



LandCorp
Broome Motorplex
Environmental Site Investigation

June 2016

Executive summary

LandCorp is the lead agency progressing the multi-staged Broome Motorplex Project. GHD Pty Ltd (GHD) was commissioned by LandCorp to undertake to undertake desktop and field environmental investigations for the Project. The purpose of the investigations was to determine key site physical, flora, vegetation and fauna constraints, and recent and present land use for two Sites, Site 1 – Lot 351 McGuigan Road (29.56 ha) and Site 2 – Lot 591 Broome Road (128.08 ha). The outcomes of the investigations will inform the future direction of the Project.

This report is subject to, and must be read in conjunction with the limitations set out in Section 1.5 and the assumptions and qualifications contained throughout the report.

Potential project constraints—biological aspects

The key constraints identified for the Site during the environmental investigations are summarised below.

Constraint	Site 1	Site 2
Land use and physical characteristics	No constraints identified.	Fly tipping of house hold waste, including large, flat panel fragments of surficial potential asbestos containing materials present.
Vegetation and flora	29.56 ha of native vegetation is present.	127.89 ha of native vegetation is present. Approximately 9,940 individuals of <i>Jacquemontia</i> sp. Broome (P1) are present. Approximately six individuals of <i>Pterocaulon ?intermedium</i> (P3) are present. One individual of <i>Terminalia Kumpaja</i> (P3) is present.
Fauna	<p>Potential breeding and foraging habitat for three species:</p> <ul style="list-style-type: none">) Rainbow Bee-eater (<i>Merops ornatus</i>) –Migratory Terrestrial species (EPBC Act)) Little North-western Mastiff Bat (<i>Ozimops cobourgianus</i>) – Priority 1 (DPaW)) Greater Bilby (<i>Macrotis lagotis</i>) – Vulnerable (EPBC Act and WC Act) <p>Potential foraging habitat for three species:</p> <ul style="list-style-type: none">) Grey Falcon (<i>Falco hypoleucos</i>) – Vulnerable (EPBC Act)) Peregrine Falcon (<i>Falco peregrinus</i>) – Schedule 7 (WC Act)) Dampierland Burrowing Snake (<i>Simoselaps minimus</i>) – Priority 2 (DPaW) 	<p>Potential breeding and foraging habitat for three species:</p> <ul style="list-style-type: none">) Rainbow Bee-eater (<i>Merops ornatus</i>) –Migratory Terrestrial species (EPBC Act)) Little North-western Mastiff Bat (<i>Ozimops cobourgianus</i>) – Priority 1 (DPaW)) Greater Bilby (<i>Macrotis lagotis</i>) – Vulnerable (EPBC Act and WC Act) <p>Potential foraging habitat for three species:</p> <ul style="list-style-type: none">) Grey Falcon (<i>Falco hypoleucos</i>) – Vulnerable (EPBC Act)) Peregrine Falcon (<i>Falco peregrinus</i>) – Schedule 7 (WC Act)) Dampierland Burrowing Snake (<i>Simoselaps minimus</i>) – Priority 2 (DPaW)

Environmental approvals and referrals

The following environmental approvals and referrals advice is based on the environmental constraints identified within the Sites during the preliminary site investigation and biological assessment. As the Project is in concept design, it is assumed there will be opportunities to avoid and minimise the impacts on these constraints through design. If the constraints can be avoided or impacts to these minimised, it may negate the need for environmental approvals or referral to Commonwealth/State environmental agencies.

Department of the Environment

Referral to Department of the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* is triggered if a proposed action has or potentially has a significant impact on any Matters of National Environmental Significance. A preliminary assessment has determined that referral is recommended for the Project as there may be a risk (albeit probably low) of a significant impact to an important population of the Greater Bilby.

Environmental Protection Authority

In the absence of a broader environmental assessment, the majority of the likely biological impacts associated with the Project are linked to native vegetation clearing and loss of fauna habitat. The potential impacts from the loss of native vegetation and loss of fauna habitat maybe effectively assessed through the Environmental Protection (Clearing of Native Vegetation) Regulations 2004. Therefore with consideration of the biological values discussed in this report, it is considered unlikely that the Project would require referral to the Environmental Protection Authority under Section 38 of the *Environment Protection Act 1986* (EP Act).

Department of Environment Regulation

Any clearing of native vegetation is regulated by the Department of Environment Regulation and requires a clearing permit under Part V of the EP Act, except when a project is assessed under Schedule 6 of the Act or is prescribed by regulation in the Environmental Protection (Clearing Native Vegetation) Regulations 2004 and not in an Environmentally Sensitive Area.

If the EPA does not assess the Project, a clearing permit will be required for the Project.

Table of contents

1.	Introduction.....	1
1.1	Background.....	1
1.2	Purpose of the report	1
1.3	Project Area	1
1.4	Scope of works	1
1.5	Limitation and assumptions	2
2.	Methodology.....	3
2.1	Desktop assessment.....	3
2.2	Site inspection.....	3
2.3	Field survey	4
2.4	Limitations	12
3.	Desktop assessment.....	16
3.1	Site information	16
3.2	Review of previous investigations.....	16
3.3	Land use	16
3.4	Physical characteristics.....	18
3.5	Biological characteristics.....	20
4.	Site inspection	26
4.1	Site description	26
4.2	Surrounding land use.....	27
5.	Conceptual site model.....	28
5.1	Potential contaminants of concern.....	28
5.2	Preferential pathways	28
5.3	Exposure routes.....	28
5.4	Sensitive receptors	28
5.5	Potential pollutant linkages	28
6.	Flora and fauna field results.....	29
6.1	Vegetation and flora.....	29
6.2	Fauna.....	33
7.	Project constraints and referrals	41
7.1	Key constraints	41
7.2	Environmental approvals and referrals.....	43
8.	Conclusions and recommendations.....	45
8.1	Key findings	45
8.2	Recommendations.....	46
9.	References.....	47

Table index

Table 1	Site details	1
Table 2	Information sources	3
Table 3	Data collection during the flora and vegetation field survey	4
Table 4	Vegetation condition scale	5
Table 5	Fauna references	7
Table 6	Camera trap effort and locations	9
Table 7	Fauna quadrat locations and effort	11
Table 8	Survey limitations	13
Table 9	Summary of historical aerial photographs	16
Table 10	Conservation areas within 20 km of the Sites	18
Table 11	Department of Water geographic atlas queries for the Sites	19
Table 12	WIR bore information	20
Table 13	Land systems mapped within the Sites	21
Table 14	Vegetation associations mapped within the Sites	22
Table 15	Conservation significant ecological communities recorded within 20 km of the Sites	24
Table 16	Location of observed contamination within Site 2	26
Table 17	Conceptual site model summary	28
Table 18	Extent of vegetation condition ratings mapped within the Sites	30
Table 19	Estimated counts of <i>Jacquemontia</i> sp. Broome (A.A. Mitchell 3028)	31
Table 20	Habitat type in the Sites	33
Table 21	Vertebrate fauna results summary	35
Table 22	Mammal families recorded during the field surveys	35
Table 23	Bird families recorded during the field surveys	35
Table 24	Reptile families recorded during the field surveys	36
Table 25	Summary of likelihood of occurrence for conservation significant fauna	38
Table 26	Key constraints identified within the Sites	42
Table 27	Assessment of key biological Matters of National Environmental Significance for the Sites	44

Appendices

Appendix A – Figures

Appendix B – Relevant legislation, conservation codes and background information

Appendix C – Land use

Appendix D – Biological desktop searches

Appendix E – Site walkover data

Appendix F – Vegetation and flora data

Appendix G – Fauna data

1. Introduction

1.1 Background

LandCorp is the lead agency progressing the multi-staged Broome Motorplex Project. The existing Broome Speedway and Motorcross facilities are located at the corner of Wattle Drive and Broome Road, and are immediately east of the Broome North District Development Plan area. The noise emissions from the speedway create a significant constraint for the area. In 2013, the Shire of Broome Council resolved to undertake a feasibility study to investigate the location and construction of a new motorsports complex. Following the preliminary feasibility study, a preferred site was identified based on a multi-criteria analysis.

In 2015, the Shire of Broome Council resolved to endorse the progression of further site-specific technical studies. Stage one of the Project involves site selection for the future Broome Motorplex, with a number of investigations forming a key part of this Stage.

1.2 Purpose of the report

GHD Pty Ltd (GHD) was commissioned by LandCorp to undertake desktop and field environmental investigations for the Project. The purpose of the investigations was to determine key site physical, flora, vegetation and fauna constraints and recent and present land use. This report documents the environmental investigation method, results and conclusions. The outcomes of the investigations will inform the future direction of the Project.

1.3 Project Area

The Project Area is located approximately 10 km north of Broome, in the Kimberley Region of Western Australia and comprises two Sites (Table 1 and Figure 1, Appendix A).

Table 1 Site details

Site ID	Address	Area (ha)
Site 1	Lot 351 McGuigan Road Located near the corner of Cape Leveque and McGuigan Roads	29.56
Site 2	Lot 591 Broome Road Located at the corner of Cape Leveque and Broome Roads	128.08

1.4 Scope of works

The scope of works, as detailed in the LandCorp brief and GHD proposal was to:

- Undertake a desktop assessment of physical characteristics, and recent and present land use of the Sites
- Undertake a site inspection to verify the findings from the desktop assessment and assess site conditions including presence of construction material and observable potential contamination
- Undertake a flora and fauna assessment of the Sites to provide:
 - Description and mapping of vegetation units, vegetation condition and fauna habitats
 - Preliminary identification of any Threatened or Priority Ecological Communities
 - Locations and extents of any Threatened or Priority flora
 - Inventory of flora and fauna species

- Locations and/or evidence of any Threatened or Priority fauna
- Prepare a report that documents the results of the desktop assessment, site inspection and biological survey, and assesses (and where applicable recommends) the requirement for referral to statutory authorities or other clearances for the Project.

1.5 Limitation and assumptions

This report: has been prepared by GHD for LandCorp and may only be used and relied on by LandCorp for the purpose agreed between GHD and the LandCorp as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than LandCorp arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by LandCorp and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of access tracks, services and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

Site conditions (including the presence of hazardous substances and/or site contamination) may change after the date of this Report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change.

This report has assessed the flora and fauna within Site 1 and 2 (Figure 1, Appendix A). Should Site 1 or 2 change or be refined, further assessment may be required.

2. Methodology

2.1 Desktop assessment

A desktop assessment of the Project was undertaken to identify potential environmental constraints. The desktop assessment involved a review of government agency managed databases and relevant spatial datasets (Table 2).

Table 2 Information sources

Aspect	Information Source
Geology	Geological Survey of Western Australia (GSWA 1982)
Acid Sulfate Soils (ASS)	Australian Soil Resource information System (ASRIS 2016)
Hydrology and hydrogeology	DoW Geographic Data Atlas (DoW 2016) Laws (1991)
Contaminated sites	DER Contaminated Sites Database (DER 2016a)
Land use and reserves	Department of Parks and Wildlife (DPaW) Estate spatial dataset Shire of Broome Local Planning Scheme (LPS) No. 6, 2015
Environmentally Sensitive Areas	DER Clearing Permit System Map (DER 2016b)
Regional biogeography	Graham (2001)
Vegetation	Beard vegetation mapping (1977) State wide Vegetation Statistics (Government of Western Australia (GoWA) 2015)
Threatened and Priority Ecological Communities	DPaW Threatened Ecological Community (TEC) and Priority Ecological Community (PEC) spatial datasets <i>Environmental Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) Protected Matters Search Tool (PMST) (DotE 2016a)
Conservation Significant Flora and Fauna	DPaW <i>NatureMap</i> database (DPaW 2007–) DPaW Threatened and Priority Fauna datasets (TPFL) Western Australian Herbarium database (WAHERB)
Matters of National Environmental Significance	EPBC Act PMST (DotE 2016a)

2.1.1 Relevant legislation, conservation codes and background information

In Western Australia some ecological communities, flora and fauna are protected under both Federal and State Government legislation. In addition, regulatory authorities also provide a range of guidance and information on expected standards and protocols for environmental surveys.

An overview of key legislation and guidelines, conservation codes and background information relevant to this Project is provided in Appendix B.

2.2 Site inspection

An assessment of each Site was undertaken by GHD Ecologists during a site walkover on 18-24th March 2016. The site conditions were assessed and any visible areas of potential

environmental and/or human health concerns were recorded. The site walkover also confirmed features documented in the desktop assessment.

2.3 Field survey

2.3.1 Vegetation and flora

GHD botanist (Jordan Tindiglia, SL011310) conducted a single season Level 2 vegetation and flora assessment of the Sites from 18-24th March 2016. The field survey was undertaken to verify the results of the desktop assessment, identify and describe the dominant vegetation units, assess vegetation condition and identify and record vascular flora taxa present at the time of survey. Searches for conservation significant ecological communities and flora taxa were also undertaken.

The survey methodology employed by GHD was undertaken with reference to the Environmental Protection Authority (EPA) Guidance Statement No. 51 *Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* (EPA 2004a) and *Terrestrial Biological Surveys as an Element of Biodiversity Protection, Position Statement No. 3* (EPA 2002).

Data collection

Field survey methods involved a combination of sampling quadrats located in identified vegetation units, grid based transect searches and opportunistic recording. Eleven non-permanent quadrats were described throughout the two Sites (Figure 2, Appendix A).

Quadrats (measuring 50 m x 50 m – area of 2,500 m²) were located within each identified vegetation unit. Field data at each quadrat was recorded on a pro-forma data sheet and included the parameters detailed in Table 3.

Table 3 Data collection during the flora and vegetation field survey

Aspect	Measurement
Collection attributes	Personnel/recorder; date, quadrat dimensions, photograph of the quadrat.
Physical features	Aspect, soil attributes, ground surface cover, leaf and wood litter.
Location	Coordinates recorded in GDA94 datum using a hand-held Global Positioning System (GPS) tool to accuracy approximately ± 5 m.
Vegetation condition	Vegetation condition was assessed using the condition rating scale adapted by EPA and DPaW (2015).
Disturbance	Level and nature of disturbances (e.g. weed presence, fire and time since last fire, impacts from grazing, exploration activities).
Flora	List of dominant flora from each structural layer. List of all species within the quadrat including average height and cover (using a modified Braun-Blanquet scale)

A grid based search was completed across the Sites; this involved one botanist walking transect lines approximately 100 m apart and searching for conservation significant species. A flora inventory was compiled from taxa listed in described quadrats and from opportunistic floristic records throughout the Sites.

Vegetation units

Vegetation units were identified and boundaries delineated using a combination of aerial photography, topographical features and field data/observations.

Vegetation units were described based on structure, dominant taxa and cover characteristics as defined by quadrat data and field observations. Vegetation unit descriptions follow the National Vegetation Information System (NVIS) and are consistent with NVIS Level V (Association). At Level V three taxa per stratum are used to describe the association (ESCAVI 2003).

Vegetation mapping has been undertaken at a scale of 1:5,000, which is considered a suitable scale for this Project.

Vegetation condition

The vegetation condition of the Sites was assessed and mapped in accordance with the vegetation condition rating scale for the Eremaean and Northern Botanical Provinces (adapted by EPA and DPaW (2015)). The scale recognises the intactness of vegetation and consists of six rating levels as outlined in Table 4.

Table 4 Vegetation condition scale

Class	Eremaean and Northern Botanical Provinces description
2	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
3	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of relatively non-aggressive species, or occasional vehicle tracks.
4	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
5	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
6	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
7	Areas completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Flora identification and nomenclature

Species well known to the survey botanist were identified in the field; all other species were collected and assigned a unique collection number to facilitate tracking. Flora identification was undertaken by Jordan Tindiglia. Plant species were identified by the use of local and regional flora keys and by comparison with the named species held at the Western Australian Herbarium (WA Herbarium).

The conservation status of all recorded flora was compared against the current lists available on *FloraBase* (WA Herbarium 1998–) and the EPBC Act List of Threatened Flora (DotE 2016b).

Nomenclature used in this report follows that used by the Western Australian Herbarium as reported on *FloraBase* (WA Herbarium 1998–).

Targeted survey for conservation significant flora

Prior to the field survey, information obtained from the desktop assessments (e.g. aerial photography, geology, soils and topography data, TPFL, EPBC Act PMST, *NatureMap* and the WAHERB database search results) was reviewed to determine potential conservation significant flora taxa and locations. Additionally, ecological information (e.g. habitat, associated flora taxa

and phenology) was sourced from *FloraBase* (WA Herbarium 1998–) and other relevant publications where available, to provide further details.

A targeted survey for conservation significant flora species was completed concurrently with the flora and vegetation survey. The aim of the survey was to identify and record the locations of conservation significant flora species, particularly targeting *Polymeria* sp. Broome, within the Sites. The targeted survey involved one botanist walking transects approximately 100 m apart, in a north-south direction across Site 1 and in an east-west direction across Site 2.

2.3.2 Fauna

GHD zoologists undertook a two phased fauna investigation of the Sites from 2015 to 2016. A brief site visit was undertaken by Glen Gaikhorst on 20th November 2015 to deploy camera traps around the Sites. Phase 1 was undertaken by Glen Gaikhorst and Laura Zimmermann from the 14-15th December 2015 and included identification and evaluation of fauna habitats and targeted searching for conservation significant fauna species. This phase assisted in finalising the methods to be employed during the phase 2 survey. Phase 2 was undertaken by Glen Gaikhorst and Bradford Maryan from the 15-24th March 2016, in conjunction with the vegetation and flora survey. This phase included a trapping program and targeted searching for conservation significant fauna species. The fauna surveys were undertaken to collect baseline data on the species present and identify any conservation significant species present/likely to occur within the Sites.

The survey methodology employed by GHD was based on recent discussions with DPaW Broome and undertaken with reference to the Environmental Protection Authority (EPA) Guidance Statement No. 56 *Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia* (EPA 2004b) and *Technical Guide – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA and DEC 2010).

Permits

A Regulation 17 Licence to Take Fauna for Scientific Purposes was obtained from DPaW prior to undertaking the fauna surveys (Licence Number: SF010731).

The fauna surveys (specifically trapping and animal handling) were undertaken in accordance with Standard Operating Procedures (SOPs) which were required to be followed under the conditions of GHD's fauna trapping permit. At the time of survey, compliance with these SOPs was accepted by DPaW as evidence of ethical treatment of animals:

- SOP No. 9.1 Elliott traps for live capture of terrestrial vertebrates (DEC 2009a)
- SOP No. 9.3 Dry pitfall trapping for vertebrates and invertebrates (DEC 2009b)
- SOP No. 9.2 Cage traps for live capture of terrestrial vertebrates (DEC 2009c)
- SOP No. 9.6 Hand capture of wildlife (DEC 2009d)
- SOP No. 10.1 Animal handling/restraint using soft containment (DEC 2009e)
- SOP No. 10.2 Hand restraint of wildlife (DEC 2009f)
- SOP No. 14.2 First Aid for animals (DEC 2009g)

Fauna identification and nomenclature

Nomenclature used in this report follows the WA Museum as reported on *NatureMap* (DPaW 2007–). This nomenclature is deemed the most up-to-date species information for Western Australia groups: reptiles, amphibians, invertebrates and mammals (including bats). All bird nomenclature follows Christidis and Boles (2008). Other reference materials used are presented in Table 5.

Table 5 Fauna references

Fauna Group	Field Guide
Mammals	Menkhorst and Knight (2004; 2010), Van Dyck and Strahan (2008; 2013)
Birds	Morcombe (2004)
Geckos	Wilson and Swan (2013)
Skinks	Storr et al. (1999), Wilson and Swan (2013)
Dragons	Wilson and Swan (2013)
Varanids	Wilson and Swan (2013)
Legless Lizards	Wilson and Swan (2013)
Snakes	Storr et al. (2002), Wilson and Swan (2013)
Amphibians	Tyler and Doughty (2009)

Systematic searches

Trapping for terrestrial fauna was undertaken using a series of standardised systematic trapping quadrats comprising of one or more of the following trap methods: pit-fall traps, funnel traps, Elliot box traps and cage traps. Details of each trap type used are provided below. Seven quadrats were used throughout the two Sites, with each quadrat systematically surveyed (trapped) for six to eight nights during the March survey. Quadrats consisted of either cage lines, Funnel lines or a complete trapping event of pits, funnels, Elliott's and cages. Quadrat type and effort is described in greater detail below. Traps were checked twice daily, early in the morning before the heat of the day and late afternoon.

Fauna systematic search locations are shown in Figure 2, Appendix A.

Pit-trap with drift fence

Five pit-traps were established at two quadrats within the Sites. Pit-traps comprised of 20 litre (L) plastic buckets (30 cm diameter, 40 cm deep). A 30 metre (m) long flywire drift fence (30 cm high) bisected the pits; directing fauna into them. Pits were spaced at 5 m intervals along the fence. Soil and other refuge (e.g. an egg carton) was placed within each pit to provide shade and protection for captured animals.

