



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 4330/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Western Areas NL

### 1.3. Property details

Property: Mining Lease 77/582  
Mining Lease 77/911  
Local Government Area: Kondinin  
Colloquial name: Forrestania Nickel Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
9.01		Mechanical Removal	Mineral Production and Mineral Exploration

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 16 June 2011

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

**Vegetation Description** Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia. Two Beard vegetation associations have been mapped within the application area (GIS Database; Shepherd 2009):

511: Medium woodland; salmon gum & morel; and  
2048: Shrublands; scrub-heath in the Mallee Region.

The application area was surveyed by staff from Botanica Consulting (2007) on 29 and 30 October 2006. The following vegetation types were identified within the application area:

1b: Tall Open *Allocasuarina corniculata* Scrub developed on sandy flats;

1c: Drainage Line Community- Closed heath of *Melaleuca uncinata* and sparse *Allocasuarina corniculata* over a Low Open Shrubland dominated by Myrtaceous and Protaceous species in broad sandy drainage channels;

2a: Low Open Woodland of *Eucalyptus pileata* and *Eucalyptus eremophila* subsp. *eremophila* over Shrub Mallees including *Eucalyptus pileata*, *Eucalyptus eremophila* subsp. *eremophila*, *Eucalyptus olivine* and intermittently *Eucalyptus sporadic*, *Eucalyptus incrassate* and *Eucalyptus scyphocalyx*;

2b: Very Open Shrub Mallees of *Eucalyptus olivine* and *Eucalyptus sporadicai* and tall *Grevillea baxteri* and *Grevillea eriostachya* shrubs over a Closed Low Myrtaceous and Proteaceous Heath and sedges developed on sandy flats with ironstone nodules;

2c: Very Open Shrub Mallees of *Eucalyptus olivine* and *Eucalyptus pileata* and Open Shrubland of *Allocasuarina corniculata*, *Callitris tuberculata*, *Melaleuca uncinata* and *Leptospermum* spp. over an Open Myrtaceous and Proteaceous Heath over sedges developed on sandy flats with ironstone nodules;

3a: Catchment Community. Low Open Woodland and Mallee mosaic of *Eucalyptus flocktoniae*, *Eucalyptus transcontinentalis*, *Eucalyptus pileata* and *Eucalyptus eremophila* subsp. *eremophila* over a Closed Heath of *Melaleuca pentagona*, *Melaleuca adnata*, *Melaleuca teuthidoides*, *Melaleuca sparsiflora* and *Melaleuca lateriflora* developed on clays flanking drainage line;

3b: Catchment Community. Open Woodland and Mallee mosaic of *Eucalyptus transcontinentalis* over Open Shrub Mallees of *Eucalyptus transcontinentalis* and *Eucalyptus eremophila* subsp. *eremophila* over Tall Open Scrub of *Melaleuca johnsonii*, *Melaleuca adnata* and *Melaleuca laterifolia*

developed on clays flanking the drainage line;

3c: Drainage Line Community. Woodland of *Eucalyptus transcidentalis* *Eucalyptus incernata* over *Eucalyptus pileata* Open Shrub Mallees over Tall Open *Melaleuca johnsonii*, *Melaleuca adnata* and *Melaleuca teuthidoides* Scrub developed on seasonally inundated clay along a poorly defined drainage line;

3d: Drainage Line Community. Low Open Woodland of *Eucalyptus flocktoniae* over *Eucalyptus eremophila* subsp. *eremophila* over a Closed Tall *Melaleuca acuminata*, *Melaleuca adnata* and *Callistemon phoeniceus* developed on hard brown cracking clays along drainage channel; and

4a: Low Woodland of *Melaleuca strobophylla* developed on seasonally inundated clay in depressions.

**Clearing Description** Western Areas NL has applied to clear up to 9.01 hectares of native vegetation within a boundary of 87.3 hectares for the purpose of mineral exploration and mineral production.

Where possible, progressive rehabilitation will be undertaken around the site on recently disturbed areas using topsoil and vegetative material where possible.

**Vegetation Condition** Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

**Comment** The application area is located in the Mallee and Coolgardie regions of Western Australia and is situated approximately 78 kilometres east of Hyden (GIS Database).

Clearing permit CPS 691/2 was previously granted over the application area for the purpose of clearing 23 hectares of native vegetation for mineral production. CPS 691/2 expired on 9 March 2011 and clearing permit application CPS 4330/1 was lodged to clear the remaining 9.01 hectares of native vegetation that wasn't cleared under CPS 691/2 (Western Areas NL, 2011).

