

Described by LD Date 27/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 665717 mE 7726029 mN

Habitat Sandy plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation Low Open Woodland of *Corymbia zygophylla* over  
High Open Shrubland of *Acacia tumida* var. *pilbarensis*  
over Hummock Grassland of *Triodia epactia* and  
*Triodia lanigera*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 70%  
Litter Cover: +% Logs, +% Twigs, 2% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Abutilon lepidum</i>	+	0.4 m	PI130.08
<i>Abutilon pritzelianum</i> MS	+	1.5 m	PI130.05
<i>Acacia colei</i> var. <i>colei</i>	+	2-3 m	PI091.12
<i>Acacia sericophylla</i>	+	1-3 m	PI130.03
<i>Acacia sphaerostachya</i>	+	2 m	PI134.01
<i>Acacia stellaticeps</i>	1%	0.7 m	PI065.01
<i>Acacia trudgeniana</i>	+	1-3 m	PI065.31
<i>Acacia tumida</i> var. <i>pilbarensis</i>	4%	2-4 m	PI150.07
<i>Amaranthus undulatus</i>	+	0.3 m	PI045.16
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI090.08
<i>Aristida inaequiglumis</i>	+	0.6 m	PI058.04
<i>Boerhavia coccinea</i>	+	0.2 m	PI130.04
<i>Bonamia alatisemina</i>	+	0.1 m	PI027.06
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18
<i>Cassutha capillaris</i>	+	cl	PI091.09
<i>Chrysopogon fallax</i>	+	0.5 m	PI051.04
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.1 m	PI094.08
<i>Corymbia zygophylla</i>	7%	2-5 m	PI112.02
<i>Cucumis maderaspatanus</i>	+	cl	PI045.15
<i>Dolichandrone heterophylla</i>	+	0.4 m	PI130.06
<i>Dysphania saxatilis</i>	+	0.2 m	PI090.11
<i>Eragrostis eriopoda</i>	+	0.3 m	PI090.04
<i>Eriachne aristidea</i>	+	0.2 m	PI063.03
<i>Eriachne benthamii</i>	+	0.3 m	PI106.01
<i>Euphorbia australis</i>	+	0.05 m	PI132.05
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI091.11
<i>Fimbristylis oxystachya</i>	+	0.2 m	PI025.05
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13

<i>Indigofera monophylla</i>	+	0.3 m	PI065.13
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04
<i>Owenia reticulata</i>	+	3 m	PI103.01
<i>Paraneurachne muelleri</i>	+	0.1 m	PI058.06
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	+	0.2 m	PI090.07
<i>Senna notabilis</i>	+	0.2 m	PI051.12
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.2 m	PI103.20
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.6 m	PI058.05
<i>Tinospora smilacina</i>	+	cl	PI103.08
<i>Trianthema pilosa</i>	+	0.1 m	PI065.03
<i>Tribulus hirsutus</i>	+	0.05 m	PI106.08
<i>Triodia epactia</i>	20%	0.6 m	PI130.01
<i>Triodia lanigera</i>	12%	0.4 m	PI130.02
<i>Triumfetta clementii</i>	+	0.2 m	PI130.07
<i>Waltheria indica</i>	+	0.1 m	PI103.15
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08



**Port Hedland RS Site PI131**

Described by HA Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 663616 mE 7725498 mN

Habitat Sand plain

Soil Orange brown sandy loam

Rock Type N/A

Vegetation High Open Shrubland of *Acacia ancistrocarpa*,  
*Acacia tumida* var. *pilbarensis* and *Acacia*  
*inaequilatera* over Low Open Shrubland of *Acacia*  
*stellaticeps* and *Bonamia rosea* over Hummock  
 Grassland of *Triodia lanigera*

Veg Condition Pristine

Fire Age Old

Notes Aspect: N/A  
 Bare Ground: 50%  
 Litter Cover: +% Logs, 1% Twigs, +% Lvs  
 Disturbance: None

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	3%	2 m	PI131.04
<i>Acacia colei</i> var. <i>colei</i>	+	1 m	PI070.38
<i>Acacia inaequilatera</i>	1%	2.5 m	PI054.05
<i>Acacia sericophylla</i>	+	1.5 m	PI070.04
<i>Acacia sphaerostachya</i>	+	0.4 m	PI131.13
<i>Acacia stellaticeps</i>	5%	0.7 m	PI070.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	1%	2.5 m	PI070.30
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI070.10
<i>Bonamia alatisemina</i>	+	cr	PI131.08
<i>Bonamia rosea</i>	1%	0.5 m	PI131.02
<i>Bulbostylis barbata</i>	+	0.15 m	PI070.17
<i>Cassutha capillaris</i>	+	cr	PI055.03
<i>Chrysopogon fallax</i>	+	0.5 m	PI070.21
<i>Cleome viscosa</i>	+	0.3 m	PI040.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI070.02
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17
<i>Eragrostis eriopoda</i>	+	0.3 m	PI070.13
<i>Eriachne mucronata</i>	+	0.4 m	PI102.06
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	+	0.15 m	PI131.03
<i>Euphorbia alsiniflora</i>	+	0.15 m	PI131.12
<i>Euphorbia australis</i>	+	cr	PI108.12
<i>Goodenia forrestii</i>	+	0.2 m	PI131.07
<i>Gossypium australe</i>	+	0.5 m	PI131.06
<i>Hybanthus aurantiacus</i>	+	0.5 m	PI099.02
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03
<i>Mollugo molluginea</i>	+	0.2 m	PI070.35
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
<i>Portulaca pilosa</i>	+	0.3 m	PI147.22

<i>Ptilotus astrolasius</i>	+	0.5 m	PI089.05
<i>Ptilotus fusiformis</i>	+	0.4 m	PI070.22
<i>Ptilotus polystachyus</i>	+	0.5 m	PI131.11
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	+	0.2 m	PI131.05
<i>Senna glaucifolia</i>	+	0.3 m	PI131.09
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.5 m	PI070.03
<i>Solanum ellipticum</i>	+	0.3 m	PI073.12
<i>Tinospora smilacina</i>	+	cr	PI131.10
<i>Trianthema pilosa</i>	+	cr	PI072.13
<i>Triodia lanigera</i>	40%	0.3 m	PI131.01
<i>Waltheria indica</i>	+	0.4 m	PI053.14
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.15 m	PI072.06

**Port Hedland RS Site PI132**

Described by LD Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 660333 mE 7726285 mN

Habitat Sandy plain with small depressions

Soil Orange brown sand

Rock Type N/A

Vegetation Scattered Shrubs of *Acacia tumida* var. *pilbarensis* over Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 80%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia sphaerostachya</i>	+	1-1.5 m	PI134.01	
<i>Acacia stellaticeps</i>	5%	0.6 m	PI065.01	
<i>Acacia trudgeniana</i>	+	1-2 m	PI065.31	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	1%	1-2.5 m	PI150.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI066.11	
<i>Aristida inaequiglumis</i>	+	1 m	PI058.04	
<i>Bulbostylis barbata</i>	+	0.1 m	PI027.03	
<i>Calandrinia pumila</i>	+	0.01 m	PI045.18	
<i>Cassutha capillaris</i>	+	cl	PI051.06	
<i>Chrysopogon fallax</i>	+	0.3 m	PI051.04	
<i>Drosera indica</i>	+	0.1 m	PI045.01	
<i>Dysphania saxatilis</i>	+	0.2 m	PI058.12	
<i>Eriachne aristidea</i>	+	0.1 m	PI063.03	
<i>Eriachne benthamii</i>	+	0.4 m	PI106.01	
<i>Euphorbia australis</i>	+	0.01 m	PI132.05	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI063.10	
<i>Heliotropium inexplicitum</i>	+	0.05 m	PI132.06	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.4 m	PI065.13	
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>	+	0.5 m	PI132.09	
<i>Leptosema anomalum</i>	+	0.2 m	PI150.03	range ext
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI058.06	
<i>Pluchea tetranthera</i>	+	0.2 m	PI066.22	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Ptilotus astrolasius</i>	+	0.2 m	PI045.06	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.8 m	PI132.07	

<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+	0.01 m	PI132.03
<i>Triodia epactia</i>	11%	0.4 m	PI132.02
<i>Triodia lanigera</i>	9%	0.4 m	PI132.01
<i>Triumfetta chaetocarpa</i>	+	0.4 m	PI132.08
<i>Waltheria indica</i>	+	0.5 m	PI065.27
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08



**Port Hedland RS Site PI133**

Described by BW Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 659634 mE 7724485 mN

Habitat Plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation High Open Shrubland of *Acacia inaequilatera* over Scattered Hummock Grasses of *Triodia epactia* over Open Tussock Grassland of *Eragrostis eriopoda*, *Eriachne mucronata* and *Aristida holathera* var. *holathera*

Veg Condition Excellent

Fire Age Moderate to old

Notes Aspect: N/A  
Bare Ground: 85%  
Litter Cover: +% Logs, 1% Twigs, 2% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Abutilon otocarpum</i>	+	0.4 m	PI133.02
<i>Acacia colei</i> var. <i>colei</i>	+	1.2 m	PI043.16
<i>Acacia inaequilatera</i>	2%	2-3 m	PI049.06
<i>Acacia sericophylla</i>	+	prostrate	PI052.01
<i>Acacia stellaticeps</i>	+	0.5 m	PI043.01
<i>Amaranthus undulatus</i>	+	0.4 m	PI133.03
<i>Aristida holathera</i> var. <i>holathera</i>	1%	0.3 m	PI049.07
<i>Boerhavia coccinea</i>	+	prostrate	PI067.15
<i>Bulbostylis barbata</i>	+	0.1 m	PI056.01
<i>Chrysopogon fallax</i>	+	0.4 m	PI042.09
<i>Cleome viscosa</i>	+	0.3 m	PI026.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI042.04
<i>Crotalaria ramosissima</i>	+	0.2 m	PI133.08
<i>Digitaria brownii</i>	+	0.2 m	PI028.04
<i>Dysphania saxatilis</i>	+	0.1 m	PI069.03
<i>Eragrostis eriopoda</i>	10%	0.4 m	PI047.02
<i>Eriachne mucronata</i>	1%	0.3 m	PI049.01
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI056.08
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	prostrate/c	PI062.04
<i>Fimbristylis simulans</i>	+	0.2 m	PI028.03
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>	+	1.2 m	PI133.05
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13
<i>Indigofera linifolia</i>	+	0.1 m	PI133.06
<i>Ipomoea muelleri</i>	+	0.2 m	PI133.01
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.4 m	PI069.07
<i>Solanum lasiophyllum</i>	+	0.2 m	PI067.06
<i>Triodia epactia</i>	1%	0.4 m	PI133.07
<i>Triumfetta chaetocarpa</i>	+	0.2 m	PI133.04
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI042.06

**Port Hedland RS Site PI134**

Described by LD Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 661890 mE 7724103 mN

Habitat Sandy plain

Soil Orange brown sand

Rock Type

Vegetation Scattered Shrubs of *Acacia sphaerostachya* over Low Open Shrubland of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 85%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia sphaerostachya</i>	1%	1-1.5 m	PI134.01	
<i>Acacia stellaticeps</i>	6%	0.6 m	PI065.01	
<i>Acacia trudgeniana</i>	+	1-2 m	PI065.31	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1-2 m	PI150.07	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI103.03	
<i>Bulbostylis barbata</i>	+	0.1 m	PI027.03	
<i>Cassylia capillaris</i>	+	cl	PI051.06	
<i>Chrysopogon fallax</i>	+	0.5 m	PI051.04	
<i>Cleome viscosa</i>	+	0.3 m	PI065.17	
<i>Cucumis maderaspatanus</i>	+	cl	PI045.15	
<i>Dysphania saxatilis</i>	+	0.2 m	PI058.12	
<i>Eragrostis eriopoda</i>	+	0.2 m	PI134.06	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.05 m	PI063.10	
<i>Fimbristylis oxystachya</i>	+	0.2 m	PI025.05	
<i>Hibiscus brachychlaenus</i>	+	0.1 m	PI134.04	
<i>Indigofera monophylla</i>	+	0.3 m	PI065.13	
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>	+	0.6 m	PI134.07	
<i>Mimulus gracilis</i>	+	0.3 m	PI044.10	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Paraneurachne muelleri</i>	+	0.2 m	PI058.06	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
* <i>Portulaca oleracea</i>	+	0.05 m	PI134.05	
<i>Portulaca pilosa</i>	+	0.05 m	PI090.15	
<i>Ptilotus astrolasius</i>	+	0.3 m	PI045.06	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28	
<i>Ptilotus polystachyus</i>	+	0.3 m	PI025.13	
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	+	0.1 m	PI058.11	
<i>Senna notabilis</i>	+	0.2 m	PI051.12	

<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.1 m	PI150.06
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI134.08
<i>Trianthera pilosa</i>	+	0.1 m	PI065.03
<i>Triodia epactia</i>	3%	0.5 m	PI134.03
<i>Triodia lanigera</i>	4%	0.3 m	PI134.02
<i>Waltheria indica</i>	+	0.1 m	PI103.15
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI043.08

**Port Hedland RS Site PI135****Described by** BW **Date** 27/06/2011 **Type** Q 50x50 m**Location** Port Hedland**MGA Zone** 50 665706 mE 7723373 mN**Habitat** Sand plain**Soil** Orange brown clayey sand**Rock Type** N/A**Vegetation** High Open Shrubland of *Acacia colei* var. *colei* and *Acacia inaequilatera* over Low Scattered Shrubs of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia***Veg Condition** Excellent**Fire Age** Moderate - old**Notes** Aspect: N/A  
Bare Ground: 86%  
Litter Cover: +% Logs, +% Twigs, 1% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	1%	2-3 m	PI043.16
<i>Acacia inaequilatera</i>	1%	2-3 m	PI049.06
<i>Acacia sericophylla</i>	+	2.5 m	PI104.07
<i>Acacia stellaticeps</i>	1%	0.8 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI049.07
<i>Boerhavia coccinea</i>	+	prostrate	PI067.15
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI042.04
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI026.08
<i>Dolichandrone heterophylla</i>	+	1.5 m	PI135.01
<i>Eragrostis eriopoda</i>	+	0.4 m	PI047.02
<i>Eriachne aristidea</i>	+	0.4 m	PI136.03
<i>Eriachne mucronata</i>	+	0.4 m	PI049.01
<i>Euphorbia australis</i>	+	prostrate	PI104.02
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI104.04
<i>Gossypium australe</i>	+	0.8 m	PI104.08
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06
<i>Senna notabilis</i>	+	0.2 m	PI043.09
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI043.14
<i>Trianthema pilosa</i>	+	0.2 m	PI052.09
<i>Triodia epactia</i>	1%	0.5 m	PI135.04
<i>Triodia lanigera</i>	10%	0.4 m	PI135.02
<i>Triumfetta ramosa</i>	+	0.3 m	PI135.03
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06



**Port Hedland RS Site PI136**

Described by BW Date 24/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 661197 mE 7721932 mN

Habitat Plain

Soil Orange brown sandy clay

Rock Type N/A

Vegetation Open Shrubland of *Acacia ancistrocarpa* and *Acacia inaequilatera* over Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 85%  
Litter Cover: +% Logs, 1% Twigs, 2% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	1%	1-2 m	PI062.03
<i>Acacia colei</i> var. <i>colei</i>	+	1.2 m	PI043.16
<i>Acacia inaequilatera</i>	1%	1-2 m	PI049.06
<i>Acacia sericophylla</i>	+	1.6 m	PI052.01
<i>Acacia sphaerostachya</i>	+	1.2 m	PI136.04
<i>Acacia stellaticeps</i>	8%	0.7 m	PI043.01
<i>Boerhavia coccinea</i>	+	0.1 m	PI067.15
<i>Bulbostylis barbata</i>	+	0.1 m	PI056.01
<i>Chrysopogon fallax</i>	+	0.4 m	PI042.09
<i>Cleome viscosa</i>	+	0.4 m	PI026.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.2 m	PI042.04
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI026.08
<i>Dentella asperata</i>	+	prostrate	PI069.11
<i>Dysphania saxatilis</i>	+	0.1 m	PI056.15
<i>Eriachne aristidea</i>	+	0.2 m	PI136.03
<i>Eriachne mucronata</i>	+	0.4 m	PI049.01
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI056.08
<i>Fimbristylis simulans</i>	+	0.3 m	PI136.07
<i>Hibiscus brachychlaenus</i>	+	0.2 m	PI136.02
<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>	+	0.4 m	PI044.07
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11
<i>Senna notabilis</i>	+	0.2 m	PI043.09
<i>Sida clementii</i>	+	0.1 m	PI069.01
<i>Triodia epactia</i>	4%	0.4 m	PI136.05
<i>Triodia lanigera</i>	8%	0.3 m	PI136.06
<i>Triumfetta chaetocarpa</i>	+	0.2 m	PI133.04
<i>Waltheria indica</i>	+	0.2 m	PI136.01
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI137**

Described by BW Date 30/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 665388 mE 7721440 mN

Habitat Sand plain

Soil Orange brown silty sand

Rock Type N/A

Vegetation A low open *Corymbia zygophylla* woodland over an open *Acacia ancistrocarpa*, *Acacia inaequilatera*, *Acacia tumida* var. *pilbarensis* and *Acacia sericophylla* shrubland over *Acacia stellaticeps* low open shrubland over *Triodia epactia* and *Triodia lanigera* hummock grassland

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 66%  
Litter Cover: +% Logs, +% Twigs, 1% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Abutilon pritzelianum</i> MS	+	0.4 m	PI137.04
<i>Acacia colei</i> var. <i>colei</i>	2%	3-5 m	PI043.16
<i>Acacia inaequilatera</i>	1%	1-2 m	PI049.06
<i>Acacia sericophylla</i>	+	1.8 m	PI104.07
<i>Acacia stellaticeps</i>	+	0.7 m	PI043.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1.8 m	PI137.05
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07
<i>Boerhavia coccinea</i>	(+)	prostrate	PI067.15
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI042.04
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	4 m	PI146.07
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI026.08
<i>Eragrostis eriopoda</i>	+	0.3 m	PI047.02
<i>Eriachne mucronata</i>	+	0.3 m	PI049.01
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI056.08
<i>Euphorbia australis</i>	+	prostrate	PI104.02
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Polymeria calycina</i>	+	0.2 m	PI137.01
<i>Schizachyrium fragile</i>	+	0.2 m	PI075.02
<i>Senna notabilis</i>	+	1.5 m	PI043.09
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI043.14
<i>Solanum lasiophyllum</i>	+	0.5 m	PI067.06
<i>Triodia epactia</i>	1%	0.4 m	PI137.02
<i>Triodia lanigera</i>	35%	0.4 m	PI137.03
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI138**

Described by EC Date 30/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 672266 mE 7721638 mN

Habitat Plain

Soil Light orange brown loam

Rock Type

Vegetation Scattered Shrubs of *Acacia inaequilatera* over Low Open Shrubland of *Corchorus tectus* over Hummock Grassland of *Triodia epactia* over Scattered Tussock Grass of *Sporobolus australasicus*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A

Bare Ground: 30%

Litter Cover: +% Logs, +% Twigs, 1% Lvs

Disturbance: Cattle tracks and has clayey depressions where cows congregate, just inside

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	+	0.4 m	PI123.13	
<i>Acacia colei</i> var. <i>colei</i>	+	1.2 m	PI076.14	
<i>Acacia inaequilatera</i>	1%	1 m	PI123.15	
<i>Alternanthera angustifolia</i>	+	0.3 m	PI138.16	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI123.18	
<i>Bergia pedicellaris</i>	+	0.1 m	PI138.09	
<i>Bulbostylis barbata</i>	+	0.1 m	PI121.05	
<i>Calandrinia stagnensis</i>	+	0.1 m	PI083.04	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI138.11	
* <i>Cenchrus ciliaris</i>	+	0.3 m	PI103.06	
<i>Chloris pectinata</i>	+	0.3 m	PI138.14	
<i>Chrysopogon fallax</i>	+	0.4 m	PI084.10	
<i>Cleome viscosa</i>	+	0.3 m	PI065.17	
<i>Corchorus tectus</i>	2%	0.3 m	PI123.35	
<i>Cullen cinereum</i>	+	0.1 m	PI138.08	
<i>Dichanthium sericeum</i> subsp. <i>humilius</i>	+	0.3 m	PI138.03	
<i>Dysphania saxatilis</i>	+	0.3 m	PI090.11	
<i>Eragrostis eriopoda</i>	+	0.3 m	PI084.04	
<i>Eragrostis speciosa</i>	+	0.3 m	PI138.10	
<i>Euphorbia australis</i>	+	0.1 m	PI084.08	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.2 m	PI123.25	
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI121.06	
<i>Goodenia lamprosperma</i>	+	0.3 m	PI141.02	
<i>Goodenia microptera</i>	+	0.3 m	PI123.12	
<i>Indigofera monophylla</i>	+	0.3 m	PI123.02	
<i>Mollugo molluginea</i>	+	0.1 m	PI123.09	
<i>Neptunia dimorphantha</i>	+	0.2 m	PI138.15	
<i>Pluchea ferdinandi-muelleri</i>	+	0.4 m	PI138.12	
<i>Pluchea rubelliflora</i>	+	0.3 m	PI138.17	
<i>Pluchea tetranthera</i>	+	0.3 m	PI083.11	
<i>Polymeria ambigua</i>	+	cr	PI138.04	

<i>Polymeria calycina</i>	+	0.3 m	PI138.01
<i>Portulaca pilosa</i>	+	0.2 m	PI123.17
<i>Pterocaulon serrulatum</i>	+	0.3 m	PI138.05
<i>Senna notabilis</i>	+	0.2 m	PI123.20
<i>Sida clementii</i>	+	0.3 m	PI138.02
<i>Sporobolus australasicus</i>	1%	0.2 m	PI121.01
<i>Stemodia grossa</i>	+	0.1 m	PI138.07
<i>Streptoglossa decurrens</i>	+	0.3 m	PI138.06
<i>Triodia epactia</i>	40%	0.3 m	PI138.18
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI084.03



**Port Hedland RS Site PI139**

Described by LD Date 28/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 674619 mE 7721485 mN

**Habitat** Plain

**Soil** Orange Brown sandy loam with gravel and rocks

**Rock Type** Quartz and granite

**Vegetation** Scattered Shrubs of *Acacia inaequilatera* over Very Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

**Veg Condition** Excellent

**Fire Age** moderate

**Notes** Aspect: N/A  
Bare Ground: 90%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Rail and tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia inaequilatera</i>	1%	0.7-2 m	PI125.01
<i>Acacia sphaerostachya</i>	+	0.8 m	PI134.01
<i>Boerhavia coccinea</i>	+	0.2 m	PI139.04
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18
<i>Cleome viscosa</i>	+	0.3 m	PI065.17
<i>Corchorus tectus</i>	+	0.3 m	PI091.07
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	(+)	0.1 m	PI128.03
<i>Euphorbia australis</i>	+	0.1 m	PI139.02
<i>Goodenia microptera</i>	+	0.3 m	PI139.01
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13
<i>Indigofera monophylla</i>	+	0.3 m	PI065.13
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10
<i>Polymeria calycina</i>	+	0.2 m	PI125.06
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04
<i>Senna notabilis</i>	+	0.1 m	PI051.12
<i>Sida echinocarpa</i>	+	0.6 m	PI139.03
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI058.05
<i>Sporobolus australasicus</i>	+	0.1 m	PI066.02
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	+	0.01 m	PI139.05
<i>Tephrosia supina</i>	+	0.1 m	PI125.08
<i>Tephrosia uniovulata</i>	+	0.3 m	PI128.07
<i>Tribulus hirsutus</i>	+	0.1 m	PI106.08
<i>Triodia epactia</i>	5%	0.3 m	PI125.04
<i>Triodia lanigera</i>	3%	0.3 m	PI125.03
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI140**

Described by BW Date 28/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 676917 mE 7721539 mN

**Habitat** Stony plain

**Soil** Orange brown sandy loam with scattered cobbles and pebbles

**Rock Type** Quartz, ironstone and? Granite

**Vegetation** Open Shrubland of *Acacia ancistrocarpa* and *Acacia inaequilatera* over Very Open Hummock Grassland of *Triodia epactia* over Scattered Tussock Grass of *Eriachne pulchella* subsp. *dominii*

**Veg Condition** Excellent

**Fire Age** Young to moderate

**Notes** Aspect: N/A  
Bare Ground: 90%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	1%	0.8 m	PI062.03	
<i>Acacia inaequilatera</i>	1%	0.5-3 m	PI049.06	
<i>Acacia stellaticeps</i>	+	0.4 m	PI043.01	
<i>Acacia synchronicia</i>	+	1.2 m	PI140.10	
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01	
<i>Cassylia capillaris</i>	+	prostrate	PI140.09	
<i>Cleome viscosa</i>	+	0.4 m	PI101.04	
<i>Corchorus tectus</i>	+	0.4 m	PI030.02	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	1%	0.1 m	PI140.06	
<i>Goodenia microptera</i>	+	0.5 m	PI060.02	
<i>Heliotropium muticum</i>	+	0.2 m	PI140.01	
<i>Indigofera monophylla</i>	+	0.3 m	PI052.03	
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06	
<i>Polycarpaea holtzei</i>	+	0.05 m	PI140.07	
<i>Polymeria calycina</i>	+	0.4 m	PI140.02	
<i>Ptilotus astrolasius</i>	+	0.4 m	PI056.18	
<i>Ptilotus auriculifolius</i>	+	0.4 m	PI140.08	
<i>Ptilotus axillaris</i>	+	prostrate	PI140.04	
<i>Ptilotus calostachyus</i>	+	0.6 m	PI140.03	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11	
<i>Scaevola amblyanthera</i> var. <i>centralis</i>	+	0.4 m	PI140.05	Photo; 649-653 BW
<i>Senna notabilis</i>	+	0.2 m	PI043.09	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI043.14	
<i>Sporobolus australasicus</i>	+	0.1 m	PI145.03	
<i>Triodia epactia</i>	5%	0.3 m	PI140.11	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06	

**Port Hedland RS Site PI141**

Described by EC Date 28/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 672769 mE 7738157 mN

Habitat Plain

Soil Light orange brown loam

Rock Type N/A

Vegetation Low Open Woodland of *Corymbia candida* subsp. *dipsodes* over Open Shrubland of *Acacia colei* over Hummock Grassland of *Triodia epactia* over Very Open Tussock Grassland of *Chrysopogon fallax* and *Eragrostis eriopoda*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 55%  
Litter Cover: +% Logs, +% Twigs, +% Lvs  
Disturbance: Buffel

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i>	3%	1-2 m	PI141.03	
<i>Acacia sericophylla</i>	+	1.2 m	PI141.12	
<i>Acacia stellaticeps</i>	+	0.5 m	PI083.01	
<i>Alternanthera nana</i>	+	0.3 m	PI141.09	
<i>Amaranthus undulatus</i>	+	0.3 m	PI123.32	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI123.18	
<i>Bonamia alatisemina</i>	+	cr	PI083.10	
<i>Bonamia media</i> var. <i>villosa</i>	+	0.1 m	PI141.10	
<i>Bulbostylis barbata</i>	+	0.1 m	PI121.05	
<i>Calandrinia stagnensis</i>	+	0.1 m	PI083.04	
* <i>Cenchrus ciliaris</i>	+	0.3 m	PI103.06	
<i>Chrysopogon fallax</i>	1%	0.3 m	PI084.10	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	3%	2-5 m	PI141.08	
<i>Cucumis maderaspatanus</i>	+	cr	PI141.04	
<i>Ehretia saligna</i> var. <i>saligna</i>	+	1.5 m	PI141.06	
<i>Eragrostis eriopoda</i>	1%	0.3 m	PI084.04	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI123.36	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI123.25	
<i>Goodenia lamprosperma</i>	+	0.3 m	PI141.02	
<i>Goodenia triodiophila</i>	+	0.3 m	PI141.11	1 ind
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI123.03	
<i>Stemodia lathraia</i>	+	0.1 m	PI141.01	
<i>Mollugo molluginea</i>	+	0.2 m	PI123.09	
<i>Paspalidium tabulatum</i>	+	0.3 m	PI141.13	
<i>Pluchea tetranthera</i>	+	0.3 m	PI083.11	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI083.12	
<i>Polygala linariifolia</i>	+	0.1 m	PI141.05	
<i>Portulaca pilosa</i>	+	0.1 m	PI123.17	