Funnel traps

Ten funnel traps were used along each drift fence (at all seven quadrats). Traps were placed such that animals were directed into them from the drift fence in between the pit traps. Funnel traps were covered with insulating materials to minimise heat or cold exposure to animals. An additional three quadrats of only funnels (10) and drift fence was used around termite mounds or areas of hard soils.

Elliott box traps

Ten Elliott box traps were used at three quadrats. Traps were placed approximately 10 m apart and baited with universal bait (a mixture of peanut butter, rolled oats and sardines) or dried cat food (depending on ant invasion in the area). Elliott traps were located within shady areas or covered with vegetation to minimise exposure to captured animals. A line of 10 Elliott traps were used per pit location. Each 100 m line was positioned 10 m from the end of the pit trapping drift fence.

Cage traps

Two cage traps were located at each quadrat. These traps were placed within 10 m of the end of drift fence. Cage traps were baited with universal bait and covered with hessian sacks and

insulated materials. An additional two quadrats of cage traps only were established in the Sites. Nine cages were positioned at 50 m intervals in a row within the Sites (approximately 450 m long).

Bat sampling

Assessment of bats was undertaken using an SM2+ Bat SongMeter recorder at two locations. A minimum of one night assessment was undertaken at each Site.

Craig Grabham (GHD) completed the analysis of all data collected during the survey using ultrasonic bat detectors. Data from SongMeter recorders was downloaded using Kaleidoscope version 3.1.6 (Wildlife Acoustics 2016). Calls were first viewed and analysed using Kaleidoscope Viewer version 3.1.6 and then converted to files suitable for analysis in AnalookW version 4.1s (Corben 2015). Calls were identified using zero-crossing analysis and AnalookW by visually comparing the time-frequency graph and call characteristics (e.g. characteristic frequency (Fc) and call shape) with species call descriptions from available reference material (McKenzie and Bullen 2009; 2012, Armstrong and Cole 2007).

The call identification was also assisted by consulting distribution information for possible species (Atlas of Living Australia and *NatureMap* records). No reference calls were collected during the survey.

Due to variability in the quality of calls, the lack of published information regarding non-search phase calls and the difficulty in distinguishing some species (e.g. there is known overlap in call characteristics between some species) a conservative approach was taken when analysing calls.

Avifauna (bird)

Avifauna surveys were undertaken using a 20 minute census of birds within an unbounded 2 ha area, which is the standard method used by Birds Australia for the Bird Atlas Project. Birds detected visually (using binoculars) and/or aurally over a 20 minute period were recorded. Numbers of each species observed were also recorded.

All systematic bird surveys were undertaken within four hours of dawn or two hours of dusk, as these are the times of day when birds are most active. In addition to systematic surveys, observations of birds were also made opportunistically.

Camera Traps

Seven remote cameras were positioned around the Sites from 20th November 2015 with data extracted in December and March (Table 6). Remote cameras that are triggered by motion were positioned in areas that contain optimal habitat for threatened fauna. These cameras were set to target the Bilby and Northern Brushtail Possum, but also collected information on all species that are active in the range of the camera. Cameras were set with a lure (such as sardines, peanut butter and universal bait) to increase the rate of encounter. Cameras were set up to spatially complement other survey efforts.

Table 6 Camera trap effort and locations

Camera	Easting	Northing	Deployed	Collected	Nights Deployed
Cam 2	423,171	8,025,091	20th Nov 15	14th Dec 15	24
Cam 30	423,171	8,024,862	20th Nov 15	14th Dec 15	24
Cam GHD	422,401	8,022,735	14th Dec 15	11th Mar 16	87
Cam 2a	423,042	8,025,977	14th Dec 15	11th Mar 16	87
Cam 7	422,983	8,024,197	14th Dec 15	11th Mar 16	87
Cam 23	422,899	8,024,045	14th Dec 15	11th Mar 16	87
Cam GHD1	423,115	8,025,978	14th Dec 15	11th Mar 16	87

Targeted bilby surveys

Bilby are recognised as a species that requires targeted surveys in the Broome area in which GHD has undertaken several. In undertaking these surveys guidance has been provided by DotE as to the methodology to be utilised. The sampling technique involves a plot based assessment. Each plot is 2 hectares in size and sufficiently spaced to capture activity over an area. The plots were sampled in line with similar work undertaken by GHD on the Cape Leveque Road utilising Southgate's methods of Bilby Plot Assessments (Southgate *et al.* 2005).

Eight Bilby plots were established and assessed during the December 2015 survey. An additional two Bilby plots were established during the March 2016 survey to collect additional regional data. All ten plots were assessed during the March 2016 survey. Each plot is approximately 70 x 300 m in size and were ground truthed at 30 m intervals with all Bilby observations/evidence recorded including:

- Burrows, active and inactive
- Diggings, fresh or old and conical, shrub or plate
- Scats, fresh and old
- Prints, fresh and old

The evidence based assessment relies on more than one pieces of evidence or where the evidence is conclusive to that species (i.e. digs can be made from a range of species, but Bilby burrows are typical and identifiable).

Non-systematic sampling

To provide the best opportunity to determine the presence and relative prevalence of fauna species of conservation significance, this assessment employed a variety of sampling methods. The systematic sampling was applied through the trapping program with additional sampling methods also applied at these quadrats. Furthermore, other areas that were not assessed through the systematic trapping effort were also surveyed using non-systematic techniques. Non-systematic sampling methods comprised of the following:

- Diurnal searching – Each site was searched for amphibians, reptiles, and mammals. Surveys comprised of searching ground layer (overturning logs, rocks and leaf litter) and low vegetation (under bark and in tree stumps) and recording all individuals observed. Species presence was also determined via secondary evidence, in the form of scats, tracks, feathers, burrows and remains. A minimum of 1 hour was spent at each location and within the general area.
- Nocturnal searching – Nocturnal surveys were conducted using hand held spotlights during the survey. Spot lighting was undertaken to locate nocturnal species that may not

be sampled by other techniques. A minimum of 1 hour was spent at each location and within the general area.

- Opportunistic observations – While conducting any activities in the Sites, opportunistic observations were made of any other vertebrates (or signs of their presence). Fauna taxa observed or heard were noted, and indirect evidence (such as scats, tracks, diggings, nests, feathers, bones, pellets (Triggs 1996)) indicating the current or recent presence of a species also noted. Wherever possible, numbers of individuals, microhabitat use and other relevant information was recorded.

Quadrat locations and trapping effort

The single phase of trapping was completed for the Sites in the wet season of 2016. Trapping effort is described as the duration and number of survey types undertaken during an assessment. Table 7 provides detail on the type and amount of time undertaken during the survey.

Table 7 Fauna quadrat locations and effort

Quadrat	Location		Nights open	Elliot traps		Pit traps		Cage Traps		Funnel Traps		Bat survey (nights)	Birds search (minutes)	Active search (minutes)	Night search (minutes)
	Easting	Northing		No.	Total	No.	Total	No.	Total	No.	Total				
Q01	422,512	8,022,828	8	0	0	0	0	2	16	10	80	1	100 min	120 min	60 min
Q02	423,046	8,022,886	8	0	0	0	0	2	16	10	80		80 min	60 min	60 min
Q03	422,940	8,024,129	8	0	0	0	0	2	16	10	80		0	70 min	0
Q04	423,060	8,023,383	8	10	80	0	0	9	72	10	80	1	80 min	60 min	0
Q05	422,611	8,025,609	8	10	80	5	40	2	16	10	80		80 min	60 min	60 min
Q06	423,049	8,024,427	7	0	0	0	0	9	63	10	70		0	60 min	0
Q07	423,142	8,025,260	6	10	60	5	40	2	12	10	60		60 min	60 min	120 min
TOTAL				30	220	10	80	28	211	70	530	2	400 min	490 min	300 min

2.4 Limitations

2.4.1 Desktop limitations

The information presented in this report was obtained from a variety of sources including government agencies and various reference documents. The information provided by these sources has a varying degree of accuracy and therefore GHD has sought to consult several sources, wherever possible, to confirm the accuracy of the information.

The information provided by government agencies or obtained from government databases is generally accurate and is sourced from reputable reference documents. Therefore this data has been used as a primary line of evidence wherever available.

The EPBC Act PMST is based on bioclimatic modelling for the potential presence of species. As such, this does not represent actual records of the species within the area. The records from the DPaW searches of threatened flora and fauna provide more accurate information for the general area. However, some records of collections, sightings or trappings can be dated and often misrepresent the current range of threatened species.

New Wildlife Conservation (Rare Flora) and Wildlife Conservation (Specially Protected Fauna) Notices were gazetted on 3 November 2015. The format of these Notices has been changed to align with the EPBC Act threatened species lists. To date information contained in publically available databases such as *NatureMap* does not reflect these newly gazetted Notices. This report has been updated to reflect the conservation status of flora and fauna listed in these Notices. However, the outputs of database searches contained in this report such as *NatureMap*, does not reflect the conservation status of flora and fauna listed in these Notices.

Aerial photographs are considered to be an accurate and reliable source of information about the Sites as the information provided is independent of memory or bias. Aerial photographs were available for the Sites although none were available for the time period prior to 1996. Photographs are also open to interpretation and so have been considered in conjunction with other information sources.

2.4.2 Field survey limitations

Guidance Statement No. 51 and No. 56 (EPA 2004a, 2004b) states that flora and fauna survey reports for environmental impact assessment in Western Australia should contain a section describing the limitations of the survey methods used. The limitations and constraints associated with this field survey are discussed in Table 8.

Table 8 Survey Limitations

Aspect	Constraint	Comment
Sources of information and availability of contextual information.	Minor	Adequate information is available for the Sites, this includes: <ul style="list-style-type: none">) Broad scale pre-European vegetation mapping by Beard (1977), digitised by Shepherd <i>et al.</i> (2002)) Regional biogeography (Graham 2001)) Background information (Kenneally <i>et al.</i> 1996)
Scope (what life forms were sampled etc.)	Nil	Vascular flora and terrestrial vertebrate fauna were sampled during the survey. Non-vascular flora, invertebrate and aquatic fauna were not assessed as part of the survey.
Proportion of flora collected and identified (based on sampling, timing and intensity) Proportion of fauna identified, recorded and/or collected	Minor	<p>The vegetation and flora survey was a single season survey and was undertaken in March 2016. This is generally considered the most optimal time to undertake flora and vegetation surveys in the Kimberley Region. The flora recorded from the field survey is detailed in Section 6.1.5 and a full flora species list is provided in Appendix F. The portion of flora collected and identified was considered high; however it is likely that the survey under-recorded herb species due to the dry conditions at the time of survey. See <i>Timing/weather/season/cycle</i>.</p> <p>The fauna survey was undertaken in November 2015 and March 2016. Multiple trapping and survey methods were employed to sample a wide range of fauna groups (including nocturnal species). All trapping and survey methods were implemented with no constraints.</p> <p>Fauna assessments that capture the full spectrum of species in an area often include numerous surveys over different seasons over a number of years. This survey was limited to two surveys in two seasons (November 2015 – dry and March 2016 - wet) and although meets the guideline requirements for terrestrial surveys may not identify all species present or that utilise the Sites.</p> <p>Additionally this assessment was restricted to vertebrate fauna and did not include invertebrates.</p>
Flora determination	Minor	<p>Flora determination was undertaken by a GHD botanist in the field and at the WA Herbarium. Potential Priority flora taxa were submitted to the WA Herbarium for identification and/or verification (Accession 6794 and 6821 – <i>Jacquemontia</i> sp. Broome, <i>Pterocaulon ?intermedium</i> and <i>Terminalia kumpaja</i>). Similarly, 'other significant flora' taxa were also verified by the WA Herbarium (Accession 6794 and 6821 – <i>Glycine</i> aff. <i>pindanica</i> and <i>Sehima nervosum</i>).</p> <p>All fauna was identified by zoologists and released on site.</p> <p>The taxonomy and conservation status of the Western Australian flora and fauna is dynamic. This report was prepared with reliance on taxonomy and conservation status current at the time report development, but it should be noted this may change in response to ongoing research and review of IUCN criteria.</p>

Aspect	Constraint	Comment
Completeness and further work which might be needed (e.g. was the relevant area fully surveyed)	Minor	The Sites were accessed on foot and fully traversed during the vegetation, flora and fauna assessment. Given the level of diversity and condition of the vegetation this was considered adequate to sample the Sites.
Mapping reliability	Minor	<p>The vegetation was mapped at a scale of 1:5,000 using high resolution ESRI aerial imagery obtained from Landgate, topographical features, previous broad scale mapping (Beard 1977) and field data. The distribution of quadrats was considered adequate for the definition of vegetation within the Sites.</p> <p>Data was recorded in the field using hand-held GPS tools (e.g. Nomad Juno and Garmin GPS). Certain atmospheric factors and other sources of error can affect the accuracy of GPS receivers. The Juno and GPS units used for this survey are accurate to within ± 10 m on average. Therefore the data points consisting of coordinates recorded from the Juno and GPS may contain inaccuracies.</p>
Timing/weather/season/cycle	Minor	<p>The field survey was conducted in March 2016. In the three months prior to the survey (December-February), Broome Airport weather recording station recorded 221.8 mm of rainfall (No. 003003, BoM 2016). This total is approximately half of the long-term average for the same period (December-February; 415.6 mm) (BoM 2016).</p> <p>The weather conditions recorded during the field survey included:</p> <ul style="list-style-type: none">) Daily maximum temperature ranging from 33.2 to 36.5 °C) Daily minimum temperature ranging from 24.2 to 29.9 °C) Daily rainfall 0 to 7.2 mm <p>The weather conditions recorded during the survey were considered unlikely to have affected the field surveys.</p>
Disturbances (e.g. fire, flood, accidental human intervention)	Nil	There were no disturbances observed that affected the survey.
Intensity (in retrospect, was the intensity adequate)	Nil	The vascular flora of the Sites was sampled in accordance with EPA (2004a) and terrestrial fauna sampled in accordance to EPA (2004b) for Level 2 surveys.
Resources	Nil	Adequate resources were employed during the field survey. Seven person days were spent undertaking the vegetation and flora survey and 20 person days were spent undertaking the fauna survey.
Access restrictions	Nil	No access restrictions were encountered.

Aspect	Constraint	Comment
Experience levels	Nil	The ecologists who executed the survey were practitioners suitably qualified in their respective fields. The vegetation and flora team comprised one botanist (Jordan Tindiglia) who has over 9 years' experience in undertaking field surveys in Western Australia, including a number of projects in the Broome region since 2012. The fauna team comprised three zoologists, Glen Gaikhorst and Brad Maryan individually have over 20 years' of experience undertaking field surveys in Western Australia, including numerous projects in the Broome region. Glen has also undertaken numerous targeted assessments for Bilby's in the broader Broome region since 2010. Laura Zimmermann has over 3 years' experience in undertaking field surveys in Western Australia. Laura has accompanied Glen on a number of targeted assessments for Bilby's in the broader Broome region.

3. Desktop assessment

3.1 Site information

The Sites are located approximately 10 km north of Broome in the suburb of Waterbank. Site 1 and Site 2 are approximately 30 ha, and 130 ha in size, respectively. The Sites are shown in Figure 1, Appendix A.

3.2 Review of previous investigations

Draft Broome Motorsport Complex Site Assessment (Cardno 2015)

This document is a draft of a general assessment of four Sites in Broome, including the two currently proposed, with relation to their suitability for the proposed Project. The information provided in the assessment is generally consistent with information described in this report, with the following exceptions that were not included in the scope of works of this report:

- The native title of each Site has been extinguished and the areas are currently part of the Water Corporation's reserve (both Sites)
- It was recommended that a comprehensive heritage survey be conducted should Site 2 become a focus, in the case that the area may contain Aboriginal sites or objects

3.3 Land use

3.3.1 Zoning

The Shire of Broome Town Planning Scheme No. 6 indicates that the Sites are zoned as 'Public Purpose: Water Supply', with Site 2 also within the 'Future Broome international airport environs' boundary (Figure 3, Appendix A). The current Local Planning Strategy for Broome indicates that the Sites are zoned as 'Public Purpose', with Site 1 also zoned as a 'Development investigation area'.

3.3.2 Aerial photographs and historic layout

Aerial photographs of the Sites were obtained from Landgate in order to ascertain the development history and land use practices that may have led to contamination. The earliest available aerial photographs are from 1996. Copies of the aerial photographs are summarised in Table 9 and provided in Appendix C.

Table 9 Summary of historical aerial photographs

Year of photograph	Observations
1996 Scale: 1:53,119	Site observations The sites appear to be undeveloped with scattered vegetation in areas visible in aerial photography. It is noted however that only partial aerial photography coverage of the Sites is available. Site surrounds observations All areas surrounding Site 1 appear undeveloped. A large portion of land south of Site 2 is cleared of vegetation, and a smaller portion of land west of Site 2 is also cleared of vegetation. Unsealed roads exist parallel to the eastern boundary of Site 2 (Cape Leveque Road) and the southern boundary of Site 1 (McGuigan Rd).

Year of photograph	Observations
2000 Scale: 1:53,119	Site observations No significant changes observed. Site surrounds observations No significant changes observed.
2007 Scale: 1:53,119	Site observations No significant changes observed. Site surrounds observations No significant changes observed.
2011 Scale: 1:53,119	Site observations No significant changes observed. Site surrounds observations No significant changes observed.
2013 Scale: 1:53,119	Site observations No significant changes observed. Site surrounds observations No significant changes observed.
2015 Scale: 1:53,119	Site observations No significant changes observed. Site surrounds observations No significant changes observed.

3.3.3 Dangerous goods licences

GHD lodged a request with the Department of Mines and Petroleum (DMP) under the *Freedom of Information Act 1992* to undertake a search of the Dangerous Goods Storage (DGS) licence documents to determine whether any potentially hazardous materials have been licensed for use or storage at the Site.

The search did not produce any documentation containing information relating to DGS at the Sites.

GHD notes that although no documentation could be provided by DMP for the Sites, there is the potential for current and historic storage of dangerous goods at the Sites. Documentation provided by DMP is presented in Appendix C.

3.3.4 Review of DER Contaminated Sites Database

The DER *Contaminated Sites Database* presents information on known or suspected contaminated sites that have been classified by the DER within the following categories:

- Contaminated - remediation required
- Contaminated - restricted use
- Remediated for restricted use

The DER *Contaminated Sites Database* does not provide details of sites that are listed as 'Possibly contaminated – investigation required'.

A search of the DER *Contaminated Sites Database* shows that the Sites and immediate surrounds have not been reported as known contaminated sites at the time of the search (March 2016) (Appendix C).

3.3.5 Conservation reserves and areas

There are eight DPaW-managed conservation areas within 20 km of the Sites (Table 10). No DPaW-managed conservation areas intersect the Sites.

Table 10 Conservation areas within 20 km of the Sites

Name	Class	Area (ha)	Location
Unnamed (R 51162)	A	2510	Approximately 5.8 km west of the Sites
Broome Wildlife Centre (R 47964)		5	Approximately 4 km south-west of the Sites
Unnamed (R 51497)	C	716	Approximately 2.3 km south of the Sites
Unnamed (R 51380)	C	65	Approximately 1.2 km south of the Sites
Unnamed (R 51105)	-	333	Approximately 9.5 km south of the Sites
Unnamed (R 51046)	A	37,973	Approximately 10 km south of the Sites
Unnamed (R 1644)	C	1	Approximately 9 km south of the Sites
Unnamed (R 51617)	C	5	Approximately 9.5 km south of the Sites

3.3.6 Environmentally Sensitive Areas

One Environmentally Sensitive Area (ESA) intersects the southern portion of Site 2 (Figure 3, Appendix A). This ESA is likely aligned with the Roebuck Bay mudflats TEC buffer, which covers the Broome town site and surrounds.

3.4 Physical characteristics

3.4.1 Geology

The geology of the Sites is reported to comprise Quaternary soils consisting of red, fine to medium grained Aeolian sand and minor silt of the Bossut Formation (GSWA 1982). This is consistent with the observed surficial soil on the Sites of red and gravel and sandy loam. The information is also consistent with bore log information from a DoW Water Information Reporting search of bore OBS5 (Site reference 80119002), which reported clayey sand to 26.5 m, and fine to coarse quartz sand to 32.0 m. Regional geological mapping is provided in Figure 4, Appendix A.

3.4.2 Topography

The Department of Water (DoW) *Geographic Data Atlas* indicates the topography of both Sites is generally flat. The elevation across the majority of the Sites is approximately 22 m Australian Height Datum (AHD) (DoW 2016).

During the site walkover the topography of the Site was observed to be generally flat with no discernible changes in elevation.

3.4.3 Acid sulfate soil assessment

Shallow acid sulfate soils (ASS) may occur in low lying landscapes of the North West region of Western Australia. Urban and infrastructure development in these areas may disturb ASS. The Australian Soil Resource Information System (ASRIS) has compiled maps of ASS risk areas; these provide a broad-scale indication of the areas where ASS is most likely to exist. The Sites are classified as an area of 'Extremely low probability/Very low confidence' (ASRIS 2016) (Appendix C).