### 3. Assessment of application against clearing principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

**Comments** **Proposal is not likely to be at variance to this Principle**

The application area occurs within the Western Mallee (MAL2) subregion of the Mallee Interim Biogeographic Regionalisation for Australia (IBRA) bioregion and the Southern Cross (COO2) subregion of the Coolgardie IBRA bioregion (GIS Database). The Southern Cross subregion is characterised by subdued relief, comprised of gently undulating uplands dissected by broad valleys with bands of low greenstone hills (CALM, 2002). The drainage of the Southern Cross subregion is occluded (CALM, 2002). The Western Mallee subregion is characterised by clays and silts underlain by Kankar, exposed granite, sandplains and laterite pavements. Salt lake systems occur on a granite basement, with occluded drainage systems (CALM, 2002). Mallee communities can be found on a variety of surfaces while *Eucalyptus* woodlands occur mainly on fine-textured soils, with scrub heath on sands and laterite (CALM, 2002).

The application area occurs within an Environmentally Sensitive Area (Register of National Estate), which is the Lake Cronin Area (GIS Database). The Lake Cronin Area is listed on the Register of National Estate for its high level of floral and faunal diversity and endemism. According to the Australian Heritage Database (2011), 16 fauna species that are endemic to either the south-west region or to Western Australia occur within the Lake Cronin area. The Lake Cronin area is also described as being an important refuge for rare species due to widespread clearing in the wheatbelt to the west. Rare species include fauna such as the Malleefowl (*Leipoa ocellata*) and flora such as *Eucalyptus steedmanii*.

A flora and vegetation survey was initially conducted over the application area in February and March 2004 by staff from Frost O'Connor and Associates (2004) and further surveys were conducted in June 2007 by Botanica Consulting (2007). The survey by Frost O'Connor and Associates (2004) identified 219 plant taxa from 91 genera and 39 families within the application area and the immediately adjacent areas. According to the biodiversity study of Western Australia by CALM (2002), eucalypt woodlands in the Western Mallee subregion are known for having high biodiversity. Over 685 species of acacias and eucalypts alone are known to occur in these woodlands (CALM, 2002). It is therefore considered unlikely that the application area contains greater biodiversity than other eucalypt woodlands within the Western Mallee subregion.

A total of seven Priority Flora species were recorded within the application area during the two flora and vegetation surveys (Botanica Consulting, 2007; Frost O'Connor and Associates, 2004):

- *Boronia westringioides* (P2): Approximately 2-20 individuals within application area. Restricted to Forrestania;
- *Comesperma calcicola* (P3): Approximately 1-10 individuals within application area;
- *Cryptandra polyclada* subsp. *polyclada* (P3): Approximately 5-50 individuals within application area. Species is abundant in areas adjacent to the application area;
- *Daviesia elongate* subsp. *implexa* (P3): Approximately 1-10 individuals within application area;
- *Pityrodia* sp. Yilgarn (P3): 1 individual recorded within the application area;

- *Pultenaea adunca* (P3): According to Florabase this species is known from a wide distribution (Western Australian Herbarium, 2011). It is therefore considered unlikely that the proposed clearing will significantly impact the conservation of this species;
- *Grevillea baxteri* (P4): Approximately 6-60 individuals within application area. This population is an extension of the previously known range for this species. However, there are numerous populations east south east of the application area (Frost O'Connor and Associates, 2004).

Western Areas NL have committed to avoiding all Priority Flora species within the application area, however, if the clearing of Priority Flora is unavoidable, Western Areas NL will liaise with the Department of Environment and Conservation prior to the removal of these species.

According to available GIS Databases the application area is within the buffer zone for one Priority 3 Ecological Community (PEC), Ironcap Hills Vegetation Complexes (GIS Database). Mining is listed as a main threat to this PEC (EPA, 2009). The vegetation within the application area does not comprise the landforms or the vegetation associated with this PEC and given the previous disturbance within the application area, the proposed clearing is considered unlikely to impact on its values.