<i>Ptilotus calostachyus</i>	+	0.2 m	PI109.10
<i>Ptilotus fusiformis</i>	+	0.3 m	PI083.08
<i>Senna notabilis</i>	+	0.2 m	PI123.20
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.3 m	PI141.07
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI123.04
<i>Sporobolus australasicus</i>	+	0.2 m	PI121.01
<i>Stylidium desertorum</i>	+	0.1 m	PI141.16
<i>Triodia epactia</i>	40%	0.3 m	PI141.14
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI083.02



**Port Hedland RS Site PI142****Described by** EC **Date** 30/06/2011 **Type** Q 50x50 m**Location** Port Hedland**MGA Zone** 50 672209 mE 7724203 mN**Habitat** Plain off a low quartz hill, slightly undulating with small

depressions

**Soil** Light orange brown loam with scatters of pebbles**Rock Type** Quartz**Vegetation** Open Shrubland of *Acacia ancistrocarpa* and *Acacia inaequilatera* over Low Open Shrubland of *Corchorus tectus* and *Indigofera monophylla* over Very Open hummock Grassland of *Triodia epactia* over Tussock Grassland of *Eriachne pulchella* subsp. *dominii*, *Aristida contorta* and *Aristida holathera* var. *holathera***Veg Condition** Excellent**Fire Age** Young**Notes** Aspect: N/A

Bare Ground: 60%

Litter Cover: +% Logs, +% Twigs, +% Lvs

Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Abutilon trudgenii</i> MS	+	0.3 m	PI142.04	
<i>Acacia ancistrocarpa</i>	1%	0.5 m	PI123.13	
<i>Acacia inaequilatera</i>	1%	0.3-2 m	PI123.15	
<i>Aristida contorta</i>	15%	0.3 m	PI142.03	
<i>Aristida holathera</i> var. <i>holathera</i>	1%	0.4 m	PI123.18	
<i>Bulbostylis barbata</i>	+	0.1 m	PI121.05	
<i>Cleome viscosa</i>	+	0.4 m	PI065.17	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.1 m	PI042.04	
<i>Corchorus tectus</i>	1%	0.3 m	PI123.35	
<i>Dysphania saxatilis</i>	+	0.3 m	PI090.11	
<i>Eragrostis eriopoda</i>	+	0.3 m	PI084.04	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	15%	0.3 m	PI142.01	
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI123.36	
<i>Euphorbia australis</i>	+	0.1 m	PI084.08	
<i>Gomphrena cunninghamii</i>	+	0.1 m	PI123.10	
<i>Goodenia microptera</i>	+	0.3 m	PI123.12	
<i>Gossypium australe</i>	+	0.3 m	PI142.08	
<i>Heliotropium muticum</i>	+	0.3 m	PI034.09	
<i>Indigofera monophylla</i>	2%	0.3 m	PI123.02	
<i>Mollugo molluginea</i>	+	0.2 m	PI123.09	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI083.12	
<i>Polycarpaea holtzei</i>	+	0.1 m	PI123.07	
<i>Polymeria ambigua</i>	+	cr	PI138.04	
<i>Polymeria calycina</i>	+	0.2 m	PI138.01	
* <i>Portulaca oleracea</i>	+	0.1 m	PI142.06	
<i>Portulaca pilosa</i>	+	0.2 m	PI123.17	
<i>Ptilotus auriculifolius</i>	+	0.4 m	PI142.09	
<i>Ptilotus fusiformis</i>	+	0.3 m	PI083.08	

<i>Salsola tragus</i> subsp. <i>grandiflora</i>	+	0.2 m	PI142.02
<i>Schizachyrium fragile</i>	+	0.3 m	PI076.06
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	+	0.6 m	PI142.07
<i>Senna notabilis</i>	+	0.2 m	PI123.20
<i>Sida clementii</i>	+	0.5 m	PI142.05
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI123.04
<i>Solanum diversiflorum</i>	+	0.3 m	PI048.09
<i>Tribulus macrocarpus</i>	+	cr	PI084.11
<i>Triodia epactia</i>	5%	0.3 m	PI138.18
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.3 m	PI083.02

**Port Hedland RS Site PI143**

Described by BW Date 30/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 664133 mE 7731889 mN

Habitat Sandplain

Soil Orange brown silty sand

Rock Type N/A

Vegetation Low Open Shrubland of *Acacia stellaticeps* over Very Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia*

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 90%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia stellaticeps</i>	7%	0.5 m	PI043.01
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01
<i>Chrysopogon fallax</i>	+	0.5 m	PI042.09
<i>Drosera indica</i>	+	0.05 m	PIOPBW01a
<i>Eriachne aristidea</i>	+	0.3 m	PI136.03
<i>Eriachne mucronata</i>	+	0.2 m	PI049.01
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI056.08
<i>Euphorbia australis</i>	+	0.1 m	PI104.02
<i>Fimbristylis dichotoma</i>	+	0.2 m	PI049.15
<i>Fimbristylis simulans</i>	+	0.2 m	PI136.07
<i>Goodenia microptera</i>	+	0.2 m	PI060.02
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.7 m	PI143.04
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13
<i>Indigofera monophylla</i>	+	0.2 m	PI052.03
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Ptilotus astrolasius</i>	+	0.4 m	PI056.18
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11
<i>Schizachyrium fragile</i>	+	0.3 m	PI075.02
<i>Senna notabilis</i>	+	0.2 m	PI043.09
<i>Tribulopsis angustifolia</i>	+	cr	PI143.01
<i>Triodia epactia</i>	2%	0.4 m	PI143.02
<i>Triodia lanigera</i>	7%	0.4 m	PI143.03
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI145**

**Described by** BW **Date** 26/06/2011 **Type** Q **50x50 m**

**Location** Port Hedland  
**MGA Zone** 50 669558 mE 7735710 mN  
**Habitat** Plain  
**Soil** Orange brown clayey sand  
**Rock Type** N/A  
**Vegetation** Scattered Low Trees of *Corymbia candida* subsp. *dipsodes* over Open Shrubland of *Acacia ancistrocarpa* and *Acacia inaequilatera* over Very Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*  
**Veg Condition** Excellent  
**Fire Age** Young  
**Notes** Aspect: N/A  
 Bare Ground: 90%  
 Litter Cover: +% Logs, +% Twigs, +% Lvs  
 Disturbance: Tracks near by



**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	1%	0.5 m	PI145.05	
<i>Acacia inaequilatera</i>	1%	0.5-2 m	PI049.06	mostly below 1m
<i>Acacia stellaticeps</i>	+	0.2 m	PI043.01	
<i>Acacia trachycarpa</i>	+	0.7 m	PI107.02	
<i>Aristida contorta</i>	+	0.2 m	PI093.02	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07	
<i>Bonamia alatisemina</i>	+	prostrate	PI145.11	
<i>Bonamia rosea</i>	+	0.4 m	PI030.04	
<i>Calandrinia stagnensis</i>	+	prostrate	PI145.04	
<i>Cleome viscosa</i>	+	0.3 m	PI026.10	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.2 m	PI042.04	
<i>Corchorus tectus</i>	+	0.3 m	PI030.02	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	5 m	PI146.07	
<i>Dentella asperata</i>	+	prostrate	PI069.11	
<i>Dysphania saxatilis</i>	+	0.2 m	PI069.03	
<i>Eriachne aristidea</i>	+	0.3 m	PI136.03	
<i>Goodenia microptera</i>	+	0.5 m	PI060.02	
<i>Hibiscus leptocladus</i>	+	0.3 m	PI145.08	
<i>Hybanthus aurantiacus</i>	+	0.4 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03	
<i>Isotropis atropurpurea</i>	+	0.5 m	PI145.10	
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29	
<i>Polymeria ambigua</i>	+	prostrate	PI145.07	
<i>Polymeria calycina</i>	+	prostrate	PI145.09	
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11	
<i>Senna notabilis</i>	+	0.2 m	PI043.09	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.5 m	PI043.14	
<i>Sporobolus australasicus</i>	+	0.3 m	PI145.03	
<i>Tribulus hirsutus</i>	+	prostrate	PI060.03	
<i>Triodia epactia</i>	4%	0.3 m	PI145.02	
<i>Triodia lanigera</i>	4%	0.3 m	PI145.01	



*Yakirra australiensis* var. *australiensis*

+

0.2 m

PI043.08

**Port Hedland RS Site PI146**

Described by BW Date 21/06/2011 Type Q 80x20 m

Location Port Hedland

MGA Zone 50 655011 mE 7737245 mN

Habitat Minor drainage line

Soil Orange brown sand

Rock Type N/A

Vegetation Low Open Woodland of *Eucalyptus victrix* and *Corymbia candida* subsp. *dipsodes* over High Shrubland of *Acacia colei* var. *colei* over Open Hummock Grassland of *Triodia epactia*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 70%  
Litter Cover: +% Logs, 1% Twigs, 4% Lvs  
Disturbance: Tracks near by

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	15%	2.3 m	PI146.01
<i>Acacia pyrifolia</i>	+	1.8 m	PI107.03
<i>Acacia stellaticeps</i>	+	0.4 m	PI043.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	3 m	PI146.06
<i>Cajanus cinereus</i>	+	1.4 m	PI069.04
<i>Chrysopogon fallax</i>	+	0.4 m	PI042.09
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	7-10 m	PI146.07
<i>Dentella asperata</i>	+	prostrate	PI069.11
<i>Eucalyptus victrix</i>	6%	7-10 m	PI146.04
<i>Goodenia lamprosperma</i>	+	0.3 m	PI043.21
<i>Indigofera monophylla</i>	+	0.5 m	PI146.02
<i>Pluchea ferdinandi-muelleri</i>	+	0.5 m	PI146.05
<i>Pluchea tetranthera</i>	+	0.4 m	PI042.03
<i>Triodia epactia</i>	20%	0.5 m	PI146.03

**Port Hedland RS Site PI147**

Described by HA Date 22/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 655985 mE 7736216 mN

Habitat Sand plain/ slightly raised

Soil Orange brown sand

Rock Type N/A

Vegetation Scattered Low Trees of *Owenia reticulata* over Low Open Shrubland of *Acacia stellaticeps*, *Hybanthus aurantiacus* and *Indigofera monophylla* over Tussock Grassland of *Eragrostis eriopoda*

Veg Condition Excellent

Fire Age Old

Notes Aspect: N/A  
Bare Ground: 60%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance: Some Kapok

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Abutilon otocarpum</i>	+	0.5 m	PI147.04
<i>Acacia stellaticeps</i>	5%	0.5 m	PI070.01
<i>Achyranthes aspera</i>	+	0.15 m	PI147.07
* <i>Aerva javanica</i>	+	0.3 m	PI147.05
<i>Amaranthus undulatus</i>	+	0.3 m	PI147.06
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.9 m	PI070.10
<i>Boerhavia coccinea</i>	+	cr	PI147.11
<i>Bonamia media</i> var. <i>villosa</i>	+	cr	PI147.14
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
<i>Chrysopogon fallax</i>	+	1 m	PI070.21
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.5 m	PI070.02
<i>Crotalaria ramosissima</i>	+	0.1 m	PI147.20
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17
<i>Dolichandrone heterophylla</i>	+	1 m	PI073.01
<i>Eragrostis eriopoda</i>	40%	0.3 m	PI070.13
<i>Eriachne aristidea</i>	+	0.3 m	PI070.28
<i>Eriachne mucronata</i>	+	0.4 m	PI147.18
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI147.12
<i>Gossypium australe</i>	+	0.5 m	PI147.16
<i>Hybanthus aurantiacus</i>	1%	0.6 m	PI099.02
<i>Indigofera colutea</i>	+	0.05 m	PI147.09
<i>Indigofera monophylla</i>	1%	0.5 m	PI072.03
<i>Ipomoea polymorpha</i>	+	cr	PI147.08
<i>Owenia reticulata</i>	1%	4 m	PI147.01
<i>Polycarpea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI072.02
<i>Portulaca pilosa</i>	+	0.1 m	PI147.22
<i>Ptilotus polystachyus</i>	+	0.6 m	PI147.19
<i>Senna notabilis</i>	+	0.2 m	PI070.14

<i>Sida fibulifera</i>	+	0.2 m	PI147.21
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.5 m	PI147.03
<i>Solanum ellipticum</i>	+	0.2 m	PI073.12
<i>Solanum lasiophyllum</i>	+	0.3 m	PI070.37
<i>Tinospora smilacina</i>	+	cl	PI147.02
<i>Trianthema pilosa</i>	+	0.2 m	PI072.13
<i>Triodia epactia</i>	+	0.4 m	PI147.15
<i>Waltheria indica</i>	+	0.6 m	PI147.13



**Port Hedland RS Site PI148**

Described by HA Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 674660 mE 7740367 mN

Habitat Sand plain

Soil Orange brown loamy sand

Rock Type N/A

Vegetation Low Shrubland of *Acacia stellaticeps* over Hummock Grassland of *Triodia lanigera* and *Triodia epactia*

Veg Condition Excellent to very good

Fire Age Moderate

Notes Aspect: N/A

Bare Ground: 50%

Litter Cover: +% Logs, +% Twigs, +% Lvs

Disturbance: Some buffel

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia coleii</i> var. <i>coleii</i>	+	2.5 m	PI070.38
<i>Acacia sphaerostachya</i>	+	1 m	PI148.07
<i>Acacia stellaticeps</i>	20%	0.6 m	PI070.01
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	2 m	PI070.30
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI070.10
<i>Aristida inaequiglumis</i>	+	0.9 m	PI070.24
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17
* <i>Cenchrus ciliaris</i>	+	0.5 m	PI070.29
<i>Cleome viscosa</i>	+	0.4 m	PI040.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.2 m	PI070.02
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	3.5 m	PI148.01
<i>Cucumis maderaspatanus</i>	+	cr	PI147.17
<i>Dolichandrone heterophylla</i>	+	0.4 m	PI148.05
<i>Dysphania saxatilis</i>	+	0.1 m	PI053.07
<i>Eragrostis eriopoda</i>	+	0.3 m	PI070.13
<i>Eriachne mucronata</i>	+	0.3 m	PI148.06
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI072.10
<i>Euphorbia australis</i>	+	cr	PI108.12
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.1 m	PI070.07
<i>Goodenia microptera</i>	+	0.3 m	PI148.08
<i>Mollugo molluginea</i>	+	0.1 m	PI070.35
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09
<i>Polycarpha corymbosa</i> var. <i>corymbosa</i>	+	0.15 m	PI072.02
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11
<i>Portulaca pilosa</i>	+	0.2 m	PI147.22
<i>Ptilotus fusiformis</i>	+	0.4 m	PI070.22
<i>Ptilotus polystachyus</i>	+	0.4 m	PI147.19
<i>Senna notabilis</i>	+	0.2 m	PI070.14

<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI070.03
<i>Solanum lasiophyllum</i>	+	0.2 m	PI148.03
<i>Sporobolus australasicus</i>	+	0.2 m	PI037.07
<i>Tinospora smilacina</i>	+	cr	PI087.09
<i>Triodia epactia</i>	15%	0.4 m	PI148.04
<i>Triodia lanigera</i>	20%	0.3 m	PI148.02
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06

**Port Hedland RS Site PI149****Described by** EC **Date** 30/06/2011 **Type** Q 50x50 m**Location** Port Hedland**MGA Zone** 50 676242 mE 7742485 mN**Habitat** Plain**Soil** Light orange salmon brown sandy loam**Rock Type** N/A**Vegetation** Scattered Low Trees of *Corymbia candida* subsp. *dipsodes* over High Open Shrubland of *Acacia colei* var. *colei* over Open Hummock Grassland of *Triodia epactia* over Tussock Grassland of *Eulalia aurea* and *Chrysopogon fallax***Veg Condition** Very good**Fire Age** Old**Notes** Aspect: N/A  
Bare Ground: 40%  
Litter Cover: 0% Logs, +% Twigs, 5% Lvs  
Disturbance: Cattle, weeds and tracks near by**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	2%	2-3 m	PI076.14	
<i>Alternanthera nana</i>	+	0.2 m	PI094.07	
<i>Chrysopogon fallax</i>	1%	0.4 m	PI084.10	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1%	5 m	PI149.10	Photo; 95 EC
<i>Cyperus difformis</i>	+	0.3 m	PI149.07	
<i>Eragrostis cumingii</i>	+	0.2 m	PI080.06	
<i>Eragrostis eriopoda</i>	+	0.4 m	PI084.04	
<i>Eriachne aristidea</i>	+	0.3 m	PI149.01	
<i>Eulalia fulva</i>	40%	0.5 m	PI149.05	
<i>Euphorbia australis</i>	+	0.1 m	PI084.08	
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI121.06	
<i>Goodenia lamprosperma</i>	+	0.2 m	PI149.11	
<i>Goodenia microptera</i>	+	0.1 m	PI149.06	
<i>Indigofera monophylla</i>	+	0.4 m	PI123.02	
* <i>Indigofera oblongifolia</i>	+	1.5 m	PI149.09	
<i>Ipomoea muelleri</i>	+	cr	PI149.13	
<i>Marsilea mutica</i>	+	0.2 m	PI044.08	
<i>Pluchea rubelliflora</i>	+	0.2 m	PI149.02	
<i>Pluchea tetranthera</i>	+	0.4 m	PI083.11	
<i>Portulaca pilosa</i>	+	0.2 m	PI123.17	
<i>Ptilotus murrayi</i>	+	0.1 m	PI149.03	
* <i>Stylosanthes hamata</i>	+	0.3 m	PI149.12	
<i>Triodia epactia</i>	20%	0.3 m	PI149.08	
<i>Xerochloa laniflora</i>	+	0.3 m	PI149.04	

**Port Hedland RS Site PI150**

Described by LD Date 23/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 663294 mE 7738814 mN

Habitat Plain

Soil Orange brown sandy loam with gravel

Rock Type N/A

Vegetation Very Open Hummock Grassland of *Triodia epactia* over Very Open Tussock Grassland of *Eriachne mucronata* over Scattered herbs of *Calandrinia pumila*

Veg Condition Good

Fire Age Young

Notes Aspect: N/A

Bare Ground: 90%

Litter Cover: 0% Logs, 0% Twigs, 0% Lvs

Disturbance: Cattle and fire

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia stellaticeps</i>	+	0.2 m	PI065.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	+	1-2 m	PI150.07	
<i>Bonamia alatisemina</i>	+	0.2 m	PI027.06	
<i>Bulbostylis barbata</i>	+	0.1 m	PI066.04	
<i>Calandrinia pentavalvis</i>	+	0.1 m	PI066.03	
<i>Calandrinia pumila</i>	1%	0.01 m	PI045.18	
<i>Crotalaria ramosissima</i>	+	0.1 m	PI027.05	
<i>Eriachne mucronata</i>	3%	0.3 m	PI150.02	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.3 m	PI150.04	
<i>Fimbristylis oxystachya</i>	+	0.2 m	PI025.05	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13	
<i>Leptosema anomalum</i>	+	0.2 m	PI150.03	
<i>Mitrasacme connata</i>	+	0.05 m	PI045.04	
<i>Murdannia graminea</i>	+	0.2 m	PI045.21	Range ext
<i>Pluchea tetranthera</i>	+	0.3 m	PI066.22	
<i>Senna notabilis</i>	+	0.3 m	PI051.12	
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.3 m	PI150.06	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.2 m	PI058.05	
<i>Stackhousia intermedia</i>	+	0.1 m	PI066.14	
<i>Streptoglossa decurrens</i>	+	0.2 m	PI150.05	
<i>Trianthema pilosa</i>	+	0.2 m	PI065.03	
<i>Triodia epactia</i>	5%	0.3 m	PI150.01	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08	



**Port Hedland RS Site PI152**

Described by BW Date 28/06/2011 Type Q 50x50 m

**Location** Port Hedland  
**MGA Zone** 50 673594 mE 7725321 mN  
**Habitat** Sand plain  
**Soil** Orange brown silty sand  
**Rock Type** N/A  
**Vegetation** Scattered Low Shrubs of *Tephrosia uniovulata* over Very Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia*  
**Veg Condition** Excellent  
**Fire Age** Young  
**Notes** Aspect: N/A  
 Bare Ground: 93%  
 Litter Cover: +% Logs, +% Twigs, +% Lvs  
 Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	+	0.8 m	PI062.03
<i>Acacia colei</i> var. <i>colei</i>	+	1 m	PI043.16
<i>Acacia inaequilatera</i>	+	0.5-1.5 m	PI049.06
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI049.07
<i>Aristida inaequiglumis</i>	+	0.2 m	PI152.02
<i>Bonamia alatisemina</i>	+	prostrate	PI145.11
<i>Bonamia rosea</i>	+	0.4 m	PI030.04
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01
<i>Calandrinia stagnensis</i>	+	0.2 m	PI145.04
<i>Cleome viscosa</i>	+	0.4 m	PI101.04
<i>Corchorus tectus</i>	+	0.4 m	PI030.02
<i>Corymbia hamersleyana</i>	+	1.8 m	PI113.01
<i>Dentella asperata</i>	+	prostrate	PI069.11
<i>Dysphania saxatilis</i>	+	0.2 m	PI069.03
<i>Eriachne aristidea</i>	+	0.2 m	PI136.03
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	+	0.2 m	PI140.06
<i>Goodenia microptera</i>	+	0.4 m	PI060.02
<i>Goodenia stobbsiana</i>	out	0.7 m	PI152.05
<i>Heliotropium muticum</i>	+	0.2 m	PI152.01
<i>Indigofera monophylla</i>	+	0.4 m	PI052.03
<i>Isotropis atropurpurea</i>	+	0.4 m	PI145.10
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.2 m	PI043.06
<i>Polymeria calycina</i>	+	0.4 m	PI140.02
<i>Ptilotus astrolasius</i>	+	0.4 m	PI056.18
<i>Ptilotus calostachyus</i>	+	0.6 m	PI140.03
<i>Sporobolus australasicus</i>	+	0.1 m	PI145.03
<i>Tephrosia uniovulata</i>	1%	0.4 m	PI100.01
<i>Triodia epactia</i>	+	0.4 m	PI152.04
<i>Triodia lanigera</i>	5%	0.4 m	PI152.03
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.2 m	PI042.06

**Port Hedland RS Site PI153****Described by** BW **Date** 28/06/2011 **Type** Q 50x50 m**Location** Port Hedland**MGA Zone** 50 671509 mE 7734554 mN**Habitat** Sand plain**Soil** Orange brown clayey sand**Rock Type** N/A**Vegetation** Low Open Shrubland of *Acacia stellaticeps* over Open Hummock Grassland of *Triodia lanigera* and *Triodia epactia***Veg Condition** Excellent**Fire Age** Moderate**Notes** Aspect: N/A  
Bare Ground: 82%  
Litter Cover: +% Logs, 1% Twigs, +% Lvs  
Disturbance: Cattle**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia inaequilatera</i>	+	1-2 m	PI049.06
<i>Acacia stellaticeps</i>	2%	0.6 m	PI043.01
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01
<i>Calandrinia stagnensis</i>	+	prostrate	PI145.04
<i>Dentella asperata</i>	+	prostrate	PI069.11
<i>Eragrostis dielsii</i>	+	0.1 m	PI064.05
<i>Eriachne aristidea</i>	+	0.2 m	PI136.03
<i>Pluchea rubelliflora</i>	+	0.2 m	PI122.01
<i>Pluchea tetranthera</i>	+	0.2 m	PI064.02
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06
<i>Portulaca pilosa</i>	+	0.2 m	PI030.01
<i>Ptilotus fusiformis</i>	+	0.4 m	PI043.11
<i>Senna notabilis</i>	+	0.2 m	PI043.09
<i>Sporobolus australasicus</i>	+	0.2 m	PI145.03
<i>Triodia epactia</i>	4%	0.4 m	PI153.01
<i>Triodia lanigera</i>	8%	0.4 m	PI153.02

**Port Hedland RS Site PI154**

Described by LD Date 29/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 671594 mE 7733290 mN

Habitat Plain

Soil Orange brown clayey sandy loam with scattered pebbles

Rock Type Quartz

Vegetation Scattered Low Trees of *Corymbia hamersleyana* over Open Shrubland of *Acacia sphaerostachya*, *Acacia trudgeniana*, *Acacia victoriae* and *Grevillea wickhamii* subsp. *hispidula* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*.

Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
Bare Ground: 65%  
Litter Cover: +% Logs, 1% Twigs, 2% Lvs  
Disturbance: Cattle

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia colei</i> var. <i>colei</i>	+	1 m	PI091.12	
<i>Acacia sphaerostachya</i>	2%	1-1.5 m	PI134.01	
<i>Acacia stellaticeps</i>	+	0.6 m	PI065.01	
<i>Acacia trudgeniana</i>	1%	1-2 m	PI065.31	
<i>Acacia victoriae</i>	1%	1 m	PI154.07	
<i>Amaranthus undulatus</i>	+	0.2 m	PI045.16	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.2 m	PI094.04	
<i>Boerhavia coccinea</i>	+	0.1 m	PI154.06	
<i>Bulbostylis barbata</i>	+	0.1 m	PI090.18	
<i>Cleome viscosa</i>	+	0.2 m	PI112.06	
<i>Corchorus tectus</i>	+	0.2 m	PI091.07	
<i>Corymbia hamersleyana</i>	1%	4 m	PI154.02	
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI154.04	
<i>Dysphania saxatilis</i>	+	0.1 m	PI090.11	
<i>Eragrostis cumingii</i>	+	0.2 m	PI080.06	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI117.03	
<i>Euphorbia australis</i>	+	0.3 m	PI139.02	
<i>Evolvulus alsinoides</i> var. <i>decumbens</i>	+	0.2 m	PI094.10	
<i>Gomphrena leptoclada</i> subsp. <i>leptoclada</i>	+	0.1 m	PI154.11	
<i>Grevillea wickhamii</i> subsp. <i>hispidula</i>	1%	1-2 m	PI154.01	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.3 m	PI065.13	
<i>Isotropis atropurpurea</i>	+	0.2 m	PI125.05	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Paspalidium tabulatum</i>	+	0.2 m	PI117.07	
<i>Pluchea rubelliflora</i>	+	0.2 m	PI154.10	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI058.10	
<i>Polymeria calycina</i>	+	0.1 m	PI125.06	

<i>*Portulaca oleracea</i>	+	0.05 m	PI128.04
<i>Ptilotus fusiformis</i>	+	0.3 m	PI065.28
<i>Senna notabilis</i>	+	0.2 m	PI051.12
<i>Sida rohlenae subsp. rohlenae</i>	+	0.2 m	PI154.05
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)	+	0.05 m	PI150.06
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.1 m	PI058.05
<i>Sporobolus australasicus</i>	+	0.1 m	PI066.02
<i>Tephrosia supina</i>	+	0.05 m	PI125.08
<i>Tinospora smilacina</i>	+	cr	PI103.08
<i>Trachymene oleracea subsp. oleracea</i>	+	0.8 m	PI154.09
<i>Triodia epactia</i>	13%	0.4 m	PI154.03
<i>Triodia lanigera</i>	9%	0.4 m	PI154.08
<i>Yakirra australiensis var. australiensis</i>	+	0.1 m	PI043.08



**Port Hedland RS Site PI156**

Described by BW Date 30/06/2011 Type Q 50x50 m

**Location** Port Hedland  
**MGA Zone** 50 659967 mE 7724453 mN  
**Habitat** Low rocky hill  
**Soil** Orange brown loam with rocks and pebbles  
**Rock Type** Ironstone  
**Vegetation** Scattered Tall Shrubs of *Acacia inaequilatera* over  
 Open Hummock Grassland of *Triodia epactia*  
**Veg Condition** Excellent  
**Fire Age** Moderate  
**Notes** Aspect:  
 Bare Ground: 85%  
 Litter Cover: +% Logs, +% Twigs, +% Lvs  
 Disturbance: Cattle, weeds and track up hill near quadrat

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Abutilon lepidum</i>	+	0.4 m	PI156.02
<i>Acacia ancistrocarpa</i>	+	0.5 m	PI062.03
<i>Acacia colei</i> var. <i>colei</i>	+	0.5 m	PI043.16
<i>Acacia inaequilatera</i>	1%	2-3 m	PI049.06
* <i>Aerva javanica</i>	+	0.5 m	PI156.12
<i>Aristida contorta</i>	+	0.3 m	PI156.04
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI049.07
<i>Boerhavia coccinea</i>	+	0.2 m	PI067.15
<i>Bulbostylis barbata</i>	+	0.1 m	PI129.01
<i>Calandrinia stagnensis</i>	+	0.2 m	PI145.04
<i>Cleome viscosa</i>	(+)	0.3 m	PI026.10
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.2 m	PI042.04
* <i>Cucumis melo</i> subsp. <i>agrestis</i>	+	cr	PI026.08
<i>Eriachne aristidea</i>	+	0.2 m	PI136.03
<i>Eriachne mucronata</i>	+	0.3 m	PI049.01
<i>Euphorbia alsiniflora</i>	+	0.3 m	PI056.08
<i>Euphorbia australis</i>	+	prostrate	PI104.02
<i>Gomphrena cunninghamii</i>	+	0.1 m	PI156.01
<i>Gossypium australe</i>	+	0.4 m	PI104.08
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI043.13
<i>Mollugo molluginea</i>	+	0.2 m	PI043.29
<i>Paspalidium clementii</i>	+	0.2 m	PI156.03
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.1 m	PI043.06
<i>Ptilotus arthrolasius</i>	+	0.3 m	PI156.05
<i>Ptilotus auriculifolius</i>	+	0.3 m	PI140.08
<i>Rhynchosia minima</i>	+	0.1 m	PI156.08
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	+	0.6 m	PI156.07
<i>Senna notabilis</i>	+	0.2 m	PI043.09

<i>Sida clementii</i>	+	0.6 m	PI100.02	
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI043.14	
<i>Solanum lasiophyllum</i>	+	0.2 m	PI067.06	
<i>Tephrosia simplicifolia</i>	+	0.1 m	PI156.11	Range ext
<i>Trachymene oleracea</i> subsp. <i>oleracea</i>	+	0.2 m	PI156.10	
<i>Triodia epactia</i>	12%	0.3 m	PI156.09	
<i>Triumfetta clementii</i>	+	0.1 m	PI156.06	
<i>Triumfetta ramosa</i>	+	0.3 m	PI135.03	



**Port Hedland RS Site PI160**

Described by LD Date 30/06/2011 Type Q 50x50 m

**Location** Port Hedland

**MGA Zone** 50 672666 mE 7721758 mN

**Habitat** Hill Slope

**Soil** Orange Brown sandy loam with lots of cobbles, pebbles and rocks

**Rock Type** Quartz and calcrete

**Vegetation** Scattered Shrubs of *Acacia inaequilatera* over Open Hummock Grassland of *Triodia epactia* and *Triodia lanigera*

**Veg Condition** Excellent

**Fire Age** Moderate

**Notes** Aspect: South-west  
Bare Ground: 70%  
Litter Cover: 0% Logs, +% Twigs, +% Lvs  
Disturbance:

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	+	1 m	PI160.16	
<i>Acacia inaequilatera</i>	1%	1-2 m	PI125.01	
<i>Acacia orthocarpa</i>	+	0.7 m	PI160.02	
<i>Acacia stellaticeps</i>	+	0.2 m	PI065.01	
<i>Aristida contorta</i>	+	0.2 m	PI160.11	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.3 m	PI160.12	
<i>Bonamia alatisemina</i>	+	0.1 m	PI117.11	
<i>Bonamia media</i> var. <i>villosa</i>	+	cr	PI160.07	
<i>Bonamia rosea</i>	+	0.2 m	PI090.02	
<i>Bulbostylis barbata</i>	+	0.05 m	PI090.18	
<i>Cleome viscosa</i>	+	0.3 m	PI065.17	
<i>Corchorus tectus</i>	+	0.2 m	PI091.07	
<i>Digitaria brownii</i>	+	0.2 m	PI160.09	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	+	0.1 m	PI160.03	
<i>Euphorbia australis</i>	+	0.05 m	PI160.10	
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	0.6 m	PI160.06	
<i>Hibiscus burtonii</i>	+	0.2 m	PI160.17	
<i>Hybanthus aurantiacus</i>	+	0.2 m	PI043.13	
<i>Indigofera monophylla</i>	+	0.2 m	PI065.13	
<i>Mollugo molluginea</i>	+	0.1 m	PI132.04	
<i>Pluchea tetranthera</i>	+	0.2 m	PI066.22	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.05 m	PI058.10	
<i>Polycarpaea holtzei</i>	+	0.02 m	PI160.05	
<i>Polygala isingii</i>	+	0.05 m	PI160.14	
* <i>Portulaca oleracea</i>	+	0.05 m	PI128.04	
<i>Ptilotus auriculifolius</i>	+	0.5 m	PIOPLD03a	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	+	1 m	PI160.15	
<i>Senna notabilis</i>	+	0.4 m	PI051.12	



<i>Sida echinocarpa</i>	+	0.7 m	PI160.13
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.3 m	PI058.05
<i>Solanum diversiflorum</i>	+	0.2 m	PI048.09
<i>Solanum lasiophyllum</i>	+	0.2 m	PI160.18
<i>Sporobolus australasicus</i>	+	0.1 m	PI066.02
<i>Tephrosia supina</i>	+	0.1 m	PI125.08
<i>Triodia epactia</i>	18%	0.3 m	PI160.01
<i>Triodia lanigera</i>	2%	0.2 m	PI160.08
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI043.08

**Port Hedland RS Site PI161**

Described by HA Date 30/06/2011 Type Q 50x50 m

Location Port Hedland

MGA Zone 50 665337 mE 7721795 mN

Habitat Sand plain

Soil Orange brown loamy sand

Rock Type N/A

Vegetation *Acacia colei* var. *colei*, *Acacia tumida* var. *pilbarensis*,  
*Acacia inaequilatera* and *Acacia ancistrocarpa* over  
 Open Hummock Grassland of *Triodia epactia* and  
*Triodia lanigera* over Scattered Tussock Grass of  
*Digitaria brownii*



Veg Condition Excellent

Fire Age Moderate

Notes Aspect: N/A  
 Bare Ground: 50%  
 Litter Cover: +% Logs, 1% Twigs, 1% Lvs  
 Disturbance: None

**SPECIES LIST:**

Name	Cover	Height	Specimen	Notes
<i>Abutilon pritzelianum</i> MS	+	1.3 m	PI161.05	
<i>Acacia ancistrocarpa</i>	+	3 m	PI131.04	
<i>Acacia ancistrocarpa</i>	1%	1 m	PI086.05	
<i>Acacia colei</i> var. <i>colei</i>	3%	3.2 m	PI070.38	
<i>Acacia inaequilatera</i>	2%	2.8 m	PI054.05	
<i>Acacia sericophylla</i>	+	2 m	PI099.13	
<i>Acacia stellaticeps</i>	+	0.4 m	PI070.01	
<i>Acacia tumida</i> var. <i>pilbarensis</i>	2%	3 m	PI070.30	
<i>Aristida holathera</i> var. <i>holathera</i>	+	0.4 m	PI070.10	
<i>Aristida inaequiglumis</i>	+	1.2 m	PI070.24	
<i>Boerhavia coccinea</i>	+	CR	PI072.12	
<i>Bonamia alatisemina</i>	+	cr	PI053.02	
<i>Bonamia rosea</i>	+	0.3 m	PI088.02	
<i>Bulbostylis barbata</i>	+	0.1 m	PI070.17	
<i>Cassutha capillaris</i>	+	cr	PI055.03	
<i>Chrysopogon fallax</i>	+	1 m	PI070.21	
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.4 m	PI070.02	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	+	3.8 m	PI088.08	
<i>Crotalaria ramosissima</i>	+	0.2 m	PI089.02	
<i>Cucumis maderaspatanus</i>	+	CR	PI147.17	
<i>Desmodium filiforme</i>	+	cr	PI046.11	
<i>Digitaria brownii</i>	1%	0.3 m	PI161.04	
<i>Dolichandrone heterophylla</i>	+	2 m	PI061.05	
<i>Eriachne mucronata</i>	+	0.3 m	PI102.06	
<i>Euphorbia alsiniflora</i>	+	0.2 m	PI072.10	
<i>Euphorbia australis</i>	+	cr	PI108.12	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	0.15 m	PI070.07	
<i>Fimbristylis dichotoma</i>	+	0.3 m	PI081.07	

<i>Hibiscus brachychlaenus</i>	+	0.5 m	PI161.03
<i>Hybanthus aurantiacus</i>	+	0.3 m	PI099.02
<i>Indigofera monophylla</i>	+	0.3 m	PI072.03
<i>Paraneurachne muelleri</i>	+	0.3 m	PI054.09
<i>Pimelea ammodiaris</i>	+	0.6 m	PI070.23
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	+	0.15 m	PI072.02
<i>Ptilotus astrolasius</i>	+	0.3 m	PI089.05
<i>Ptilotus calostachyus</i>	+	0.3 m	PI032.04
<i>Ptilotus fusiformis</i>	+	0.3 m	PI070.22
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	0.3 m	PI105.08
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	0.4 m	PI070.03
<i>Solanum lasiophyllum</i>	+	0.4 m	PI070.37
<i>Tinospora smilacina</i>	+	cr	PI087.09
<i>Triodia epactia</i>	10%	0.5 m	PI161.01
<i>Triodia lanigera</i>	3%	0.4 m	PI161.02
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	0.1 m	PI072.06





**Port Hedland RS Site PIHAR01****Described by** HA **Date** 28/06/2011 **Type** R**Location** Port Hedland**MGA Zone** 50 676445 mE 7726767 mN**Habitat** Sand plain**Soil** Brown loam**Rock Type** N/A**Vegetation** Open Scrub of *Acacia colei* var. *colei* over Scattered Shrubs of *Acacia inaequilatera* over Tussock Grassland of *Chrysopogon fallax* over Very Open Hummock Grassland of *Triodia epactia***Veg Condition** Very good**Fire Age** Old**Notes** Aspect: N/A  
Bare Ground: 20%  
Litter Cover: +% Logs, +% Twigs, 4% Lvs  
Disturbance: Cattle grazing**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia colei</i> var. <i>colei</i>	35%	3.2 m	PI070.38
<i>Acacia inaequilatera</i>	1%	1.8 m	PI054.05
<i>Acacia stellaticeps</i>	+	1.5 m	PI070.01
<i>Bulbostylis barbata</i>	+	0.15 m	PI070.17
<i>Carissa lanceolata</i>	+	1.5 m	PI086.09
<i>Chrysopogon fallax</i>	40%	1 m	PI070.21
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	0.3 m	PI070.02
<i>Indigofera monophylla</i>	+	0.4 m	PI072.03
* <i>Portulaca oleracea</i>	+	0.1 m	PI086.11
<i>Senna notabilis</i>	+	0.2 m	PI070.14
<i>Sporobolus australasicus</i>	+	0.1 m	PI037.07
<i>Triodia epactia</i>	5%	0.5 m	PIHAR01



**Port Hedland RS Site PIRE01****Described by** EC **Date** 28/06/2011 **Type** R**Location** Port Hedland**MGA Zone** 50 676183 mE 7726101 mN**Habitat** Drainage line**Soil** Light red brown sandy loam**Rock Type** N/A

**Vegetation** Low Open Woodland of *Corymbia hamersleyana* over *Acacia colei* var. *colei*, *Acacia pyrifolia*, *Acacia trachycarpa* and *Acacia ancistrocarpa* over Very Open Hummock Grassland of *Triodia epactia* over Open Tussock Grassland of *\*Cenchrus ciliaris*, *Chrysopogon fallax* and *Sporobolus australasicus*

**Veg Condition** Very good**Fire Age** Old

**Notes** Aspect: N/A  
 Bare Ground: 30%  
 Litter Cover: +% Logs, +% Twigs, +% Lvs  
 Disturbance: Cattle and buffel

**SPECIES LIST:**

Name	Cover	Height	Specimen Notes
<i>Acacia ancistrocarpa</i>	1%	1-2 m	PI123.13
<i>Acacia bivenosa</i>	+	1.5 m	PI121.09
<i>Acacia colei</i> var. <i>colei</i>	2%	1.5 m	PI076.14
<i>Acacia inaequilatera</i>	+	1 m	PI123.15
<i>Acacia pyrifolia</i>	2%	1.5 m	PI107.03
<i>Acacia trachycarpa</i>	1%	1-2 m	PI107.02
<i>*Cenchrus ciliaris</i>	20%	0.3 m	PI103.06
<i>Chrysopogon fallax</i>	3%	0.5 m	PI084.10
<i>Corymbia hamersleyana</i>	4%	2-4 m	PIRE01.01
<i>Sporobolus australasicus</i>	1%	0.2 m	PI121.01
<i>Triodia epactia</i>	5%	0.3 m	PI083.09

# **APPENDIX G**

## **MATRIX OF FLORA IN EACH SITE – CURRENT SURVEY**







PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

APPENDIX G  
FLORA MATRIX

Species	Mangroves					Dune C		Dune D		Sapphire B					Limestone H	Grassland A			Grassland B		MDLA			MDLB		MDLD									
	PI004	PI015	PI016	PI017	PI0162	PI001	PI003	PI006	PI0157	PI002	PI005	PI011	PI012	PI013	PI018	PI038	PI039	PI040	PI007	PI014	PI019	PI037	PI121	PI064	PI066	PI022	PI041	PI068	PI107	PI098	PI115	PI122	PI119	PI120	
<i>Melaleuca lasiantha</i>																																		18%	10%
<i>Melaleuca linophylla</i>																																			
<i>Melhania oblongifolia</i>								+										+																	
<i>Mimulus gracilis</i>																																			
<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>																																			
<i>Mitrasacme connata</i>																																			
<i>Mollugo molluginea</i>																																			
<i>Muelleralimon salicorniaceum</i>			8%		+																														
<i>Murdannia graminea</i>																																			
<i>Myoporum montanum</i>																																			
<i>Neobassia astrocarpa</i>																																			
<i>Neptunia dimorphantha</i>																																			
<i>Opeculina aequisejala</i>																																			
<i>Owenia reticulata</i>																																			
<i>Panicum decompositum</i>																																			
<i>Paraneurachne muelleri</i>																																			
<i>Paspalidium clementii</i>																																			
<i>Paspalidium tabulatum</i>																																			
<i>Perotis rara</i>																																			
<i>Phyllanthus erwinii</i>																																			
<i>Phyllanthus maderaspatensis</i>																																			
<i>*Physalis angulata</i>																																			
<i>Pimelea ammacharis</i>																																			
<i>Pluchea fernandi-muelleri</i>																																			
<i>Pluchea rubelliflora</i>																																			
<i>Pluchea tetranthera</i>																																			
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>																																			
<i>Polycarpaea holtzei</i>																																			
<i>Polycarpaea longiflora</i>																																			
<i>Polygala isingii</i>																																			
<i>Polygala linarifolia</i>																																			
<i>Polymeria ambigua</i>																																			
<i>Polymeria calycina</i>																																			
<i>*Portulaca oleracea</i>																																			
<i>Portulaca pilosa</i>																																			
<i>Pterocaulon serrulatum</i>																																			
<i>Pterocaulon sphacelatum</i>																																			
<i>Pterocaulon sphaeranthoides</i>																																			
<i>Ptilotus arthralosius</i>																																			
<i>Ptilotus astrolasius</i>																																			
<i>Ptilotus auriculifolius</i>																																			
<i>Ptilotus axillaris</i>																																			
<i>Ptilotus calostachyus</i>																																			
<i>Ptilotus exaltatus</i>						1%																													
<i>Ptilotus fusiformis</i>																																			
<i>Ptilotus murrayi</i>																																			
<i>Ptilotus polystachyus</i>																																			
<i>Rhagodia eremaea</i>																																			
<i>Rhizophora stylosa</i>																																			
<i>Rhynchosia minima</i>																																			
<i>Rotala diandra</i>																																			
<i>Salsola tragus</i> subsp. <i>grandiflora</i>																																			
<i>Santalum lanceolatum</i>																																			
<i>Sarcostemma viminalis</i> subsp. <i>australe</i>																																			
<i>Scaevola amblyanthera</i> var. <i>centralis</i>																																			
<i>Scaevola browniana</i> subsp. <i>browniana</i>																																			
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>																																			
<i>Scaevola sericophylla</i>																																			
<i>Scaevola spinescens</i>																																			
<i>Schizachyrium fragile</i>																																			
<i>Schaenoplectus laevis</i>																																			
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>																																			
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>glaucafolia</i>																																			
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x subsp. <i>helmsii</i>																																			
<i>Senna curvistyla</i>																																			
<i>Senna glaucifolia</i>																																			
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>																																			
<i>Senna glutinosa</i> subsp. x <i>luerssenii</i>																																			
<i>Senna notabilis</i>																																			
<i>Senna venusta</i>																																			
<i>Sesbania cannabina</i>																																			

PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT  
APPENDIX G  
FLORA MATRIX

Species	Mangroves					Dune C		Dune D		Samphire B							Limestone H	Grassland A				Grassland B		MDLA			MDLB		MDLD								
	PI004	PI015	PI016	PI017	PI016	PI001	PI003	PI006	PI0157	PI002	PI005	PI011	PI012	PI013	PI018	PI038	PI039	PI040	PI007	PI014	PI019	PI037	PI121	PI064	PI066	PI022	PI041	PI068	PI107	PI098	PI115	PI122	PI119	PI120			
<i>Solanum diversiflorum</i>																																					
<i>Solanum ellipticum</i>																																					
<i>Solanum lasiophyllum</i>																		+								+											
<i>Sorghum plumosum</i>																																					
<i>Sorghum sp.</i>																											+										
<i>Spinifex longifolius</i>						4%			+																												
<i>Sporobolus actinocladius</i>																																					
<i>Sporobolus australasicus</i>											+											1%	20%			1%							+		+		
<i>Sporobolus virginicus</i>											+	+				+																					
<i>Stackhousia intermedia</i>																																					
<i>Stackhousia muricata</i>																																					
<i>Stemodia grossa</i>																																					
<i>Stemodia lathraia</i>																																					
<i>Stemodia viscosa</i>																																					
<i>Streptoglossa decurrens</i>																																					
<i>Striga squamigera</i>																																					
<i>Stylidium desertorum</i>																																					
* <i>Stylosanthes hamata</i>																																					
<i>Swainsona formosa</i>																																					
<i>Swainsona kingii</i>																																					
<i>Swainsona pterostylis</i>																+																					
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>																																					
<i>Tecticornia auriculata</i>										20%																											
<i>Tecticornia halcnemoides</i> subsp. <i>tenuis</i>																																					
<i>Tecticornia indica</i> subsp. <i>bidens</i>										2%	7%																										
<i>Tecticornia</i> sp. Denny's Crossing (K.A. Shepherd & J. English KS 552)			10%							1%		+	1%																								
<i>Tephrosia leptoclada</i>																																					
<i>Tephrosia rosea</i>																																					
<i>Tephrosia rosea</i> var. <i>clementii</i>																																					
<i>Tephrosia rosea</i> var. <i>glabrior</i>																																					
<i>Tephrosia rosea</i> var. <i>rosea</i>																																					
<i>Tephrosia rosea</i> var. <i>venulosa</i>																																					
<i>Tephrosia simplicifolia</i>																																					
<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)																																					
<i>Tephrosia supina</i>																																					
<i>Tephrosia uniolulata</i>																																					
<i>Threlkeldia diffusa</i>			1%																																		
<i>Tinospora smilacina</i>																																					
<i>Trachymene oleracea</i> subsp. <i>oleracea</i>																																					
<i>Trianthema glossostigma</i>																																					
<i>Trianthema pilosa</i>																																					
<i>Trianthema triquetra</i>																																					
<i>Tribulopsis angustifolia</i>																																					
<i>Tribulus hirsutus</i>																																					
<i>Tribulus macrocarpus</i>																																					
<i>Tribulus occidentalis</i>																																					
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>																																					
<i>Tricoryne corynothecoides</i>																																					
<i>Triodia epactia</i>																																					
<i>Triodia lanigera</i>							5%	12%																													
<i>Triodia lanigera</i>																																					
<i>Triodia schinzii</i>																																					
<i>Triodia secunda</i>																																					
<i>Triumfetta chaetocarpa</i>																																					
<i>Triumfetta clementii</i>																																					
<i>Triumfetta ramosa</i>																																					
<i>Urochloa holosericea</i> subsp. <i>velutina</i>																																					
* <i>Vaccaria hispanica</i>																																					
<i>Vigna lanceolata</i> var. <i>filiformis</i>																																					
<i>Vigna lanceolata</i> var. <i>lanceolata</i>																																					
<i>Wahlenbergia tumidiflora</i>																																					
<i>Waltheria indica</i>																																					
<i>Whiteochloa airoides</i>																																					
<i>Xerochloa laniflora</i>																																					
<i>Yakirra australiensis</i> var. <i>australiensis</i>																																					
<i>Zornia muelleriana</i>																																					





PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

APPENDIX G  
FLORA MATRIX

Species	MDLE		Sandplain A					Sandplain B										Sandplain C																		
	PI069	PI146	PI008	PI008a	PI009	PI010	PI036	PI020	PI021	PI023	PI025	PI026	PI027	PI028	PI029	PI031	PI032	PI042	PI043	PI044	PI070	PI071	PI072	PI045	PI046	PI047	PI048	PI049	PI024	PI033	PI035	PI050	PI052	PI053		
<i>Digitaria</i> sp.																																				
<i>Dodonaea coriacea</i>			+														+																			
<i>Dolichandrone heterophylla</i>																																				
<i>Drosera burmanni</i>																																				
<i>Drosera indica</i>																																				
<i>Dysphania kalpari</i>																																				
<i>Dysphania saxatilis</i>																																				
<i>Ehretia saligna</i> var. <i>saligna</i>																																				
<i>Enneapogon caerulescens</i>																																				
<i>Enneapogon</i> sp.																																				
<i>Eragrostis cumingii</i>																																				
* <i>Eragrostis curvula</i>																																				
<i>Eragrostis dielsii</i>																																				
<i>Eragrostis eriopoda</i>																																				
<i>Eragrostis falcata</i>																																				
<i>Eragrostis pergracilis</i>																																				
<i>Eragrostis speciosa</i>																																				
<i>Eragrostis tenellula</i>																																				
<i>Eriachne aristidea</i>																																				
<i>Eriachne benthamii</i>																																				
<i>Eriachne ciliata</i>																																				
<i>Eriachne glauca</i> var. <i>glauca</i>																																				
<i>Eriachne helmsii</i>																																				
<i>Eriachne mucronata</i>																																				
<i>Eriachne pulchella</i>																																				
<i>Eriachne pulchella</i> subsp. <i>dominii</i>																																				
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>																																				
<i>Eucalyptus victrix</i>																																				
<i>Eulalia fulva</i>																																				
<i>Euphorbia alsiniflora</i>																																				
<i>Euphorbia australis</i>																																				
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>																																				
<i>Evolvulus alsinoides</i> var. <i>decumbens</i>																																				
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>																																				
<i>Fimbristylis dichotoma</i>																																				
<i>Fimbristylis littoralis</i>																																				
<i>Fimbristylis oxystachya</i>																																				
<i>Fimbristylis rara</i>																																				
<i>Fimbristylis simulans</i>																																				
* <i>Flaveria trinervia</i>																																				
<i>Flueggea virosa</i> subsp. <i>melanthesoides</i>																																				
<i>Frankenia ambita</i>																																				
<i>Glycine canescens</i>																																				
<i>Gomphrena cunninghamii</i>																																				
<i>Gomphrena leptoclada</i> subsp. <i>leptoclada</i>																																				
<i>Gomphrena pusilla</i>																																				
<i>Gomphrena sordida</i>																																				
<i>Goodenia forrestii</i>																																				
<i>Goodenia lamprosperma</i>																																				
<i>Goodenia microptera</i>																																				
<i>Goodenia stobbsiana</i>																																				
<i>Goodenia triodiophila</i>																																				
<i>Gossypium australe</i>																																				
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>																																				
<i>Grevillea wickhamii</i> subsp. <i>hispidula</i>																																				
<i>Hakea lorea</i> subsp. <i>lorea</i>																																				
<i>Heliotropium cunninghamii</i>																																				
<i>Heliotropium inexplicitum</i>																																				
<i>Heliotropium muticum</i>																																				
<i>Heliotropium ovalifolium</i>																																				
<i>Heliotropium tenuifolium</i>																																				
<i>Hibiscus austrinus</i> var. <i>austrinus</i>																																				
<i>Hibiscus brachychaenus</i>																																				
<i>Hibiscus burtonii</i>																																				
<i>Hibiscus leptocladus</i>																																				
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>																																				
<i>Hybanthus aurantiacus</i>																																				
<i>Indigofera colutea</i>																																				
<i>Indigofera hirsuta</i>																																				
<i>Indigofera linifolia</i>																																				
<i>Indigofera monophylla</i>																																				
* <i>Indigofera oblongifolia</i>	</																																			



PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

APPENDIX G  
FLORA MATRIX

Species	MDLE		Sandplain A				Sandplain B										Sandplain C																			
	PI069	PI146	PI008	PI008a	PI009	PI010	PI036	PI020	PI021	PI023	PI025	PI026	PI027	PI028	PI029	PI031	PI032	PI042	PI043	PI044	PI070	PI071	PI072	PI045	PI046	PI047	PI048	PI049	PI024	PI033	PI035	PI050	PI052	PI053		
<i>Solanum diversiflorum</i>				+							+															+	+									
<i>Solanum ellipticum</i>											+	+	+														+									
<i>Solanum lasiophyllum</i>																								+		+										
<i>Sorghum plumosum</i>																																				
<i>Sorghum sp.</i>																																				
<i>Spinifex longifolius</i>																																				
<i>Sporobolus actinocladius</i>																																				
<i>Sporobolus australasicus</i>																																				
<i>Sporobolus virginicus</i>																																				
<i>Stackhousia intermedia</i>																																				
<i>Stackhousia muricata</i>																																				
<i>Stemodia grossa</i>																																				
<i>Stemodia lathraia</i>																																				
<i>Stemodia viscosa</i>																																				
<i>Streptoglossa decurrens</i>																																				
<i>Striga squamigera</i>																																				
<i>Stylidium desertorum</i>																																				
* <i>Stylosanthes hamata</i>																																				
<i>Swainsona formosa</i>																																				
<i>Swainsona kingii</i>																																				
<i>Swainsona pterostylis</i>																																				
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>																																				
<i>Tecticornia auriculata</i>																																				
<i>Tecticornia halcnemoides</i> subsp. <i>tenuis</i>																																				
<i>Tecticornia indica</i> subsp. <i>bidens</i>																																				
<i>Tecticornia</i> sp. Denny's Crossing (K.A. Shepherd & J. English KS 552)																																				
<i>Tephrosia leptoclada</i>																																				
<i>Tephrosia rosea</i>																																				
<i>Tephrosia rosea</i> var. <i>clementii</i>																																				
<i>Tephrosia rosea</i> var. <i>glabrior</i>																																				
<i>Tephrosia rosea</i> var. <i>rosea</i>																																				
<i>Tephrosia rosea</i> var. <i>venulosa</i>																																				
<i>Tephrosia simplicifolia</i>																																				
<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)																																				
<i>Tephrosia supina</i>																																				
<i>Tephrosia uniavulata</i>																																				
<i>Threlkeldia diffusa</i>																																				
<i>Tinospora smilacina</i>																																				
<i>Trachymene oleracea</i> subsp. <i>oleracea</i>																																				
<i>Trianthema glossostigma</i>																																				
<i>Trianthema pilosa</i>																																				
<i>Trianthema triquetra</i>																																				
<i>Tribulopsis angustifolia</i>																																				
<i>Tribulus hirsutus</i>																																				
<i>Tribulus macrocarpus</i>																																				
<i>Tribulus occidentalis</i>																																				
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>																																				
<i>Tricoryne corynothecoides</i>																																				
<i>Triodia epactia</i>	6%	20%	5%			30%			28%		9%			10%	8%				+	25%	4%	20%	25%	40%	25%	30%	16%	8%	16%		10%	45%	10%	15%	20%	
<i>Triodia lanigera</i>						5%																														
<i>Triodia longiceps</i>																																				
<i>Triodia schinzii</i>			5%	3%	8%		30%	5%		4%	15%	40%	6%	4%		16%	40%	22%								10%				45%						
<i>Triodia secunda</i>								25%																			12%									
<i>Triumfetta chaetocarpa</i>																																				
<i>Triumfetta clementii</i>																																				
<i>Triumfetta ramosa</i>						+																														
<i>Urochloa holosericea</i> subsp. <i>velutina</i>																																				
* <i>Vaccaria hispanica</i>																																				
<i>Vigna lanceolata</i> var. <i>filiformis</i>																																				
<i>Vigna lanceolata</i> var. <i>lanceolata</i>																																				
<i>Wahlenbergia tumidifructa</i>																																				
<i>Waltheria indica</i>																																				
<i>Whiteochloa airoides</i>																																				
<i>Xerochloa laniflora</i>																																				
<i>Yakirra australiensis</i> var. <i>australiensis</i>																																				
<i>Zornia muelleriana</i>																																				



PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

APPENDIX G  
FLORA MATRIX

Species	Sandplain H							Sandplain I														Sandplain K															
	PI056	PI065	PI073	PI108	PI147	PI148	PI150	PI051	PI054	PI055	PI057	PI058	PI061	PI105	PI109	PI110	PI111	PI131	PI132	PI133	PI134	PI136	PI143	PI156	PI060	PI062	PI063	PI067	PI102	PI103	PI104	PI106	PI079	PI081			
<i>Abutilon lepidum</i>															+									+													
<i>Abutilon otocarpum</i>				+	+									+						+																	
<i>Abutilon pritzelianum</i>				+																																	
<i>Abutilon trudgenii</i>																																					
<i>Acacia ampliceps</i>																																					
<i>Acacia ancistrocarpa</i>																+	+	3%					1%		+		+										
<i>Acacia bivenosa</i>																																					
<i>Acacia coleii</i>																																					
<i>Acacia coleii</i> var. <i>coleii</i>	1%						+			+							+	+										2%	2%			+		1%	+		
<i>Acacia dictyophleba</i>																																					
<i>Acacia inaequilatera</i>	+			1%						+	1%	3%		+	+																					OUT	
<i>Acacia maitlandii</i>																																					
<i>Acacia orthocarpa</i>																																					
<i>Acacia pyrifolia</i>																																					
<i>Acacia sericophylla</i>																																					
<i>Acacia sphaerostachya</i>																																					
<i>Acacia stellaticeps</i>	1%	1%	+	10%	5%	20%	+	12%	40%	20%	+	2%	2%	10%	3%	5%	10%	5%	5%	+	1%	6%	8%	7%		2%	3%	2%	1%	50%	2%	+(6%)	3%	+	2%	8%	
<i>Acacia synchronica</i>																																					
<i>Acacia trachycarpa</i>																																					
<i>Acacia trachycarpa</i> x <i>tumida</i>																																					
<i>Acacia trudgeniana</i>																																					
<i>Acacia tumida</i> var. <i>pilbarensis</i>																																					
<i>Acacia tumida</i> var. <i>tumida</i>																																					
<i>Acacia victoriae</i>																																					
<i>Achyranthes aspera</i>																																					
<i>Adriana tomentosa</i>																																					
* <i>Aerva javanica</i>																																					
<i>Aeschynomene indica</i>																																					
<i>Alternanthera angustifolia</i>																																					
<i>Alternanthera nana</i>																																					
<i>Amaranthus undulatus</i>	+																																				
<i>Ammannia multiflora</i>																																					
<i>Aristida contorta</i>																																					
<i>Aristida holathera</i> var. <i>holathera</i>	2%	1%	+	50%	+	+				+	+	+	1%	+	+	+																					
<i>Aristida inaequilumis</i>																																					
<i>Atalaya hemiglauca</i>																																					
<i>Atriplex codonocarpa</i>																																					
<i>Avicennia marina</i>																																					
<i>Bergia pedicellaris</i>																																					
<i>Boerhavia coccinea</i>	+	+																																			
<i>Bonamia alatisemina</i>																																					
<i>Bonamia media</i> var. <i>villosa</i>																																					
<i>Bonamia rosea</i>																																					
<i>Bruguiera exaristata</i>																																					
<i>Bulbostylis barbata</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
<i>Bulbostylis turbinata</i>																																					
<i>Cajanus cinereus</i>																																					
<i>Calandrinia creethiae</i>																																					
<i>Calandrinia pentavalvis</i>	+																																				
<i>Calandrinia pumila</i>																																					
<i>Calandrinia stagnensis</i>																																					
<i>Calandrinia quadrivalvis</i>																																					
<i>Carissa lanceolata</i>	+																																				
<i>Cassipoula capillaris</i>																																					
* <i>Cenchrus ciliaris</i>																																					
<i>Centipeda minima</i> subsp. <i>macrocephala</i>																																					
<i>Chloris pectinata</i>																																					
<i>Chrysopogon fallax</i>																																					
<i>Cleome viscosa</i>	+	+																																			
<i>Codonocarpus cotinifolius</i>																																					
<i>Commelina ensifolia</i>																																					
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	+	+	+	+	+																															
<i>Corchorus tectus</i>																																					
<i>Corymbia candida</i> subsp. <i>loutifolia</i>																																					
<i>Corymbia hamersleyana</i>																																					
<i>Corymbia zygophylla</i>																																					
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>																																					
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>																																					
<i>Crotalaria ramosissima</i>																																					
<i>Cucumis maderaspatanus</i>																																					
* <i>Cucumis melo</i> subsp. <i>agrestis</i>																																					



PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT  
 APPENDIX G  
 FLORA MATRIX

Species	Sandplain H								Sandplain I												Sandplain K															
	PI056	PI065	PI073	PI108	PI147	PI148	PI150	PI051	PI054	PI055	PI057	PI058	PI061	PI105	PI109	PI110	PI111	PI131	PI132	PI133	PI134	PI136	PI143	PI156	PI060	PI062	PI063	PI067	PI102	PI103	PI104	PI106	PI079	PI081		
<i>Melaleuca lasiandra</i>																																				
<i>Melaleuca linophylla</i>																																				
<i>Melhania oblongifolia</i>																																				
<i>Mimulus gracilis</i>																																				
<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>																																				
<i>Mitrasacme connata</i>																																				
<i>Mallugo molluginea</i>																																				
<i>Muelleralimon salicorniaceum</i>																																				
<i>Murdannia graminea</i>																																				
<i>Myoporum montanum</i>																																				
<i>Neobassia astrocarpa</i>																																				
<i>Neptunia dimorphantha</i>																																				
<i>Operculina aequisejala</i>																																				
<i>Owenia reticulata</i>																																				
<i>Panicum decompositum</i>																																				
<i>Paraneurachne muelleri</i>																																				
<i>Paspalidium clementii</i>																																				
<i>Paspalidium tabulatum</i>																																				
<i>Perotis rara</i>																																				
<i>Phyllanthus erwinii</i>																																				
<i>Phyllanthus maderaspatensis</i>																																				
<i>*Phytolacca angulata</i>																																				
<i>Pimelea ammodaridii</i>																																				
<i>Pluchea ferdinandi-muelleri</i>																																				
<i>Pluchea rubelliflora</i>																																				
<i>Pluchea tetranthera</i>																																				
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>																																				
<i>Polycarpaea holtzei</i>																																				
<i>Polycarpaea longiflora</i>																																				
<i>Polygala isingii</i>																																				
<i>Polygala linearifolia</i>																																				
<i>Polymeria ambigua</i>																																				
<i>Polymeria calycina</i>																																				
<i>*Portulaca oleracea</i>																																				
<i>Portulaca pilosa</i>																																				
<i>Pterocaulon serrulatum</i>																																				
<i>Pterocaulon sphaeranthoides</i>																																				
<i>Ptilotus arthralosius</i>																																				
<i>Ptilotus astrolosius</i>																																				
<i>Ptilotus auriculifolius</i>																																				
<i>Ptilotus axillaris</i>																																				
<i>Ptilotus calostachyus</i>																																				
<i>Ptilotus exaltatus</i>																																				
<i>Ptilotus fusiformis</i>																																				
<i>Ptilotus murrayi</i>																																				
<i>Ptilotus polystachyus</i>																																				
<i>Rhagodia eremaea</i>																																				
<i>Rhizophora stylosa</i>																																				
<i>Rhynchosia minima</i>																																				
<i>Rotala diandra</i>																																				
<i>Salsola tragus</i> subsp. <i>grandiflora</i>																																				
<i>Santalum lanceolatum</i>																																				
<i>Sarcostemma viminalis</i> subsp. <i>australe</i>																																				
<i>Scaevola amblyanthera</i> var. <i>centralis</i>																																				
<i>Scaevola browniana</i> subsp. <i>browniana</i>																																				
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>																																				
<i>Scaevola sericophylla</i>																																				
<i>Scaevola spinescens</i>																																				
<i>Schizachyrium fragile</i>																																				
<i>Schaenoplectus laevis</i>																																				
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>																																				
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>glaucafolia</i>																																				
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x subsp. <i>helmsii</i>																																				
<i>Senna curvistyla</i>																																				
<i>Senna glaucifolia</i>																																				
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>																																				
<i>Senna glutinosa</i> subsp. x <i>luerssenii</i>																																				
<i>Senna notabilis</i>																																				
<i>Senna venusta</i>																																				
<i>Sesbania cannabina</i>																																				
<i>Setaria dielsii</i>																																				
<i>Sida clementii</i>		</																																		











PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

APPENDIX G  
FLORA MATRIX

Species	Sandplain N														Sandplain O										Sandplain P					Sandplain Q								
	PI083	PI084	PI085	PI096	PI100	PI101	PI112	PI117	PI118	PI129	PI130	PI135	PI137	PI153	PI154	PI161	PI059	PI092	PI093	PI094	PI095	PI113	PI114	PI127	PI128	PI138	PI080	PI097	PI086	PI087	PI099	PI116	PI124	PI126				
<i>Solanum diversiflorum</i>		+														+									+										+			
<i>Solanum ellipticum</i>		+							+											+								+										
<i>Solanum lasiophyllum</i>									+							+									+													
<i>Sorghum plumosum</i>																																						
<i>Sorghum sp.</i>																																						
<i>Spinifex longifolius</i>																																						
<i>Sporobolus actinocladius</i>																																						
<i>Sporobolus australasicus</i>	+	+	+	+					+					+	+												1%		+							+		
<i>Sporobolus virginicus</i>																																						
<i>Stackhousia intermedia</i>																																						
<i>Stackhousia muricata</i>																																						
<i>Stemodia grossa</i>																				+																		
<i>Stemodia lathraia</i>																																						
<i>Stemodia viscosa</i>																																						
<i>Streptoglossa decurrens</i>	+	+																																				
<i>Striga squamigera</i>																																						
<i>Stylidium desertorum</i>																																						
* <i>Stylosanthes hamata</i>																																						
<i>Swainsona formosa</i>																																						
<i>Swainsona kingii</i>																																						
<i>Swainsona pterostylis</i>																																						
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>																																						
<i>Tecticornia auriculata</i>																																						
<i>Tecticornia halcnemoides</i> subsp. <i>tenuis</i>																																						
<i>Tecticornia indica</i> subsp. <i>bidens</i>																																						
<i>Tecticornia</i> sp. Denny's Crossing (K.A. Shepherd & J. English KS 552)																																						
<i>Tephrosia leptoclada</i>																																						
<i>Tephrosia rosea</i>																																						
<i>Tephrosia rosea</i> var. <i>clementii</i>																																						
<i>Tephrosia rosea</i> var. <i>glabrior</i>																																						
<i>Tephrosia rosea</i> var. <i>rosea</i>																																						
<i>Tephrosia rosea</i> var. <i>venulosa</i>																																						
<i>Tephrosia simplicifolia</i>																																						
<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)																																						
<i>Tephrosia supina</i>																																						
<i>Tephrosia uniovulata</i>																																						
<i>Threlkeldia diffusa</i>																																						
<i>Tinospora smilacina</i>																																						
<i>Trachymene oleracea</i> subsp. <i>oleracea</i>																																						
<i>Trianthema glossostigma</i>																																						
<i>Trianthema pilosa</i>																																						
<i>Trianthema triquetra</i>																																						
<i>Tribulopsis angustifolia</i>																																						
<i>Tribulus hirsutus</i>																																						
<i>Tribulus macrocarpus</i>																																						
<i>Tribulus occidentalis</i>																																						
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>																																						
<i>Tricoryne corynothecoides</i>																																						
<i>Triodia epactia</i>	35%	1%	1%	20%	2%		30%		3%	8%	20%	1%	1%	4%	13%	10%	7%	1%	4%	2%	25%	15%	30%	40%	3%	40%	8%	2%	30%	30%			2%					
<i>Triodia lanigera</i>	25%		15%	+	1%	12%	4%	+		+	12%	10%	35%	8%	9%	3%					1%		2%		12%			+	2%	8%	3%	18%	4%					
<i>Triodia laniceps</i>																																						
<i>Triodia schinzii</i>																																						
<i>Triodia secunda</i>																																						
<i>Triumfetta chaetocarpa</i>																																						
<i>Triumfetta clementii</i>																																						
<i>Triumfetta ramosa</i>																																						
<i>Urochloa halosericea</i> subsp. <i>velutina</i>																																						
* <i>Vaccaria hispanica</i>																																						
<i>Vigna lanceolata</i> var. <i>filiformis</i>																																						
<i>Vigna lanceolata</i> var. <i>lanceolata</i>																																						
<i>Waltheria indica</i>																																						
<i>Waltheria indica</i>																																						
<i>Whiteochloa airoides</i>																																						
<i>Xerochloa laniflora</i>																																						
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	1%	+	1%	+	+	+	+			+	+	+		+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
<i>Zornia muelleriana</i>																																						



PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

APPENDIX G  
FLORA MATRIX

Species	Sandplain R													Sandplain S												
	PI145	PI030	PI034	PI074	PI075	PI076	PI077	PI078	PI082	PI088	PI089	PI090	PI091	PI141	PI149	PI123	PI125	PI139	PI140	PI142	PIR151	PI152	PI160	PIRE01	PIHAR01	
<i>Abutilon lepidum</i>								+								+										
<i>Abutilon otocarpum</i>													+													
<i>Abutilon pritzellianum</i>																										
<i>Abutilon trudgei</i>																						+				
<i>Acacia ampliceps</i>																										
<i>Acacia ancistrocarpa</i>	1%							+		+	+					+			1%	1%			+	+	1%	
<i>Acacia bivenosa</i>																										
<i>Acacia colei</i>																										
<i>Acacia colei</i> var. <i>colei</i>				1%	+	1%	2%	5%	3%	+				3%									+		2%	35%
<i>Acacia dictyophleba</i>																										
<i>Acacia inaequilatera</i>	1%															1%	2%	1%	1%	1%			+	1%	+	1%
<i>Acacia moitlandii</i>																+										
<i>Acacia orthocarpa</i>																1%								+		
<i>Acacia pyriformis</i>								+																		2%
<i>Acacia sericophylla</i>				+	+	1%	1%	+	+																	
<i>Acacia sphaerostachya</i>					1%																					
<i>Acacia stellaticeps</i>	+	+	5%	4%	2%	2%		+		1%	30%	5%	2%	+			+	+						+	+	
<i>Acacia synchronicia</i>																										
<i>Acacia trachycarpa</i>	+																									1%
<i>Acacia trachycarpa</i> x <i>tumida</i>																										
<i>Acacia trudgeana</i>					+																					
<i>Acacia tumida</i> var. <i>pilbarensis</i>				2%			3%	6%																		
<i>Acacia tumida</i> var. <i>tumida</i>																										
<i>Acacia victoriae</i>																										
<i>Achyranthes aspera</i>																										
<i>Adriana tomentosa</i>																										
* <i>Aerva javanica</i>							+																			
<i>Aeschynomene indica</i>																								+		
<i>Alternanthera angustifolia</i>																										
<i>Alternanthera nana</i>								+																		
<i>Amaranthus undulatus</i>									(+)	+																
<i>Ammannia multiflora</i>																										
<i>Aristida contorta</i>	+																									
<i>Aristida holathera</i> var. <i>holathera</i>	+	+	+	+	+	8%	+	+		+	+	+	+	+		10%										
<i>Aristida inaequiglumis</i>																										
<i>Atalaya hemiglaucis</i>																										
<i>Atriplex codonocarpa</i>																										
<i>Avicennia marina</i>																										
<i>Bergia pedicellaris</i>																										
<i>Boerhavia coccinea</i>																										
<i>Bonamia alatisemina</i>	+																									
<i>Bonamia media</i> var. <i>villosa</i>																										
<i>Bonamia rosea</i>	+	1%																								
<i>Bruguiera exaristata</i>																										
<i>Bulbostylis barbata</i>																										
<i>Bulbostylis turbinata</i>																										
<i>Cajanus cinereus</i>																										
<i>Calandrinia creethiae</i>																										
<i>Calandrinia pentavalvis</i>																										
<i>Calandrinia pumila</i>																										
<i>Calandrinia stagnensis</i>	+	+																								
<i>Calandrinia quadrivalvis</i>	+																									
<i>Carissa lanceolata</i>																										
<i>Cassipoula capillaris</i>																										
* <i>Cenchrus ciliaris</i>																										
<i>Centipeda minima</i> subsp. <i>macrocephala</i>																										
<i>Chloris pectinata</i>																										
<i>Chrysopogon fallax</i>																										
<i>Cleome viscosa</i>	+	+																								
<i>Codonocarpus cotinifolius</i>																										
<i>Commelina ensifolia</i>																										
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	+	+																								
<i>Corchorus tectus</i>	+	+																								
<i>Corymbia candida</i> subsp. <i>lautifolia</i>	1%	1%																								
<i>Corymbia hamersleyana</i>																										
<i>Corymbia zygophylla</i>																										
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>																										
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>																										
<i>Crotalaria ramosissima</i>																										
<i>Cucumis maderaspatanus</i>																										
* <i>Cucumis melo</i> subsp. <i>agrestis</i>																										
<i>Cullen cinereum</i>																										
<i>Cullen stipulaceum</i>																										
<i>Cynanchum floribundum</i>																										
<i>Cyperus cunninghamii</i> subsp. <i>cunninghamii</i>																										
<i>Cyperus dactyloides</i>																										
<i>Cyperus difformis</i>																										
<i>Cyperus ixiocarpus</i>																										
<i>Cyperus rigidellus</i>																										
<i>Cyperus squarrosus</i>																										
<i>Cyperus vaginatus</i>																										
<i>Dactyloctenium radulans</i>																										
<i>Dentella asperata</i>	+																									
<i>Desmodium filiforme</i>																										
<i>Dichanthium sericeum</i> subsp. <i>humilius</i>																										
<i>Digitaria brownii</i>																										



PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

APPENDIX G  
FLORA MATRIX

Species	Sandplain R														Sandplain S											
	PI145	PI030	PI034	PI074	PI075	PI076	PI077	PI078	PI082	PI088	PI089	PI090	PI091	PI141	PI149	PI123	PI125	PI139	PI140	PI142	PIR151	PI152	PI160	PIRE01	PIHAR01	
<i>Digitaria</i> sp.							+																			
<i>Dodonaea coriacea</i>																										
<i>Dolichandrone heterophylla</i>						1%																				
<i>Drosera burmanni</i>																										
<i>Drosera indica</i>											+															
<i>Dysphania kalpari</i>																										
<i>Dysphania saxatilis</i>	+			+	+		+		+	+	+	+	+					+		+			+			
<i>Ehretia saligna</i> var. <i>saligna</i>																										
<i>Enneapogon caerulescens</i>																										
<i>Enneapogon</i> sp.																										
<i>Eragrostis cumingii</i>							+									+										
* <i>Eragrostis curvula</i>																										
<i>Eragrostis dielsii</i>																										
<i>Eragrostis eriopoda</i>		+	+			+															+					
<i>Eragrostis falcata</i>																										
<i>Eragrostis peracilis</i>																										
<i>Eragrostis speciosa</i>																										
<i>Eragrostis tenellula</i>																										
<i>Eriachne aristidea</i>	+			+			+			+	1%		+		+									+		
<i>Eriachne benthamii</i>																										
<i>Eriachne ciliata</i>																			1%							
<i>Eriachne glauca</i> var. <i>glauca</i>																										
<i>Eriachne helmsii</i>							+																			
<i>Eriachne mucronata</i>		6%	+	+	+	+																				
<i>Eriachne pulchella</i>																										
<i>Eriachne pulchella</i> subsp. <i>dominii</i>																		(+)	(+)	1%	15%		+	+		
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>				+																						
<i>Eucalyptus victrix</i>																										
<i>Eulalia fulva</i>															40%											
<i>Euphorbia alsiniflora</i>			+	+	+	+	+	+		+	+		+									+				
<i>Euphorbia australis</i>		+	+			+		+		+			+		+	+	+	+			+			+		
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>																										
<i>Evolvulus alsinoides</i> var. <i>decumbens</i>																										
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>			+				+			+			+		+											
<i>Fimbristylis dichotoma</i>										+					+											
<i>Fimbristylis littoralis</i>										+			+		+											
<i>Fimbristylis oxystachya</i>				(+)																						
<i>Fimbristylis rara</i>																										
<i>Fimbristylis simulans</i>																										
* <i>Flaevia trinervia</i>																										
<i>Flueggea virosa</i> subsp. <i>melanthesoides</i>																										
<i>Frankenia ambita</i>																										
<i>Glycine canescens</i>																										
<i>Gomphrena cunninghamii</i>																										
<i>Gomphrena leptoclada</i> subsp. <i>leptoclada</i>																										
<i>Gomphrena pusilla</i>																										
<i>Gomphrena sordida</i>																										
<i>Goodenia farrestii</i>						+						+														
<i>Goodenia lamprosperma</i>				+			+																			
<i>Goodenia microptera</i>	+	+	+									+	+	+	+	+	+	+	+	+			+			
<i>Goodenia stobbsiana</i>																										
<i>Goodenia triadiophila</i>			+				+			+			+	+	+											
<i>Gossypium australe</i>		+										+	+													
<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>						+						+														
<i>Grevillea wickhamii</i> subsp. <i>hispidula</i>																										
<i>Hakea lorea</i> subsp. <i>lorea</i>									+				+													+
<i>Heliotropium cunninghamii</i>									+				+													
<i>Heliotropium inexplicitum</i>																										
<i>Heliotropium muticum</i>		+	+																							
<i>Heliotropium ovalifolium</i>																										
<i>Heliotropium tenuifolium</i>																										
<i>Hibiscus austrinus</i> var. <i>austrinus</i>																										
<i>Hibiscus brachychlaenus</i>																										
<i>Hibiscus burtonii</i>																										
<i>Hibiscus leptocladius</i>	+		+										+													+
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>						+																				
<i>Hybanthus aurantiacus</i>	+	+	+	+	+		+		+	+	+	+	+	+		1%	+	+								+
<i>Indigofera colutea</i>																										
<i>Indigofera hirsuta</i>																										
<i>Indigofera linifolia</i>						+						+	+													
<i>Indigofera monophylla</i>	+	+	+		+	+		+		+		+	+	+	+	+	+	+	+							+
* <i>Indigofera oblongifolia</i>																										
<i>Indigofera</i> sp.																										
<i>Indigofera trita</i>																										
<i>Ipomoea coptica</i>																										
<i>Ipomoea muelleri</i>															+											
<i>Ipomoea polymorpha</i>													+													
<i>Isotropis atropurpurea</i>	+																									
<i>Kennedia prorepens</i>											+															+
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>																										
<i>Leptosema anomalum</i>																										
<i>Maireana tomentosa</i>																										
<i>Marsilea hirsuta</i>							+																			
<i>Marsilea mutica</i>															+											
<i>Melaleuca argentea</i>																										
<i>Melaleuca glomerata</i>																										

PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT  
 APPENDIX G  
 FLORA MATRIX

Species	Sandplain R														Sandplain S										
	PI145	PI030	PI034	PI074	PI075	PI076	PI077	PI078	PI082	PI088	PI089	PI090	PI091	PI141	PI149	PI123	PI125	PI139	PI140	PI142	PIR151	PI152	PI160	PIRE01	PIHAR01
<i>Melaleuca lasiandra</i>																									
<i>Melaleuca linophylla</i>																									
<i>Melthania oblongifolia</i>																									
<i>Mimulus gracilis</i>																									
<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>																									
<i>Mitrasacme connata</i>		+									+														
<i>Mollugo molluginea</i>	+	+	+	+	+	+		+	+	+	+	+	+	+		+	+	+	+	+		+	+		
<i>Muellerolimon salicorniaceum</i>																									
<i>Murdannia graminea</i>																									
<i>Myoporum montanum</i>																									
<i>Neobassia astrocarpa</i>																									
<i>Neptunia dimorphantha</i>																									
<i>Opeculina aequisejala</i>																						+			
<i>Owenia reticulata</i>																									
<i>Panicum decompositum</i>																									
<i>Paraneurochne muelleri</i>		+	+						+		+	+													
<i>Paspalidium clementii</i>																									
<i>Paspalidium tabulatum</i>					+						+														
<i>Perotis rara</i>																									
<i>Phyllanthus erwinii</i>																									
<i>Phyllanthus maderaspatensis</i>																									
<i>*Physalis angulata</i>																									
<i>Pimelea ammocharis</i>					+							+													
<i>Pluchea ferdinandi-muelleri</i>																									
<i>Pluchea rubelliflora</i>																									
<i>Pluchea tetranthera</i>		+	+		+	+																			+
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>		+			+	+																			+
<i>Polycarpaea holtzei</i>		+			+	+																			+
<i>Polycarpaea longiflora</i>																									
<i>Polygala isingii</i>																									
<i>Polygala linariifolia</i>																									
<i>Polymeria ambigua</i>	+																								
<i>Polymeria calycina</i>	+																								
<i>*Portulaca oleracea</i>					+																				
<i>Portulaca pilosa</i>		+	+		+	+																			+
<i>Pterocaulon serrulatum</i>																									
<i>Pterocaulon sphacelatum</i>																									
<i>Pterocaulon sphaeranthoides</i>																									
<i>Ptilotus arthroslasius</i>																									
<i>Ptilotus astralsiasius</i>		+	+																						
<i>Ptilotus auriculifolius</i>																									
<i>Ptilotus axillaris</i>																									
<i>Ptilotus colostachyus</i>																									
<i>Ptilotus exaltatus</i>																									
<i>Ptilotus fusiformis</i>	+	+			+	+																			
<i>Ptilotus murrayi</i>																									
<i>Ptilotus polystachyus</i>		+	+		+	+																			
<i>Rhagodia eremaea</i>																									
<i>Rhizophora stylosa</i>																									
<i>Rhynchosia minima</i>																									
<i>Rotula diandra</i>																									
<i>Salsola tragus</i> subsp. <i>grandiflora</i>																									
<i>Santalum lanceolatum</i>																									
<i>Sarcostemma viminalis</i> subsp. <i>australe</i>																									
<i>Scaevola amblyanthera</i> var. <i>centralis</i>																									
<i>Scaevola browniana</i> subsp. <i>browniana</i>																									
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>																									
<i>Scaevola sericophylla</i>																									
<i>Scaevola spinescens</i>																									
<i>Schizachyrium fragile</i>					+	+	+																		
<i>Schoenoplectus laevis</i>																									
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>																									
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>glaucofolia</i>																									
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x subsp. <i>helmsii</i>																									
<i>Senna curvistyla</i>																									
<i>Senna glaucifolia</i>																									
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>																									
<i>Senna glutinosa</i> subsp. x <i>luerssenii</i>																									
<i>Senna notabilis</i>	+	+	+	+																					
<i>Senna venusta</i>																									
<i>Sesbania cannabina</i>																									
<i>Setaria dielsii</i>																									
<i>Sida clementii</i>		+																							
<i>Sida echinocarpa</i>																									
<i>Sida fibulifera</i>																									
<i>Sida rahlenae</i> subsp. <i>rahlenae</i>					+	+																			
<i>Sida</i> sp.																									
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)																									
<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)																									
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	+	+	+	+																					
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)																									

PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT  
 APPENDIX G  
 FLORA MATRIX

Species	Sandplain R														Sandplain S										
	PI145	PI030	PI034	PI074	PI075	PI076	PI077	PI078	PI082	PI088	PI089	PI090	PI091	PI141	PI149	PI123	PI125	PI139	PI140	PI142	PIR151	PI152	PI160	PIRE01	PIHAR01
<i>Solanum diversiflorum</i>				+									+			+				+			+		
<i>Solanum ellipticum</i>			+	+		+										+							+		
<i>Solanum lasiophyllum</i>									+		+	+											+		
<i>Sorghum plumosum</i>																						+			
<i>Sorghum</i> sp.																									
<i>Spinifex longifolius</i>																									
<i>Sporobolus actinocladius</i>																									
<i>Sporobolus australasicus</i>	+			+			+							+			+	+	+				+	+	1%
<i>Sporobolus virginicus</i>																									
<i>Stackhousia intermedia</i>																									
<i>Stackhousia muricata</i>																									
<i>Stemodia grossa</i>																									
<i>Stemodia lathraea</i>															+										
<i>Stemodia viscosa</i>																									
<i>Streptoglossa decurrens</i>																									
<i>Striga squamigera</i>																									
<i>Stylidium desertorum</i>																									
* <i>Stylosanthes hamata</i>															+										
<i>Swainsona formosa</i>																						+			
<i>Swainsona kingii</i>																									
<i>Swainsona pterostylis</i>																									
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>																									
<i>Tecticornia auriculata</i>																									
<i>Tecticornia halocnemoides</i> subsp. <i>tenuis</i>																									
<i>Tecticornia indica</i> subsp. <i>bidens</i>																									
<i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)																									
<i>Tephrosia leptoclada</i>																									
<i>Tephrosia rosea</i>																									
<i>Tephrosia rosea</i> var. <i>clementii</i>																									
<i>Tephrosia rosea</i> var. <i>glabrior</i>																									
<i>Tephrosia rosea</i> var. <i>rosea</i>																									
<i>Tephrosia rosea</i> var. <i>venulosa</i>																									
<i>Tephrosia simplicifolia</i>																									
<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)																									
<i>Tephrosia supina</i>																									
<i>Tephrosia uniovulata</i>																									
<i>Threlkeldia diffusa</i>																									
<i>Tinospora smilacina</i>																									
<i>Trachymene oleracea</i> subsp. <i>oleracea</i>																									
<i>Trianthema glosostigma</i>																									
<i>Trianthema pilosa</i>																									
<i>Trianthema triquetra</i>																									
<i>Tribulopsis angustifolia</i>																									
<i>Tribulus hirsutus</i>																									
<i>Tribulus macrocarpus</i>																									
<i>Tribulus occidentalis</i>																									
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>																									
<i>Tricoryne corynothecoides</i>																									
<i>Triodia epactia</i>	4%	2%	55%	20%		5%	30%	60%	+	20%	10%		4%	40%	20%	10%	8%	5%	5%	5%	+	+	18%	5%	5%
<i>Triodia lanigera</i>	4%		2%	28%	20%	15%				20%							6%	3%					5%	2%	
<i>Triodia longiceps</i>																									
<i>Triodia schinzii</i>																									
<i>Triodia secunda</i>																									
<i>Triumfetta chaetocarpa</i>																									
<i>Triumfetta clementii</i>																									
<i>Triumfetta ramosa</i>																									
<i>Urochloa holosericea</i> subsp. <i>velutina</i>																									
* <i>Vaccaria hispanica</i>																									
<i>Vigna lanceolata</i> var. <i>filiformis</i>																									
<i>Vigna lanceolata</i> var. <i>lanceolata</i>																									
<i>Wahlenbergia tumidiflora</i>																									
<i>Waltheria indica</i>																									
<i>Whiteochloa airoides</i>																									
<i>Xerochloa laniflora</i>																									
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	+	+	+	+	+		+	+	+	+	+	+	+			+	+	+	+		+	+		
<i>Zornia muelleriana</i>																									



# **APPENDIX H**

## **FLORA INVENTORY – ALL SURVEYS**

## PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

## APPENDIX H

## FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Mala 2010	Shepherd 2009	Woodman 2011
Acanthaceae	<i>Avicennia marina</i>		√		√		√	√	√								√		√					√
Aizoaceae	<i>Sesuvium portulacastrum</i>							√																
Aizoaceae	<i>Trianthema glossostigma</i>		√				√																	
Aizoaceae	<i>Trianthema oxycalyptra</i> var. <i>oxycalyptra</i>							√																
Aizoaceae	<i>Trianthema pilosa</i>		√	√				√						√			√							√
Aizoaceae	<i>Trianthema triquetra</i>		√			√		√																√
Aizoaceae	<i>Trianthema turgidifolia</i>			√	√			√	√	√			√			√	√		√					√
Amaranthaceae	<i>Achyranthes asper</i>		√					√																
Amaranthaceae	* <i>Aerva javanica</i>		√	√	√	√		√	√	√			√	√	√	√		√	√					√
Amaranthaceae	<i>Alternanthera angustifolia</i>		√				√	√		√						√								
Amaranthaceae	<i>Alternanthera nana</i>		√					√		√														√
Amaranthaceae	<i>Amaranthus clementii</i>																				√			
Amaranthaceae	<i>Amaranthus mitchellii</i>							√																
Amaranthaceae	<i>Amaranthus</i> sp. indet.							√																
Amaranthaceae	<i>Amaranthus undulatus</i>		√	√				√																√
Amaranthaceae	<i>Gomphrena affinis</i> subsp. <i>pilbarensis</i>							√																
Amaranthaceae	<i>Gomphrena canescens</i>							√																
Amaranthaceae	<i>Gomphrena canescens</i> subsp. <i>canescens</i>					√				√			√							√				√
Amaranthaceae	<i>Gomphrena cunninghamii</i>			√				√																
Amaranthaceae	<i>Gomphrena leptoclada</i> subsp. <i>leptoclada</i>		√					√															√	
Amaranthaceae	<i>Gomphrena leptophylla</i>	P3																						√
Amaranthaceae	<i>Gomphrena pusilla</i>	P2	√																					√
Amaranthaceae	<i>Gomphrena sordida</i>		√					√																√
Amaranthaceae	<i>Gomphrena</i> sp. indet.							√																√
Amaranthaceae	<i>Gomphrena tenella</i>																							√
Amaranthaceae	<i>Hemichroa diandra</i>					√		√	√								√		√					√
Amaranthaceae	<i>Ptilotus aervooides</i>												√											
Amaranthaceae	<i>Ptilotus arthrolasius</i>		√					√		√				√										√
Amaranthaceae	<i>Ptilotus astraloides</i>		√	√										√	√	√		√	√				√	
Amaranthaceae	<i>Ptilotus auriculifolius</i>		√	√																				
Amaranthaceae	<i>Ptilotus axillaris</i>		√	√				√							√				√					√
Amaranthaceae	<i>Ptilotus calostachyus</i>		√	√				√		√						√			√					√
Amaranthaceae	<i>Ptilotus exaltatus</i>		√	√																				
Amaranthaceae	<i>Ptilotus exaltatus</i> var. <i>exaltatus</i>							√		√						√	√			√				√
Amaranthaceae	<i>Ptilotus fusiformis</i>		√	√				√		√				√			√						√	√
Amaranthaceae	<i>Ptilotus gaudichaudii</i> var. <i>gaudichaudii</i>							√					√											√
Amaranthaceae	<i>Ptilotus gomphrenoides</i>																							√
Amaranthaceae	<i>Ptilotus incanus</i>																							√
Amaranthaceae	<i>Ptilotus murrayi</i>		√																					
Amaranthaceae	<i>Ptilotus petiolatus</i>																							√
Amaranthaceae	<i>Ptilotus polystachyus</i>		√	√		√	√	√	√	√				√	√	√	√	√	√					√
Apocynaceae	<i>Carissa lanceolata</i>		√	√				√		√				√	√	√								√
Apocynaceae	<i>Cynanchum floribundum</i>		√	√				√		√														√
Apocynaceae	<i>Cynanchum</i> sp.							√		√														
Apocynaceae	<i>Gymnanthera cunninghamii</i>	P3						√		√														
Apocynaceae	<i>Sarcostemma viminale</i> subsp. <i>australe</i>		√			√		√	√									√	√					
Araliaceae	<i>Trachymene oleracea</i> subsp. <i>oleracea</i>		√	√																				√
Arecaceae	* <i>Washingtonia filifera</i>					√																		
Asparagaceae	* <i>Yucca aloifolia</i>																							
Asphodelaceae	* <i>Aloe vera</i>																				√			
Asteraceae	<i>Blumea tenella</i>		√																		√			
Asteraceae	<i>Centipeda minima</i> subsp. <i>macrocephala</i>							√		√														√
Asteraceae	* <i>Flaveria trinervia</i>		√			√		√																
Asteraceae	<i>Peripleura arida</i>			√																				
Asteraceae	<i>Pluchea dentex</i>																							√
Asteraceae	<i>Pluchea ferdinandi-muelleri</i>		√			√		√		√				√				√					√	√
Asteraceae	<i>Pluchea rubelliflora</i>		√	√				√	√	√													√	√
Asteraceae	<i>Pluchea</i> sp. B Kimberley Flora (K.F. Kenneally 9526A)							√		√				√										√
Asteraceae	<i>Pluchea tetranthera</i>		√	√		√	√	√	√	√				√	√	√	√	√	√	√				√
Asteraceae	<i>Pterocaulon ? serrulatum</i>		√																					
Asteraceae	<i>Pterocaulon serrulatum</i>		√					√		√							√							
Asteraceae	<i>Pterocaulon</i> sp. A Kimberley Flora (B.J. Carter 599)	P3						√		√			√											
Asteraceae	<i>Pterocaulon</i> sp. indet.							√																
Asteraceae	<i>Pterocaulon sphacelatum</i>		√	√				√		√														√
Asteraceae	<i>Pterocaulon sphaeranthis</i>		√	√		√	√	√	√	√			√	√										

## PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

## APPENDIX H

## FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Mala 2010	Shepherd 2009	Woodman 2011
Asteraceae	<i>Streptoglossa bubaki</i>			√				√																
Asteraceae	<i>Streptoglossa decurrens</i>		√	√				√		√							√	√						√
Asteraceae	<i>Streptoglossa odorc</i>							√									√	√						
Bignoniaceae	<i>Dolichandrone heterophylla</i>		√	√				√		√				√			√	√					√	
Boraginaceae	<i>Ehretia saligna</i> var. <i>saligna</i>		√			√		√		√													√	
Boraginaceae	<i>Heliotropium chrysocarpum</i>							√								√								
Boraginaceae	<i>Heliotropium canacarpum</i>			√																				
Boraginaceae	<i>Heliotropium crispatum</i>		√	√																			√	
Boraginaceae	<i>Heliotropium cunninghamii</i>		√	√				√								√		√						
Boraginaceae	<i>Heliotropium foliatum</i>							√															√	
Boraginaceae	<i>Heliotropium heteranthum</i>			√																				
Boraginaceae	<i>Heliotropium inexplicitum</i>		√																					
Boraginaceae	<i>Heliotropium muticum</i>	P1	√					√				√											√	
Boraginaceae	<i>Heliotropium ovalifolium</i>		√											√									√	
Boraginaceae	<i>Heliotropium pachyphyllum</i>			√																			√	
Boraginaceae	<i>Heliotropium</i> sp. indet.							√																
Boraginaceae	<i>Heliotropium tenuifolium</i>		√	√																				
Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>grandiflorum</i>							√																
Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>		√	√																				
Byblidaceae	<i>Byblis filifolia</i>					√								√										
Byblidaceae	<i>Byblis liniflora</i>							√																√
Cactaceae	* <i>Opuntia stricta</i>																				√			
Campanulaceae	<i>Wahlenbergia tumidifrutct</i>		√	√				√														√		
Caryophyllaceae	<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>		√	√				√															√	√
Caryophyllaceae	<i>Polycarpaea holtzei</i>		√																					
Caryophyllaceae	<i>Polycarpaea longiflora</i>		√					√																
Caryophyllaceae	* <i>Vaccaria hispanica</i>		√																					
Casuarinaceae	<i>Casuarina obesc</i>																				√			
Celastraceae	<i>Stockhousia intermedia</i>		√					√																√
Celastraceae	<i>Stockhousia muricata</i>		√																					
Centrolepidaceae	<i>Centrolepis banksii</i>																							√
Chenopodiaceae	<i>Atriplex codonacarpa</i>		√	√																				
Chenopodiaceae	<i>Atriplex</i> sp. indet.																							√
Chenopodiaceae	<i>Dysphania kalpari</i>		√							√													√	
Chenopodiaceae	<i>Dysphania plantaginella</i>			√				√																√
Chenopodiaceae	<i>Dysphania rhadinostachya</i> subsp. <i>rhadinostachya</i>			√				√		√				√					√			√		
Chenopodiaceae	<i>Dysphania saxatilis</i>		√																					
Chenopodiaceae	<i>Dysphania</i> sp. indet.																							√
Chenopodiaceae	<i>Dysphania sphaerospermc</i>							√																
Chenopodiaceae	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>			√		√	√	√		√			√											√
Chenopodiaceae	<i>Maireana</i> sp. indet.							√																
Chenopodiaceae	<i>Maireana tomentosa</i>		√																					
Chenopodiaceae	<i>Neobassia astracarp</i>		√	√	√	√	√	√		√			√				√						√	
Chenopodiaceae	<i>Rhagodia eremac</i>		√					√													√			√
Chenopodiaceae	<i>Salsola australis</i>																					√		√
Chenopodiaceae	<i>Salsola tragus</i> subsp. <i>grandiflora</i>		√	√		√		√		√			√	√			√		√	√				√
Chenopodiaceae	<i>Sclerolaena densiflora</i>																√		√					
Chenopodiaceae	<i>Sclerolaena hostilis</i>							√																
Chenopodiaceae	<i>Sclerolaena</i> sp. indet.							√																
Chenopodiaceae	<i>Suaeda arbusculoides</i>					√		√	√								√							√
Chenopodiaceae	<i>Tecticornia auriculata</i>		√					√											√				√	
Chenopodiaceae	<i>Tecticornia halocnemoides</i>							√															√	
Chenopodiaceae	<i>Tecticornia halocnemoides</i> subsp. <i>catenulata</i>							√	√															
Chenopodiaceae	<i>Tecticornia halocnemoides</i> subsp. <i>tenuis</i>		√	√	√	√		√	√	√			√											√
Chenopodiaceae	<i>Tecticornia indica</i> subsp. <i>bidens</i>		√																					√
Chenopodiaceae	<i>Tecticornia indica</i> subsp. <i>leiostachya</i>			√	√	√	√	√	√	√			√			√	√	√	√					√
Chenopodiaceae	<i>Tecticornia pergranulata</i>																√							
Chenopodiaceae	<i>Tecticornia pergranulata</i> subsp. <i>elongata</i>			√																				√
Chenopodiaceae	<i>Tecticornia pruinosa</i>									√														
Chenopodiaceae	<i>Tecticornia pterygospermc</i> subsp. <i>denticulata</i>							√												√				
Chenopodiaceae	<i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English)		√																					
Chenopodiaceae	<i>Tecticornia</i> sp. indet.							√									√	√	√				√	√
Chenopodiaceae	<i>Threkeldia diffusa</i>		√					√												√				
Cleomeaceae	<i>Cleome uncifera</i> subsp. <i>uncifera</i>							√						√									√	
Cleomeaceae	<i>Cleome viscosa</i>		√	√				√		√				√		√	√		√	√		√		√

## PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

## APPENDIX H

## FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Maia 2010	Shepherd 2009	Woodman 2011
Commelinaceae	<i>Commelina ensifolia</i>		√	√	√	√	√	√	√								√	√						√
Commelinaceae	<i>Murdannia graminea</i>		√					√																√
Convolvulaceae	* <i>Merremia dissecta</i>				√			√																
Convolvulaceae	<i>Bonamia alatisemina</i>		√																					
Convolvulaceae	<i>Bonamia linearis</i>		√	√			√	√		√			√	√	√	√	√					√		√
Convolvulaceae	<i>Bonamia media</i>							√																√
Convolvulaceae	<i>Bonamia media</i> var. <i>villosa</i>		√			√		√	√	√								√				√		√
Convolvulaceae	<i>Bonamia pannosa</i>							√																
Convolvulaceae	<i>Bonamia rosea</i>		√	√		√		√		√				√	√		√	√	√			√		√
Convolvulaceae	<i>Bonamia</i> sp. indet.							√																
Convolvulaceae	<i>Convolvulus</i> ? <i>clementii</i>			√																				
Convolvulaceae	<i>Davenportia davenportii</i>							√																
Convolvulaceae	<i>Evolvulus alsinoides</i> var. <i>decumbens</i>		√		√	√		√		√				√										
Convolvulaceae	<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>		√	√	√	√		√		√				√				√				√		√
Convolvulaceae	<i>Ipomoea coptica</i>		√					√																
Convolvulaceae	<i>Ipomoea costata</i>							√									√							
Convolvulaceae	<i>Ipomoea muelleri</i>		√	√	√	√	√	√		√			√	√	√	√	√	√				√		√
Convolvulaceae	<i>Ipomoea pes-caprae</i>				√	√		√	√								√			√		√		√
Convolvulaceae	<i>Ipomoea polymorpha</i>		√	√				√																√
Convolvulaceae	<i>Operculina aequisejala</i>		√																					
Convolvulaceae	<i>Polymeria ambigua</i>		√	√		√								√	√							√		√
Convolvulaceae	<i>Polymeria calycina</i>		√					√		√														
Convolvulaceae	<i>Polymeria</i> sp. indet.							√		√														
Cucurbitaceae	* <i>Citrullus colocynthis</i>		√					√		√				√		√						√		
Cucurbitaceae	<i>Cucumis maderaspatanus</i>			√	√	√	√	√	√	√							√			√		√		√
Cucurbitaceae	* <i>Cucumis melo</i> subsp. <i>agrestis</i>		√					√																
Cyperaceae	<i>Bulbostylis barbata</i>		√	√		√		√						√										√
Cyperaceae	<i>Bulbostylis burbridgeae</i>	P4	√			√																		
Cyperaceae	<i>Cyperus</i> ? <i>carinatus</i>																							√
Cyperaceae	<i>Cyperus blakeanus</i>			√				√		√			√	√	√	√								√
Cyperaceae	<i>Cyperus bulbosus</i>				√	√																		√
Cyperaceae	<i>Cyperus castaneus</i> var. <i>brevimucronatus</i>																							√
Cyperaceae	<i>Cyperus concinnus</i>			√				√														√		
Cyperaceae	<i>Cyperus cunninghamii</i> subsp. <i>cunninghamii</i>		√		√	√												√						
Cyperaceae	<i>Cyperus dactyloides</i>		√																					
Cyperaceae	<i>Cyperus difformis</i>		√																					
Cyperaceae	<i>Cyperus iria</i>							√																√
Cyperaceae	<i>Cyperus ixiocarpus</i>		√					√																
Cyperaceae	<i>Cyperus pulchellus</i>							√																
Cyperaceae	<i>Cyperus rigidellus</i>		√																					
Cyperaceae	<i>Cyperus</i> sp. indet.																							
Cyperaceae	<i>Cyperus squarrosus</i>		√	√		√		√																√
Cyperaceae	<i>Cyperus vaginatus</i>		√	√																				
Cyperaceae	<i>Fimbristylis dichotoma</i>		√	√				√												√		√		√
Cyperaceae	<i>Fimbristylis littoralis</i>		√																					
Cyperaceae	<i>Fimbristylis microcarya</i>				√	√		√																
Cyperaceae	<i>Fimbristylis neilsonii</i>																							√
Cyperaceae	<i>Fimbristylis oxystachya</i>		√	√				√																√
Cyperaceae	<i>Fimbristylis rara</i>		√					√																√
Cyperaceae	<i>Fimbristylis simulans</i>		√					√																
Cyperaceae	<i>Fimbristylis</i> sp. indet.							√																
Cyperaceae	<i>Lipocarpha microcephala</i>							√																√
Cyperaceae	<i>Schoenaplectus laevis</i>		√																					√
Cyperaceae	<i>Schoenaplectus lateriflorus</i>							√																
Droseraceae	<i>Drosera burmanni</i>		√																					
Droseraceae	<i>Drosera indica</i>		√					√																
Elatinaceae	<i>Bergia ammannioides</i>																							√
Elatinaceae	<i>Bergia henschallii</i>							√																√
Elatinaceae	<i>Bergia pedicularis</i>		√					√																√
Elatinaceae	<i>Bergia</i> ? <i>pusilla</i>		√																					
Elatinaceae	<i>Bergia trimera</i>							√		√														
Euphorbiaceae	<i>Adriana tomentosa</i>		√																					
Euphorbiaceae	<i>Adriana tomentosa</i> var. <i>tomentosa</i>		√	√				√													√			√
Euphorbiaceae	<i>Euphorbia alsiniflora</i>		√	√				√		√														√
Euphorbiaceae	<i>Euphorbia australis</i>		√		√	√		√		√				√	√	√						√		√

## PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

## APPENDIX H

## FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Mala 2010	Shepherd 2009	Woodman 2011
Euphorbiaceae	<i>Euphorbia</i> sp. indet.							√																
Euphorbiaceae	<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>		√	√		√		√		√								√		√				√
Euphorbiaceae	<i>Euphorbia wheeleri</i>														√		√							
Fabaceae	<i>Acacia ampliceps</i>		√	√			√	√	√	√				√			√	√	√	√			√	
Fabaceae	<i>Acacia ancistrocarpa</i>		√		√	√		√		√				√		√	√						√	
Fabaceae	<i>Acacia ancistrocarpa</i> x <i>stellaticeps</i>							√		√					√	√								
Fabaceae	<i>Acacia ancistrocarpa</i> x <i>tumida</i> var. <i>pilbarensis</i>							√																
Fabaceae	<i>Acacia arida</i>																						√	
Fabaceae	<i>Acacia bivenosa</i>		√	√	√			√		√				√				√		√			√	√
Fabaceae	<i>Acacia coleii</i>		√																					
Fabaceae	<i>Acacia coleii</i> var. <i>coleii</i>		√	√	√	√	√	√	√	√			√	√	√	√	√	√	√			√		√
Fabaceae	<i>Acacia coriacea</i> subsp. <i>coriacea</i>							√		√				√	√	√	√							
Fabaceae	<i>Acacia dictyophleba</i>		√																					
Fabaceae	<i>Acacia elachantha</i>					√																		
Fabaceae	<i>Acacia inaequilatera</i>		√	√	√	√		√		√				√									√	
Fabaceae	<i>Acacia maitlandii</i>		√					√															√	
Fabaceae	<i>Acacia orthocarpa</i>		√	√																			√	
Fabaceae	<i>Acacia pyrifolia</i>		√					√	√	√									√		√			
Fabaceae	<i>Acacia sabulosa</i>							√																
Fabaceae	<i>Acacia sericophylla</i>		√					√		√				√										√
Fabaceae	<i>Acacia</i> sp. indet.							√																
Fabaceae	<i>Acacia sphaerostachya</i>		√																				√	
Fabaceae	<i>Acacia stellaticeps</i>		√	√	√	√		√	√	√				√	√	√	√	√	√	√		√	√	√
Fabaceae	<i>Acacia synchronica</i>		√					√																
Fabaceae	<i>Acacia trachycarpa</i>		√	√	√	√		√	√	√				√				√				√		
Fabaceae	<i>Acacia trachycarpa</i> x <i>tumida</i>		√																					
Fabaceae	<i>Acacia trachycarpa</i> x <i>tumida</i> var. <i>pilbarensis</i>							√							√	√						√		
Fabaceae	<i>Acacia trudgeniana</i>		√					√																
Fabaceae	<i>Acacia tumida</i> var. <i>pilbarensis</i>		√					√	√	√				√	√	√	√					√		√
Fabaceae	<i>Acacia tumida</i> var. <i>tumida</i>		√					√		√								√						
Fabaceae	<i>Acacia victoriae</i>		√																					
Fabaceae	<i>Aeschynomene indica</i>		√					√																
Fabaceae	<i>Albizia lebbekii</i>																							
Fabaceae	<i>Alysicarpus muelleri</i>							√																
Fabaceae	<i>Cajanus cinereus</i>		√		√	√		√		√				√				√						
Fabaceae	<i>Cajanus marmoratus</i>							√																√
Fabaceae	<i>Canavalia rosea</i>									√														
Fabaceae	* <i>Clitoria ternatea</i>			√																				
Fabaceae	<i>Crotalaria cunninghamii</i>			√		√		√														√	√	√
Fabaceae	<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>		√																					
Fabaceae	<i>Crotalaria medicaginea</i>							√															√	
Fabaceae	<i>Crotalaria medicaginea</i> var. <i>neglecta</i>		√	√																				
Fabaceae	<i>Crotalaria ramosissima</i>		√	√				√	√	√				√		√								√
Fabaceae	<i>Cullen cinereum</i>		√					√																
Fabaceae	<i>Cullen graveolens</i>							√																
Fabaceae	<i>Cullen lachnostachys</i>							√															√	
Fabaceae	<i>Cullen leucanthum</i>			√																				
Fabaceae	<i>Cullen martinii</i>							√		√				√										
Fabaceae	<i>Cullen pogonocarpum</i>							√		√														
Fabaceae	<i>Cullen stipulaceum</i>							√		√				√										
Fabaceae	<i>Desmodium filiforme</i>		√	√				√															√	√
Fabaceae	<i>Desmodium muelleri</i>							√																
Fabaceae	<i>Glycine canescens</i>		√					√																
Fabaceae	<i>Glycine</i> sp. indet.									√														
Fabaceae	<i>Glycine tomentella</i>					√		√																√
Fabaceae	<i>Indigofera colutea</i>		√	√		√		√	√					√								√	√	√
Fabaceae	<i>Indigofera hirsuta</i>		√	√				√														√		
Fabaceae	<i>Indigofera linifolia</i>		√	√				√	√					√										√
Fabaceae	<i>Indigofera linnaei</i>							√	√	√				√	√									
Fabaceae	<i>Indigofera monophylla</i>		√	√		√		√	√	√				√	√	√		√				√	√	√
Fabaceae	* <i>Indigofera oblongifolia</i>		√	√																				
Fabaceae	* <i>Indigofera sessiliflora</i>			√																		√		
Fabaceae	<i>Indigofera</i> sp.		√																					
Fabaceae	<i>Indigofera trita</i>		√	√		√		√																√
Fabaceae	<i>Isotropis atropurpurea</i>		√					√														√		



## PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

## APPENDIX H

## FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Mala 2010	Shepherd 2009	Woodman 2011
Fabaceae	<i>Kennedia prorepens</i>		√					√						√	√	√								
Fabaceae	<i>Leptosema anomalum</i>		√					√								√								
Fabaceae	<i>Lotus cruentus</i>			√																				
Fabaceae	<i>Neptunia dimorphantha</i>		√	√		√		√		√													√	
Fabaceae	<i>Neptunia monosperma</i>							√																
Fabaceae	<i>Petalostylis labicheoides</i>								√					√			√							
Fabaceae	<i>Rhynchosia minima</i>		√	√	√	√		√	√	√			√				√				√			√
Fabaceae	<i>Senna artemisioides</i> subsp. <i>oligophylla</i>			√											√							√		
Fabaceae	<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>Senna glaucifolia</i>		√																					
Fabaceae	<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>Senna glutinosa</i>																					√		
Fabaceae	<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>Senna</i> subsp. <i>helmsii</i>		√	√				√		√			√				√							
Fabaceae	<i>Senna curvistyla</i>		√																					
Fabaceae	<i>Senna glaucifolia</i>		√																					
Fabaceae	<i>Senna glutinosa</i>			√																				
Fabaceae	<i>Senna glutinosa</i> subsp. <i>glutinosa</i>		√					√															√	√
Fabaceae	<i>Senna glutinosa</i> subsp. <i>pruinosa</i>							√														√		
Fabaceae	<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>		√					√																
Fabaceae	<i>Senna helmsii</i> x (hybrid)			√																				
Fabaceae	<i>Senna notabilis</i>		√	√		√		√		√			√	√	√	√	√					√		√
Fabaceae	<i>Senna symonii</i>							√														√		
Fabaceae	<i>Senna venusta</i>		√	√				√						√								√		
Fabaceae	<i>Sesbania cannabina</i>		√	√	√	√	√	√		√			√	√		√	√	√				√		√
Fabaceae	* <i>Stylosanthes hamata</i>		√		√	√		√		√			√	√			√	√				√		
Fabaceae	<i>Swainsona formosa</i>		√																					
Fabaceae	<i>Swainsona kingii</i>		√	√																				
Fabaceae	<i>Swainsona pterostylis</i>		√					√																
Fabaceae	<i>Swainsona stenosperma</i>																							√
Fabaceae	<i>Tephrosia</i> aff. <i>bidwillii</i>			√	√	√																		
Fabaceae	<i>Tephrosia densa</i>														√	√								
Fabaceae	<i>Tephrosia leptoclada</i>		√	√		√		√		√														√
Fabaceae	<i>Tephrosia phaeosperma</i>					√																		
Fabaceae	<i>Tephrosia rosea</i>		√																					
Fabaceae	<i>Tephrosia rosea</i> var. <i>clementii</i>		√			√																		
Fabaceae	<i>Tephrosia rosea</i> var. <i>glabrior</i>		√																					
Fabaceae	<i>Tephrosia rosea</i> var. <i>rosea</i>		√														√	√						
Fabaceae	<i>Tephrosia rosea</i> var. ? <i>venulosa</i> MS	P1	√																					
Fabaceae	<i>Tephrosia rosea</i> var. <i>venulosa</i> MS	P1	√	√			√	√	√		√	√	√			√	√	√	√	√	√	√	√	√
Fabaceae	<i>Tephrosia simplicifolia</i>		√					√								√								√
Fabaceae	<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)		√	√				√																
Fabaceae	<i>Tephrosia</i> sp. Bungaroo Creek (M.E. Trudgen 11601)		√					√															√	
Fabaceae	<i>Tephrosia</i> sp. indet.							√		√														
Fabaceae	<i>Tephrosia supina</i>		√					√															√	
Fabaceae	<i>Tephrosia uniovulata</i>		√					√																
Fabaceae	* <i>Vachellia farnesiana</i>		√																					
Fabaceae	<i>Vigna lanceolata</i> var. <i>filiformis</i>		√																					
Fabaceae	<i>Vigna lanceolata</i> var. <i>lanceolata</i>		√	√		√		√																
Fabaceae	<i>Vigna</i> sp. indet.									√														
Fabaceae	<i>Zornia chaetophora</i>							√																
Fabaceae	<i>Zornia muelleriana</i>		√																					
Fabaceae	<i>Zornia muelleriana</i> subsp. <i>congesta</i>			√				√						√										
Frankeniaceae	<i>Frankenia ambita</i>		√	√	√	√												√		√				√
Frankeniaceae	<i>Frankenia pauciflora</i>							√	√															
Gentianaceae	<i>Centaurium spicatum</i>							√																
Goodeniaceae	<i>Goodenia armitiana</i>							√																
Goodeniaceae	<i>Goodenia forrestii</i>		√	√	√	√		√					√					√	√			√		
Goodeniaceae	<i>Goodenia lamprosperma</i>		√	√	√			√		√				√								√		√
Goodeniaceae	<i>Goodenia microptera</i>		√	√				√		√			√									√		
Goodeniaceae	<i>Goodenia muelleriana</i>							√														√		
Goodeniaceae	<i>Goodenia nuda</i>	P4						√				√												√
Goodeniaceae	<i>Goodenia</i> sp. indet.							√																
Goodeniaceae	<i>Goodenia stobbsiana</i>		√					√														√		
Goodeniaceae	<i>Goodenia</i> ? <i>triadiophila</i>		√																					
Goodeniaceae	<i>Goodenia triadiophila</i>		√	√																				√
Goodeniaceae	<i>Scaevola amblyanthera</i> var. <i>centralis</i>		√	√				√													√	√		√

## PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

## APPENDIX H

## FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Mala 2010	Shepherd 2009	Woodman 2011	
Goodeniaceae	<i>Scaevola browniana</i> subsp. <i>browniana</i>		√																				√		
Goodeniaceae	<i>Scaevola cunninghamii</i>							√																	
Goodeniaceae	<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>		√					√																	
Goodeniaceae	<i>Scaevola sericophylla</i>		√																						
Goodeniaceae	<i>Scaevola</i> sp. indet.							√																	
Goodeniaceae	<i>Scaevola spinescens</i>		√	√	√	√		√										√						√	
Gyrostemonaceae	<i>Codonocarpus cotinifolius</i>		√	√											√										
Haloragaceae	<i>Haloragis goessii</i>			√																					
Hemerocallidaceae	<i>Corynotheca pungens</i>															√	√							√	
Hemerocallidaceae	<i>Tricoryne corynothecoides</i>		√			√		√						√					√						
Lamiaceae	<i>Clerodendrum floribundum</i>			√												√									
Lamiaceae	<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>		√																						
Lamiaceae	<i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i>							√																	
Lamiaceae	* <i>Vitex trifolia</i> var. <i>subtrisetata</i>																√	√							
Lauraceae	<i>Cassytha capillaris</i>		√	√	√	√	√	√	√				√	√	√	√	√	√	√	√				√	
Lauraceae	<i>Cassytha filiformis</i>			√																					
Loganiaceae	<i>Mitrasacme connata</i>		√					√						√										√	
Loganiaceae	<i>Mitrasacme exserta</i>							√						√											
Lythraceae	<i>Ammannia baccifera</i>							√																	
Lythraceae	<i>Ammannia multiflora</i>		√																						√
Lythraceae	<i>Nesaea muelleri</i>																							√	
Lythraceae	<i>Rotala diandra</i>		√					√																√	
Malvaceae	<i>Abutilon dioicum</i>							√															√		
Malvaceae	<i>Abutilon lepidum</i>		√	√	√		√		√				√				√						√		
Malvaceae	<i>Abutilon otocarpum</i>		√	√	√		√																		
Malvaceae	<i>Abutilon ? pritzelianum</i> MS	P1	√																						
Malvaceae	<i>Abutilon pritzelianum</i> MS	P1	√											√											
Malvaceae	<i>Abutilon</i> sp. indet.							√																	
Malvaceae	<i>Abutilon trudgenii</i> MS		√	√				√															√		
Malvaceae	<i>Corchorus elachocarpus</i>							√								√	√	√					√		√
Malvaceae	<i>Corchorus incanus</i> subsp. <i>incanus</i>			√	√	√		√	√	√			√	√	√	√	√	√	√	√			√		√
Malvaceae	<i>Corchorus laniflorus</i>																						√		
Malvaceae	<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>		√																						
Malvaceae	<i>Corchorus sidoides</i>			√																					
Malvaceae	<i>Corchorus sidoides</i> subsp. <i>sidoides</i>									√															
Malvaceae	<i>Corchorus tectus</i>		√																						
Malvaceae	<i>Corchorus trilocularis</i>																								√
Malvaceae	<i>Gossypium australe</i>		√					√															√		
Malvaceae	<i>Hibiscus austrinus</i> var. <i>austrinus</i>		√	√				√															√		
Malvaceae	<i>Hibiscus brachychlaenus</i>		√					√									√		√						
Malvaceae	<i>Hibiscus burtonii</i>		√																						
Malvaceae	<i>Hibiscus coatesii</i>															√									
Malvaceae	<i>Hibiscus leptocladus</i>		√	√		√		√		√				√				√					√		√
Malvaceae	<i>Hibiscus sturtii</i> var. <i>campylochlams</i>		√					√																	√
Malvaceae	<i>Hibiscus sturtii</i> var. <i>platychlamys</i>		√																						√
Malvaceae	<i>Keraudrenia nephrosperma</i>							√																	
Malvaceae	<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>		√																						
Malvaceae	<i>Lawrenca viridigrisea</i>					√				√			√												
Malvaceae	* <i>Malvastrum americanum</i>			√				√															√		
Malvaceae	<i>Melhantha oblongifolia</i>		√	√	√	√		√																	√
Malvaceae	<i>Sida arenicola</i>							√																	
Malvaceae	<i>Sida cardiophylla</i>			√																					√
Malvaceae	<i>Sida clementii</i>		√	√				√								√		√					√		
Malvaceae	<i>Sida echinocarpa</i>		√																				√		
Malvaceae	<i>Sida ectogama</i>																√								
Malvaceae	<i>Sida fibulifera</i>		√	√	√	√		√	√	√												√		√	
Malvaceae	<i>Sida rohlena</i> subsp. <i>rohlena</i>		√	√			√	√	√	√				√	√		√					√		√	
Malvaceae	<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)		√					√		√						√		√							
Malvaceae	<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)		√																						
Malvaceae	<i>Sida</i> sp. indet.		√			√		√																	√
Malvaceae	<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)		√			√		√		√				√	√	√	√	√				√		√	
Malvaceae	<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)		√																						

## PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

## APPENDIX H

## FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Mala 2010	Shepherd 2009	Woodman 2011	
Malvaceae	<i>Triumfetta chaetocarpa</i>		√	√		√		√		√			√										√		
Malvaceae	<i>Triumfetta clementii</i>		√																						
Malvaceae	<i>Triumfetta ramosa</i>		√	√																			√		
Malvaceae	<i>Waltheria indica</i>		√	√		√		√		√				√									√		√
Marsileaceae	<i>Marsilea drummondii</i>																								√
Marsileaceae	<i>Marsilea hirsuta</i>		√					√															√		
Marsileaceae	<i>Marsilea mutica</i>		√																						
Meliaceae	<i>Owenia reticulata</i>		√					√							√								√		
Menispermaceae	<i>Tinospora smilacina</i>		√	√				√		√					√	√									
Molluginaceae	<i>Glinus lotoides</i>							√															√		
Molluginaceae	<i>Mollugo cerviana</i>													√											
Molluginaceae	<i>Mollugo molluginea</i>		√	√	√	√		√		√			√	√	√	√					√		√		√
Moraceae	<i>Ficus brachypoda</i>							√															√		
Moraceae	<i>Ficus oculata</i>			√																					
Myrtaceae	<i>Corymbia candida</i> subsp. <i>dipsodes</i>		√							√						√							√		
Myrtaceae	<i>Corymbia flavescens</i>							√		√															
Myrtaceae	<i>Corymbia hamersleyana</i>		√	√				√		√						√							√		
Myrtaceae	<i>Corymbia</i> sp. indet.							√																	
Myrtaceae	<i>Corymbia zygomphilla</i>		√					√															√		
Myrtaceae	<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>		√		√				√					√			√				√				
Myrtaceae	<i>Eucalyptus victrix</i>		√	√				√							√			√	√						
Myrtaceae	<i>Eucalyptus xerothermica</i>		√																						
Myrtaceae	<i>Melaleuca argentea</i>		√	√				√							√										
Myrtaceae	<i>Melaleuca glomerata</i>		√	√				√										√							
Myrtaceae	<i>Melaleuca lasiantra</i>		√					√		√									√						
Myrtaceae	<i>Melaleuca linophylla</i>		√											√											
Nyctaginaceae	<i>Boerhavia coccinea</i>		√	√		√		√										√					√		√
Nyctaginaceae	<i>Boerhavia gardneri</i>				√																				√
Nyctaginaceae	<i>Boerhavia reptans</i>				√								√												√
Nyctaginaceae	<i>Boerhavia</i> sp. indet.							√										√							√
Orobanchaceae	<i>Striga squamigera</i>		√																						
Phrymaceae	<i>Mimulus gracilis</i>		√					√						√											√
Phrymaceae	<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>		√																						
Phrymaceae	<i>Peplidium</i> ? <i>muelleri</i>		√																						
Phrymaceae	<i>Peplidium</i> sp. indet.																								√
Phyllanthaceae	<i>Flueggea virosa</i> subsp. <i>melanthesoides</i>		√																						
Phyllanthaceae	<i>Notoleptopus decaisne</i>			√																					
Phyllanthaceae	<i>Notoleptopus decaisne</i> var. <i>orbicularis</i>							√																	
Phyllanthaceae	<i>Phyllanthus erwinii</i>		√																				√		
Phyllanthaceae	<i>Phyllanthus exilis</i>							√																	
Phyllanthaceae	<i>Phyllanthus maderaspatensis</i>		√	√			√	√		√													√		√
Plantaginaceae	<i>Stemodia grossa</i>		√	√	√	√		√						√		√							√		
Plantaginaceae	<i>Stemodia lathraea</i>		√					√																	√
Plantaginaceae	<i>Stemodia viscosa</i>		√							√															
Plumbaginaceae	<i>Muellerolimon salicorniaceum</i>		√		√	√		√	√									√			√				√
Poaceae	<i>Aristida contorta</i>		√					√		√				√	√								√		
Poaceae	<i>Aristida halathera</i> var. <i>halathera</i>		√	√		√		√		√				√	√		√	√	√				√		√
Poaceae	<i>Aristida halathera</i> var. <i>latifolia</i>							√						√											
Poaceae	<i>Aristida hygrometrica</i>													√											√
Poaceae	<i>Aristida inaequiglumis</i>		√					√															√		
Poaceae	<i>Aristida ingrata</i>							√		√															
Poaceae	<i>Aristida</i> sp. indet.						√	√																	
Poaceae	* <i>Cenchrus ciliaris</i>		√	√	√	√	√	√	√	√			√	√	√	√	√	√	√	√	√	√	√	√	√
Poaceae	* <i>Cenchrus setiger</i>			√	√																		√		√
Poaceae	* <i>Chloris barbata</i>			√																		√			
Poaceae	<i>Chloris pectinata</i>		√																						
Poaceae	<i>Chloris pumilio</i>			√				√															√		
Poaceae	* <i>Chloris virgata</i>				√	√	√	√		√			√				√								
Poaceae	<i>Chrysopogon fallax</i>		√	√			√	√		√					√	√	√	√				√		√	
Poaceae	* <i>Cynodon dactylon</i>				√																				
Poaceae	<i>Cymbopogon ambiguus</i>									√													√		

## PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

## APPENDIX H

## FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Mala 2010	Shepherd 2009	Woodman 2011
Poaceae	<i>Dactyloctenium radulans</i>		√	√	√	√		√		√			√	√						√		√		√
Poaceae	<i>Dichanthium sericeum</i> subsp. ? <i>humilius</i>			√																				
Poaceae	<i>Dichanthium sericeum</i> subsp. <i>humilius</i>		√							√												√		
Poaceae	<i>Digitaria brownii</i>		√			√		√							√	√								√
Poaceae	* <i>Digitaria ciliaris</i>							√																
Poaceae	<i>Digitaria ctenantha</i>			√																				
Poaceae	<i>Digitaria</i> sp.		√																					
Poaceae	* <i>Echinochloa calona</i>																					√		
Poaceae	<i>Elytrophorus spicatus</i>							√																√
Poaceae	<i>Enneapogon caeruleus</i>		√	√																				
Poaceae	<i>Enneapogon lindleyanus</i>																							√
Poaceae	<i>Enneapogon polyphyllus</i>							√																
Poaceae	<i>Enneapogon purpurascens</i>			√																				
Poaceae	<i>Enneapogon</i> sp.		√																					
Poaceae	<i>Eragrostis crateriformis</i>	P3																						√
Poaceae	<i>Eragrostis cumingii</i>		√	√				√							√	√								√
Poaceae	* <i>Eragrostis curvula</i>		√																					
Poaceae	<i>Eragrostis dielsii</i>		√	√				√																
Poaceae	<i>Eragrostis elongata</i>							√																
Poaceae	<i>Eragrostis eriopoda</i>		√	√	√			√		√				√				√				√		√
Poaceae	<i>Eragrostis falcata</i>		√	√		√		√		√						√		√	√					√
Poaceae	<i>Eragrostis pergracilis</i>		√																					
Poaceae	<i>Eragrostis setifolia</i>					√												√	√					
Poaceae	<i>Eragrostis</i> sp. indet.							√																
Poaceae	<i>Eragrostis speciosa</i>		√					√		√				√								√		√
Poaceae	<i>Eragrostis tenellula</i>		√					√														√		
Poaceae	<i>Eragrostis xerophila</i>							√							√	√			√	√				
Poaceae	<i>Eriachne aristidea</i>		√	√				√		√				√		√								√
Poaceae	<i>Eriachne benthamii</i>		√					√														√		
Poaceae	<i>Eriachne ciliata</i>		√																					
Poaceae	<i>Eriachne glauca</i> var. <i>glauca</i>		√																					
Poaceae	<i>Eriachne helmsii</i>		√	√				√							√	√	√	√						
Poaceae	<i>Eriachne mucronata</i>		√					√		√					√	√						√		√
Poaceae	<i>Eriachne obtusa</i>			√	√	√	√	√	√	√			√	√					√			√		√
Poaceae	<i>Eriachne pulchella</i>		√																					
Poaceae	<i>Eriachne pulchella</i> subsp. <i>dominii</i>		√					√														√		
Poaceae	<i>Eriachne</i> sp. indet.							√																
Poaceae	<i>Eriachne sulcata</i>							√																
Poaceae	<i>Eulalia aurea</i>		√	√				√		√												√		√
Poaceae	<i>Iseilema dolichotrichum</i>											√												
Poaceae	<i>Leptochloa fusca</i> subsp. <i>fusca</i>							√																
Poaceae	<i>Panicum decompositum</i>		√	√	√	√		√	√										√			√		√
Poaceae	<i>Paraneurachne muelleri</i>		√	√				√		√					√	√		√				√		
Poaceae	<i>Paspalidium clementii</i>		√							√														
Poaceae	<i>Paspalidium rarum</i>			√		√		√														√		√
Poaceae	<i>Paspalidium tabulatum</i>		√																					
Poaceae	<i>Perotis rara</i>		√	√				√														√		
Poaceae	<i>Schizachyrium fragile</i>		√	√				√																√
Poaceae	<i>Setaria dielsii</i>		√																					
Poaceae	* <i>Setaria verticillata</i>							√																
Poaceae	<i>Sorghum plumosum</i>		√			√		√																√
Poaceae	<i>Sorghum</i> sp.		√																					
Poaceae	<i>Spinifex longifolius</i>		√					√										√			√			
Poaceae	<i>Sporobolus actinocladius</i>		√					√																
Poaceae	<i>Sporobolus australasicus</i>		√					√														√		
Poaceae	<i>Sporobolus mitchellii</i>					√																		√
Poaceae	<i>Sporobolus virginicus</i>		√	√	√			√	√	√			√				√							√
Poaceae	<i>Themeda triandra</i>							√																
Poaceae	<i>Triodia</i> ? <i>basedowii</i>			√																				
Poaceae	<i>Triodia basedowii</i>									√														
Poaceae	<i>Triodia epactia</i>		√	√	√	√	√	√	√	√			√	√	√	√	√	√	√		√		√	

## PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

## APPENDIX H

## FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Mala 2010	Shepherd 2009	Woodman 2011
Poaceae	<i>Triodia lanigera</i>		√		√		√															√		√
Poaceae	<i>Triodia longiceps</i>		√					√														√		
Poaceae	<i>Triodia pungens</i>				√			√																
Poaceae	<i>Triodia schinzii</i>		√	√				√		√					√	√	√	√	√					√
Poaceae	<i>Triodia secunda</i>		√	√	√	√	√	√		√					√	√	√		√				√	√
Poaceae	<i>Triodia</i> sp. indet.							√														√		
Poaceae	<i>Urochloa holosericea</i> subsp. <i>holosericea</i>			√																				
Poaceae	<i>Urochloa holosericea</i> subsp. <i>velutina</i>		√					√		√													√	√
Poaceae	<i>Whiteochloa airoides</i>		√					√						√			√		√					
Poaceae	<i>Whiteochloa cymbiformis</i>			√																				√
Poaceae	<i>Xerochloa laniflora</i>		√																					
Poaceae	<i>Yakirra australiensis</i>			√				√															√	√
Poaceae	<i>Yakirra australiensis</i> var. <i>australiensis</i>		√											√										
Polygalaceae	<i>Polygala isingii</i>		√																					
Polygalaceae	<i>Polygala linariifolia</i>		√	√		√		√															√	√
Portulacaceae	<i>Calandrinia creethiae</i>		√																					
Portulacaceae	<i>Calandrinia eremaea</i>		√																					
Portulacaceae	<i>Calandrinia pentavalvis</i>		√																					
Portulacaceae	<i>Calandrinia polyandra</i>			√																				
Portulacaceae	<i>Calandrinia ptychosperma</i>		√	√																			√	
Portulacaceae	<i>Calandrinia pumila</i>		√					√																√
Portulacaceae	<i>Calandrinia</i> ? <i>quadrivalvis</i>			√																				
Portulacaceae	<i>Calandrinia quadrivalvis</i>		√	√		√		√						√						√			√	√
Portulacaceae	<i>Calandrinia</i> sp. indet.							√																√
Portulacaceae	<i>Calandrinia</i> ? <i>stagnensis</i>																							√
Portulacaceae	<i>Calandrinia stagnensis</i>		√	√										√										
Portulacaceae	<i>Portulaca conspicua</i>							√																
Portulacaceae	<i>Portulaca cyclophylla</i>		√																					
Portulacaceae	* <i>Portulaca oleracea</i>		√	√	√			√		√				√					√	√			√	√
Portulacaceae	<i>Portulaca pilosa</i>		√	√		√		√						√										√
Portulacaceae	<i>Portulaca</i> sp.																							√
Proteaceae	<i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i>		√	√				√		√				√		√			√				√	√
Proteaceae	<i>Grevillea wickhamii</i>			√																				
Proteaceae	<i>Grevillea wickhamii</i> subsp. <i>hispidula</i>		√					√															√	
Proteaceae	<i>Hakea chordophylla</i>			√																				
Proteaceae	<i>Hakea lorea</i> subsp. <i>lorea</i>		√					√	√				√		√	√	√	√	√			√		√
Rhizophoraceae	<i>Bruguiera exaristata</i>		√																					
Rhizophoraceae	<i>Rhizophora stylosa</i>		√			√			√															√
Rubiaceae	<i>Dentella asperata</i>		√																					
Rubiaceae	<i>Dentella minutissima</i>							√		√							√						√	
Rubiaceae	<i>Oldenlandia crouchiana</i>			√																				
Rubiaceae	<i>Oldenlandia galioides</i>			√																				
Rubiaceae	<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>		√					√						√										
Santalaceae	<i>Santalum lanceolatum</i>		√	√		√		√																
Sapindaceae	<i>Atalaya hemiglauca</i>		√					√															√	
Sapindaceae	<i>Diplopeltis eriocarpa</i>			√																				
Sapindaceae	<i>Dadonaea coriacea</i>		√	√				√	√	√					√	√		√	√					√
Scrophulariaceae	<i>Myoporum montanum</i>		√	√	√	√		√																√
Solanaceae	<i>Nicotiana occidentalis</i> subsp. <i>obliqua</i>																						√	
Solanaceae	<i>Nicotiana occidentalis</i> subsp. <i>occidentalis</i>													√										
Solanaceae	* <i>Physalis angulata</i>		√																					
Solanaceae	<i>Solanum cunninghamii</i>							√																
Solanaceae	<i>Solanum diversiflorum</i>		√	√	√	√	√	√	√	√				√	√								√	√
Solanaceae	<i>Solanum ellipticum</i>		√	√	√	√	√	√	√	√														√
Solanaceae	<i>Solanum horridum</i>			√																				
Solanaceae	<i>Solanum lasiophyllum</i>		√	√				√						√										
Solanaceae	<i>Solanum phlamoides</i>			√		√		√		√				√	√								√	√
Solanaceae	<i>Solanum</i> sp. indet.							√																
Stylidiaceae	<i>Stylidium desertorum</i>		√					√						√										√
Surianaceae	<i>Stylobasium spathulatum</i>			√																				
Tamaricaceae	* <i>Tamarix aphylla</i>									√														



PORT HEDLAND FLORA AND VEGETATION ASSESSMENT

APPENDIX H

FLORA INVENTORY FROM ALL SURVEYS

Family	Species Name	Conservation Status	Current Survey	Biota 2006	Biota 2008a	Biota 2008b	ENV 2008a	ENV 2009a	ENV 2009b	ENV 2009c	ENV 2009d	ENV 2009e	ENV 2009f	ENV 2009g	ENV 2010a	ENV 2010b	ENV 2010c	ENV 2010d	ENV 2010e	ENV 2010f	ENV 2011	Maia 2010	Shepherd 2009	Woodman 2011
Thymelaeaceae	<i>Pimelea ammodarid</i>		√			√	√	√		√						√						√		
Violaceae	<i>Hybanthus aurantiacus</i>		√	√	√	√	√	√		√				√	√			√	√					√
Zygophyllaceae	<i>Tribulopsis angustifolia</i>		√	√				√																√
Zygophyllaceae	<i>Tribulus hirsutus</i>		√	√															√	√				√
Zygophyllaceae	<i>Tribulus hystrix</i>			√																				
Zygophyllaceae	<i>Tribulus macrocarpus</i>		√																					
Zygophyllaceae	<i>Tribulus occidentalis</i>		√				√	√		√												√		
Zygophyllaceae	<i>Tribulus sp. indet.</i>							√																

# **APPENDIX I**

## **FLORA INVENTORY – NATURE MAP DATABASE SEARCH**

## PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT

## APPENDIX I

## FLORA INVENTORY FROM NATUREMAP DATABASE SEARCH

Species
<i>Abutilon dioicum</i>
<i>Abutilon lepidum</i>
<i>Abutilon macrum</i>
<i>Abutilon otocarpum</i>
<i>Abutilon pritzelianum</i> (Priority 1)
<i>Acacia acradenia</i>
<i>Acacia ancistrocarpa</i>
<i>Acacia arida</i>
<i>Acacia bivenosa</i>
<i>Acacia bivenosa</i> x <i>sclerosperma</i> subsp. <i>sclerosperma</i>
<i>Acacia colei</i> var. <i>colei</i>
<i>Acacia coriacea</i> subsp. <i>pendens</i>
<i>Acacia dictyophleba</i>
<i>Acacia inaequilatera</i>
<i>Acacia maitlandii</i>
<i>Acacia melleodora</i>
<i>Acacia orthocarpa</i>
<i>Acacia proxima</i>
<i>Acacia pyrifolia</i> var. <i>morrisonii</i>
<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>
<i>Acacia robeorum</i>
<i>Acacia sabulosa</i>
<i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i>
<i>Acacia sericophylla</i>
<i>Acacia sphaerostachya</i>
<i>Acacia stellaticeps</i>
<i>Acacia synchronicia</i>
<i>Acacia trachycarpa</i>
<i>Acacia tumida</i> var. <i>pilbarensis</i>
<i>Achyranthes aspera</i>
<i>Actinobole uliginosum</i>
<i>Adriana tomentosa</i>
<i>Adriana tomentosa</i> var. <i>tomentosa</i>
<i>Aegiceras</i>
* <i>Aerva javanica</i>
<i>Albizia lebeck</i>
<i>Alysicarpus muelleri</i>

Species
<i>Amaranthus pallidiflorus</i>
<i>Amaranthus</i> sp.
<i>Amyema preissii</i>
<i>Andropogon gayanus</i>
* <i>Argemone ochroleuca</i> subsp. <i>ochroleuca</i>
<i>Aristida holathera</i>
<i>Aristida holathera</i> var. <i>holathera</i>
<i>Aristida hygrometrica</i>
<i>Aristida inaequiglumis</i>
<i>Asparagopsis taxiformis</i>
<i>Atalaya hemiglauca</i>
<i>Atriplex semilunaris</i>
<i>Avicennia marina</i>
<i>Avicennia marina</i> subsp. <i>marina</i>
<i>Boerhavia coccinea</i>
<i>Bonamia alatisemina</i>
<i>Bonamia erecta</i>
<i>Bonamia linearis</i>
<i>Bonamia media</i>
<i>Bonamia rosea</i>
<i>Bonamia</i> sp.
<i>Bothriochloa ewartiana</i>
<i>Bruguiera exaristata</i>
<i>Bulbostylis barbata</i>
<i>Cajanus acutifolius</i>
<i>Cajanus cinereus</i>
<i>Cajanus marmoratus</i>
<i>Cajanus pubescens</i>
<i>Calandrinia quadrivalvis</i>
<i>Calandrinia</i> sp. Pinga (T.R. Lally TRL 722)
<i>Calandrinia stagnensis</i>
<i>Calotis hispidula</i>
<i>Canavalia rosea</i>
<i>Capparis spinosa</i> var. <i>nummularia</i>
<i>Carissa lanceolata</i>
<i>Cassytha capillaris</i>
<i>Cassytha filiformis</i>
<i>Caulerpa brachypus</i>
<i>Caulerpa lentillifera</i>
<i>Caulerpa peltata</i>
<i>Caulerpa racemosa</i> var. <i>lamourouxii</i>
<i>Caulerpa sertularioides</i>
* <i>Cenchrus ciliaris</i>
<i>Ceriops tagal</i>
<i>Chamaecrista symonii</i>