3.4.4 Hydrogeology and hydrology

Based on elevation contours provided in the *Geographic Data Atlas*, surface water is likely to flow in a south-westerly direction (DoW 2016). The nearest surface water bodies are the Indian Ocean, which is located approximately 6 km to the west of the Sites and Dampier Creek, located approximately 3 km south of the Sites. It is expected that surface water infiltrates through sand across both Sites.

The Geographic Data Atlas indicates the Sites are within the DoW North West region (DoW 2016). A summary of the Geographic Data Atlas queries for the Sites is provided in Table 11. The Sites occurs within the Broome groundwater area as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act) and are adjacent to the Broome Water Reserve, which is a Priority 1 PDWSA (Figure 5, Appendix A).

Table 11 Department of Water geographic atlas queries for the Sites

Aspect	Details	Result
Groundwater areas	Groundwater areas proclaimed under the RIWI Act.	Broome
Surface water areas	Surface water areas proclaimed under the RIWI Act.	None present
Irrigation district	Irrigation Districts proclaimed under the RIWI Act.	None present
River	Rivers proclaimed under the RIWI Act.	None present
Public Drinking Water Source Areas (PDWSA)	PDWSAs is a collective term used for the description of Water Reserves, Catchment Areas and Underground Pollution Control Areas declared (gazetted) under the provisions of the <i>Metropolitan Water Supply, Sewage and Drainage Act 1909</i> or the <i>Country Area Water Supply Act 1947</i> .	None present
Waterway Management Areas	Areas proclaimed under the <i>Waterway Conservation Act 1976</i> .	None present

Department of Water WIR bore search

A DoW WIR bore search was undertaken to assess registered bores within the vicinity of the Site. The DoW WIR bore search identified there are eight registered bores located within 1 km of each Site boundary. Details of the DoW WIR bore search are provided in Appendix C. The registered locations are presented in Figure 5, Appendix A. Two additional bores were found on the DoW *Geographic Data Atlas* (2016), including a Broome Town Water Supply bore (ID: 11891664). The ID, reference number, and name of each bore are documented in Table 12.

Laws (1991) indicates the existence of a bore within Site 2, adjacent to Cape Leveque Road that is capable of extracting 50 - 500 m³/day of water, which is likely the Broome Town Water Supply bore (ID: 11891664). This bore was not observed during the site-walkover.

GHD notes that it is possible that unregistered bores may exist in the area. However, the limited anthropogenic influence of the Sites and their surrounds suggest it is unlikely that any unregistered domestic bores exist in the area.

Groundwater level data was only available at Site OBS5, which reported historic groundwater levels ranging between approximately 3 to 6.5 m AHD since the mid 1960s.

Table 12 WIR bore information

Bore ID	Site reference	Site name	Operation
20078980	80110130	GOVT WELL NO 1	Unknown
23061881	80110320	BR2B	03/02/2011 - unknown
23061882	80110321	BR3B	03/02/2011 - unknown
23061883	80110322	BR4B	03/02/2011 - unknown
23061884	80110323	BR5B	03/02/2011 - unknown
8005	80119002	OBS 5	30/06/1960 - unknown
11891709	80119876	GOODJARA BEAGLE BAY	01/09/1984 - 30/ 4/1997
11891664	80119863	Broome Town Water Res- R25716 McGuigan	unknown
23005133	003092	-	unknown

Groundwater

According to Laws (1991), both sites are underlain by the Broome Sandstone Sedimentary Aquifer, which consists of sand, sandstone, gravel, conglomerate, minor clay, and siltstone. This major aquifer has high yields of up to 2000 m³/day. Furthermore, Site 2 lies within a small portion of a well field area from which the town supplies its water.

Laws (1991) also indicates that groundwater is flowing in a south-westerly direction at both Sites, towards the Indian Ocean.

3.5 Biological characteristics

3.5.1 Regional biogeography

The Sites are situated in the Northern Botanical Province (Beard 1990), within the Dampierland bioregion and Pindanland sub-region as described by the Interim Biogeographic Regionalisation of Australia.

The Pindanland sub-region is located in the western part of the Dampierland bioregion and is the coastal, north-western margin of the Canning Basin. The sub-region comprises the sandplains of the Dampier Peninsula and the western part of Dampier land including the hinterland of Eighty Mile Beach. The sub-region supports vegetation primarily described as Pindan (Graham 2001).

Graham (2001) describes four basic components to the Pindanland sub-region:

- Quaternary sandplain overlying Jurassic and Mesozoic sandstones with Pindan, hummock grasslands on hills
- Quaternary marine deposits on coastal plains, with mangal, samphire – *Sporobolus* spp. grasslands, *Melaleuca alsophila* low forests, and Spinifex spp. – *Crotalaria* spp. strand communities
- Quaternary alluvia plains associated with the Permian and Mesozoic sediments of Fitzroy Trough support tree savannahs of ribbon grass (*Chrysopogon* spp.) – bluegrass (*Dichanthium* spp.) grasses with scattered coolibah (*Eucalyptus microtheca*) – *Bauhinia cunninghamii*
- Riparian forests of river red gum (*Eucalyptus camaldulensis*) and Cadjeput (*Melaleuca* spp.) fringe drainages

3.5.2 Land systems

The Kimberley region has been surveyed by the Department of Agriculture and Food, Western Australia (DAFWA) and others for the purposes of land classification, mapping and resource evaluation. One hundred and eleven land systems have been described for the region, which are distinguished on the basis of topography, geology, soils and vegetation (Payne and Schoknecht 2011). The Sites intersect two land systems; details of these land systems are presented in Table 13.

Table 13 Land systems mapped within the Sites

Land system	Description	Geology	Geomorphology
Wanganut	Low-lying sandplain and dunefields with through-going drainage, pindan	Quaternary aeolian soils	Sandplain and dunefields with through-going drainage: sandplain, mainly in the upper parts, with stable dunefields, low lying sandplain, and scattered pans and depressions; sparse to moderately dense branching drainage pattern; relief up to 9 m.
Yeeda	Sandplain, deep red and yellow sands, pindan and tall woodlands	Quaternary aeolian sands	Sandplain and dunefields with little organised drainage; sandplain up to 16 km in extent, with shallow valleys, plains with thin sand cover, and scattered pans; limited surface drainage in zones of sheet-flow up to 3.2 km wide and extending up to 8 km downslope from adjacent uplands.

3.5.3 Vegetation and flora

Broad vegetation mapping

Broad scale (1:1,000,000) pre-European vegetation mapping of the area was completed by Beard (1977) at an association level. The mapping indicates there is one vegetation association present within the Sites:

- Shrublands, pindan; *Acacia tumida* shrubland with grey box [*Eucalyptus tectifica*] and cabbage gum [*Corymbia flavescentis*] medium woodland over ribbon grass [*Chrysopogon* spp.] and curly spinifex (association 750)

The vegetation of the Dampier Peninsula has also been described by Kenneally *et al.* (1996) who recognised 11 (ten terrestrial and one marine) plant communities on or around the Dampier Peninsula. Kenneally *et al.* (1996) noted that 'overwhelming vegetation is pindan, a grassland wooded by scattered trees, generally eucalypts, with a variably dense middle layer of wattles'. Kenneally *et al.* (1996) described the Pindan in the southern half of the peninsula comprising scattered trees, predominantly bloodwoods such as *Corymbia polycarpa*, *C. zygomphylla*, *C. greeniana* and *Eucalyptus tectifica*, over a wide range of other tree species, understorey shrubs and wattles. Common pindan grass species include *Triodia schinzii*, *Chrysopogon pallidus* (ribbon grass) and *Sorghum stipoides* (annual sorghum) and whilst vine species are not common include *Tinospora smilacina* (snake vine) and *Marsdenia viridiflora*. Fire is the controlling agent of the Pindan with the variety in the vegetation, particularly wattles, relating directly to a fire-regeneration cycle (Kenneally *et al.* 1996).

Broad vegetation extents

The pre-European mapping has been adapted and digitised by Shepherd *et al.* (2002). The extent of the vegetation associations have been determined by the state-wide vegetation

remaining extent calculations maintained by the DPaW (Government of Western Australia (GoWA) 2015). As shown in Table 14, the current extent remaining of the vegetation association is greater than 99 per cent of the pre-European extent at all scales (e.g. State, IBRA bioregion, IBRA sub-region and LGA). The current extents remaining of the vegetation association at all scales are above the 30 per cent threshold level¹

Table 14 Vegetation associations mapped within the Sites

Vegetation association	Scale	Pre-European extent (ha)	Current extent (ha)	Remaining (%)	% Current extent in all DPaW managed lands
Dampierland IBRA bioregion		8,343,938.97	8,319,872.22	99.71	1.43
Pindanland IBRA sub-region		4,921,102.73	4,904,095.93	99.65	1.24
750	State: Western Australia	1,231,155.50	1,225,687.52	99.56	2.33
	IBRA bioregion: Dampierland	1,229,182.16	1,225,280.52	99.68	2.33
	IBRA sub-region: Pindanland	1,221,734.45	1,217,843.72	99.68	2.34
	LGA: Shire of Broome	1,115,559.36	1,110,131.18	99.51	2.57

Conservation significant ecological communities

A search of the EPBC Act PMST database identified the potential presence of one Commonwealth listed TEC, Monsoon vine thickets on the coastal sand dunes of the Dampier Peninsula, within 20 km of the Sites (Table 15 and Appendix D).

A search of the DPaW TEC and PEC databases identified the potential presence of one TEC and five PECs within 20 km of the Sites (Table 15 and Figure 6, Appendix A).

It should be noted DPaW provides locations for TECs and PECs that have a buffer placed typically between 500 m and 5,000 m radius around the community. As such, the TEC/PEC may not be present within the entire extent of the buffer area.

Flora diversity

The flora of the Dampierland bioregion is diverse, with 1,542 recorded native species (WA Herbarium 1998–). It is difficult to determine the level of endemism present within this bioregion as collectively Kimberley flora is considered poorly known and collected (Waples 2007).

A search of the *Naturemap* database identified 698 flora taxa representing 101 families and 337 genera previously recorded within 20 km of the Sites. This total comprised 591 native taxa and 107 naturalised (introduced) flora taxa. Dominant families recorded included Fabaceae (109 species), Poaceae (87 species) and Malvaceae (44 species) (Appendix D).

Conservation significant flora

Desktop searches of the EPBC Act PMST database, *NatureMap* database and the DPaW TPFL and WAHERB databases identified the presence/potential presence of 21 conservation significant flora taxa within 20 km of the Sites (Appendix D). The desktop searches recorded:

¹ The 30% threshold level is the level below which species loss appears to accelerate exponentially at an ecosystem level (EPA 2000).

- Two taxa listed as Threatened under the EPBC Act and/or as Declared Rare Flora under the WC Act
- Five Priority 1 taxa
- One Priority 2 taxon
- 13 Priority 3 taxa

The locations of conservation significant flora registered on the DPaW databases are provided in Figure 6, Appendix A.

3.5.4 Fauna

Fauna diversity

A search of the *NatureMap* database identified 412 vertebrate native fauna taxa previously recorded within 20 km of the Sites. This total included 270 birds, 99 reptiles, 33 mammals and 10 amphibians. This search also included a large number of marine species due to the search (20 km buffer) incorporating marine environments (Appendix D).

Conservation significant fauna

Desktop searches of the EPBC Act PMST and *NatureMap* databases identified the presence/potential presence of 34 conservation significant fauna species within 20 km of the Sites; this included 24 birds, seven mammals and three reptiles (Appendix D).

In addition to the 34 conservation significant species identified by the above mentioned database searches, a review of species listed under Schedules 1-4 of the WC Act that occur within the DPaW Kimberley Region (DPaW 2015b) was undertaken. This review concluded that no additional species may potentially occur in the Sites.

Species identified by the PMST as marine, migratory marine or migratory wetland were excluded from this assessment as no marine or wetland habitat was present within or nearby to the Sites. Species identified by the PMST as migratory terrestrial were considered as part of this assessment.

Table 15 Conservation significant ecological communities recorded within 20 km of the Sites

Community ID and name	EPBC Act	WC Act/ DPaW	Description (DPaW 2015a)	Location in relation to the Sites
Mangarr (Minyjuru) Relict dune system dominated by extensive stands of Minyjuru Mangarr (<i>Sersalisia sericea</i>) PEC		Priority 1	Contains frequent mature (100 years+) <i>Sersalisia sericea</i> or otherwise known as Minyjuru. Minyjuru is a culturally important and renowned local bushtucker species and does not occur in such frequency and longevity in other locations. The community is recorded as a <i>Eucalyptus</i> , <i>Sersalisia</i> low woodland unit that occurs on parallel dunes in the area south-east of Gantheaume Point. The community also contains numerous woodland species such as: <i>Erythrophleum chlorostachys</i> , <i>Corymbia zygomphylla</i> , <i>Hakea macrocarpa</i> and <i>Corynotheca micrantha</i> . Some species are more reminiscent of desert and aridlands country including: <i>Solanum cunninghamii</i> , <i>Scaevola parvifolia</i> , <i>Goodenia sepulosa</i> , <i>Senna costata</i> , <i>Gyrostemon tepperi</i> and <i>Triodia</i> sp. The extensive stands of Minyjuru occur in association with species more often found within the nearby TEC – Monsoon vine thicket.	Intersects Site 1 and the north-west corner of Site 2. A further 16 occurrences of the PEC within 20 km of the Sites.
Roebuck Bay mudflats Species-rich faunal community of the intertidal mudflats of Roebuck Bay TEC		V	Roebuck Bay was designated a "Wetland of International Importance" under the Ramsar Convention in June 1990. The Bay is a tropical marine embayment with extensive, biologically diverse, intertidal mudflats. Roebuck Bay supports internationally significant numbers of migratory shorebirds as well as bats, marine and benthic fauna. The Bay also supports various vegetation communities including seagrass beds, mangroves, samphire flats, saline grasslands and Pindan (<i>Bennelongia</i> 2009).	Intersects the southern part of Site 2.
Vegetation Association 73 Kimberley Vegetation Association 73 PEC		Priority 3	Vegetation Association 73 as defined by John Beard's vegetation mapping for the Kimberley (Beard 1979). Grasslands, short bunch grass savanna, grass; salt water grassland (<i>Sporobolus virginicus</i>). Threats: extensive threatening processes acting at landscape scales, namely altered fire regimes, overgrazing, and weed invasion	Approximately 2.7 km west of the Sites. A further 3 occurrences of the PEC within 20 km of the Sites.
Dwarf pindan heath community of Broome coast PEC		Priority 1	Occurs between the racecourse and Gantheaume Point lighthouse. Insufficient survey outside of Broome townsite area to determine full extent. Threats: clearing, trampling, weed invasion, inappropriate fire regimes	Approximately 13.5 km south-west of the Sites. An additional occurrence of the PEC within 20 km of the Sites.
Vine thickets Monsoon vine thickets on the coastal sand dunes of the Dampier Peninsula TEC	E	V	The Vine thickets ecological community is predominantly restricted to the coastlines of the Dampier Peninsula from Broome in the south to One Arm Point in the north and on the north eastern coast of the Peninsula from One Arm Point to Goodenough Bay. The ecological community represents the most southern occurrences of rainforest type vegetation in Western Australia. The Dampier Monsoon Vine Thickets occurs as discontinuous patches of dense vegetation and contains deciduous, semi-deciduous and evergreen perennial flora species.	Approximately 6 km south-west of the Sites. A further 4 occurrences of the TEC within 20 km of the Sites.

Community ID and name	EPBC Act	WC Act/ DPaW	Description (DPaW 2015a)	Location in relation to the Sites
<i>Corymbia paractia</i> dominated community on dunes PEC		Priority 1	<i>Corymbia paractia</i> behind dunes, Broome township area, Dampier Peninsula. Transition zone where coastal dunes (with vine thickets) merge with Pindan (desert) vegetation. Also, port north of Broome. Threats: clearing, trampling, weed invasion, inappropriate fire regimes	Approximately 4.6 km south-west of the Sites. A further 61 occurrences of the PEC within 20 km of the Sites.
Nimalaica Claypan Community		Priority 4	Nimalaica claypan is a unique, almost permanent, freshwater lake inland from Willie Creek, Broome. Threats: groundwater extraction, causeway construction, feral animals, expansion of township	One occurrence approximately 7.5 km north of the Sites.

4. Site inspection

4.1 Site description

A site walkover was undertaken by GHD Ecologists on 18-24th March 2016. Photographs taken during the site walkover are presented in Appendix E.

The Sites are surrounded by scattered vegetation, consisting predominantly of undisturbed Pindan grassland. The vegetation within and surrounding the Sites is described in detail in Section 6.1. Surficial soil on the Sites consisted of yellow and red gravel and sandy loam.

Fly tipping was observed beyond the western boundary of Site 2, as shown in Figure 7, Appendix A (old materials area). The fly tipping was observed to comprise: numerous household goods, two old vehicles. Potential ACM fragments were observed in this area (Photos A and B, Appendix E).

An area of land of approximately 2 ha showed evidence of disturbance (previous clearing) with subsequent regrowth within Site 2. This area is located near the eastern boundary within the centre of Site 2 (outlined as VC6 in Figure 8, Appendix A). Fragments of spent shotgun cartridges, as well as evidence of fly tipping of potential ACM and household rubbish was observed at several locations within this immediate area, as shown in Photos C to F in Appendix E. The potential ACM observed consisted of several large and flat sheets (~0.5 x 1 m) stacked atop one another, and appeared to be part of wall/floor tiling material. Remnant stockpiles of aggregate which are indicative of road construction material (herein referred to as "old spoil storage") (Photo G, Appendix E) were also identified in this area although no visual or olfactory indications of contamination were observed with the stockpile constituents. The location of observed instances of fly tipping within the Sites is summarised in Table 16 and mapped in Figure 7, Appendix A. The vegetation in this area is less dense and appears to be more easily accessed for fly tipping. A signed Telstra telecoms underground service was observed to span the entire north-south length near the eastern boundary of Site 2 (Photo H, Appendix E). It is noted that ducts within old telecom service pits may contain ACM, however this is unlikely in this case due to the relatively new and good condition of the observed signage. No other evidence of fly tipping was observed within either of the Sites.

An old and rusted metal barbed wire fence line in poor condition was observed within Site 1 (Photo I, Appendix E), spanning along a skewed path adjacent the proposed southern and eastern site boundary, as shown in Figure 7, Appendix A.

A signed Telstra telecoms underground service was observed to span the entire north-south length along the centre-line of Site 2 (Photo H, Appendix E). It is noted that ducts within old telecom service pits may contain ACM, however this is unlikely in this case due to the relatively new and good condition of the observed signage.

Table 16 Location of observed contamination within Site 2

Item	Zone	Easting	Northing	Photo
Dumped asbestos	51	422924.7318	8023917.802	C
Shotgun cartridges	51	422913.099	8023886.521	D
Shotgun cartridges	51	422954.477	8023827.851	-
Old spoil storage	51	422969.4204	8023904.338	G
Dumped rubbish	51	422984.9878	8023897.022	E
Dumped rubbish	51	423003.3274	8023857.999	F

4.2 Surrounding land use

The two sites are surrounded by the following land uses:

- North:
 - Scattered vegetation exists north of Site 1
 - Site 2 is bound to the north by McGuigan Road, with scattered vegetation beyond
- East:
 - Scattered vegetation exists to the east of Site 1, with Cape Leveque Road several hundred meters away
 - Site 2 is bound to the east by Cape Leveque Road, with scattered vegetation beyond
- South:
 - Site 1 is bound to the south by McGuigan Road, with scattered vegetation beyond
 - The south of Site 2 is occupied by slightly more dense vegetation, followed by an area of cleared vegetation. Broome Road is approximately 800 m south of Site 2
- West:
 - Scattered vegetation exists west of Site 1 and Site 2

Other nearby land uses include a material source area approximately 300 m south of Site 2, as well as semi-rural residential dwellings and small businesses located approximately 2.5 km south-west of Site 2. The closest sensitive receptor, Roebuck Primary School located approximately 7.3 km south west of Site 2. It is anticipated there are no noise, light, dust or odour impacts from the surrounding land use.

5. Conceptual site model

A Conceptual Site Model is based on information available to date (as presented in this report), that identifies potential primary sources of contamination, pathways and receptors.

5.1 Potential contaminants of concern

Based on desktop information typical contaminants of concern would likely consist of potential asbestos from fly tipping.

5.2 Preferential pathways

Preferential pathways for contamination migration at the Sites may include:

- Disturbance and generation of airborne fibres during high wind events or other surface disturbance (e.g. disturbance)

5.3 Exposure routes

The means by which identified populations may be exposed to potential contamination at the Sites comprise:

- Inhalation of free fibres during high wind events or other surface disturbance (e.g. earthworks)

5.4 Sensitive receptors

Based on a review of surrounding land uses and activities at the Sites, potentially sensitive environmental and anthropogenic receptors that may be affected by potential or actual soil and/or ground or surface water contamination at the site include the following:

- Site users (the Site is open to public access)
- Construction and maintenance workers at the Site

5.5 Potential pollutant linkages

The potential for source, pathway and receptor linkages are presented in Table 17.