Biota Environmental Sciences (2006) conducted an initial fauna survey of the application area in February, March and November 2005. A further survey of the application area was conducted in May and November 2006 (Biota Environmental Sciences, 2007). As a result of these fauna surveys, a total of 126 vertebrate species comprised of 71 bird species, 16 native mammal species, four introduced mammal species and 35 herpetofauna species. It is likely that there will be loss of individuals due to the proposed clearing, however, it is considered unlikely that this will affect the conservation status of any of the species recorded within the application area (Biota Environmental Sciences, 2006)

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Australian Heritage Database (2011)  
 Biota Environmental Sciences (2006)  
 Biota Environmental Sciences (2007)  
 Botanica Consulting (2007)  
 CALM (2002)  
 EPA (2009)  
 Frost O'Connor and Associates (2004)  
 Western Australian Herbarium (2011)  
 GIS Database:  
 - IBRA WA (regions – subregions)  
 - Register of National Estate

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

**Comments Proposal may be at variance to this Principle**

A two phase fauna survey of the application area was undertaken by Biota Environmental Sciences (2006) with Phase I conducted in February/March 2005 and Phase II conducted in November 2005. Additional Phase III and Phase IV surveys were undertaken by Biota Environmental Sciences (2007) in May and November 2006 respectively. From these field surveys, the following five Scheduled fauna species have been identified within the application area and its adjacent surrounds:

- Calyptorhynchus lastirostris* (Short-billed (Carnaby's) Black-Cockatoo) – Endangered and Schedule 1. This species was observed within the application area, however, suitable breeding habitat of large *Eucalyptus solomonophloia* is not present within the application area;
- Dasyurus geoffroyi* (Western Quoll (Chuditch)) – Vulnerable and Schedule 1. Three individuals recorded within the application area. The full extent of the Chuditch population cannot be quantified. However, given this population's isolation from other populations in the states south west, the vegetation within the application area may be significant habitat for this species. Given that this species utilises a large range of habitats including woodland associations and dry sclerophyll forests, it is probable that this species would utilise all habitats within the application area (DEC, 2006; Biota Environmental Sciences, 2007). The implementation of a fauna management condition to salvage Chuditch hollows from the application area prior to clearing, and relocate to nearby habitat may reduce any potential impact to the conservation of this species;
- Leipoa ocellata* (Malleefowl) – Vulnerable and Schedule 1. Not recorded during survey. A recently active mound near Flying Fox water disposal pipeline was recorded in 2006 (Biota Environmental Sciences, 2007). Biota Environmental Sciences (2006) suggest that Malleefowl is probably present in most habitats within the application area. The implementation of a condition to avoid Malleefowl mounds may avoid potential impacts to the conservation of this species;
- Platycercus icterotis xanthogenys* (Western Rosella) – Schedule 1. Nine individuals have been recorded within the application area. It is considered likely that this locality supports a large population of this species and given the small scale of the clearing it is considered unlikely that conservation of this species will be impacted (Biota Environmental Sciences, 2007);
- Falco peregrines* (Peregrine Falcon) – Schedule 4. Recorded once within the application area. There is potential for some loss of nesting and foraging habitat however, given the mobility of the species the conservation status is unlikely to be affected;

An additional six Priority 4 fauna species (Carpet Python, Shy Groundwren, Rufous Fieldwren, Crested Bellbird, White-browed Babbler and the Western Brush Wallaby) were recorded within the application area during these four surveys (Biota Environmental Sciences, 2006; Biota Environmental Sciences, 2007). A further three Priority 4 species were identified in a desktop survey as being likely to occur within the application area (Biota Environmental Sciences, 2006; Biota Environmental Sciences, 2007). According to Biota Environmental Sciences (2006; 2007), given that these species are either widespread, highly mobile or occurring in low numbers within the application area, it is unlikely that the proposed clearing will impact on the conservation of any of these Priority 4 fauna species.

Based on the above, the proposed clearing may be at variance to this Principle.

**Methodology** Biota Environmental Sciences (2006)  
Biota Environmental Sciences (2007)  
DEC (2006)  
DEC (2011)

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Comments Proposal is not likely to be at variance to this Principle**

According to available GIS Databases, there are no known records of Declared Rare Flora (DRF) within the application area (GIS Database).

No DRF taxa were recorded during vegetation surveys conducted in June 2007 by Botanica Consulting (2007) or in November 2003 by Frost O'Connor & Associates (2004).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Botanica Consulting (2007)  
Frost O'Connor & Associates (2004)  
GIS Database:  
- Declared Rare and Priority Flora List

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

**Comments Proposal is not likely to be at variance to this Principle**

According to available GIS Databases, there are no known records of Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest known TEC is located approximately 125 kilometres south-west of the application area (GIS Database). At this distance, there is little likelihood of any impact to the TEC as a result of the proposed clearing.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Database:  
- Threatened Ecological Sites Buffered

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Comments Proposal is not at variance to this Principle**

The application area falls within the Coolgardie and the Mallee Interim Biogeographic Regionalisation for Australia (IBRA) bioregions (GIS Database). Shepherd (2009) reports that approximately 98.42% and 55.65% of the pre-European vegetation is still present within these bioregions respectively. In addition, there is approximately 35.48% of the vegetation remaining within the Western Mallee IBRA subregion, of which 24.08% remains in conservation estates. There is approximately 52.53% of vegetation remaining within the Shire of Kondinin (Shepherd, 2009).