Species
<i>*Chloris barbata</i>
<i>*Chloris virgata</i>
<i>Chrysocephalum apiculatum</i>
<i>Chrysopogon fallax</i>
<i>Cleome uncifera</i>
<i>Cleome uncifera</i> subsp. <i>uncifera</i>
<i>Cleome viscosa</i>
<i>*Coccinia grandis</i>
<i>Codonocarpus cotinifolius</i>
<i>Commelina ensifolia</i>
<i>Convolvulus</i> sp.
<i>Corchorus carnarvonensis</i>
<i>Corchorus elachocarpus</i>
<i>Corchorus incanus</i>
<i>Corchorus incanus</i> subsp. <i>incanus</i>
<i>Corchorus walcottii</i>
<i>Corymbia aspera</i>
<i>Corymbia candida</i>
<i>Corymbia candida</i> / <i>flavescens</i>
<i>Corymbia candida</i> subsp. <i>lautifolia</i>
<i>Corymbia flavescens</i>
<i>Corymbia hamersleyana</i>
<i>Corymbia opaca</i>
<i>Corymbia zygophylla</i>
<i>Corynotheca micrantha</i>
<i>Corynotheca pungens</i>
<i>Corynotheca</i> sp.
<i>Crotalaria cunninghamii</i>
<i>Crotalaria cunninghamii</i> subsp. <i>sturtii</i>
<i>Crotalaria dissitiflora</i> subsp. <i>benthamiana</i>
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>
<i>Crotalaria ramosissima</i>
<i>Cucumis maderaspatanus</i>
<i>Cullen lachnostachys</i>
<i>Cullen leucanthum</i>
<i>Cullen leucochaites</i>
<i>Cullen martinii</i>
<i>Cullen stipulaceum</i>
<i>Cymbopogon bombycinus</i>
<i>Cyperus blakeanus</i>
<i>Cyperus bulbosus</i>
<i>Cyperus</i> sp.
<i>Cyperus squarrosus</i>
<i>Dactyloctenium radulans</i>
<i>Davenportia davenportii</i>



Species
<i>Dentella asperata</i>
<i>Desmodium filiforme</i>
* <i>Desmodium scorpiurus</i>
<i>Digitaria ciliaris</i>
<i>Digitaria</i> sp.
<i>Dissocarpus paradoxus</i>
<i>Dodonaea coriacea</i>
<i>Dolichandrone heterophylla</i>
<i>Dysphania plantaginella</i>
<i>Dysphania rhadinostachya</i> subsp. <i>rhadinostachya</i>
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>
<i>Enneapogon lindleyanus</i>
<i>Enneapogon polyphyllus</i>
<i>Enneapogon purpurascens</i>
<i>Enteropogon ramosus</i>
<i>Eragrostis cumingii</i>
<i>Eragrostis dielsii</i>
<i>Eragrostis eriopoda</i>
<i>Eragrostis falcata</i>
<i>Eragrostis</i> sp.
<i>Eragrostis speciosa</i>
<i>Eremophila cuneifolia</i>
<i>Eriachne aristidea</i>
<i>Eriachne ciliata</i>
<i>Eriachne gardneri</i>
<i>Eriachne glauca</i>
<i>Eriachne helmsii</i>
<i>Eriachne mucronata</i>
<i>Eriachne obtusa</i>
<i>Eriachne pulchella</i>
<i>Eriachne</i> sp.
<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>
<i>Eucalyptus victrix</i>
<i>Eulalia aurea</i>
<i>Euphorbia australis</i>
<i>Euphorbia australis</i> var. <i>subtomentosa</i>
<i>Euphorbia biconvexa</i>
<i>Euphorbia coghlanii</i>
<i>Euphorbia mitchelliana</i>
<i>Euphorbia myrtoides</i>
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>
* <i>Euphorbia tirucalli</i>
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>
<i>Ficus aculeata</i> var. <i>indecora</i>
<i>Ficus brachypoda</i>

Species
<i>Fimbristylis neilsonii</i>
* <i>Flaveria trinervia</i>
<i>Frankenia ambita</i>
<i>Frankenia</i> sp.
<i>Glinus oppositifolius</i>
<i>Glycine</i> sp.
<i>Gomphrena canescens</i> subsp. <i>canescens</i>
* <i>Gomphrena celosioides</i>
<i>Gomphrena cucullata</i> (Priority 2)
<i>Gomphrena cunninghamii</i>
<i>Gomphrena leptoclada</i>
<i>Gomphrena pusilla</i> (Priority 2)
<i>Goodenia armitiana</i>
<i>Goodenia forrestii</i>
<i>Goodenia lamprosperma</i>
<i>Goodenia microptera</i>
<i>Goodenia nuda</i> (Priority 4)
<i>Goodenia scaevolina</i>
<i>Goodenia sepalosa</i> var. <i>sepalosa</i>
<i>Goodenia stobbsiana</i>
<i>Gossypium australe</i>
<i>Gossypium hirsutum</i>
<i>Grevillea pyramidalis</i>
<i>Gymnanthera cunninghamii</i> (Priority 3)
<i>Haloragis gossei</i>
<i>Helichrysum luteoalbum</i>
<i>Heliotropium crispatum</i>
<i>Heliotropium cunninghamii</i>
<i>Heliotropium foliatum</i>
<i>Heliotropium inexplicitum</i>
<i>Heliotropium muticum</i> (Priority 1)
<i>Heliotropium pachyphyllum</i>
<i>Heliotropium transforme</i>
<i>Hemichroa diandra</i>
<i>Hibiscus austrinus</i> var. <i>austrinus</i>
<i>Hibiscus brachychlaenus</i>
<i>Hibiscus goldsworthii</i>
<i>Hibiscus leptocladus</i>
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>
<i>Hybanthus aurantiacus</i>
<i>Indigastrum parviflorum</i>
<i>Indigofera colutea</i>
<i>Indigofera hirsuta</i>
<i>Indigofera hochstetteri</i>
<i>Indigofera linifolia</i>

Species
<i>Indigofera linnaei</i>
<i>Indigofera monophylla</i>
* <i>Indigofera oblongifolia</i>
* <i>Indigofera sessiliflora</i>
<i>Indigofera trita</i>
<i>Ipomoea muelleri</i>
<i>Ipomoea pes-caprae</i> subsp. <i>brasiliensis</i>
<i>Ipomoea polymorpha</i>
<i>Iseilema membranaceum</i>
<i>Isotropis atropurpurea</i>
* <i>Jatropha gossypifolia</i>
<i>Keraudrenia nephrosperma</i>
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>
<i>Lamarckia aurea</i>
<i>Leptosema anomalum</i>
<i>Leucaena leucocephala</i>
<i>Melaleuca argentea</i>
<i>Melaleuca lasiandra</i>
<i>Melhania oblongifolia</i>
<i>Mollugo molluginea</i>
<i>Muellerolimon salicorniaceum</i>
<i>Myoporum montanum</i>
<i>Neobassia astrocarpa</i>
<i>Neptunia dimorphantha</i>
<i>Nicotiana benthamiana</i>
<i>Nicotiana occidentalis</i> subsp. <i>occidentalis</i>
<i>Operculina aequisepala</i>
<i>Osbornia octodonta</i>
<i>Owenia reticulata</i>
<i>Panicum decompositum</i>
<i>Parkinsonia aculeata</i>
<i>Paspalidium basicladum</i>
<i>Paspalidium clementii</i>
* <i>Paspalum fasciculatum</i>
* <i>Pennisetum setaceum</i>
<i>Perotis rara</i>
<i>Petalostylis labicheoides</i>
<i>Phyllanthus maderaspatensis</i>
<i>Pimelea ammocharis</i>
<i>Pittosporum angustifolium</i>
<i>Pluchea ferdinandi-muelleri</i>
<i>Pluchea rubelliflora</i>
<i>Pluchea tetranthera</i>
<i>Polycarpaea corymbosa</i>
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>

Species
<i>Polycarpaea involucrata</i>
<i>Polycarpaea longiflora</i>
<i>Polycarpaea</i> sp.
<i>Polymeria ambigua</i>
<i>Polymeria distigma</i> (Priority 3)
<i>Polymeria lanata</i>
<i>Portulaca australis</i>
* <i>Portulaca oleracea</i>
<i>Portulaca pilosa</i>
<i>Portulaca pilosa</i> subsp. <i>decipiens</i>
<i>Pterocaulon sphacelatum</i>
<i>Ptilotus appendiculatus</i> var. <i>minor</i> (Priority 1)
<i>Ptilotus arthrolasius</i>
<i>Ptilotus astrolasius</i>
<i>Ptilotus axillaris</i>
<i>Ptilotus calostachyus</i>
<i>Ptilotus clementii</i>
<i>Ptilotus divaricatus</i> var. <i>divaricatus</i>
<i>Ptilotus exaltatus</i>
<i>Ptilotus fusiformis</i>
<i>Ptilotus incanus</i>
<i>Ptilotus villosiflorus</i>
* <i>Pupalia lappacea</i>
<i>Rhagodia eremaea</i>
<i>Rhizophora stylosa</i>
<i>Rhynchosia minima</i>
<i>Riccia crystallina</i>
* <i>Ricinus communis</i>
<i>Salsola tragus</i> subsp. <i>grandiflora</i>
<i>Scaevola amblyanthera</i> var. <i>centralis</i>
<i>Scaevola browniana</i>
<i>Scaevola crassifolia</i>
<i>Scaevola amblyanthera</i>
<i>Scaevola parvifolia</i> subsp. <i>parvifolia</i>
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>
<i>Sclerolaena bicornis</i> var. <i>bicornis</i>
<i>Sclerolaena glabra</i>
<i>Sclerolaena hostilis</i>
<i>Sclerolaena</i> sp.
<i>Senna bicapsularis</i>
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>
<i>Senna notabilis</i>
* <i>Senna occidentalis</i>

Species
<i>Senna stricta</i>
<i>Senna venusta</i>
<i>Sesbania cannabina</i>
<i>Sesbania formosa</i>
<i>Sesuvium portulacastrum</i>
<i>Setaria dielsii</i>
* <i>Setaria sphacelata</i>
<i>Sida arenicola</i>
<i>Sida clementii</i>
<i>Sida echinocarpa</i>
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>
<i>Sida</i> sp. B Kimberley Flora (A.A. Mitchell 2745)
<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)
<i>Solanum diversiflorum</i>
<i>Solanum lucani</i>
<i>Solanum phlomoides</i>
<i>Sorghum plumosum</i>
<i>Sorghum stipoideum</i>
<i>Spinifex longifolius</i>
<i>Sporobolus actinocladus</i>
<i>Stemodia viscosa</i>
<i>Streptoglossa adscendens</i>
<i>Streptoglossa decurrens</i>
<i>Streptoglossa liatroides</i>
<i>Streptoglossa macrocephala</i>
<i>Streptoglossa odora</i>
<i>Streptoglossa</i> sp.
<i>Stylidium adenophorum</i>
* <i>Stylosanthes guianensis</i>
<i>Suaeda arbusculoides</i>
<i>Swainsona decurrens</i>
<i>Swainsona pterostylis</i>
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>
<i>Tecticornia auriculata</i>
<i>Tecticornia halocnemoides</i>
<i>Tecticornia halocnemoides</i> subsp. <i>tenuis</i>
<i>Tecticornia indica</i>
<i>Tecticornia indica</i> subsp. <i>bidens</i>
<i>Tecticornia indica</i> subsp. <i>leiostachya</i>
<i>Tecticornia pterygosperma</i> subsp. <i>denticulata</i>
<i>Tephrosia clementii</i>
<i>Tephrosia rosea</i>
<i>Tephrosia rosea</i> var. <i>clementii</i>
<i>Tephrosia rosea</i> var. <i>glabrior</i>
<i>Tephrosia rosea</i> var. <i>rosea</i>



Species
<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1)
<i>Tephrosia</i> sp. B Kimberley Flora (C.A. Gardner 7300)
<i>Tephrosia</i> sp. Bungaroo Creek (M.E. Trudgen 11601)
<i>Themeda avenacea</i>
<i>Threlkeldia diffusa</i>
<i>Tinospora smilacina</i>
<i>Trianthema cussackiana</i>
<i>Trianthema pilosa</i>
* <i>Trianthema portulacastrum</i>
<i>Trianthema</i> sp.
<i>Trianthema triquetra</i>
<i>Trianthema turgidifolia</i>
<i>Tribulopsis angustifolia</i>
<i>Tribulus macrocarpus</i>
<i>Tribulus occidentalis</i>
<i>Trichodesma zeylanicum</i>
<i>Trichosanthes cucumerina</i> var. <i>cucumerina</i>
<i>Trigonella suavissima</i>
<i>Triodia basedowii</i>
<i>Triodia epactia</i>
<i>Triodia lanigera</i>
<i>Triodia longiceps</i>
<i>Triodia plurinervata</i>
<i>Triodia pungens</i>
<i>Triodia schinzii</i>
<i>Triodia secunda</i>
<i>Triraphis mollis</i>
<i>Triumfetta chaetocarpa</i>
<i>Triumfetta propinqua</i>
<i>Triumfetta ramosa</i>
<i>Triumfetta</i> sp.
<i>Udotea argentea</i>
<i>Velleia panduriformis</i>
<i>Vigna lanceolata</i>
<i>Vigna lanceolata</i> var. <i>lanceolata</i>
<i>Wahlenbergia tumidifructa</i>
<i>Waltheria indica</i>
<i>Whiteochloa cymbiformis</i>
<i>Xerochloa imberbis</i>
<i>Yakirra australiensis</i>
<i>Yakirra majuscula</i>
<i>Zornia muelleriana</i>

Department of Environment and Conservation [DEC] (2011a). NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation and Western Australian Museum. Available from: <<http://naturemap.dec.wa.gov.au/>> [August 2011].

**APPENDIX J**

**LOCATIONS OF CONSERVATION  
SIGNIFICANT FLORA – ALL SURVEYS**

**PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT**

**APPENDIX J**

**LOCATION OF CONSERVATION SIGNIFICANT SPECIES – ALL SURVEYS**

Species	Survey	Number of Individuals	# Easting	# Northing
<i>Abutilon ? pritzelianum</i> (Priority 1)	Current Survey (ENV 2011)	3	655849	7730367
<i>Abutilon pritzelianum</i> (Priority 1)	Port Hedland Transmission Lines Flora and Fauna Assessment (ENV 2009g)	~10	654950	7730050
		~40	653750	7729700
	Current Survey (ENV 2011 )	1	655858	7730355
		1	665000	7723753
		2	654754	7730120
		13	655898	7730265
		2	655899	7730256
		2	655877	7730244
		1	655926	7730196
		1	655911	7730245
		1	653434	7740914
		1	657268	7727390
		1	665717	7726029
		1	665388	7721440
		1	665337	7721795

<i>Bulbostylis burbidgeae</i> (Priority 4)	A Biodiversity Assessment of the Utah Point Berth Development Port Hedland (Biota 2008b)	~20	663972	7746352
		~20	662761	7747121
<i>Eragrostis crateriformis</i> (Priority 3)	North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)	1	657238	7747399
		0.10%	655984	7745321
<i>Gomphrena leptophylla</i> (Priority 3)	North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)		656131	7746683
<i>Gomphrena pusilla</i> (Priority 2)	Current Survey (ENV 2011)	1	652988	7749119
	North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)	30	659132	7749715
		5000	659386	7749844
		5000	659312	7749855
<i>Goodenia nuda</i> (Priority 4)	North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)		655780	7745123
	Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)	1	656269	7744987
	Port Hedland Area Targeted Flora Survey (ENV 2009e)	3	660425	7747784
		15	660601	7747490
		2	660648	7747481
		10	659621	7747374
		2	659465	7747349
		3	659162	7749455
		1	668562	7733828
		3	668653	7733816
		4	668905	7733815
		1	660205	7746876
		4	660230	7746887
		2	660138	7746993
		2	660093	7747002
2	660389	7747337		

		1	659347	7747618
		3	661171	7747491
		2	661599	7747058
		20	668205	7733862
		40	668357	7733846
		20	668564	7733847
		40	668618	7733852
		40	668776	7733837
		3	658932	7747045
		2	659764	7746955
		2	659501	7746901
		2	659336	7746879
		1	659155	7746872
		1	658524	7746946
		1	658386	7746957
		1	658344	7746960
		1	658291	7746955
		1	661699	7746934
		1	661603	7746935
		<i>Gymnanthera cunninghamii</i> (Priority 3)	North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)	
	659840			7750378
	658667			7749916
Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)			661712	7744111
			662031	7741025
			661993	7741089
			661760	7744159
Vegetation and Flora Survey of the Proposed FMG Stage A Rail Corridor (Biota 2004)			661669	7743175



<i>Heliotropium muticum</i> (Priority 1)	Current Survey (ENV 2011)	1	670506	7734785
		1	670556	7734654
		2	669782	7735229
		2	668783	7731786
		6	668875	7731787
		1	669728	7731644
		3	669888	7731587
		8	669961	7731593
		16	670012	7731634
		4	670009	7731708
		1	669971	7731730
		8	671226	7731303
		1	672172	7727677
		5	672219	7727895
		1	672086	7727865
		12	670232	7728053
		4	670188	7728006
		3	673050	7724475
		2	672997	7724328
		25	668255	7731721
		11	666746	7733296
		17	666492	7734980
		24	666523	7734950
		19	666554	7735011
		15	666505	7735062
18	666475	7735036		
1	666048	7741050		
2	675808	7721621		

		2	675858	7721637
		2	675880	7721649
		1	675891	7721649
		2	675899	7721583
		1	675959	7721577
		1	675845	7721587
		5	675895	7721598
		1	673004	7726547
		1	673039	7726622
		1	673022	7726615
		2	673014	7726609
		1	672923	7726544
		14	674238	7727913
		7	674238	7727910
		34	674236	7727906
		1	674284	7727844
		6	674234	7727860
		65	674227	7727879
		20	675285	7727540
		41	675285	7727540
		6	675462	7727456
		2	675445	7727448
		18	676208	7730144
		5	676207	7730158
		9	676209	7730177
		20	676222	7730190
		5	676237	7730206
		12	676330	7730300

		1	675797	7721608
		9	675759	7721601
		2	675735	7721589
		1	675728	7721582
		1	675695	7721563
		1	675735	7721555
		1	675474	7723597
		3	673514	7721680
		1	673526	7721675
		1	672956	7726524
		4	672970	7726526
		1	673013	7726536
		1	673006	7726581
		2	673014	7726618
		5	673014	7726620
		4	672930	7726619
		3	672918	7726607
		1	672912	7726560
		1	673184	7728706
		2	674238	7727966
		3	674241	7727970
		2	674248	7727980
		5	674258	7727984
		6	674258	7727985
		6	674263	7728046
		12	674239	7728047
		7	674218	7728032
		1	674213	7728012

		3	674216	7727982
		2	674213	7727968
		3	674217	7727947
		1	674228	7727937
		1	674232	7727924
		3	675252	7727593
		37	675248	7727647
		211	675312	7727690
		4	674292	7739193
		10	676815	7726282
		17	676795	7726294
		15	676795	7726310
		52	676738	7726413
		47	676738	7726413
		2	676023	7730049
		5	676011	7730037
		17	676076	7730063
		1	670962	7729475
		1	674104	7722864
		1	674287	7722497
		1	674344	7722429
		1	674554	7721837
		1	675581	7722194
		1	675766	7722326
		1	673516	7724240
		1	671516	7732552
		1	671380	7733255
		1	672952	7724710

		1	670962	7729507
		1	672767	7724782
		1	672694	7724792
		1	672373	7725213
		1	672760	7725080
		1	670974	7729585
		1	671024	7729657
		1	670997	7729675
		1	675523	7722519
		1	675265	7722575
		1	674368	7722858
		1	674271	7722904
		12	666006	7741507
		1	673314	7741068
		12	671954	7731060
		4	669678	7732575
		26	667351	7732436
		15	669656	7728731
		15	671022	7729465
		15	671022	7729465
		1	673576	7728683
		7	673576	7728683
		100	675787	7727948
		1	673739	7724279
		1	674039	7722945
		12	672219	7725250
		6	668756	7726818
		6	676917	7721539



		10	672209	7724203	
		5	673594	7725321	
	Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)		2	672950	7720014
			1	673030	7720056
			1	673269	7723374
			2	673836	7723219
			1	673860	7723013
			1	673790	7722857
			1	673811	7720466
			1	672946	7720009
			1	674225	7720463
			1	674182	7720346
			1	671559	7729953
			1	672984	7726412
			1	673938	7721974
		Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)			666239
				670540	7734720
				670754	7726092
				665991	7734232
				671332	7727799
			669238	7727489	
			667095	7727671	
Port Hedland Area Targeted Flora Survey (ENV 2009e)		1	670513	7734694	
		10	670566	7733739	
<i>Phyllanthus aridus</i> (Priority 3)	Hope Downs Iron Ore Project Rail and Port Public Environmental Review (Hope Downs Management Services 2002)		663982	7741346	
			664026	7741350	
			665514	7739412	

<i>Pterocaulon</i> sp. A Kimberley Flora (B.J. Carter 599) (Priority 3)	Port Hedland Nelson Point Dredging Approvals Targeted Species Assessment of DMMA H (ENV 2009d)	2	666309	7747612
	Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b)	2	671376	7743934
	Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)	1	661379	7747365
		1	658168	7747045
<i>Tephrosia rosea</i> ? var. <i>venulosa</i>	Current Survey (ENV 2011)	7	662232	7754444
		2	662623	7754783
		4	662223	7754479
	North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)	8	657900	7747872
		5	656814	7746836
		20	656914	7746786
		100	656869	7746608
		2	656826	7746585
		100	656827	7746570
<i>Tephrosia rosea</i> var. aff. <i>venulosa</i>	Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)	20	665125	7746077
		8	665152	7746011
		15	665119	7745999
		20	665198	7745614
		10	664793	7745844
		15	663472	7746602
		1	665174	7745886
		3	665185	7746171
	Great Northern Highway Road Bridge Flora and Vegetation Assessment (ENV 2010d)	3	665135	7746170
		13	665863	7745246
		1	665545	7745370
		8	665362	7745486
		3	665223	7745489

		2	665345	7745499
		1	664848	7745399
		2	665846	7745198
<i>Tephrosia rosea</i> var. <i>rosea/venulosa</i>	Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b)	55	663483	7746511
		25	665189	7745497
		12	665196	7745532
		1	663577	7746466
	Targeted Regional <i>Tephrosia rosea</i> var. <i>venulosa</i> Survey (ENV 2011)	30	665199	7745492
		1	667965	7747207
		45	665655	7745491
		100	664542	7744483
		1	672194	7746004
		20	667060	7741809
<i>Tephrosia rosea</i> var. <i>venulosa</i> (Priority 1)	Current Survey (ENV 2011)	1	662634	7754751
		3	662231	7754631
		3	662228	7754519
		5	662215	7754459
	Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)	-	662678	7746974
		15	663390	7746532
		20	663402	7746539
		10	663411	7746548
		5	663415	7746551
		1	663332	7746564
		20	663415	7746521
		40	663427	7746511
		15	663439	7746523
		20	663429	7746543

		30	663434	7746532
		12	663455	7746534
		15	663434	7746523
		50	663462	7746496
		1	663303	7746622
		6	663324	7746615
		4	663340	7746596
		1	663220	7746653
		1	663224	7746659
		2	663315	7746572
		8	663220	7446678
		1	663382	7746540
		1	663199	7746695
		1	663002	7746796
		1	663345	7746579
		1	663358	7746583
		1	663373	7746569
		1	663020	7746785
		2	663355	7746554
		1	663334	7746563
		9	663369	7746539
		2	663211	7746630
		30	663465	7746509
		10	663499	7746598
		5	663509	7746589
		10	663524	7746582
		1	663519	7746568
		3	663472	7746612

		20	663463	7746617
		30	663480	7746504
		10	663474	7746484
		2	663488	7746602
		40	663472	7746490
		1	663382	7746657
		2	663423	7746633
		5	663433	7746634
		6	663438	7746634
		8	663453	7746624
		-	662678	7746974
		15	663390	7746532
		20	663402	7746539
	10	663411	7746548	
	5	663415	7746551	
	1	663332	7746564	
	20	663415	7746521	
	40	663427	7746511	
	15	663439	7746523	
	20	663429	7746543	
	30	663434	7746532	
	12	663455	7746534	
	15	663434	7746523	
	50	663462	7746496	
	1	663303	7746622	
	6	663324	7746615	
	4	663340	7746596	
1	663220	7746653		
Boodarie Drive Intersection Vegetation Clearing Permit (ENV 2010g)				



		1	663224	7746659
		2	663315	7746572
		8	663220	7446678
		1	663382	7746540
		1	663199	7746695
		1	663002	7746796
		1	663345	7746579
		1	663358	7746583
		1	663373	7746569
		1	663020	7746785
		2	663355	7746554
		1	663334	7746563
		9	663369	7746539
		2	663211	7746630
		30	663465	7746509
		10	663499	7746598
		5	663509	7746589
		10	663524	7746582
		1	663519	7746568
		3	663472	7746612
		20	663463	7746617
		30	663480	7746504
		10	663474	7746484
		2	663488	7746602
		40	663472	7746490
		1	663382	7746657
		2	663423	7746633
		5	663433	7746634

		6	663438	7746634	
		8	663453	7746624	
	Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)	150	665120	7746238	
		10	665129	7746143	
			670752	7742100	
			671028	7743096	
			666693	7744720	
			665795	7745205	
			665528	7745418	
			666342	7744952	
			668417	7744459	
			670437	7744148	
			670068	7739413	
			670463	7735374	
		Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)	3	663926	7754474
			4	663916	7754407
	2		663959	7754474	
	15		663967	7754475	
	1		663947	7754469	
	1		663941	7754457	
	2		663920	7754439	
	1		664062	7754472	
	5		664061	7754455	
	20		664063	7754432	
	4		664087	7754429	
	12		664106	7754437	
	36		664141	7754575	
40	664157	7754603			

		15	664160	7754637
		22	663856	7754979
		25	663821	7754984
		15	663796	7754988
		1	663768	7754976
		6	663712	7754969
		100	663661	7754955
		100	663536	7754959
		100	663464	7754955
		1	663982	7754550
		6	663775	7754306
		2	663697	7754153
		2	663731	7754242
		3	663635	7754467
		350	664138	7754473
		350	664161	7754434
		350	664230	7754460
		1	663441	7754997
	Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)		662281	7754469
			662134	7754698
			661938	7754476
			662180	7747426
			654497	7746751
			654692	7745578
			662575	7754784
			661708	7754401
			661343	7754341
			660982	7754227

			659462	7744955
			662918	7740138
	Port Hedland Area Targeted Flora Survey (ENV 2009e)	3	670583	7744091
		2	670440	7744115
		8	669728	7744216
		10	669669	7744235
		5	669601	7744239
		5	668232	7744459
		1	668015	7744497
		1	667927	7744507
		2	668123	7744499
		16	668170	7744493
		14	668236	7744485
		18	668319	7744471
		1	668384	7744462
		1	668418	7744458
		1	668504	7744444
		6	668566	7744436
		25	668615	7744424
		5	668674	7744413
		9	668724	7744407
		9	668780	7744399
		5	668832	7744391
		5	668870	7744383
		10	668934	7744373
	18	669004	7744365	
	4	669073	7744352	
	2	669570	7744273	