Table 17 Conceptual site model summary

Potential contamination source	Contaminants of Potential Concern	Pathways	Receptors	Qualitative Risk Rating
Fly tipping of house hold waste, including large, flat panel fragments of surficial potential asbestos containing materials in sound condition, noted within area near eastern boundary of Site 2 (VC6 in Figure 8, Appendix A).	Asbestos	1, 2	Humans onsite (current and future): workers, site occupants, visitors Humans offsite: future surrounding residents and visitors	Isolated occurrence of flat panel fragments of potential ACM (~ 0.5 x 1 m) was noted within area near eastern boundary of Site 2 (VC6 in Figure 8, Appendix A). Likelihood: Low Consequence: Moderate Risk Rating: Low

6. Flora and fauna field results

6.1 Vegetation and flora

6.1.1 Vegetation associations

The vegetation of the Sites was largely uniform with one vegetation association identified and described. This vegetation association is described as Pindan grassland and generally comprised isolated trees of *Corymbia* over a mixed shrubland and *Sorghum* and *Triodia* dominated grassland on red loamy sands on flat plains. The Pindan grassland vegetation association is detailed below and mapped in Figure 8, Appendix A.

Pindan grassland (Plate 1)

Corymbia flavescentis, *C. zygophylla* isolated trees over *Acacia eriopoda*, *Ficus aculeata* var. *indecora*, *Bauhinia cunninghamii* tall open shrubland over *Bauhinia cunninghamii*, *A. eriopoda*, *Ehretia saligna* mid- sparse shrubland with *Sorghum* sp., *Triodia schinzii* tall tussock grasses over *Sida* sp. and *Gyrostemon tepperi* low isolated shrubs with *Eriachne obtusa* mid- sparse tussock grassland over *Murdannia graminea*, *Glycine tomentella* and *Galactia tenuiflora* isolated herbs and vines.

This vegetation association is represented by quadrats Q01 to Q11 (Appendix F).

This vegetation association is well represented in areas adjacent to the Sites and is consistent with Beard (1977) and descriptions of Pindan reported by Kenneally *et al.* (1996). It is likely to be well represented in the broader area.



Plate 1 Pindan grassland

Localised variation in the vegetation structure and species composition was observed throughout the Sites. The southern part of Site 2 contained a greater density of *Corymbia* individuals compared with the rest of the Sites. This variation can largely be attributed to fire, with a number of burnt (killed) and/or burnt, reshooting *Corymbia* trees observed throughout the Sites. Fire is considered a controlling process of Pindan vegetation (Kenneally *et al.* 1996). Time since last fire was estimated to be greater than 5 years for the Sites.

6.1.2 Conservation significant vegetation

The vegetation association identified within the Sites during the field does not align with any known Commonwealth or State listed TECs or PECs.

The desktop assessment identified the Mangarr (Minyjuru) PEC buffer occurring within Site 1. This PEC is recorded as a *Eucalyptus*, *Sersalisia* low woodland vegetation unit and often occurs in association with species found within the nearby Monsoon vine thicket TEC. Whilst the Sites

contained a number of woodland and aridland species reported to occur in the PEC, the vegetation within Site 1 (and Site 2) did not contain mature Minyjuru (*Sersalisia sericea*) nor was considered to represent *Eucalyptus* woodland. Therefore the vegetation within the Sites is not considered representative of the Mangarr (Minyjuru) PEC.

The Roebuck Bay mudflats TEC buffer intersects the southern part of Site 2. This TEC is aligned with Roebuck Bay, which is a tropical marine embayment with extensive, biologically diverse, intertidal mudflats. The landform of and vegetation contained within the Sites is not representative of the Roebuck Bay TEC.

6.1.3 Other significant vegetation

No other significant vegetation as defined by the EPA (2004a) or vegetation that grows in, or in association with watercourses or wetlands was identified within the Sites during the field survey.

6.1.4 Vegetation condition

The vegetation condition within the Sites was rated from condition 2 to 7. The majority of vegetation throughout the Sites was rated as condition 2; in these areas the vegetation structure was intact, with disturbances limited to occasional tracks. One area within Site 2 was rated condition 6; this area had been historically cleared, contained old spoil piles from road maintenance and was largely overrun with **Cenchrus bifforus* (Gallon's Curse). A number of culverts associated with the Cape Leveque Road intersect the eastern boundary of Site 2; these were rated as condition 7.

The extents of the vegetation condition ratings mapped within the Sites are detailed in Table 18 with vegetation condition mapped in Figure 9, Appendix A.

Table 18 Extent of vegetation condition ratings mapped within the Sites

Condition rating	Site	Extent (ha)
2	1	29.56
	2	127.59
6	2	0.30
7	2	0.19

6.1.5 Flora diversity

108 taxa (including subspecies and varieties) representing 41 families and 90 genera were recorded from the Sites during the field survey. This comprised 105 native taxa and three introduced taxa. A flora taxa list for the Sites is provided in Appendix F.

Dominant families recorded from the Sites included:

- Fabaceae (25 taxa)
- Poaceae (12 taxa)
- Malvaceae (10 taxa)

The flora diversity recorded during the March 2016 survey was similar to that recorded in previous surveys in the broader area (e.g. 133 native flora taxa recorded from 297 ha along the Cape Leveque Road (GHD 2012); 217 flora taxa recorded from the James Price Point area (AECOM 2011)).

The Sites are considered to have a moderate level of floristic diversity. Based on described quadrats, species diversity ranged from 22 to 35 taxa per 2,500 m².

6.1.6 Conservation significant flora

Three DPaW Priority-listed flora taxa were recorded within the Sites, with an additional taxon recorded adjacent to Site 2 during the field survey. Details on these taxa are provided below with locations mapped in Figure 8, Appendix A.

***Jacquemontia* sp. Broome (A.A. Mitchell 3028) (Priority 1)**

Jacquemontia sp. Broome (Plate 2) is a creeping/scrambling herb to approximately 0.4 m high. The species is characterised by narrowly linear leaves with a mucronulate apex, and light pink to mauve flowers. *Jacquemontia* sp. Broome is reported to grow in Pindan soils and is currently restricted to the Dampierland IBRA region, specifically the Broome LGA.

Jacquemontia sp. Broome was recorded scattered throughout Site 2 during the field survey. Due to the extent of individuals observed, density calculations were undertaken at quadrat locations and extrapolated across the site (Table 19). It is estimated approximately 9,940 individuals of *J. sp. Broome* occur within Site 2, with the greatest density of individuals occurring in the southern part of the Site. Low to moderate numbers of the taxon were recorded in the central part of the Site with low or no individuals recorded in the northern part of the Site. Where present, the taxon often occurred in clumps.

Current records obtained from *NatureMap* indicate that *J. sp. Broome* is known from three records from the Dampier Peninsula. The frequency of *J. sp. Broome* individuals has been noted on one collection as sparse (WA Herbarium 1998–).

Table 19 Estimated counts of *Jacquemontia* sp. Broome (A.A. Mitchell 3028)

Taxon	Relevant area within Site 2	Average density (No. individuals per ha)	Estimated count (density x area)
<i>Jacquemontia</i> sp. Broome (A.A. Mitchell 3028)	127.5 ha	78	9,942



Plate 2 *Jacquemontia* sp. Broome (A.A. Mitchell 3028)

***Pterocaulon ?intermedium* (Priority 3)**

Pterocaulon intermedium is a perennial shrub to approximately 0.6 m high. The species is characterised by stems with narrow wings, and pink/violet flowers with long peduncles.

Pterocaulon intermedium grows in loamy sand or sands (often Pindan soils) on plains or near coastal locations in swales or on dunes, and is currently known from Central Kimberley, Dampierland, Northern Kimberley and Pilbara IBRA regions.

Six individuals of *Pterocaulon* were recorded from the central and northern parts of Site 2 during the field survey. All individuals occurred as small shrubs and were sterile at the time of survey.

A representative collection was submitted to the WA Herbarium and based on vegetative characters only, was tentatively identified as *P. ?intermedium* (M. Hislop, pers. comm.).

Current records obtained from *NatureMap* indicate that *P. intermedium* is known from 27 records in Western Australia, with the taxon occurring throughout the Pilbara and Kimberley Regions. The frequency of *P. intermedium* individuals at these locations has been recorded (where noted) as sparse and common, with several collections noting 2-5 or 6-20 plants present (WA Herbarium 1998–).

***Terminalia kumpaja* (Priority 3)**

Terminalia kumpaja is a shrub or small spreading tree to 6 m high that is characterised by deeply fissured bark and small narrow leaves. The taxon has small white to cream flowers and is reported to flower from June to November. *Terminalia kumpaja* grows on red-brown sand dunes or sand flats, and occasionally on clay, in open pindan woodland (Barrett 2015), and is known from the Dampierland and Great Sandy Desert IBRA regions.

One individual of *T. kumpaja* was recorded from the southern part of Site 2 during the field survey. The individual occurred as small tree with old fruit present.

Current records obtained from *NatureMap* indicate that *T. kumpaja* is known from 17 records in Western Australia, with the taxon occurring in the vicinity of Wallal Downs and Mandora Station, and around Broome, north to Coconut Well. The frequency of *T. kumpaja* individuals at these locations has been recorded (where noted) as common, occasional, very sparse and infrequent, with one collection noting 2-5 plants present (WA Herbarium 1998–).

***Glycine pindanica* (Priority 3)**

Glycine pindanica (Pindan Glycine) is a prostrate or scrambling perennial, herb or climber that is characterised by linear to narrow-lanceolate, 3-foliate leaves and rust-coloured hirsute stems (Kenneally et al. 1996). The taxon has pink, blue or purple flowers and is reported to flower from February to March or June. *Glycine pindanica* grows in reddish brown sand in mixed pindan woodland and is only known from the Dampier Peninsular.

One individual of *G. pindanica* was recorded on the southern side of McGuigan Road, adjacent to, but outside of Site 2. *Glycine pindanica* is a disturbance response taxon and has been previously recorded growing in large continuous clumps along the Cape Leveque Road (on the road verge and in culverts) north of the James Price Point turnoff (GHD 2012).

Current records obtained from *NatureMap* indicate that *G. pindanica* is known from 32 records, including various sites around Broome, along the Cape Leveque Road and further north along the Dampier Peninsula. The frequency of *G. pindanica* individuals at these locations has been recorded as sparse, occasional and common, with two collections noting 2-5 plants present (WA Herbarium 1998–). It is likely that *G. pindanica* is more common than *NatureMap* records indicate, especially in areas of recent or increased disturbance. Additionally, increased disturbance in areas where this taxon is already present is likely to increase its frequency and extent.

Likelihood of occurrence assessment

A likelihood of occurrence assessment was conducted post-field survey for all conservation significant flora taxa identified in the desktop assessment (Appendix F). This assessment took into account previous records, habitat requirements, efficacy of the survey, intensity of the survey, flowering times and the cryptic nature of species.

The likelihood of occurrence assessment post-field survey concluded that three taxa (*Pterocaulon intermedium*, *Jacquemontia* sp. Broome (A.A. Mitchell 3028) and *Terminalia kumpaja*) are known to occur within the Sites and one taxon (*Glycine pindanica*) is known to

occur adjacent to the Sites 2. Furthermore, the assessment concluded that one taxon may possibly occur and 16 taxa are unlikely to occur within the Sites. The single taxon that may possibly occur (*Aphyllodium glossocarpum*) has been recorded within 20 km of the Sites and suitable habitat occurs. Although the Sites were sufficiently traversed during the field survey, this species can be cryptic.

6.1.7 Other significant flora

Two taxa considered 'significant flora' as defined by the EPA (2004a) were recorded within Site 2 during the field survey. One taxon was identified as *Glycine* aff. *pindanica* and likely represents a naturally occurring hybrid between *G. pindanica* (P3) and *G. tomentella*. The other taxon was identified as *Sehima nervosum* and represents a range extension; this collection is the most south western record of the species.

6.1.8 Introduced flora

Three introduced flora taxa were recorded within the Sites during the field survey including **Stylosanthes scabra*, **Cenchrus biflorus* (Gallon's Curse) and **Eleusine indica* (Crowsfoot Grass). All of the taxa are considered environmental weeds and have been previously recorded in the Dampierland IBRA region.


6.2 Fauna


6.2.1 Fauna habitat

One broad fauna habitat type, Pindan grasslands was identified within both Sites during the field surveys. This habitat is broadly represented in the local and regional areas. The fauna habitat type aligns with the vegetation association described above and mapped in Figure 8, Appendix A. A description of the fauna habitat type is provided in Table 20.

Micro-habitats throughout the Sites include termite mounds, leaf litter, tree hollows and hollow logs (on the ground). These habitats provide micro-habitat features that conservation significant fauna may utilise for refuges, foraging and breeding. In particular, there are some areas throughout the Sites with moderately deep leaf litter which provides particularly good habitat for reptiles. There are no permanent waterbodies located within the Sites, however evidence of seasonal pooling in low areas of the environment particularly along the western boundary of Site 2 was recorded.

Table 20 Habitat type in the Sites

Description	Representation photograph
<p>Pindan Grasslands</p> <p>The Pindan grasslands habitat type consists of scattered <i>Corymbia</i> trees over mixed shrubs and grasses. The southern part of Site 2 contains a greater density of <i>Corymbia</i> trees compared with the remainder of the Site. In this area, some mature <i>Corymbia</i> trees had hollows present. The southern part of Site 2 contains also contains a greater density of termite mounds. The termite mounds provide micro habitat for numerous fauna species including reptiles and small mammals.</p> <p>Ground cover over much of the Sites was >50%, however some small open areas are present particularly where termitaria are present (termites harvesting the grasses in the immediate area).</p>	

Description	Representation photograph
<p>Ground cover consists of mixed grasses and low shrubs. Built up litter and dead grasses are present forming clumps around shrubs and <i>Corymbia</i> species. Some logs and debris with the occasional hollow log are present on the ground.</p> <p>The predominant soil type within the Sites is loamy sand, however heavy loams occurred where termite mounds were present. The habitat in the Sites provides resources for conservation significant fauna including:</p> <ul style="list-style-type: none">) Greater Bilby) Rainbow Bee-eater) Grey Falcon (Opportunistic use only)) Peregrine Falcon (Opportunistic use only) 	

Habitat connectivity

The fauna habitat within the Sites is part of a large continuous tract of habitat that extends along the Dampier Peninsula (extending north and east of the Sites). There is also high connectivity to habitats directly south and west of the Sites, however, beyond this lies the town site of Broome to the south and the Indian Ocean to the west.

Disturbance

Localised variation in habitat was evident throughout the Sites and this is likely attributable to fire. The fire age of the Sites is estimated to be greater than 5 years. It is likely the southern part of Site 2 is long unburnt compared to the remainder of the Sites based on the increased presence of mature *Corymbia* trees.

In the central-eastern part of Site 2 there was an area approximately (2-3 ha) that has been historically modified and disturbed. This area has been partially cleared and contained old spoil piles from road maintenance; rubbish and weeds were also present in this area.

Habitat quality

The fauna habitat is largely in excellent condition with the overall habitat value considered to be moderate. Whilst fauna diversity was limited, particularly to birds and mammals, this is likely due to the drier than normal conditions experienced at the time of survey and lack of creeks or water bodies in the Sites.

The southern part of Site 2 contained a higher density of mature *Corymbia* trees and termite mounds. Both habitat features provide valuable areas such as hollows, nooks and crevices for small mammals and reptiles. The trapping data is reflective of this with large numbers of geckos and numerous moon snakes recorded around termite mounds.

6.2.2 Fauna assemblages

The dual-phase vertebrate fauna survey recorded 108 vertebrate fauna species, including 54 birds, 41 reptiles, one amphibian and 12 mammals. The results the surveys are summarized in Table 21, with more detailed results provided in Appendix G.

Table 21 Vertebrate fauna results summary

Survey	Birds	Reptiles (native/introduced)	Mammals (native/introduced)	Amphibia	Total
Phase 1	35	10	4 (3/1)	0	49
Phase 2	47	38 (37/1)	12 (9/3)	1	98

Mammals

The surveys recorded 12 mammal species within the Sites, including three introduced and nine native mammals. The composition of native species includes four bats, two native rodents, one macropod, Dingo and Echidna. The most specious family was the Freetail bats (two species) and native rodents (two species). Forty six individual mammals (excluding bats) were recorded over the trapping program between eight species, with the most abundant being the Agile Wallaby. Nineteen Agile Wallaby's were recorded (41% of total mammal recordings). No other mammal was abundant in the Sites.

Bats were only recorded via echolocation, therefore only presence or absence information could be collected. Of the bats identified, one is listed as DPaW Priority fauna, the Little North-western Mastiff Bat (Priority 1). A breakdown of native mammal families recorded during the surveys is provided in Table 22.

Table 22 Mammal families recorded during the field surveys

Mammal Family	No. of species
Bovidae (Cow)	1
Canidae (Dingo)	1
Equidae (Horse)	1
Emballonuridae (Sheath-tail Bats)	1
Molossidae (Freetail Bats)	2
Muridae (Native Rodents)	2
Macropodidae (Wallaby)	1
Tachyglossidae	1
Vespertilionidae (Bats)	2
Total	12

Birds

The bird surveys identified 54 bird species from 31 families. The most specious families were the Accipitridae (6 species), Artamidae (4 species), Meliphagidae (3 species), Columbidae (3 species), Cacatuidae (3 Species) and Psittacidae (3 species). The most abundant species were the Red-collared Lorikeet with 26 records (8.5% of total bird recordings) and Red-backed Fairy-wren with 23 records (7.5% of total bird recordings). A breakdown of bird families recorded during the survey is provided in Table 23.

Table 23 Bird families recorded during the field surveys

Bird Family	No. of species
Accanthizidae (Weebill/Gerygone)	2
Accipitridae (Diurnal birds of prey)	6
Artamidae (Magpie group)	4
Cacatuidae (Cockatoo group)	3
Campephagidae (Cuckoo-shrikes)	2
Columbidae (Doves)	3
Coraciidae (Dollarbird)	1

Bird Family	No. of species
Corvidae (Crow)	1
Cuculidae (Cuckoos)	1
Estrildidae (Finchs)	2
Falconidae (Falcons)	2
Halcyonidae (Kingfishers)	2
Maluridae (Wrens)	2
Megaluridae (Songlarks)	1
Meliphagidae (Honeyeaters)	3
Meropidae (Bee eater)	1
Monarchidae (Lark)	2
Nectariniidae (Mistletoebird)	1
Neosittidae (Sittella)	1
Otitidae (Bustard)	1
Pachycephalidae (Whistlers)	1
Pardalotidae (Pardalote)	1
Petroicidae (Robin)	1
Podargidae (Frogmouth)	1
Pomatostomidae (Babblers)	1
Psittacidae (Parrots)	3
Ptilonorhynchidae (Bowerbird)	1
Rhipiduridae (Fantail)	1
Strigidae (Owls)	1
Threskiornithidae (Ibis)	1
Turnicidae (Quail)	1
Total	54

Reptiles

A total of 41 reptile species were recorded during the field surveys from 9 families. The most specious families were the Scincidae (13 species), and Gekkonidae (6 species). Four hundred and seven reptiles were recorded within the Sites over the trapping program. The most abundant species were *Heteronotia binoei* with 98 records (24% of total reptile recordings), *Gehyra pilbara* with 88 records (22% of total reptile recordings) and *Ctenotus inornatus* with 48 records (12% of total reptile recordings). A breakdown of reptile families recorded during the survey is provided in Table 24.

Table 24 Reptile families recorded during the field surveys

Reptile Family	No. of species
Agamidae (Dragons)	4
Boidae (Pythons)	2
Diplodactylidae (Geckos)	3
Elapidae (Snakes)	5
Gekkonidae (Geckos)	6
Pygopodidae (Legless Lizards)	2
Scincidae (Skinks)	13
Typhlopidae (Blindsnakes)	2
Varanidae (Monitors)	4
Total	41

Amphibians

One amphibian species was recorded in the Sites during the surveys, the Green Tree Frog (*Litoria caerulea*). This species was observed in Site 2.

Accumulation curve

The number and type of species trapped each day was recorded and a species accumulation curve generated for the Sites. The species accumulation curve represents the successfulness of the trapping program for its duration. Typically, the longer the trapping program the more complete the representation of species sampled per site or habitat type. Accumulation curves should show “levelling” of the species group counts prior to the completion of the survey. There are many limitations that can influence the results of an accumulation curve, and the curve should be viewed as a guide only. One curve was generated for the project as only one habitat type was recorded within the Sites; the curve is presented in Plate 3. The accumulation curve showed levelling of each species group towards the end of the survey, demonstrating that of the species active at the time of survey, the majority were sampled.