The vegetation in the application area is broadly mapped as Beard vegetation associations:

511: Medium woodland; salmon gum & morel; and  
2048: Shrublands; scrub-heath in the Mallee Region.

According to Shepherd (2009) approximately 48.62% of Beard vegetation association 2048 remains within the Mallee bioregion and approximately 48.62% of Beard vegetation association remains within the Western Mallee subregion (see table on next page).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves (and post clearing %)
IBRA Bioregion - Coolgardie	12,912,204	12,707,873	~98.42	Least Concern	~10.87 (~11.04)
IBRA Subregion - Southern Cross	6,010,833	5,808,059	~96.63	Least Concern	~16.25 (~16.81)
IBRA Bioregion - Mallee	7,395,897	4,115,655	~55.65	Least Concern	~17.98 (~30.70)
IBRA Subregion - Western Mallee	3,981,718	1,412,907	~35.48	Depleted	~9.96 (~24.08)
Local Government - Kondinin	741,930	389,733	~52.53	Least Concern	~3.81 (~6.14)
<b>Beard vegetation associations - State</b>					
511	700,410	499,600	~71.33	Least Concern	~14.13 (~18.73)
2048	322,220	158,540	~49.2	Depleted	~7.61 (~15.00)
<b>Beard vegetation associations - Bioregion (Mallee)</b>					
2048	313,728	152,545	~48.62	Depleted	~7.75 (~15.48)
<b>Beard vegetation associations - Bioregion (Coolgardie)</b>					
511	464,424	435,794	~93.84	Least Concern	~17.48 (~18.62)
2048	4,379	4,379	~100	Least Concern	~3.52 (~3.52)
<b>Beard vegetation associations - subregion (Western Mallee)</b>					
2048	313,693	152,510	~48.62	Depleted	~7.75 (~15.48)

\* Shepherd (2009)

\*\* Department of Natural Resources and Environment (2002)

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** Department of Natural Resources and Environment (2002)  
Shepherd (2009)  
GIS Database  
- Pre-European Vegetation  
- IBRA WA (regions - subregions)

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Comments Proposal is not at variance to this Principle**

There are no watercourses or wetlands within the application area (GIS Database). A vegetation survey conducted by staff from Botanica Consulting (2007) did not identify any vegetation growing in or in association with a watercourse.

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** GIS Database:  
- Hydrography, linear

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Comments Proposal is not likely to be at variance to this Principle**

There is one soil type, Ms8, mapped within the application area containing two sub-types (GIS Database):

- i. on rolling to undulating terrain, brown and grey cracking clays
- ii. on rolling areas, similar shallow soils, with a complex association of soils often containing some

ironstone gravels.

According to Western Areas NL (2011), the western and southern sections of the project area are located on high ground developed on cream to light yellow sands of variable depths over lateritic soils; and broad shallow valley in the north east section is developed over brown clay loams.

The application area is located adjacent to existing mining operations. It is unlikely that the proposed clearing of 9.01 hectares will cause further land degradation to the local area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Western Areas NL (2011)  
GIS Database:  
- Soils, Statewide

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments Proposal may be at variance to this Principle**

The application area occurs within an Environmentally Sensitive Area (Register of National Estate), which is the Lake Cronin Area (GIS Database). At its closest point, the application area is approximately 6.7 kilometres west, south-west from Lake Cronin and 3.6 kilometres west of the Lake Cronin Nature Reserve boundary (GIS Database).

According to the Australian Heritage Database (2011) the Lake Cronin Area is one of a number of areas in the south-west which has provided excellent conditions for the persistence of a range of primitive and relict species. At over 31,000 hectares, the Lake Cronin Area is a significant area in maintaining existing processes at a regional scale and therefore is potentially important contemporary refugia for many species (Australian Heritage Database, 2011).

The Lake Cronin Area is dominated by mallee and woodland associations (Australian Heritage Database, 2011). According to vegetation mapping conducted by Frost O'Connor and Associates (2004), the application area is dominated by mallee and woodland associations. As this vegetation type is well represented within the Lake Cronin Area it is unlikely that the proposed clearing of up to 9.01 hectares of native vegetation within a broader area of 87.3 hectares, approximately 3.6 kilometres from the nature reserve at the closest point will not significantly affect ecological linkages to the reserve.

Based on the above the proposed clearing may be at variance to this Principle.