		4	670406	7744150
		7	670533	7744130
		3	666650	7744774
		3	666604	7744798
		20	666578	7744813
		21	666536	7744838
		18	666493	7744860
		13	666455	7744883
		2	666370	7744931
		22	666306	7744969
		10	666244	7745003
		45-50	666213	7745020
		5	666147	7745059
		2	666351	7744958
		8	666474	7744860
		30	666448	7744862
		15	666424	7744877
		4	666413	7744883
		30	666384	7744902
		41	666344	7744923
		8	666318	7744936
		18	662484	7754545
		3	662477	7754602
		7	662455	7754619
		11	662406	7754636
		3	662403	7754673
		12	662372	7754695
		6	662372	7754655



		2	662368	7754610
		15	662380	7754588
		3	662407	7754525
		5	662424	7754494
		8	662485	7754523
		8	662468	7754486
		29	662453	7754471
		8	662426	7754460
		12	662111	7754364
		50	666445	7747476
		21	665849	7745198
		4	665690	7745300
		3	665620	7745336
		16	665539	7745381
		9	665749	7745290
		1	665425	7745445
		1	665398	7745467
		2	668943	7744335
		1	668779	7744365
		4	668667	7744390
		2	668633	7744386
		1	667816	7744547
		9	667961	7744543
		26	668006	77445330
		20	668040	7744514
		5	668081	7744506
		1	668093	7744506
		5	670843	7744102

		5	666246	7744974
		31	666199	7745001
		3	666162	7745017
		5	666141	7745031
		6	666070	7745061
		10	666595	7745141
		80	665663	7745348
		7	665623	7745370
		15	665594	7745389
		5	665513	7745437
		40	665231	7745598
		50	665169	7745623
		5	665073	7745677
		2	664826	7745823
		5	664812	7745873
		1	663688	7746488
		6	663655	7746502
		3	663611	7746523
		25	663580	7746537
		23	663529	7746567
		10	663498	7746585
		30	663457	7746608
		1	663382	7746653
		1	661332	7748461
		4	661349	7748371
		5	661361	7748267
		50	661706	7747655
		70	661964	7747447

		10	662645	7747061
		20	662283	7754443
		10	662348	7754685
		5	662349	7754661
		10	662346	7754623
		10	662350	7754576
		15	662375	7754521
		20	662393	7754458
		20	662287	7754406
		30	662117	7754386
	Port Hedland Nelson Point DMMA A Area Flora and Vegetation Assessment (ENV 2008a)	10+	661152	7748630
	Port Hedland Nelson Point DMMA H Area Flora and Vegetation Assessment (ENV 2009b)		666147	7747631
			666304	7747557
	Port Hedland Nelson Point Dredging Approvals Targeted Species Assessment of DMMA H (ENV 2009d)	~50	666445	7747476
		2	666332	7747677
	Port Hedland Nelson Point Dredging Approvals Targeted Species Assessment of DMMA H (ENV 2009d)	200+	666235	7747662
		~100	666304	7747560
	Targeted Regional <i>Tephrosia rosea</i> var. <i>venulosa</i> Survey (ENV 2011)	300	659939	7753987
		10	665717	7745091
	Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)	20	665218	7746826
		5	665227	7745961
		5	665264	7745710
		20	665250	7745741
		20	665209	7745750
		40	665194	7745800
		6	665209	7745841
		2	665248	7745829

		12	665270	7745771
		1	665192	7745981
		1	665185	7746024
		1	665185	7746024
		8	665180	7746044
		5	665162	7746099
		1	665178	7746316
		5	665167	7746894
		7	665188	7746852
		2	665432	7745637
		20	665261	7745600
		8	665245	7745657
		100+	665220	7745621
		3	665315	7745495
40+	665203	7745524		

# World Geodetic System 1984 (WGS84), Zone 50K

**APPENDIX K**  
**LOCATION OF SPECIES OF INTEREST –**  
**CURRENT SURVEY**



**PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT**

**APPENDIX K**

**LOCATION OF SPECIES OF INTEREST – CURRENT SURVEY**

Species	Easting	Northing
<i>Bergia pedicellaris</i>	655687	7744480
	665205	7740510
	672266	7721638
<i>Drosera burmanni</i>	666950	7746092
	660672	7741644
	662004	7744983
<i>Murdannia graminea</i>	671068	7746304
	668251	7747759
	666950	7746092
	656373	7746513
	655687	7744480
	660672	7741644
	661418	7742589
	659481	7741044
<i>Tephrosia simplicifolia</i>	663294	7738814
	676635	7746825
	669913	7743388
	660453	7722568
	668991	7740119
	675787	7727948
	674494	7726093
<i>Vigna lanceolata</i> var. <i>filiformis</i>	659967	7724453
	668251	7747759
	666950	7746092

# World Geodetic System 1984 (WGS84), Zone 50K

# **APPENDIX L**

## **LOCATION OF INTRODUCED FLORA – ALL SURVEYS**

**PORT HEDLAND REGIONAL FLORA AND VEGETATION ASSESSMENT**

**APPENDIX L**

**LOCATION OF INTRODUCED SPECIES – ALL SURVEYS**

Species	Survey	# Easting	# Northing
<i>*Aerva javanica</i>	<i>Current Survey (ENV 2011)</i>	659705	7754027
		672084	7752590
		673706	7751702
		676635	7746825
		668315	7749630
		667432	7747570
		654401	7747340
		652988	7749119
		673038	7739789
		657079	7730724
		657477	7728418
		657268	7727390
		676737	7730289
		677694	7726952
655985	7736216		

Species	Survey	# Easting	# Northing
		659967	7724453
		659981	7754003
		676084	7722840
		661849	7743583
		661817	7743554
		655267	7738546
		656686	7728702
		656855	7728811
		669966	7737464
	<i>A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour (Biota 2008a)</i>	661179	7749709
		661280	7749430
		661160	7749180
		660660	7748850
		661390	7749930
		661300	7749190
		666608	7747398
		665309	7748359
		665426	7747552
		665655	7747473
	<i>A Biodiversity Assessment of the Utah Point Berth Development Port Hedland. (Biota 2008b)</i>	663195	7752899
		662698	7752804
		662301	7752160

Species	Survey	# Easting	# Northing
		665457	7745475
		661751	7747994
		662264	7747391
		662446	7747381
		662415	7747202
		663661	7746502
		663555	7746590
		662747	7752935
		662938	7752961
		662632	7752774
		661826	7750538
		662047	7749210
		661796	7747918
		662317	7747519
		662241	7747541
		662239	7747736
		665356	7745543
		665312	7745556
		665215	7745614
	<i>Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)</i>	663418	7755032
		666330	7728728
		662801	7733770



Species	Survey	# Easting	# Northing
		661789	7733861
		658170	7735278
		657107	7737932
		671490	7729034
		661141	7734861
		663030	7735725
		657372	7741108
		662575	7754784
		661647	7747757
		662180	7747426
		660985	7745201
		660114	7749275
		661353	7744278
		661356	7737536
		673212	7720764
		673310	7720297
		666221	7729875
		666334	7731020
		662281	7754469
		662134	7754698
		661938	7754476
		662034	7754289

Species	Survey	# Easting	# Northing
		661708	7754401
		661343	7754341
		660982	7754227
		662029	7750390
		661153	7745186
		658122	7743956
		662404	7744427
		673066	7723588
		673119	7722137
	<i>Port Hedland Nelson Point Dredging Approvals Flora and Vegetation Assessment of DMMA H (ENV 2009b)</i>	665336	7747650
	<i>Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)</i>	669797	7737903
		670162	7739936
		670476	7741101
		670752	7742100
		671028	7743096
		663681	7746492
		664536	7745995
		665528	7745418
		666342	7744952
		667355	7744625
		668417	7744459
		672222	7745579

Species	Survey	# Easting	# Northing
		670384	7740543
		670068	7739413
		669849	7738329
		669919	7737402
		670463	7735374
		670620	7734780
	<i>Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)</i>	663483	7746511
		664355	7745911
		663840	7746310
		663944	7746252
	<i>Port Hedland Transmission Lines Flora &amp; Fauna Assessment (ENV 2009g)</i>	662250	7740360
		654935	7730087
		654956	7730025
		653725	7729675
		653775	7729775
	<i>Wallwork Road Bridge Flora and Vegetation Assessment (ENV 2010a)</i>	667070	7745200
		667070	7744862
		667240	7744698
		667039	7744504
		665997	7744281
	<i>Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b);</i>	671077	7743285
		671086	7743142

Species	Survey	# Easting	# Northing
		671486	7744160
		671464	7744180
	<i>Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)</i>	665174	7745886
		662160	7747364
		665135	7746170
	<i>Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)</i>	665174	7746329
		665218	7746826
		665331	7746221
		665227	7745961
		665463	7745803
		665269	7745722
		665209	7745841
		665333	7746865
		665167	7746895
		665260	7746718
	<i>Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)</i>	664111	7754660
	<i>Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)</i>	673378	7722541
		672030	7728806
		672910	7722441
		672902	7722455
		672914	7722482

Species	Survey	# Easting	# Northing
		672916	7722518
		673036	7723580
		672461	7727872
		672169	7728608
		672110	7728654
		672105	7728725
		671992	7728776
		671981	7728778
		671776	7729434
		671754	7729525
		673287	7719838
		673319	7719805
		673488	7720467
		672060	7728782
		673252	7720543
		672417	7727997
		673211	7723316
		673071	7723009
		673080	7722620
	<i>North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)</i>	658924	7749547
		657882	7748155
		657882	7748155



Species	Survey	# Easting	# Northing
		657960	7748055
		658925	7749035
		657922	7747933
		659317	7749844
		660290	7750596
		659593	7749868
		661992	7750456
		659052	7749665
		659379	7749871
		659386	7749844
*Aloe vera	<i>Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)</i>	663916	7754960
*Cenchrus ciliaris	<i>Current Survey (ENV 2011)</i>	659705	7754027
		672084	7752590
		672947	7751641
		673706	7751702
		676635	7746825
		675050	7745076
		667432	7747570
		673789	7742632
		672001	7741592
		673314	7741068

Species	Survey	# Easting	# Northing
		654401	7747340
		652988	7749119
		652933	7746615
		660761	7738308
		664541	7741390
		653602	7733204
		653434	7740914
		671261	7738932
		671339	7740276
		673038	7739789
		674005	7738233
		670478	7737780
		670786	7736757
		675071	7733966
		668658	7737209
		667572	7740406
		667204	7739920
		657079	7730724
		676737	7730289
		677694	7726952

Species	Survey	# Easting	# Northing
		675890	7725408
		677239	7723082
		674494	7726093
		672266	7721638
		672769	7738157
		674660	7740367
		659981	7754003
		676084	7722840
		676183	7726101
		654915	7745944
		656855	7728811
	<i>A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour (Biota 2008a)</i>	661179	7749709
		661153	7749651
		661153	7749651
		661164	7749481
		660837	7748943
		661390	7749930
		661350	7749720
		661280	7749430
		661160	7749180
		661300	7749190

Species	Survey	# Easting	# Northing
		661070	7749550
		661100	7748840
		666622	7747325
		666629	7747356
		666608	7747398
		666588	7748089
		665987	7748354
		665309	7748359
		665426	7747552
		665655	7747473
		665706	7747481
	<i>A Biodiversity Assessment of the Utah Point Berth Development Port Hedland. (Biota 2008b)</i>	663282	7752821
		663266	7752861
		662669	7752848
		662377	7752310
		662206	7751870
		662139	7751667
		666064	7745285
		665983	7745264
		665867	7745256
		665457	7745475
		661516	7748651

Species	Survey	# Easting	# Northing
		661425	7748953
		661331	7748518
		661751	7747994
		661332	7743579
		662132	7747374
		662753	7747095
		662729	7747046
		662683	7747049
		662451	7747178
		662415	7747202
		664226	7746193
		663661	7746502
		663555	7746590
		662747	7752935
		662648	7752791
		661999	7747434
	<i>Port Hedland Nelson Point Dredging Approvals - Flora and Vegetation Assessment of an area Located within DMMA A (ENV 2008a)</i>	661152	7748630
	<i>Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)</i>	663418	7755032
		662575	7754784
		662281	7754469
		662134	7754698



Species	Survey	# Easting	# Northing
		667577	7726629
		666136	7727503
		670908	7733945
		656332	7738288
		656538	7739181
		657107	7737932
		657725	7743512
		657246	7744050
		667095	7727671
		661938	7754476
		662034	7754289
		661708	7754401
		661343	7754341
		660982	7754227
		662029	7750390
		661799	7749075
		661647	7747757
		662180	7747426
		661263	7747964
		661241	7747637
		661165	7746813
		661153	7745186

Species	Survey	# Easting	# Northing
		660985	7745201
		658457	7746944
		659223	7747402
		660114	7749275
		660208	7748258
		657523	7746011
		657812	7745895
		654690	7746973
		657789	7744872
		658142	7744694
		655024	7745385
		655905	7745214
		656268	7744988
		660274	7744344
		659073	7742818
		659869	7742962
		662599	7744230
		661712	7744111
		661353	7744278
		661964	7743361
		660297	7741225
		661982	7740274

Species	Survey	# Easting	# Northing
		662454	7738913
		660628	7739058
		657792	7746657
		658122	7743956
		660703	7743000
		659462	7744955
		655017	7745785
		661459	7738394
		661356	7737536
		673066	7723588
		673119	7722137
		673212	7720764
		673310	7720297
		666516	7733813
		666334	7731020
	<i>Port Hedland Nelson Point Dredging Approvals Flora and Vegetation Assessment of DMMA H (ENV 2009b)</i>	665336	7747650
		666443	7747713
		665520	7748001
	<i>Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)</i>	670294	7735855
		669797	7737903
		669893	7738944
		670162	7739936

Species	Survey	# Easting	# Northing
		670476	7741101
		670752	7742100
		671028	7743096
		670881	7744020
		668785	7744375
		667770	7744529
		666693	7744720
		665795	7745205
		662279	7747275
		663681	7746492
		664536	7745995
		665528	7745418
		666342	7744952
		667355	7744625
		668417	7744459
		669407	7744304
		670437	7744148
		671436	7744199
		671912	7745010
		671908	7746484
		672222	7745579
		671259	7743712

Species	Survey	# Easting	# Northing
		670384	7740543
		670068	7739413
		669849	7738329
		669919	7737402
		670184	7736382
		670463	7735374
		670620	7734780
		670753	7734299
	<i>Boodarie Depot Flora and Vegetation Assessment (ENV 2009f)</i>	664254	7744775
		663483	7746511
		664189	7746093
		664355	7745911
		665189	7745497
	<i>Port Hedland Transmission Lines Flora &amp; Fauna Assessment (ENV 2009g)</i>	662250	7740360
		654935	7730087
		654956	7730025
		653725	7729675
		653775	7729775
	<i>Wallwork Road Bridge Flora and Vegetation Assessment (ENV 2010a)</i>	667252	7744954
		667240	7744698
		667232	7744408
		666991	7744849



Species	Survey	# Easting	# Northing
	<i>Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b);</i>	671233	7743831
		671598	7744330
		671486	7744160
		671376	7743934
		671464	7744180
	<i>Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)</i>	665606	7746046
		665174	7745886
		664584	7746196
		664837	7745981
		661756	7750268
		661367	7748763
		661796	7747588
		662160	7747364
		662769	7747048
		665135	7746170
	<i>Great Northern Highway Road Bridge Flora and Vegetation Assessment (ENV 2010d)</i>	666165	7745227
		665654	7744969
		665886	7745268
		666172	7745539
		665484	7745260
		665253	7745119
665236		7745190	

Species	Survey	# Easting	# Northing
	<i>Tug Harbour (Wedgfield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)</i>	665174	7746329
		665218	7746826
		665307	7747278
		665227	7745961
		665331	7746221
		665363	7745859
		665463	7745803
		665269	7745722
		665209	7745841
		665320	7747216
		665134	7747034
		665167	7746895
		<i>Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)</i>	673111
	673189		7720339
	673327		7720332
	673492		7720270
	673584		7720185
	673717		7720159
	673805		7720092
	673759	7720056	
673749	7720034		
673542	7719787		

Species	Survey	# Easting	# Northing
		673500	7719752
		673472	7719788
		673466	7720058
		672798	7723157
		672806	7723057
		672910	7722441
		672902	7722455
		672914	7722482
		672971	7723007
		672461	7727872
		672252	7728395
		672110	7728654
		672105	7728725
		671981	7728778
		671920	7729133
		671776	7729434
		671761	7729503
		673319	7719805
		673212	7723321
		673378	7722541
		673341	7722837
		673227	7720307

Species	Survey	# Easting	# Northing
		673143	7720319
		672869	7720161
		672884	7720409
		673476	7720365
		673210	7720265
		673287	7720131
		673303	7720036
		673287	7719838
		673319	7719805
		673121	7725658
		672030	7728806
		673251	7727414
		673488	7720467
		672621	7729778
		671662	7729894
		672987	7728304
		673543	7720155
		673646	7721450
		673543	7720155
		673144	7721470
		673182	7721119
		673182	7721078

Species	Survey	# Easting	# Northing
		673184	7721036
		672654	7725991
		672413	7728011
		672417	7727997
		672462	7727868
		671797	7729842
		672623	7729778
		673252	7723378
		673211	7723316
		673229	7723326
		673943	7721983
		673410	7720384
		673118	7723016
		673073	7722987
		673059	7722891
		673086	7722823
		673088	7722776
		673062	7722655
		673080	7722620
		673098	7722105
		673384	7722031
		673398	7721847



Species	Survey	# Easting	# Northing
		673458	7721521
		673458	7721521
		673469	7720817
		673470	7720608
		673428	7720424
		673226	7720824
		673237	7720699
		673257	7720589
		673252	7720543
		673271	7720501
		673281	7720482
		673284	7720469
		673289	7720435
		673291	7720426
		673286	7720395
		673286	7720362
		673296	7720343
	<i>North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)</i>	657103	7743132
		657882	7748155
		657951	7748032
		657983	7748101
		658861	7748982

Species	Survey	# Easting	# Northing
		657882	7748155
		655982	7742775
		658924	7749547
		661992	7750456
		660241	7749912
		660166	7749873
		659379	7749871
		659593	7749868
		659317	7749844
		658735	7748897
		659052	7749665
		658122	7748414
		659431	7749532
		659795	7749510
		659050	7749133
		660290	7750596
		658274	7748914
		657101	7742713
		658557	7748604
		658048	7748520
		658327	7748424
		659132	7749715

Species	Survey	# Easting	# Northing
*Cenchrus setiger	<i>A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour</i> (Biota 2008a)	665706	7747481
		666669	7745699
	<i>A Biodiversity Assessment of the Utah Point Berth Development Port Hedland.</i> (Biota 2008b)	666163	7745350
		666100	745485
		662377	7752310
		662104	7751606
		662001	7751216
		666074	7745460
		665983	7745264
		665867	7745256
		665457	7745475
		661425	7748953
		661371	7748703
		661331	7748518
		661751	7747994
		663758	7746452
	<i>Level One Flora and Vegetation Assessment of Mooka Siding</i> (Maia 2010)	673013	7724213
673646		7721450	
<i>North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies</i> (Woodman 2011)	655982	7742775	
* <i>Chloris barbata</i>	<i>Hunt Point Beach Flora, Vegetation and Fauna Assessment</i> (ENV 2010f)	663574	7754801

Species	Survey	# Easting	# Northing
* <i>Chloris virgata</i>	<i>A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour (Biota 2008a)</i>	666588	7748089
	<i>A Biodiversity Assessment of the Utah Point Berth Development Port Hedland. (Biota 2008b)</i>	663195	7752899
		662016	7751276
		661349	7748707
		661331	7748518
		661332	7743579
		661365	7748779
		661414	7748941
		662582	7747103
	661999	7747434	
	<i>Port Hedland Nelson Point Dredging Approvals - Flora and Vegetation Assessment of an area Located within DMMA A (ENV 2008a)</i>	661152	7748630
	<i>Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)</i>	658128	7746364
	<i>Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)</i>	670162	7739936
		670476	7741101
		663681	7746492
671755		7744640	
<i>Finucane Island to Wedgefield Flora and Vegetation Assessment (ENV 2010c)</i>	662160	7747364	
* <i>Citrullus colocynthis</i>	<i>Current Survey (ENV 2011)</i>	654709	7730209

Species	Survey	# Easting	# Northing
	<i>Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)</i>	673310	7720297
	<i>Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)</i>	669797	7737903
		669893	7738944
		670162	7739936
		670476	7741101
		668417	7744459
		670384	7740543
		669849	7738329
		670184	7736382
		670620	7734780
	<i>Port Hedland Transmission Lines Flora &amp; Fauna Assessment (ENV 2009g)</i>	653775	7729690
	<i>Goldsworthy Rail Development Supplemental Flora and Vegetation Assessment (ENV 2010b);</i>	671111	7743152
		671117	7743112
		671054	7743792
	<i>Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)</i>	673266	7720336
		673366	7720305
		673542	7719787
		673319	7719805
		672143	7729967
		673488	7720467
		673227	7720307



Species	Survey	# Easting	# Northing
		673143	7720319
		673203	7722827
		673287	7719838
		673378	7722541
		673384	7722031
		673398	7721847
		674221	7720635
		673091	7723011
		673325	7720313
<i>*Cucumis melo subsp. agrestis</i>	<i>Current Survey (ENV 2011)</i>	662355	7743634
		665697	7743618
		663201	7733037
		671261	7738932
		670478	7737780
		670786	7736757
		667361	7731262
		665706	7723373
		661197	7721932
		665388	7721440
		671594	7733290
		659967	7724453
	<i>Outer Harbour Development Flora and Vegetation Assessment</i>	673310	7720297

Species	Survey	# Easting	# Northing
	(ENV 2009a)	670908	7733945
		670540	7734720
		668915	7726269
		658565	7734682
		656332	7738288
		670199	7734095
		657593	7739391
* <i>Cynodon dactylon</i>	<i>A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour (Biota 2008a)</i>	666436	7747330
* <i>Digitaria ciliaris</i>	<i>Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)</i>	655017	7745785
		664057	7734589
* <i>Echinochloa colona</i>	<i>Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)</i>	673060	7722857
* <i>Eragrostis curvula</i>	<i>Current Survey (ENV 2011)</i>	677694	7726952
* <i>Flaveria trinervia</i>	<i>Current Survey (ENV 2011)</i>	676737	7730289
		677694	7726952
* <i>Indigofera oblongifolia</i>	<i>Current Survey (ENV 2011)</i>	676242	7742485
* <i>Indigofera sessiliflora</i>	<i>Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)</i>	664111	7754660
* <i>Malvastrum americanum</i>	<i>Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)</i>	673306	7720319
		673189	7720136
		673252	7720543

Species	Survey	# Easting	# Northing
* <i>Merremia dissecta</i>	<i>A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour (Biota 2008a)</i>	666608	7747398
	<i>Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)</i>	663418	7755032
* <i>Opuntia stricta</i>	<i>Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV 2010f)</i>	663916	7754960
* <i>Physalis angulata</i>	<i>Current Survey (ENV 2011)</i>	677694	7726952
* <i>Portulaca oleracea</i>	<i>Current Survey (ENV 2011)</i>	673789	7742632
		672001	7741592
		674392	7741369
		654401	7747340
		652988	7749119
		660672	7741644
		661418	7742589
		658728	7738738
		663299	7737645
		660453	7722568
		660742	7734177

Species	Survey	# Easting	# Northing
		655392	7734336
		653434	7740914
		671261	7738932
		674005	7738233
		670786	7736757
		668275	7734444
		672866	7732720
		675071	7733966
		669395	7737084
		668658	7737209
		667572	7740406
		667204	7739920
		667405	7738520
		666523	7736662
		666908	7734910

Species	Survey	# Easting	# Northing
		668019	7735504
		668639	7733083
		669678	7732575
		662286	7727640
		669656	7728731
		671022	7729465
		675787	7727948
		673739	7724279
		674039	7722945
		672219	7725250
		670229	7726930
		668756	7726818
		665717	7726029
		661890	7724103
		674619	7721485



Species	Survey	# Easting	# Northing
		672209	7724203
		674660	7740367
		671594	7733290
		672666	7721758
		676445	7726767
	<i>A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour (Biota 2008a)</i>	666493	7747356
	<i>Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)</i>	654690	7746973
		659073	7742818
		673310	7720297
		669393	7725988
		668915	7726269
		670970	7727612
	<i>Goldsworthy Rail Duplication Flora and Vegetation Assessment (ENV 2009c)</i>	670881	7744020
		668785	7744375
		668417	7744459
		670384	7740543
		670068	7739413
	<i>Tug Harbour (Wedgefield) Flora and Vegetation Survey and Fauna Assessment (ENV 2010e)</i>	665331	7746221
	<i>Hunt Point Beach Flora, Vegetation and Fauna Assessment (ENV</i>	663441	7754997

Species	Survey	# Easting	# Northing
	2010f)	663641	7754269
		664025	7754517
		664066	7754801
	<i>Level One Flora and Vegetation Assessment of Mooka Siding (Maia 2010)</i>	672776	7723566
		672831	7722725
		672856	7722048
		673212	7723321
		673686	7723727
		673847	7722895
		673656	7722745
		673365	7722718
		674265	7720614
		673548	7720412
		673378	7722541
		672761	7728509
		673292	7726437
		673210	7720885
		673281	7720482
		673289	7720435
		672623	7726779
672203	7727527		
671793	7729842		

Species	Survey	# Easting	# Northing
		671808	7729826
		673259	7724430
		673562	7722321
		674152	7722065
		673742	7721583
		674120	7720576
		673068	7722676
		673384	7722031
		673398	7721847
		673472	7720681
		672584	7726990
		672663	7726023
		673400	7722483
		672621	7729778
	<i>North West Iron Ore Alliance Port Project Flora, Vegetation and Mangal Studies (Woodman 2011)</i>	658581	7748787
		660682	7749870
		656149	7743591
<i>*Setaria verticillata</i>	<i>Outer Harbour Development Flora and Vegetation Assessment (ENV 2009a)</i>	673066	7723588
		673119	7722137
<i>*Stylosanthes hamata</i>	<i>Current Survey (ENV 2011)</i>	676242	7742485
	<i>A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour (Biota 2008a)</i>	666493	7747356
	<i>A Biodiversity Assessment of the Utah Point Berth Development</i>	666100	7745485

Species	Survey	# Easting	# Northing
	<i>Port Hedland.</i> (Biota 2008b)	666191	7745527
		665819	7745442
	<i>Outer Harbour Development Flora and Vegetation Assessment</i> (ENV 2009a)	660982	7754227
	<i>Goldsworthy Rail Duplication Flora and Vegetation Assessment</i> (ENV 2009c)	664536	7745995
		669849	7738329
	<i>Port Hedland Transmission Lines Flora &amp; Fauna Assessment</i> (ENV 2009g)	662250	7740360
	<i>Finucane Island to Wedgefield Flora and Vegetation Assessment</i> (ENV 2010c)	662160	7747364
	<i>Great Northern Highway Road Bridge Flora and Vegetation Assessment</i> (ENV 2010d)	666172	7745539
<i>Level One Flora and Vegetation Assessment of Mooka Siding</i> (Maia 2010)	671893	7729246	
* <i>Tamarix aphylla</i>	<i>Goldsworthy Rail Duplication Flora and Vegetation Assessment</i> (ENV 2009c)	671755	7744640
* <i>Vaccaria hispanica</i>	<i>Current Survey</i> (ENV 2011)	676635	7746825
* <i>Vachellia farnesiana</i>	<i>Current Survey</i> (ENV 2011)	675596	7742420
* <i>Vitex trifolia</i> var. <i>subtrisecta</i>	<i>Finucane Island to Wedgefield Flora and Vegetation Assessment</i> (ENV 2010c)	665174	7745886
* <i>Washingtonia filifera</i>	<i>A Flora and Fauna Assessment of RGP5 Spoil Areas A and H, Port Hedland Harbour</i> (Biota 2008a)	666436	7747330
* <i>Yucca aloifolia</i>	<i>Hunt Point Beach Flora, Vegetation and Fauna Assessment</i> (ENV 2010f)	663916	7754960

# World Geodetic System 1984 (WGS84), Zone 50K