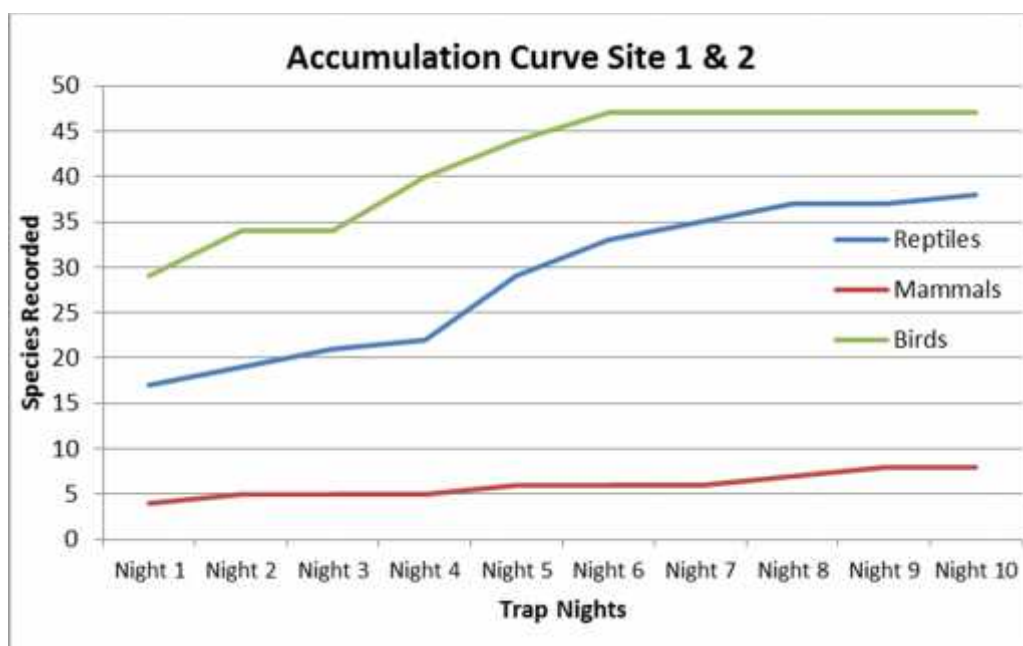


Plate 3 Fauna accumulation curve for the Sites

6.2.3 Conservation significant fauna

Two conservation significant fauna species were recorded within the Sites during the field surveys. These include:

- Rainbow Bee-eater (*Merops ornatus*) – listed under Schedule 5 (International Agreement) under the WC Act and as Migratory terrestrial under the EPBC Act.
- Little North-western Mastiff Bat (*Ozimops cobourgiensis*) – listed as Priority 1 under DPaW Priority Species List.

In addition to the field survey results, an assessment on the likelihood of conservation significant species occurring in the Sites was undertaken. This assessment is based on species biology, habitat requirements, the quality and availability of suitable habitat as determined during the field survey and records of the species in the Sites and locality. Species specific searches of the DPaW *NatureMap* database with a buffer of 20 km were also conducted in order to gather information about the broader regional occurrence of species to further inform the likelihood of occurrence assessment. For example, the Greater Bilby (*Macrotis lagotis*) (listed under

Schedule 3 (Vulnerable) under the WC Act and as Vulnerable under the EPBC Act) was recorded approximately 580 m from Site 1. Although not recorded at Site 1 or 2, these areas fall within the known activity range of the species and have been included in this assessment.

In total, including those recorded at the Sites six species are known or likely to occur. Table 26 summarises the species of conservation significance that are either known, or considered likely, to occur in the Sites. A brief description of these species and their associated habitat types within the Sites are described below Table 26. The parameters of assessment for this likelihood of occurrence assessment and the full likelihood of occurrence assessment are provided in Appendix G.

Table 25 Summary of likelihood of occurrence for conservation significant fauna

Species	EPBC Act	WC Act/ DPaw	Assessment outcome
Birds			
Rainbow Bee-eater (<i>Merops ornatus</i>)	Mi	S5	Known – The Rainbow Bee-eater was recorded in the Sites. In this region the species may be resident or migratory. Breeding and foraging habitat is present for this species in the Sites.
Grey Falcon (<i>Falco hypoleucos</i>)		Vu	Likely – The species has been observed in the region and foraging habitat is available for this species. This species is likely to opportunistically use the sites for foraging only. No known breed events have been recorded in the area. This species is typically rare and may visit the area irregularly.
Peregrine Falcon (<i>Falco peregrinus</i>)		S7 (SP)	Likely – The species has been observed a lot in the region and foraging habitat is available for this species. However this species is widespread, not typically abundant and may visit the area irregularly.
Mammals			
Greater Bilby (<i>Microtis lagotis</i>)	Vu	S3, Vu	Likely – The species is known from the region and active burrows were recorded 580 m from Site 1. Habitat is available for the species in the Sites and would be considered part of the overall area used by the species.
Little North-western Mastiff Bat (<i>Ozimops cobourgianus</i>)		P1	Known – The Little North-western Mastiff Bat calls were recorded in the Sites. This species is known to primarily breed in mangrove communities. It is likely the species utilises the Sites for foraging purposes only.
Reptiles			
Dampierland Burrowing Snake (<i>Simoselaps minimus</i>)		P2	Likely – The species has previously been recorded in the region and is a likely resident in the area. However the species is not considered common throughout their range, with few animals likely present. Most records are from coastal dunes where this species appears most common.

Key – (SP) = Special Protection under WC Act.

Fauna species recorded in the Sites

Rainbow Bee-eater (Merops ornatus)

The Rainbow Bee-eater (*Merops ornatus*) occurs in open forests and woodlands, shrublands, and in various cleared or semi-cleared habitats, including farmland and areas of human habitation. It also inhabits sand dune systems in coastal areas and at inland sites that are in close proximity to water (Morcombe 2004).

The Rainbow Bee-eater was recorded on several occasions across in the Sites. It is also likely the species would breed in the Sites where opportunity presents. The Rainbow Bee-eater is a common and wide spread species in most parts of Australia and has been recorded regularly within 20 km of the Sites (DPaW 2007–). The locations where the Rainbow Bee-eater was recorded is shown on Figure 10, Appendix A.

Little North-western Mastiff Bat (Ozimops cobourgianus)

The Little North-western Mastiff Bat is known from 12 locations in Western Australia (DPaW 2007–) and four in the Northern Territory, and within this distribution it is restricted to a few localised habitats, and can appear to be locally common because it aggregates. In Western Australia, this species inhabits mangrove stands, and has been recorded roosting in hollows and or crevices in mangroves (van Dyck et al. 2013). There are records of the Little North-western Mastiff Bat from mangroves near Cape Leveque and on the Dampier Peninsula.

The Little North-western Mastiff Bat is listed as Priority 1 by the DPaW, and was recorded during the Phase 2 survey of the Sites. Echolocation calls were recorded for this species at the eastern side of the Sites. Given the lack of mangrove within the Sites, it is likely this species forages in the area and roosts in the mangroves of Roebuck Bay.

Fauna species considered likely to occur within the Sites

Greater Bilby (Macrotis lagotis)

The Greater Bilby (*Macrotis lagotis*) distribution in Western Australia is restricted to the north, including the Pilbara, Dampier Peninsular, southern Kimberley, Sandy and Gibson Deserts. The Greater Bilby usually spends the daytime in burrows, which are in the open or sometimes built against termite mounds, spinifex hummock or shrubs (Van Dyck and Strahan 2008). Extant population of the Greater Bilby occur in a variety of habitats, usually on landforms with level to low slope topography and light to medium soils. It occupies three major vegetation types; open tussock grassland on uplands and hills, mulga woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas. Laterite and rock feature substrates are an important part of Greater Bilby habitat. These habitats support shrub species, such as *Acacia kempeana*, *A. hilliana* and *A. rhodophylla*, which have root-dwelling larvae that provide a constant food source for the Greater Bilby. After dark they leave their burrows to feed and populations are known to move long distances when current habitat ranges become unsuitable. Bilbies are largely solitary, widely dispersed and found in low numbers. The current occurrence of the Greater Bilby is strongly associated with higher rainfall and temperatures, which promote areas of higher plant and food production. The Greater Bilby may also prefer these conditions as higher rainfall and temperatures are not well tolerated by foxes (Pavey 2006; Southgate et al. 2007).

The Greater Bilby was not recorded in the Sites, however the species is known from the area and is considered likely to occur opportunistically in the Sites. The Pindan habitat is suitable habitat for the Bilby, however the current grass cover across the Sites (on average approximately 50-60%) would restrict the current use by Bilby. Several areas of scratchings

were recorded in the shrublands consistent with Bilby activity, however these could not be verified with additional information such as burrows, scats or prints.

A known active burrow system is approximately 4.8 km from the Cape Leveque Road and Broome Road intersection, which is 1.1 km to the closest point of Site 1. A walk back from the burrows towards the Sites identifying Bilby evidence decreased this distance to 580 meters to Site 1 and approximately 1 km from Site 2. This data is presented in Figure 10, Appendix A. No confirmed Bilby evidence was recorded in any of the plots assessed during surveys despite some minor scratching evidence. A copy of the plot data is present in Appendix G.

Grey Falcon (*Falco hypoleucos*)

The Grey Falcon inhabits lightly timbered country, especially stony plains and lightly timbered acacia scrub. This species is considered scarce to rare and is usually found singularly or sometimes in pairs (Morcombe 2004). In Northern Pilbara/Southern Kimberley WA, the grey falcon is very rare. The distribution of the Grey Falcon is typically centred on inland drainage systems, where it frequents timbered lowland plains, particularly acacia shrublands cross by tree-lined watercourses to forage. It also hunts in treeless areas and frequents tussock grassland and open woodland, especially in winter, but it generally avoids deserts.

Grey Falcons are known from the region all be it in low numbers. The last recorded in individual was in 2002. The habitat type in the Sites provide suitable foraging habitat for this species.

Peregrine Falcon (*Falco peregrinus*)

The Peregrine Falcon is uncommon but wide-ranging across Australia. Habitat is extremely diverse, from rainforest to arid scrub, from coastal heath to alpine. The Peregrine Falcon nests primarily on ledges of cliffs, shallow tree hollows, and ledges of building in cities (Morcombe 2004).

The Peregrine Falcon is likely to occur in the Sites and has been recorded within 20 km of the Sites as recently as 2014 (DPaW 2007–) and was recorded in Broome the week prior to this survey (pers. comm. Glen Gaikhorst 2016). The Sites consists of potentially suitable foraging habitat, but lack suitable breeding habitat for the species.

Dampierland Burrowing Snake (*Simoselaps minimus*)

Dampierland Burrowing Snake is known from sandy areas of south-western Kimberley coast, on the Dampierlands Peninsular (Wilson and Swan 2010). Dampierland Burrowing Snake is known from the Broome area primarily from the coastal dunes and adjoining environment. One specimen has previously been recorded in the vicinity of the Sites and the species is likely present on both sites.

6.2.4 Introduced fauna

Three introduced mammal species and one introduced reptile species were recorded in the Sites during the field surveys. These species include the Cat, Cow, Horse and Asian House Gecko. All four species are known from the area/region with the Cow and Horse likely from the closest active station. However discussion with local resident suggested that some cows and horses were feral in the area.

The Asian House Gecko was recorded only during the Phase 2 surveys of the Sites and in low numbers. Typically this species is more common around town site and developed areas. It is likely that the odd specimen is present in the Sites but no significant population was recorded.

7. Project constraints and referrals

This section provides advice on the environmental constraints identified within the Sites during the preliminary site investigation and biological assessment, and potential environmental approvals and referrals that may be required. As the Project is in concept design, it is assumed there will be opportunities to avoid and minimise the impacts on these constraints through design. If the constraints can be avoided or impacts to these minimised, it may negate the need for environmental approvals or referral to Commonwealth/State environmental agencies.

7.1 Key constraints

The key constraints identified for the Site during the environmental investigations are summarised below in Table 26.

Table 26 Key constraints identified within the Sites

Constraint	Site 1	Site 2
Land use and physical characteristics	No constraints identified.	Fly tipping of house hold waste, including large, flat panel fragments of surficial potential asbestos containing materials present.
Vegetation and flora	29.56 ha of native vegetation is present.	127.89 ha of native vegetation is present. Approximately 9,940 individuals of <i>Jacquemontia</i> sp. Broome (P1) are present. Approximately six individuals of <i>Pterocaulon ?intermedium</i> (P3) are present. One individual of <i>Terminalia Kumpaja</i> (P3) is present.
Fauna	<p>Potential breeding and foraging habitat for three species:</p> <ul style="list-style-type: none">) Rainbow Bee-eater (<i>Merops ornatus</i>) –Migratory Terrestrial species (EPBC Act)) Little North-western Mastiff Bat (<i>Ozimops cobourgianus</i>) – Priority 1 (DPaW)) Greater Bilby (<i>Macrotis lagotis</i>) – Vulnerable (EPBC Act and WC Act) <p>Potential foraging habitat for three species:</p> <ul style="list-style-type: none">) Grey Falcon (<i>Falco hypoleucos</i>) – Vulnerable (EPBC Act)) Peregrine Falcon (<i>Falco peregrinus</i>) – Schedule 7 (WC Act)) Dampierland Burrowing Snake (<i>Simoselaps minimus</i>) – Priority 2 (DPaW) 	<p>Potential breeding and foraging habitat for three species:</p> <ul style="list-style-type: none">) Rainbow Bee-eater (<i>Merops ornatus</i>) –Migratory Terrestrial species (EPBC Act)) Little North-western Mastiff Bat (<i>Ozimops cobourgianus</i>) – Priority 1 (DPaW)) Greater Bilby (<i>Macrotis lagotis</i>) – Vulnerable (EPBC Act and WC Act) <p>Potential foraging habitat for three species:</p> <ul style="list-style-type: none">) Grey Falcon (<i>Falco hypoleucos</i>) – Vulnerable (EPBC Act)) Peregrine Falcon (<i>Falco peregrinus</i>) – Schedule 7 (WC Act) • Dampierland Burrowing Snake (<i>Simoselaps minimus</i>) – Priority 2 (DPaW)

7.2 Environmental approvals and referrals

7.2.1 Commonwealth approvals

Referral to DotE under the EPBC Act is triggered if a proposed action has or potentially has a significant impact on any MNES. Table 27 provides an assessment of the Sites against key biological MNES. The outcome of the assessment was that referral is recommended for the Project as there may be a risk (albeit probably low) of a significant impact to an important population of the Greater Bilby.

7.2.2 State approvals

Environmental Protection Authority

Significant proposals must be referred to the EPA under Section 38 of the EP Act. In deciding whether a proposal will be subject to the formal environmental impact assessment process, the EPA takes into account the environmental significance of any potential impacts that may result from the implementation of the scheme or proposal.

In the absence of a broader environmental assessment, the majority of the likely environmental impacts associated with the Project are linked to native vegetation clearing and loss of fauna habitat. The potential impacts from the loss of native vegetation and loss of fauna habitat maybe effectively assessed through the Environmental Protection (Clearing of Native Vegetation) Regulations 2004. Therefore with consideration of the biological values discussed in this report, it is considered unlikely the Project would require referral to the EPA under Section 38 of the EP Act.

Department of Environment Regulation

Any clearing of native vegetation is regulated by the DER and requires a clearing permit under Part V of the EP Act, except when a project is assessed under Schedule 6 of the Act or is prescribed by regulation in the Environmental Protection (Clearing Native Vegetation) Regulations 2004 and not in an ESA.

When preparing a native vegetation clearing application an assessment of the impact areas against the “Ten Clearing Principles” should be undertaken to determine whether the Project is likely to be at variance to the Principles. The Ten Clearing Principles aim to ensure that all potential impacts resulting from removal of native vegetation can be assessed in an integrated way.

If the EPA does not assess the Project, a clearing permit will be required for the Project.

Table 27 Assessment of key biological Matters of National Environmental Significance for the Sites

Matter of National Environmental Significance	Present	Need for referral to DotE under the EPBC Act
Listed Threatened Species and Ecological Communities	<p>No threatened flora species or communities were present or deemed likely to occur within the Sites.</p> <p>The assessment identified the likely presence of one EPBC listed threatened fauna species within the Sites based on known records nearby the Sites and the presence of potential habitat:</p> <p>Greater Bilby (<i>Macrotis lagotis</i>) – Vulnerable (EPBC Act and WC Act)</p>	<p>Referral is recommended</p> <p>No confirmed signs of Bilby use were identified on either Site during the surveys, however the Bilby was recorded (via active burrows, digs and scats) approximately 580 m north of Site 1, and have been previously recorded approximately 1 km south of Site 2. Both Sites fall into the known population range of the species.</p> <p>The Greater Bilby is considered highly nomadic and there is suitable habitat present within the Sites. Furthermore, there are nearby recent records of the species within 1 km of the Sites. Therefore GHD recommends referral may be required to DotE given there may be a risk (albeit probably low) of a significant impact to an important population of the species.</p>
Migratory Species	<p>The assessment identified the presence of one EPBC listed Migratory fauna species within the Sites based on the survey and the presence of potential habitat:</p> <p>Rainbow Bee-eater (<i>Merops ornatus</i>) –Migratory Terrestrial species (EPBC Act)</p>	<p>Unlikely</p> <p>The Rainbow Bee-eater is widespread throughout Australia and occurs in a wide range of habitat types. The Rainbow Bee-eater is reasonably common bird and there is abundant potentially suitable breeding and foraging habitat nearby. It is most likely that this species would utilise the Sites for foraging and during dispersal, opportunistic breeding may also occur within the Sites.</p> <p>The Rainbow Bee-eater is unlikely to rely on the habitats present within the Sites and any clearing of habitat for the Project is unlikely to significantly impact on individuals or a population of this species.</p>

8. Conclusions and recommendations

8.1 Key findings

8.1.1 Desktop assessment and preliminary site inspection

The Shire of Broome Town Planning Scheme No. 6 indicates that the Sites are zoned as 'Public Purpose: Water Supply', with Site 1 also zoned as a 'Development investigation area'. The historical aerial photography available for the Sites covers a relatively recent and limited time period, however no evidence of prior development within either Site was identified from aerial photography.

The historical aerial photography available for the Sites covers a relatively recent and limited time period, however no evidence of prior development within either Site was identified from aerial photography.

From site inspection, several localised observations of illegal dumping of household waste were observed within Site 2. Of the observed waste, potential ACM was identified as a potential contamination source. The observed ACM was identified as part of tile flooring material. As shown in the Conceptual Site model, the dumped household waste, including potential ACM, is considered to represent a low risk to human health and capable of mitigation by relatively simple management measures.

With respect to ASS, the Sites are classified as an area of 'Extremely low probability/Very low confidence'. No visual indications of ASS (such as any low lying area with indications of surface water ponding or vegetation distress) were observed in site inspection and the site does not display features indicative of a wet/riparian area based on observations made during the Site inspection and a review of the Site topography. Based on review of site conditions, the development area at the Site is not considered to be conducive to the presence of ASS that is likely to require management for the proposed development.

Information sources reviewed in this assessment did not identify other potential contamination sources at the Site or other environmental factors posing a risk to the proposed development and future landowners.

8.1.2 Vegetation and flora

The Sites comprised one vegetation association, which was not considered representative of any Commonwealth or State-listed TECs or PECs, other significant vegetation as defined by the EPA (2004a) nor considered to be growing in association with watercourses or wetlands. The vegetation condition within the Sites was rated from condition 2 to 7. The majority of vegetation throughout the Sites was rated as condition 2. Areas rated as conditions 6 and 7 aligned with historically disturbed or cleared areas.

No EPBC Act or WC Act listed flora taxa were recorded within the Sites, however, three DPaW Priority listed flora taxa, *Jacquemontia* sp. Broome (A.A. Mitchell 3028) (Priority 1), *Pterocaulon ?intermedium* (Priority 3) and *Terminalia kumpaja* (Priority 3) were recorded. An additional Priority listed taxon, *Glycine pindanica* (Priority 3) was recorded adjacent to Site 2. A likelihood of occurrence assessment conducted post-field survey concluded one taxon may possibly occur and the remaining 16 taxa are unlikely to occur within the Sites. The single taxon that may possibly occur (*Aphyllodium glossocarpum*) has been recorded within 20 km of the Sites and suitable habitat occurs. Although the Sites were sufficiently traversed during the field survey, this species can be cryptic. Two taxa considered 'significant flora' as defined by the EPA (2004a) were recorded within Site 2 during the field survey. One taxon was identified as *Glycine* aff.

pindanica and likely represents a naturally occurring hybrid between *G. pindanica* (P3) and *G. tomentella*. The other taxon was identified as *Sehima nervosum* (Whitegrass) and represents a range extension.

8.1.3 Fauna

One fauna habitat type was recorded in the Sites during the field survey. This habitat is considered to be broadly represented in the local and regional area. The Sites represents a large continuous tract of fauna habitat that retains high connectivity to adjacent lands. Disturbance throughout the Sites includes localised variation in habitat structure likely attributable to fire and partial clearing in a single area of Site 2.

Within the habitat type two habitat features are significant to fauna these are termitaria and large Eucalypts. Both these features are more prevalent in the southern most section of Site 2 and should be retained where possible. The southern portion of Site 2 is also where the most Rainbow Bee-eater (*Merops ornatus*) were recorded and Little North-western Mastiff Bat (*Mormopterus loriae cobourgiana*) calls identified. However both species would likely utilise the entire Sites for foraging.