**Methodology** Australian Heritage Database (2011)  
Frost O'Connor and Associates (2004)  
GIS Database:  
- DEC Tenure  
- Register of National Estate

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

**Comments Proposal is not likely to be at variance to this Principle**

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The groundwater salinity within the application area is approximately 14,000 - 35,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be hyper saline. Given the size of the area to be cleared (9.01 hectares) compared to the size of the Yilgarn-Southwest Groundwater Province (24,601,260 hectares) (GIS Database), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

The application area is located within a semi arid, warm Mediterranean environment with an average annual rainfall of 338.6 millimetres recorded from the nearest weather station at Hyden approximately 78 kilometres west of the application area (BoM, 2011; CALM, 2002). The small size of the proposed clearing area within the above climate is unlikely to result in significant changes to surface water flows.

There are no known groundwater dependent ecosystems within the application area (GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** BoM (2011)  
CALM (2002)  
GIS Database  
- Groundwater Provinces  
- Groundwater Salinity, Statewide

- Potential Groundwater Dependent Ecosystems
- Public Drinking Water Source Areas (PDWSA's)

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Comments Proposal is not likely to be at variance to this Principle.**

The application area is located within a semi arid, warm Mediterranean environment with an average annual rainfall of 338.6 millimetres recorded from the nearest weather station at Hyden approximately 78 kilometres west of the application area (BoM, 2011; CALM, 2002). Rainfall is usually experienced in during winter months and it is likely that during these times of intense rainfall there may be some localised flooding in adjacent areas (CALM, 2002). However, annual evaporation rates are approximately 2,200 millimetres, therefore there is little surface water flow during normal seasonal rains (GIS Database; Western Areas NL, 2011).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** BoM (2011)  
CALM (2002)  
Western Areas NL (2011)  
GIS Database:  
- Evaporation Isopleths

**Planning instrument, Native Title, Previous EPA decision or other matter.**

**Comments**

There are two Native Title Claims (WC 03/6 and WC 00/7) over the area under application (GIS Database). These claims have been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment and Conservation and the Department of Water, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 9 May 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

**Methodology** GIS Database:  
- Aboriginal Sites of Significance  
- Native Title Claims – Filed at the Federal Court  
- Native Title Claims – Registered with the NNTT

**4. References**

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DEC (2007 - ) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed xx/xx/xxxx

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Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

EPA (2009) Advice on Conservation Values and Review of Nature Reserve Proposals in the Lake Cronin Region. Advice of the Environmental Protection Authority to the Minister for Environment under Section 16(e) of the Environmental

Protection Act 1986.

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Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

Western Areas NL (2011) Supporting Document for Clearing Permit (Purpose) Application, Mining Tenements M77/582 & M77/911. West Perth, Western Australia.

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>CALM</b>	Department of Conservation and Land Management (now DEC), Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia
<b>DEH</b>	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
<b>DEP</b>	Department of Environment Protection (now DEC), Western Australia
<b>DIA</b>	Department of Indigenous Affairs
<b>DLI</b>	Department of Land Information, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia
<b>DoE</b>	Department of Environment (now DEC), Western Australia
<b>DoIR</b>	Department of Industry and Resources (now DMP), Western Australia
<b>DOLA</b>	Department of Land Administration, Western Australia
<b>DoW</b>	Department of Water
<b>EP Act</b>	Environmental Protection Act 1986, Western Australia
<b>EPBC Act</b>	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>RIWI Act</b>	Rights in Water and Irrigation Act 1914, Western Australia
<b>s.17</b>	Section 17 of the Environment Protection Act 1986, Western Australia
<b>TEC</b>	Threatened Ecological Community

### Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

<b>P1</b>	<b>Priority One - Poorly Known taxa:</b> taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
<b>P2</b>	<b>Priority Two - Poorly Known taxa:</b> taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
<b>P3</b>	<b>Priority Three - Poorly Known taxa:</b> taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
<b>P4</b>	<b>Priority Four – Rare taxa:</b> taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
<b>R</b>	<b>Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):</b> 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, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
<b>X</b>	<b>Declared Rare Flora - Presumed Extinct taxa:</b> taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.



{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1**    **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2**    **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3**    **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4**    **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1**            **Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2**            **Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3**            **Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4**            **Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which 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.
- P5**            **Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

**Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999*)**

- EX**            **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W)**        **Extinct in the wild:** A native species which:  
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or  
(b) 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.
- CR**            **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN**            **Endangered:** A native species which:  
(a) is not critically endangered; and  
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU**            **Vulnerable:** A native species which:  
(a) is not critically endangered or endangered; and  
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD**            **Conservation Dependent:** A native species which 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.