Additionally the local area and region is known to support Greater Bilby (*Macrotis lagotis*). The habitat within the Sites is Greater Bilby habitat and an active Bilby colony was identified only 580 m from Site 1. Both Site 1 and 2 are within the known foraging range of a Bilby and therefore could potentially utilise the Sites at any time. No evidence of use was identified during the field surveys.

There are six fauna species of conservation significance that are known or considered likely to occur in or adjacent to the Sites:

- Rainbow Bee-eater (known)
- Little North-western Mastiff Bat (known)
- Greater Bilby (known)
- Grey Falcon (likely)
- Peregrine Falcon (likely)
- Dampierlands burrowing Snake (likely)

8.2 Recommendations

8.2.1 Potential location to be utilised

One area within Site 2 presents as “more suitable” for development to the rest of the Sites. This area is located adjacent to the Cape Leveque Road and includes the identified disturbed area in the central portion of Site 2. Although this location is associated with fly tipping of house hold waste, including large, flat panel fragments of surficial potential asbestos containing materials, it is likely to have less biological constraints. It should be noted this location is still considered Bilby habitat and would still require referral, however it attempts to distance the Project from the known Bilby activity recorded approximately 580 m north of Site 1, while attempting to limit impacts to *Jacquemontia* sp. Broome (Priority 1) and termite mounds (which provide micro habitat for numerous fauna species including reptiles and small mammals) which were recorded in higher densities in the southern portion of Site 2.

9. References

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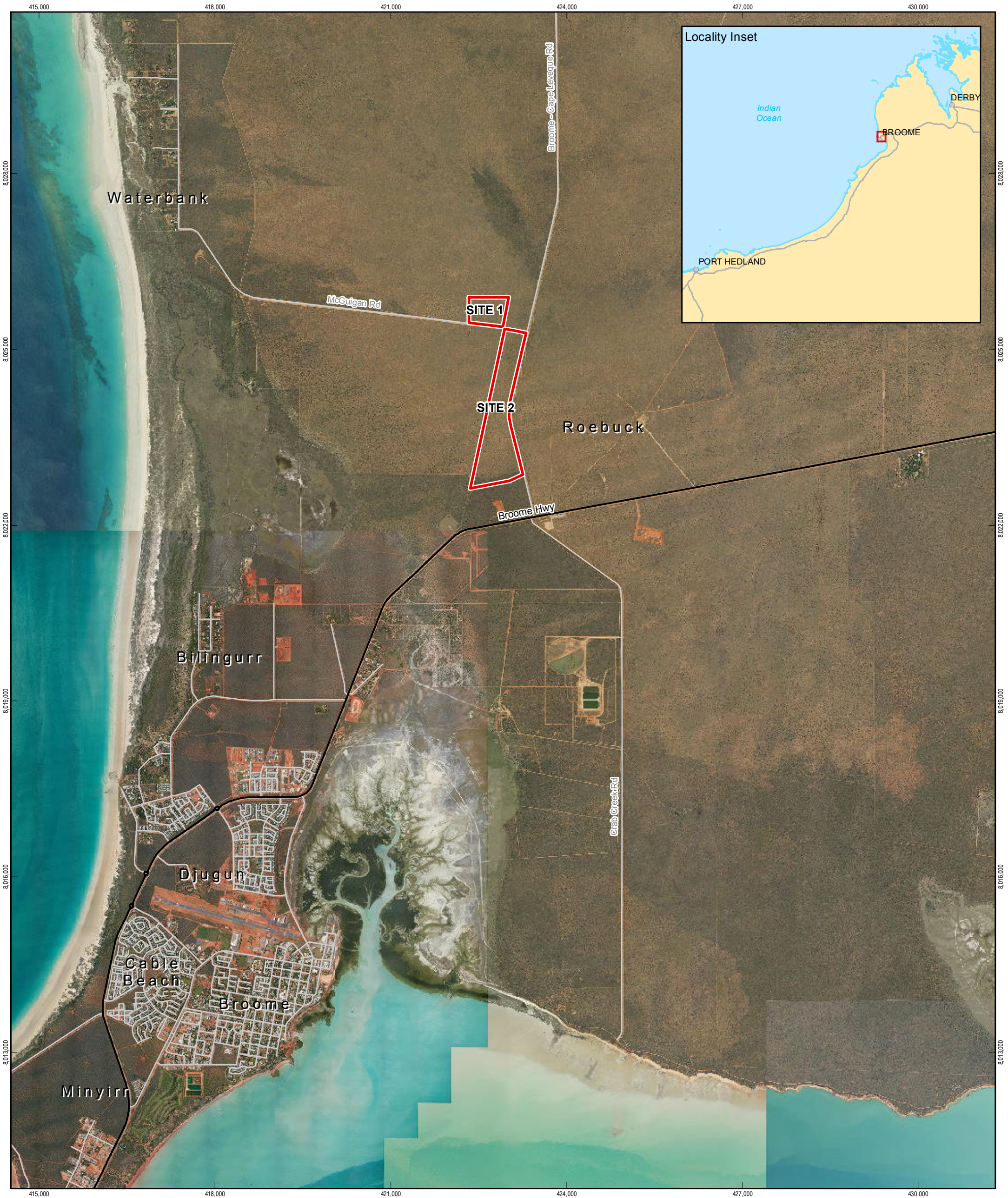
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Appendices

Appendix A – Figures

- Figure 1 Project location
- Figure 2 Flora and fauna sample locations
- Figure 3 Land use
- Figure 4 Physical characteristics
- Figure 5 Hydrology
- Figure 6 Biological constraints
- Figure 7 Current site conditions
- Figure 8 Vegetation associations and conservation significant flora locations
- Figure 9 Vegetation condition and weed locations
- Figure 10 Conservation significant fauna




LEGEND


— State Road Project Area


— Local Road





LEGEND


 Vegetation Quadrat

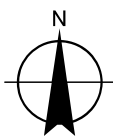
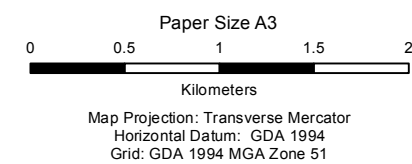
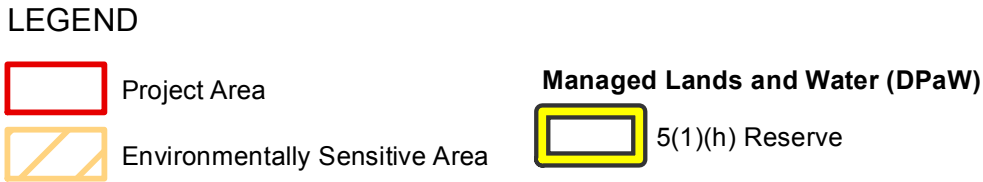
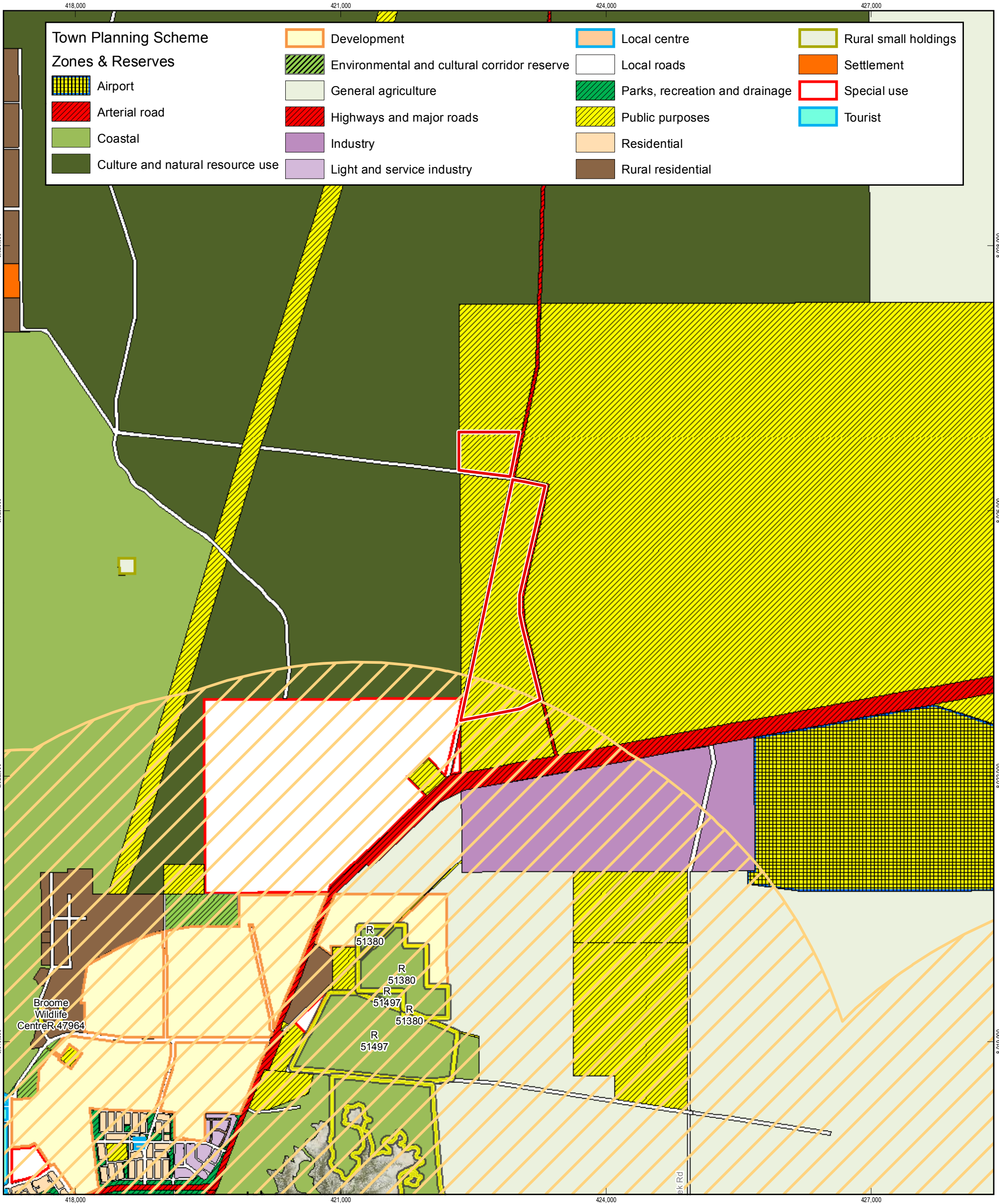
 Camera Location

 Project Area

 Bat Recorder Location

 Trap Location

 Bilby Plot

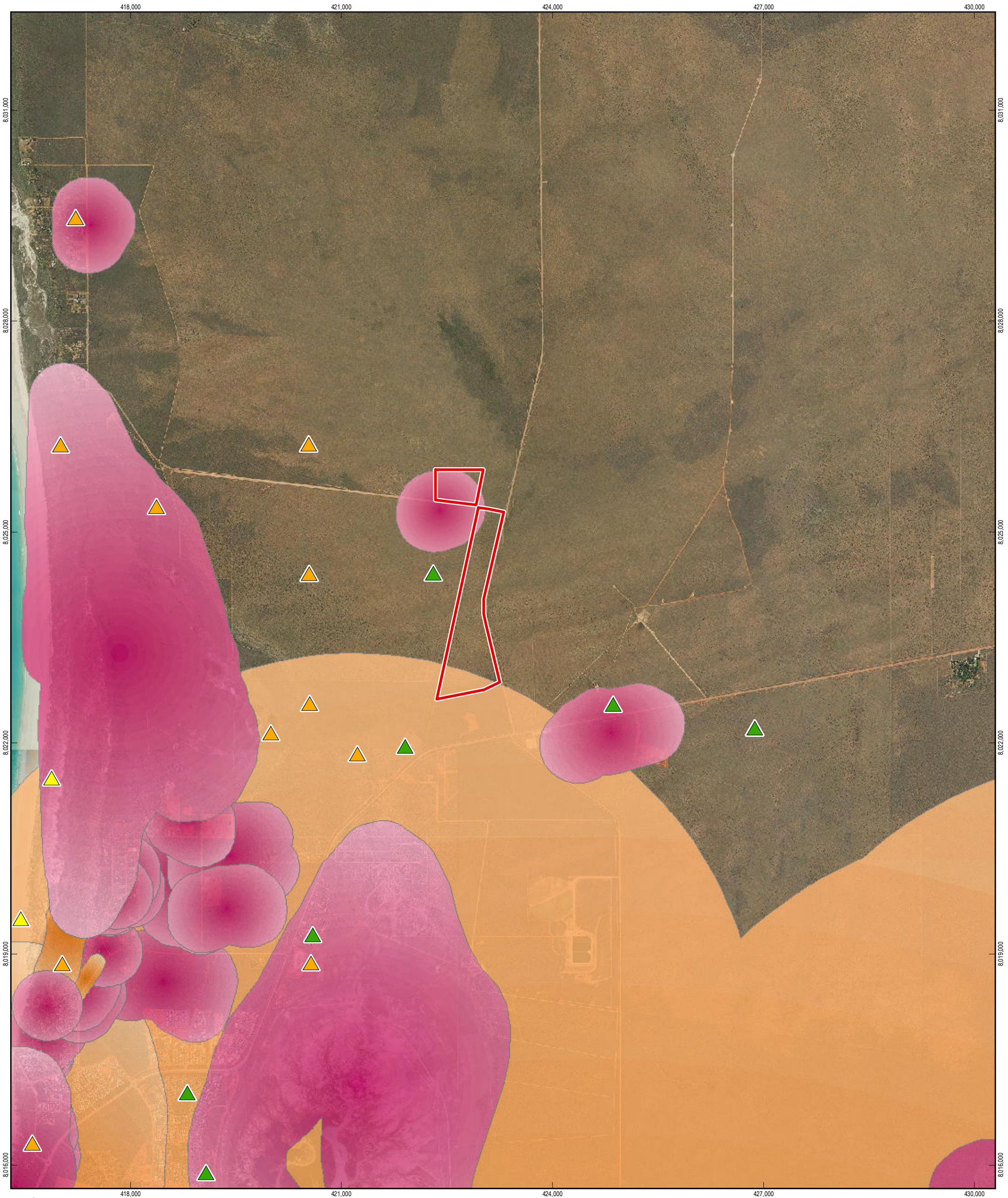


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Land Use

Figure 3



LEGEND

Threatened and Priority Flora (DPaW)

Threatened

Priority 1

Priority 2

Priority 3

Project Area

Priority Ecological Community

Threatened Ecological Community

0

0.5

1

1.5

2

2.5

Paper Size A3

Kilometres

Map Projection: Transverse Mercator

Horizontal Datum: GDA 1994

Grid: GDA 1994 MGA Zone 51

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Biological Constraints

Figure 6

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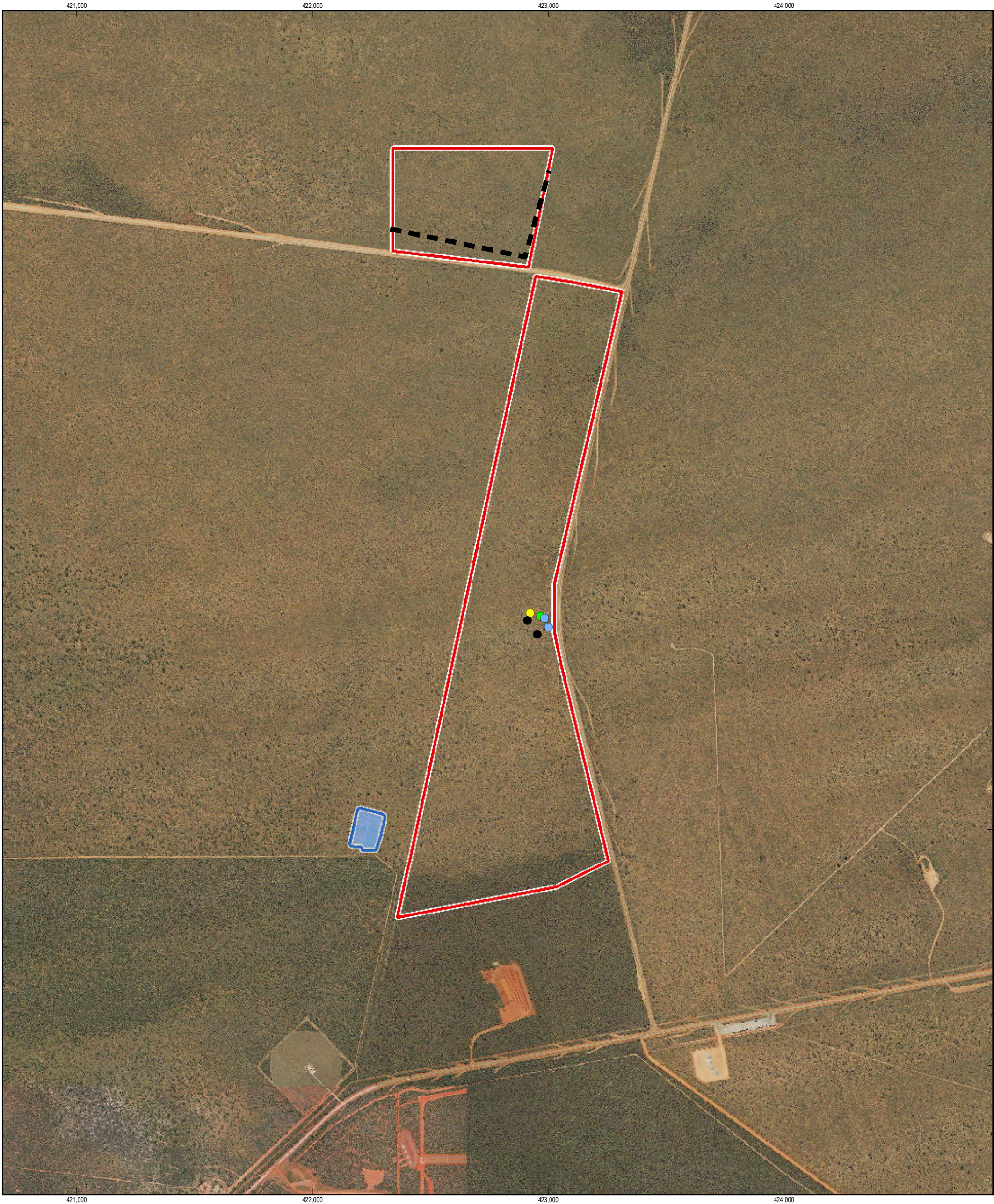
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Data source: DPaW: Threatened and Priority Flora, Priority/Threatened Ecological Communities - 20160311; Landgate: Imagery (Virtual Mosaic); GHD: Project Area - 20151208. Created by:afeeney



LEGEND

● Dumped asbestos	● Old spoil storage	 Old fenceline	 Project Area
● Dumped rubbish	● Shotgun cartridges	 Old material area	

Paper Size A3

0 200 400 600 800

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 51

N

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Current Site Conditions

Figure 7

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Data source: Landgate: Imagery (Virtual Mosaic); GHD: Project Area - 20151208, Old fence line, Old material area, Site inspection results - 20160411. Created by:afeeney



LEGEND

Conservation Significant Flora

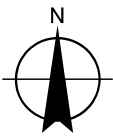
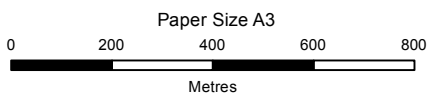
- ▲ *Jacquemontia* sp. Broome (A.A. Mitchell 3028) (P1)
- ▲ *Terminalia kumpaja* (P3)

- ▲ *Glycine pindanica* (P3)
- ▲ *Pterocaulon ?intermedium* (P3)

Project Area

Vegetation Association

Pindan Grassland



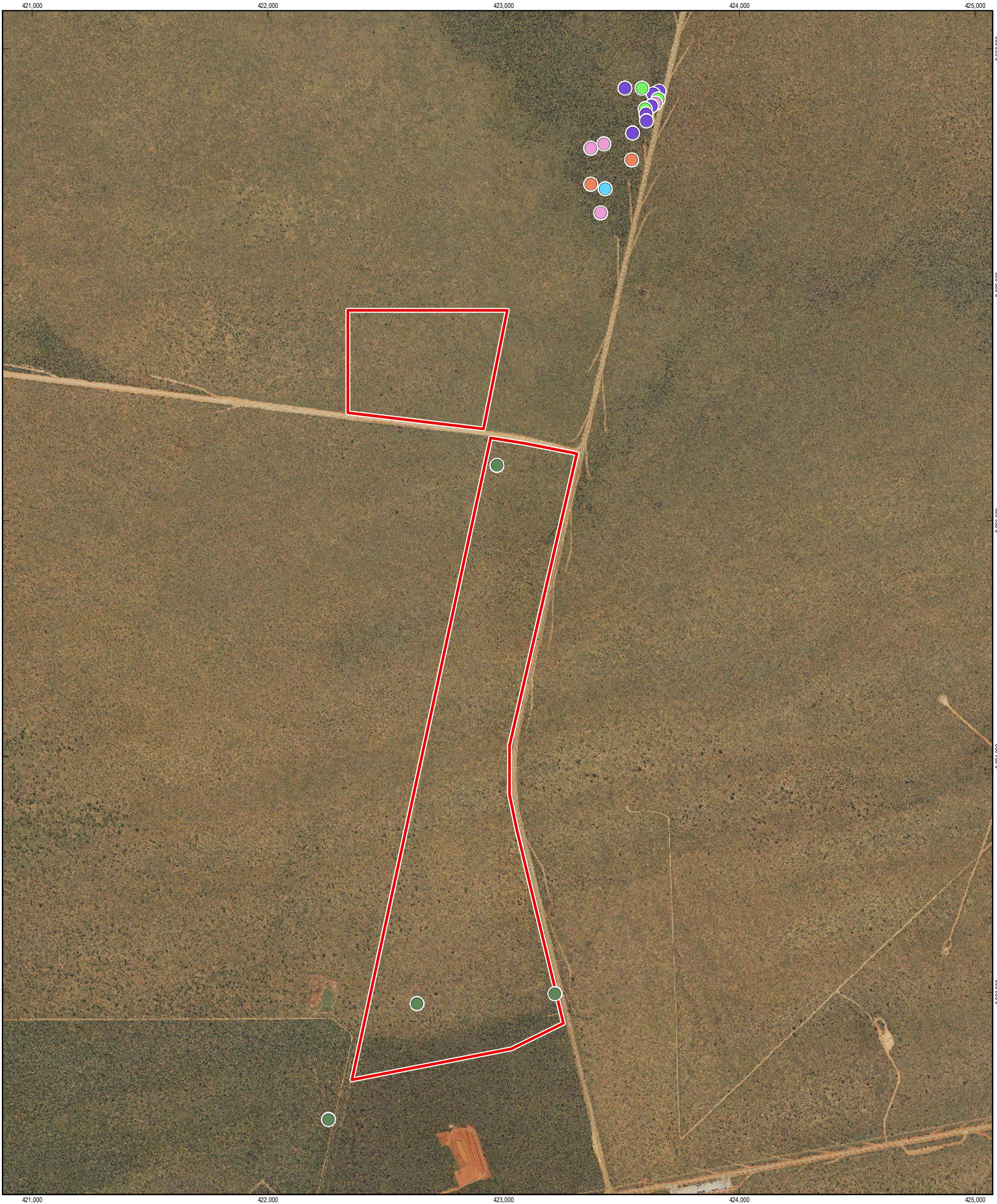
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Date | 14 Jun 2016

Vegetation Association and
Conservation Significant Flora

Figure 8





LEGEND

Rainbow Bee-eater

Project Area

Bilby

Bilby burrow, Active

Bilby burrow, Old

Bilby digs, Fresh

Bilby digs, Fresh and old

Bilby digs, Old

0200400800

Metres

Map Projection: Transverse Mercator

Horizontal Datum: GDA 1994

Grid: GDA 1994 MGA Zone 51

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Conservation Significant Fauna

Figure 10

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Data source: GHD: Project Area - 20151208, Conservation Significant Fauna - 20160414; Landgate: Imagery (Virtual Mosaic). Created by:afeeney

Appendix B – Relevant legislation, conservation codes and background information

Legislation

Federal Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Federal Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places, which are defined in the EPBC Act as Matters of National Environmental Significance (MNES).

The biological aspects listed as MNES include:

- Nationally threatened flora and fauna species and ecological communities
- Migratory species

A person must not take an action that has, will have, or is likely to have a significant impact MNES, without approval from the Federal Minister for the Environment.

A person must not undertake an action that has, will have, or is likely to have a significant impact (direct or indirect) on MNES, without approval from the Australian Government Minister for the Environment.

State Environmental Protection Act 1986

The *Environmental Protection Act 1986* (EP Act) is the primary legislative Act dealing with the protection of the environment in Western Australia. The Act allows the Environmental Protection Authority (EPA), to prevent, control and abate pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment and for matters incidental to or connected with the above.

Clearing of native vegetation in Western Australia requires a permit from the Department of Environment Regulation (DER) (formerly the Department of Environment and Conservation – DEC), unless exemptions apply. Native vegetation includes aquatic and terrestrial vegetation indigenous to Western Australia, and intentionally planted vegetation declared by regulation to be native, but not vegetation planted in a plantation or planted with commercial intent.

In the EP Act Section 51A, clearing is defined as the killing or destruction of; the removal of; the severing or ringbarking of trunks or stems of; or the doing of substantial damage of some or all of the native vegetation in an area, including the flooding of land, the burning of vegetation, the grazing of stock or an act or activity that results in the above.

When making a decision to grant or refuse a permit to clear native vegetation the assessment considers clearing against the ten clearing principles as specified in Schedule 5 of the EP Act:

- a) Native vegetation should not be cleared if it comprises a high level of biodiversity.
- b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a significance habitat for fauna indigenous to Western Australia.
- c) Native vegetation should not be cleared if it includes, or is necessary, for the continued existence of rare flora.
- d) Native vegetation should not be cleared if it comprises the whole or part of native vegetation in an area that has been extensively cleared.
- 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.
- f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

- g) 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.
- h) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- 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.
- j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.

There are a number of Environmentally Sensitive Areas (ESAs) within Western Australia where exemptions in regulations do not apply. ESAs include locations of threatened communities and species.

State Environmental Protection (Clearing of Native Vegetation) Regulations 2004

ESAs are declared by a notice under Section 51B of the EP Act. The Table below outlines the aspects of areas declared as ESA (under the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 – Reg 6).

Aspects of Environmentally Sensitive Areas

Aspects of Environmentally Sensitive Areas
A declared World Heritage property as defined in Section 13 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act).
An area that is registered on the Register of the National Estate (RNE), because of its natural values, under the <i>Australian Heritage Commission Act 1975</i> of the Commonwealth (the RNE was closed in 2007 and is no longer a statutory list – all references to the RNE were removed from the EPBC Act on 19 February 2012).
A defined wetland and the area within 50 m of the wetland.
The area covered by vegetation within 50 m of rare flora, to the extent to which the vegetation is continuous with the vegetation in which the rare flora is located.
The area covered by a TEC.
A Bush Forever Site.
The areas covered by the following policies:
a) The <i>Environmental Protection (Gnangara Mound Crown Land) Policy 1992</i> .
b) The <i>Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002</i> .
The areas covered by the lakes to which the <i>Environmental Protection (Swan Coastal Plain Lakes) Policy 1992</i> (SCPL) (EPP Lakes) applies.
Protected wetlands as defined in the <i>Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998</i> .
Areas of fringing native vegetation in the policy area as defined in the <i>Environmental Protection (Swan and Canning Rivers) Policy 1997</i> .

State Wildlife Conservation Act 1950

The *Wildlife Conservation Act 1950* (WC Act) provides for the conservation and protection of wildlife. It is administered by the Department of Parks and Wildlife (DPaW) (formerly the DEC) and applies to both flora and fauna. Any person wanting to capture, collect, disturb or study fauna requires a permit to do so. A permit is required under the WC Act if removal of threatened species is required.

State Biosecurity and Agriculture Management Act 2007

Under the *Biosecurity and Agriculture Management Act 2007* (BAM Act), a Declared Pest is a prohibited organism or an organism for which a declaration under Section 22(2) is in force. The Department of Agriculture and Food Western Australia (DAFWA) maintains a list of Declared Pests for Western Australia. If a Pest is declared for the whole of the State or for particular Local Government Areas, all landholders are obliged to comply with the specific category of control. Declared plants are gazetted under categories, which define the action required. The category may apply to the whole of the State, districts, individual properties or even paddocks. Categories of control are defined below. Among the factors considered in categorising Declared Pests are:

-) The impact of the plant on individuals, agricultural production and the community in general
-) Whether it is already established in the area
-) The feasibility and cost of possible control measures

The BAM Act replaces the repealed *Agriculture and Related Resources Protection Act 1976* (ARRP Act).

[Department of Agriculture and Food \(Western Australia\) Categories for Declared Pests under the Biosecurity and Agriculture Management Act 2007](#)

Control class code	Description
C1 (Exclusion)	Pests will be assigned to this category if they are not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State.
C2 (Eradication)	Pests will be assigned to this category if they are present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still a possibility.
C3 (Management)	Pests will be assigned to this category if they are established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.

Background information and conservation codes

Reserves and conservation areas

Department of Parks and Wildlife managed lands and waters

DPaW manages lands and waters throughout Western Australia to conserve ecosystems and species, and to provide for recreation and appreciation of the natural environment. DPaW managed lands and waters include national parks, conservation parks and reserves, marine parks and reserves, regional parks, nature reserves, State forest and timber reserves. DPaW managed conservation estate, is vested with the Conservation Commission of Western Australia. Access to, or through, some areas of DPaW managed lands may require a permit or could be restricted due to management activities. Proposed land use changes and development proposals that about DPaW managed lands will generally be referred to DPaW throughout the assessment process.

Vegetation extent and status

The National Objectives and Targets for Biodiversity Conservation 2001–2005 (Commonwealth of Australia 2001) recognise that the retention of 30 percent or more of the pre-clearing extent of each ecological community is necessary if Australia's biological diversity is to be protected. This is the threshold level below which species loss appears to accelerate exponentially and loss below this level should not be permitted. This level of recognition is in keeping with the targets recommended in the review of the National Strategy for the Conservation of Australia's Biological Diversity (ANZECC 2000) and in Environmental Protection Authority (EPA) Position Statement No. 2 on environmental protection of native vegetation in Western Australia (EPA 2000).

From a purely biodiversity perspective and taking no account of any other land degradation issues, there are a number of key criteria now being applied to the clearing of native vegetation in Western Australia (EPA 2000).

-) The "threshold level" below which species loss appears to accelerate exponentially at an ecosystem level is regarded as being at a level of 30 percent of the pre-European extent of the vegetation type.
-) A level of 10 percent of the original extent is regarded as being a level representing Endangered.
-) Clearing which would put the threat level into the class below should be avoided.
-) From a biodiversity perspective, stream reserves should generally be in the order of at least 200 metres (m) wide.

The extent of remnant native vegetation has been assessed by Shepherd et al. (2002) and the Government of Western Australia (2015), based on broadscale vegetation association mapping by Beard (1977).

Conservation codes

Species of significant flora, fauna and communities are protected under both Federal and State Acts. The Federal EPBC Act provides a legal framework to protect and manage nationally important flora and communities. The State WC Act is the primary wildlife conservation legislation in Western Australia. Information on the conservation codes is summarised in the following sections.

Conservation significant communities

Ecological communities are defined as naturally occurring biological assemblages that occur in a particular type of habitat (English and Blyth 1997). Federally listed Threatened Ecological Communities (TECs) are protected under the EPBC Act administered by the Department of the

Environment (DotE) (formerly Department of Sustainability, Environment, Water, Population and Communities – DSEWPaC). The DPaW also maintains a list of TECs for Western Australia; some of which are also protected under the EPBC Act. TECs are ecological communities that have been assessed and assigned to one of four categories related to the status of the threat to the community, i.e. Presumed Totally Destroyed, Critically Endangered, Endangered and Vulnerable.

Possible TEC that do not meet survey criteria are added to the DPaW Priority Ecological Community (PEC) List under Priorities 1, 2 and 3. These are ecological communities that are adequately known; are rare but not threatened, or meet criteria for Near Threatened. PECs 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. PECs are not listed under any formal Federal or State legislation.

Conservation codes and definitions for Threatened Ecological Communities endorsed by the Western Australian Minister for the Environment and listed under the Environment Protection and Biodiversity Conservation Act 1999

Western Australia conservation categories		Federal Government Conservation Categories (EPBC Act)	
Presumed Totally Destroyed (PD)	The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.	Critically Endangered (CR)	If, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future
Critically Endangered (CR)	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated	Endangered (EN)	If, at that time, it is not critically endangered and is facing a very high risk of extinction in the wild in the near future
Endangered (EN)	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.	Vulnerable (VU)	If, at that time, it is not critically endangered or endangered, and is facing a high risk of extinction in the wild in the medium-term future
Vulnerable (VU)	An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.		

Conservation categories and definitions for Priority Ecological Communities as listed by the Department of Parks and Wildlife

Category	Description
Priority 1	<p>Poorly known ecological communities.</p> <p>Ecological communities that are known from very few occurrences with a very restricted distribution (generally 5 occurrences or a total area of 100 ha). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. 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.</p>
Priority 2	<p>Poorly known ecological communities.</p> <p>Communities that are known from few occurrences with a restricted distribution (generally 10 occurrences or a total area of 200 ha). At least some occurrences are not believed to be under immediate 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.</p>
Priority 3	<p>Poorly known ecological communities.</p> <p>(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:</p> <p>(ii) communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or;</p> <p>(iii) communities made up of large, and/or widespread occurrences, that may or may 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.</p> <p>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.</p>
Priority 4	<p>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.</p> <p>(i) 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.</p> <p>(ii) 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.</p> <p>(iii) Ecological communities that have been removed from the list of threatened communities during the past five years.</p>

Category	Description
Priority 5	<p>Conservation Dependent ecological communities.</p> <p>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.</p>

Other significant vegetation

Vegetation may be significant for a range of reasons, other than a statutory listing as TEC or because the extent is below a threshold level. The EPA (2004) states that significant vegetation may include vegetation that includes the following:

-) Scarcity
-) Unusual species
-) Novel combinations of species
-) A role as a refuge
-) A role as a key habitat for Threatened species or large population representing a significant proportion of the local to regional total population of a species
-) Being representative of the range of a unit (particularly, a good local and/or regional example of a unit in 'prime' habitat, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range)
-) A restricted distribution

This may apply at a number of levels, so the unit may be significant when considered at the fine-scale (intra-locality), intermediate-scale (locality or inter-locality) or broad-scale (local to region).

Conservation significant flora and fauna

Species of significant flora are protected under both Federal and State legislation. Any activities that are deemed to have a significant impact on species that are recognised by the EPBC Act, and/or the WC Act can warrant referral to the DotE and/or the EPA.

The Federal conservation level of flora and fauna species and their significance status is assessed under the EPBC Act. The significance levels for fauna used in the EPBC Act are those recommended by the International Union for the Conservation of Nature and Natural Resources (IUCN).

Threatened species have been published as Specially Protected under the WC Act 1950, and listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora. The schedules align with the categories of the EPBC Act. Threatened species are those species which have been adequately searched for and are deemed to be, in the wild, either rare, at risk of extinction, or otherwise in need of special protection, and have been gazetted as such.

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened flora or fauna.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

For the purposes of this assessment, all species listed under the EPBC Act, WC Act and DPaW Priority species are considered conservation significant.

Conservation categories and definitions for Environment Protection and Biodiversity Conservation Act 1999 listed flora & fauna species

Conservation category	Definition
Extinct	Taxa not definitely located in the wild during the past 50 years
Extinct in the Wild	Taxa known to survive only in captivity
Critically Endangered	Taxa facing an extremely high risk of extinction in the wild in the immediate future
Endangered	Taxa facing a very high risk of extinction in the wild in the near future
Vulnerable	Taxa facing a high risk of extinction in the wild in the medium-term
Near Threatened	Taxa that risk becoming Vulnerable in the wild
Conservation Dependent	Taxa whose survival depends upon ongoing conservation measures. Without these measures, a conservation dependent taxon would be classified as Vulnerable or more severely threatened.
Data Deficient (Insufficiently Known)	Taxa suspected of being Rare, Vulnerable or Endangered, but whose true status cannot be determined without more information.
Least Concern	Taxa that are not considered Threatened

Conservation codes and descriptions for Western Australian flora and fauna

Code	Conservation category	Description
<i>Wildlife Conservation Act 1950</i>		
T	Threatened species	<p>Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i>, and listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).</p> <p>Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.</p> <p>Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.</p> <p>The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.</p>
CR	Critically endangered species	Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
EN	Endangered species	Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
VU	Vulnerable species	Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
EX	Presumed extinct species	Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.
IA	Migratory birds protected under an international agreement	Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.
CD	Conservation dependent fauna	Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.
OS	Other specially protected fauna	Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

Code	Conservation category	Description
DPaW Priority Listed		
1	Priority One: Poorly-known taxa	Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
2	Priority Two: Poorly-known taxa	Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
3	Priority Three: Poorly-known taxa	Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
4	Priority Four: Rare, Near Threatened and other taxa in need of monitoring	<p>(a) Rare. Species 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 species are usually represented on conservation lands.</p> <p>(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.</p> <p>(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.</p>

Migratory species listed under the EPBC Act

The EPBC Act also protects land and migratory species that are listed under International Agreements. The list of migratory species established under section 209 of the EPBC Act comprises:

-) Migratory species which are native to Australia and are included in the appendices to the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals Appendices I and II)
-) Migratory species included in annexes established under the Japan-Australia Migratory Bird Agreement (JAMBA) and the China–Australia Migratory Bird Agreement (CAMBA)

-) Native, migratory species identified in a list established under, or an instrument made under, an international agreement approved by the Minister, such as the republic of Korea–Australia Migratory Bird Agreement (ROKAMBA)

Other significant flora and fauna

Flora species, subspecies, varieties, hybrids and ecotypes may be significant for a range of reasons, other than as Threatened (Declared Rare) Flora or Priority Flora. The EPA (2004) states that significant flora may include taxa that have:

-) A keystone role in a particular habitat for threatened species or supporting large populations representing a significant proportion of the local regional population of a species
-) Relic status
-) Anomalous features that indicate a potential new discovery
-) Being representative of the range of a species (particularly, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range)
-) The presence of restricted subspecies, varieties, or naturally occurring hybrids
-) Local endemism/a restricted distribution
-) Being poorly reserved

The application of the degree of significance may apply at a range of scales.

Introduced plants (weeds)

Declared Pests

Information on species considered to be Declared Pests is provided under *State Biosecurity and Agriculture Management Act 2007*.

Weeds of National Significance

The spread of weeds across a range of land uses or ecosystems is important in the context of socio-economic and environmental values. The assessment of Weeds of National Significance (WoNS) is based on four major criteria:

-) Invasiveness
-) Impacts
-) Potential for spread
-) Socio-economic and environmental values

Australian state and territory governments have identified thirty two Weeds of National Significance (WoNS); a list of 20 WoNS was endorsed in 1999 and a further 12 were added in 2012 (Australian Government 2014).

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Appendix C – Land use

Aerial photographs

DMP FOI DGS search results

DER contaminated sites database search

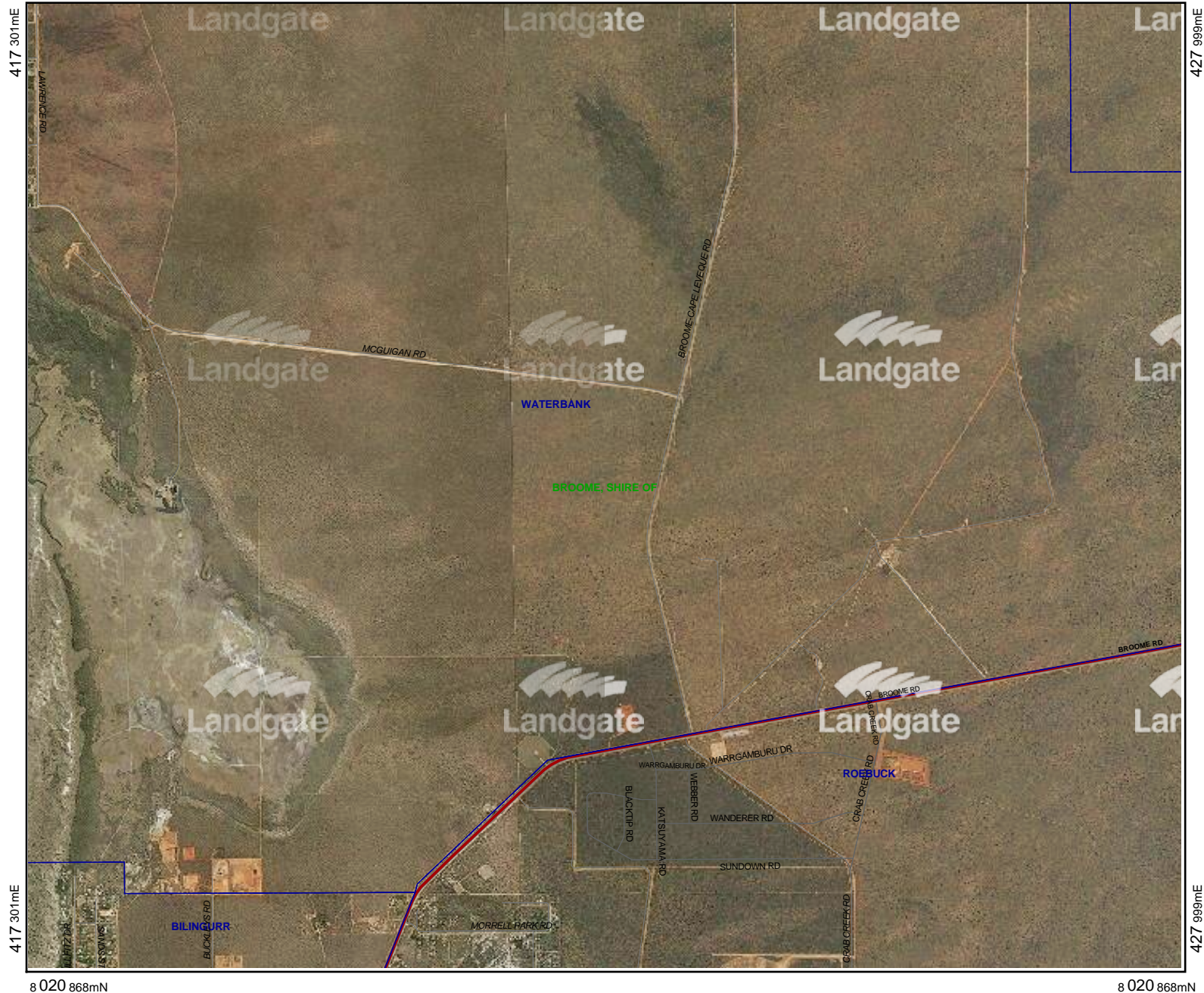
ASRIS search results

21/07/2015

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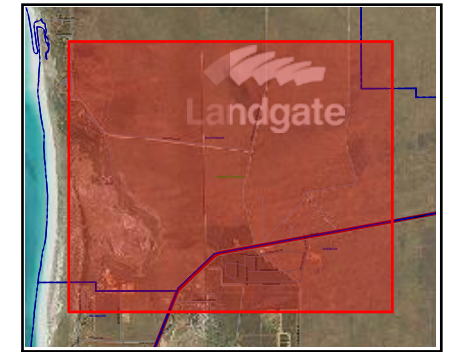
Created 1 Mar 2016

8 028 029mN



8 020 868mN

8 020 868mN



Scale: 1:53,119

Description

Map Projection: MGA 94 Zone 51
(Eastings/Northings)

Datum: Geocentric Datum of Australia
1994

1 Midland Square
Midland WA 6056
(08) 9273 7341
customerservice@landgate.wa.gov.au
www.landgate.wa.gov.au




Landgate

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20/07/2013

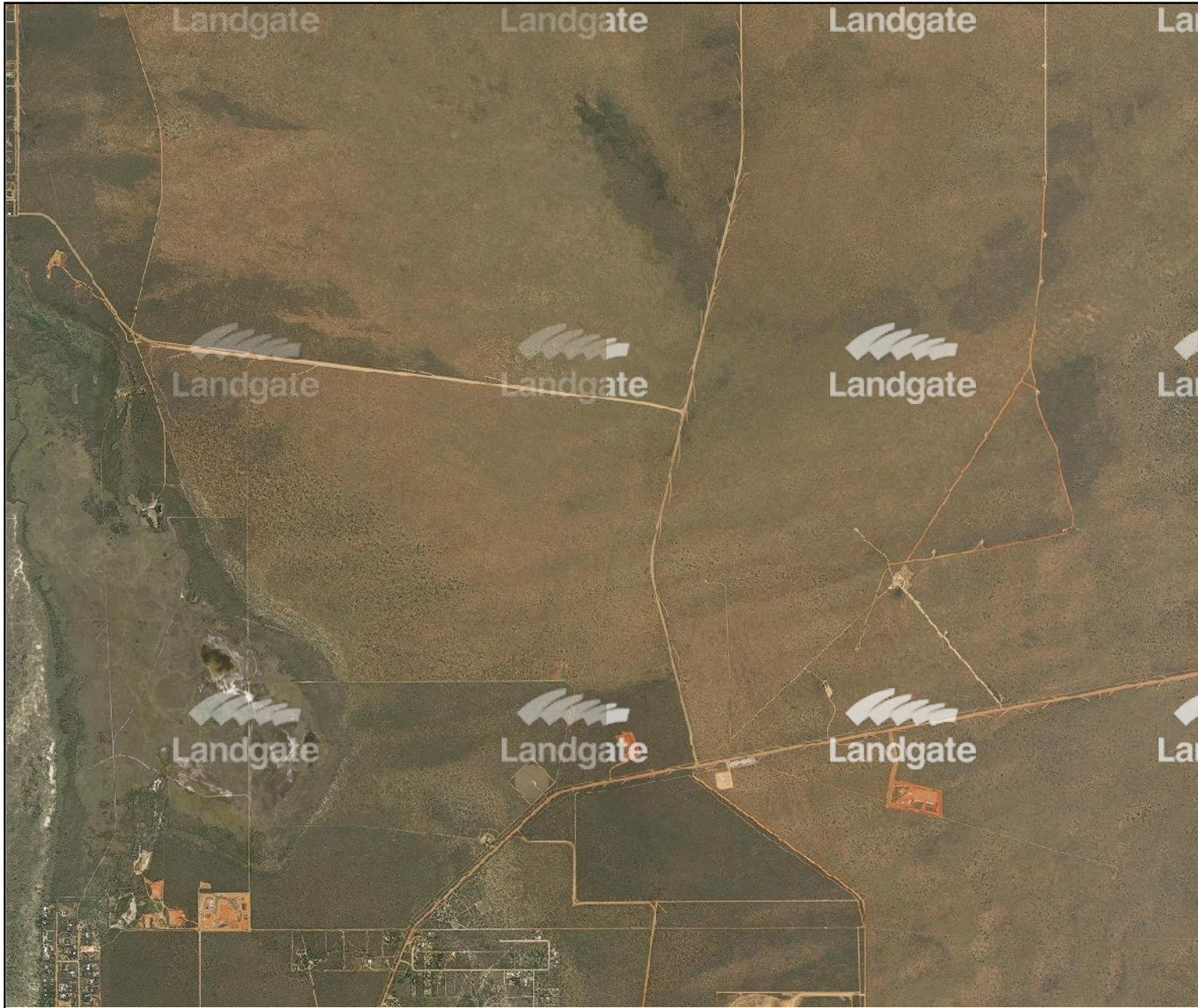
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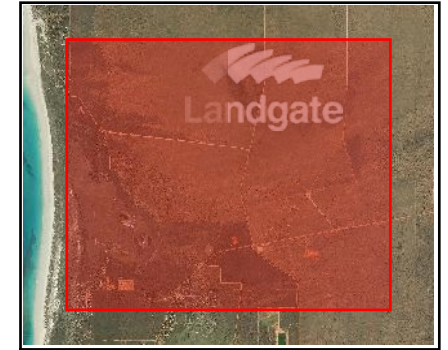
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427 999mE



8 020 868mN

8 020 868mN



Scale: 1:53,119

Description

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(Eastings/Northings)

Datum: Geocentric Datum of Australia
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13/06/2011

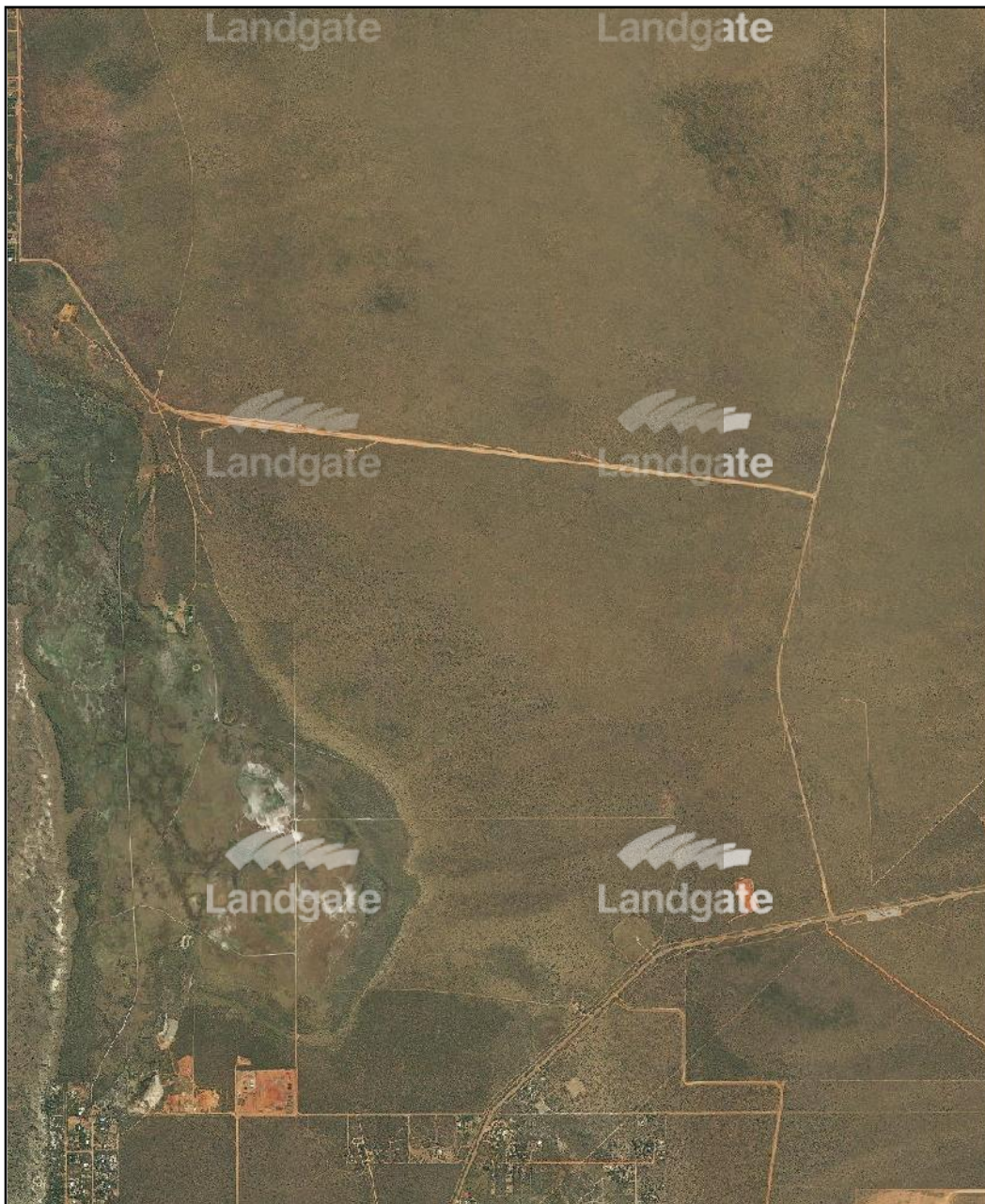
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Created 1 Mar 2016

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417 301mE

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417 301mE

427 999mE

8 020 868mN

8 020 868mN



Scale: 1:53,119

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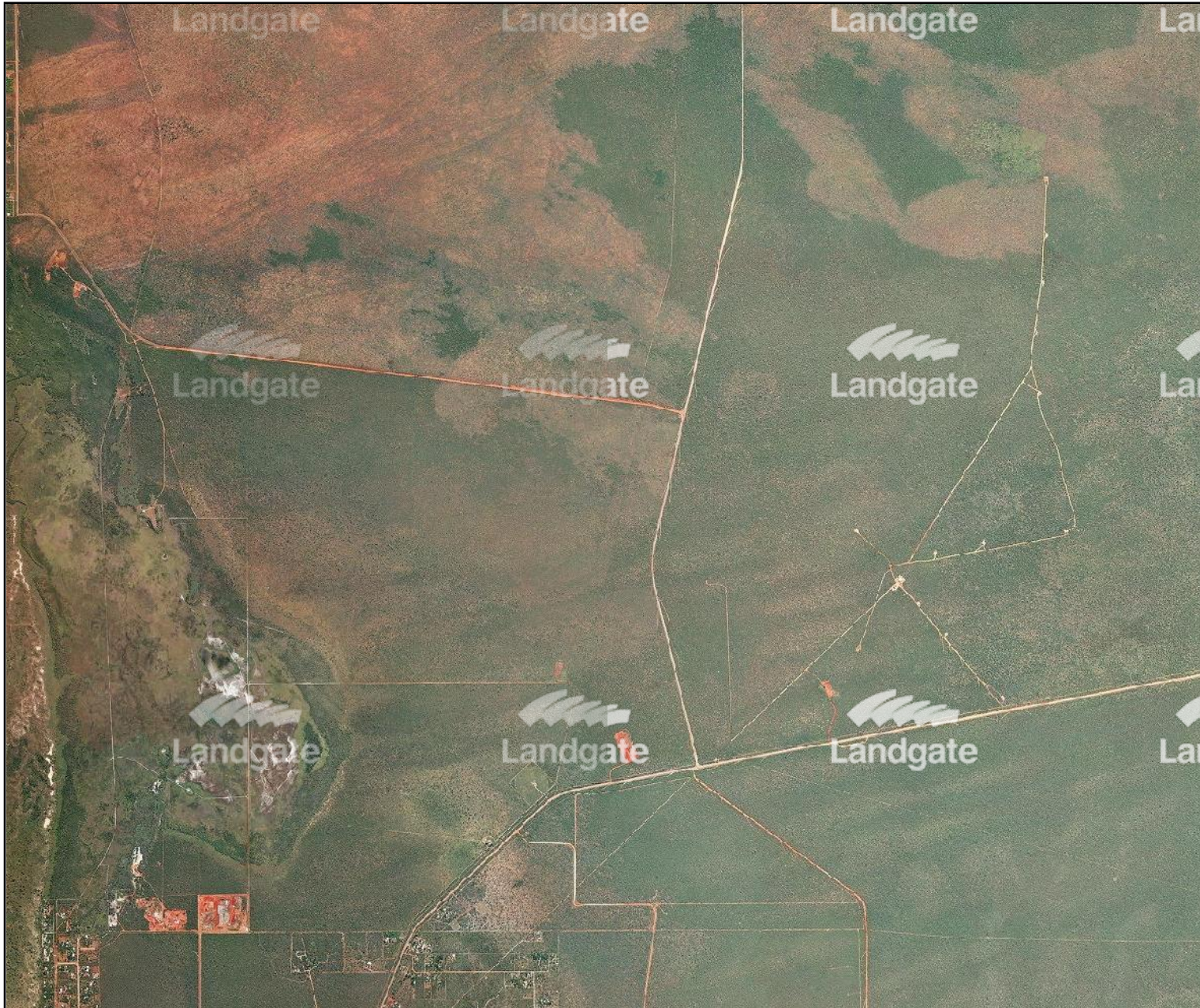
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Created 1 Mar 2016

8 028 029mN

417 301mE

427 999mE



8 020 868mN

8 020 868mN



Scale: 1:53,119

Description

Map Projection: MGA 94 Zone 51
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Datum: Geocentric Datum of Australia
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02/09/2000

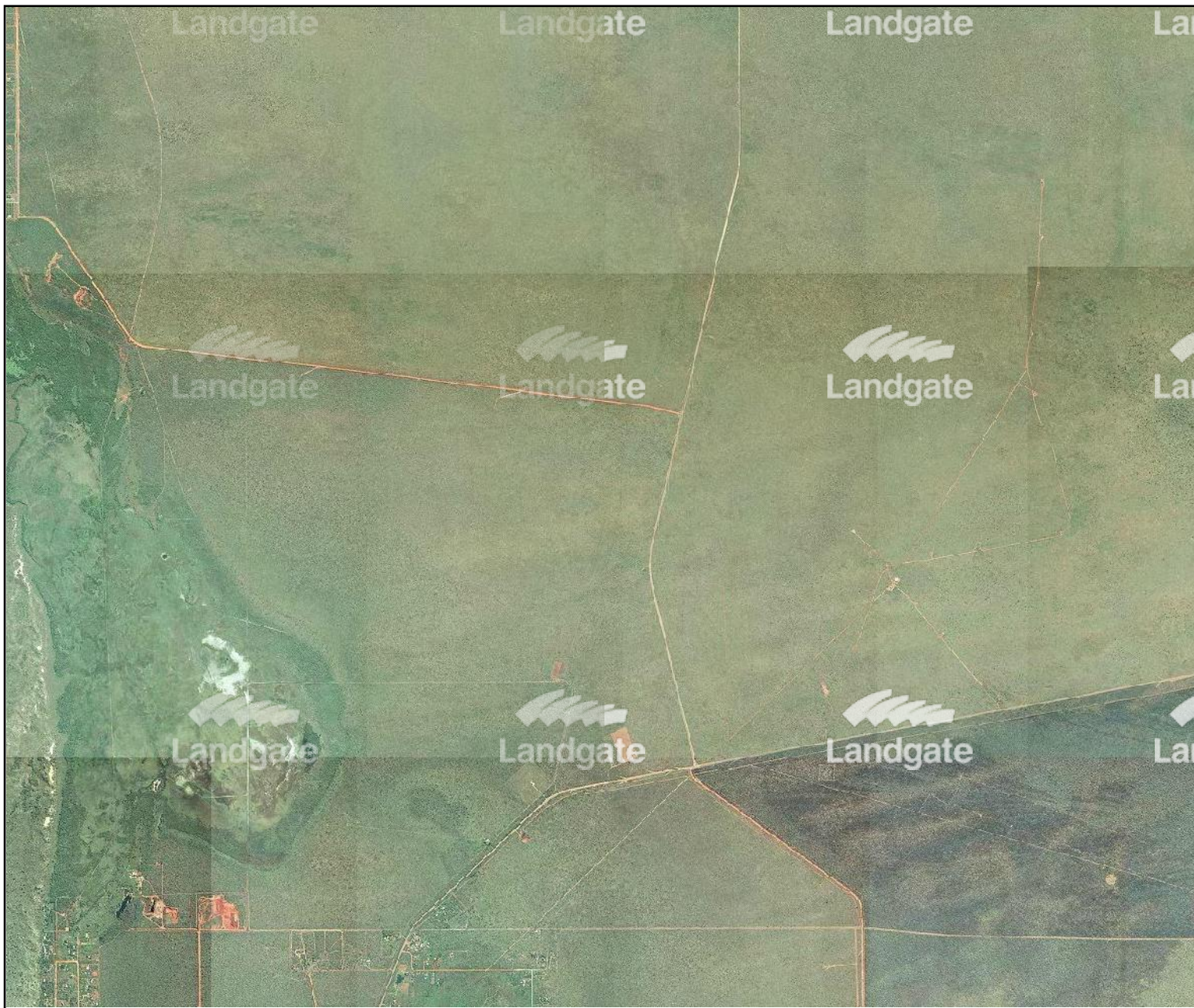
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Created 1 Mar 2016

8 028 029mN

417 301mE

427 999mE



8 020 868mN

8 020 868mN



Scale: 1:53,119

Description

Map Projection: MGA 94 Zone 51
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02/07/1996

8 028 029mN

Created 1 Mar 2016

8 028 029mN

417 301mE



427 999mE



Scale: 1:53,119

Description

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417 301mE

8 020 868mN

427 999mE

8 020 868mN



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Government of **Western Australia**
Department of **Mines and Petroleum**
Resources Safety

Your ref: 6132965
Our ref: 15/16-289: A0405/201601
Enquiries: Liz Haddon-Cave - Ph 08 9358 8147 Fax 08 9358 8000
Email: liz.haddon-cave@dmp.wa.gov.au

Mr S Woods
GHD
Level 10
GHD
999 Hay Street
PERTH WA 6000

Dear Mr Woods

NOTICE OF DECISION UNDER S30 of the *FREEDOM OF INFORMATION ACT 1992* (the Act)

Scope of Request:	<p>Your application sought access to the following documents relating to dangerous goods storage at: Lot 351 on DP 75852, LR3163/733, corner of Cape Leveque and McGuigan Road, Waterbank, WA, 6725; and Lot 591 on DP 75852, LR3163/733, corner of Broome Road and Cape Leveque Road, Waterbank, WA, 6725:</p> <ul style="list-style-type: none">• Current and historic copies of licences;• Applications for licences to store flammable liquids / dangerous goods;• Inspection reports with orders relating to underground storage tanks / fuel pumps;• Site plans; and• Any records of spills or accidents occurring at the site. <p>Personal information was not required.</p>
Decision:	<p>For the reasons set out below, it was decided on 9 March 2016 by Liz Haddon-Cave, Freedom of Information Coordinator, Business Development, (delegated decision maker by a general directive provided under s.100 (1) (b) of the Act), to deny access to the documents under s.26 of the Act.</p>
The Facts:	<ol style="list-style-type: none">1. Based on the information provided, a search of our records has failed to locate any documentation falling within the scope of your request. Under s.26 of the Act, the failure of the department to locate any documents after a diligent search is deemed as a refusal to grant access.2. Location descriptors provided by applicants may not always match site location details in our database and we ask, if possible, for applicants to provide the dangerous goods storage (DGS) licence number of the site of interest to them. We recognise this is not always possible and do all we reasonably can to search for the site from the information provided.

3. The lack of information held by the department in relation to this property does not necessarily mean the property is not, or has never been, a dangerous goods storage site. Accordingly, if you have any reason to suspect the property is or may have been the subject of a DGS licence or dangerous goods may have been stored there, you may need to consider carrying out additional site inspection investigations.

Review If you wish to contest the decision to refuse access, you have a right to have
Process: the decision reviewed. Details of the review process are enclosed.

Please do not hesitate to contact me on 9358 8147 if you require any further information regarding this matter.

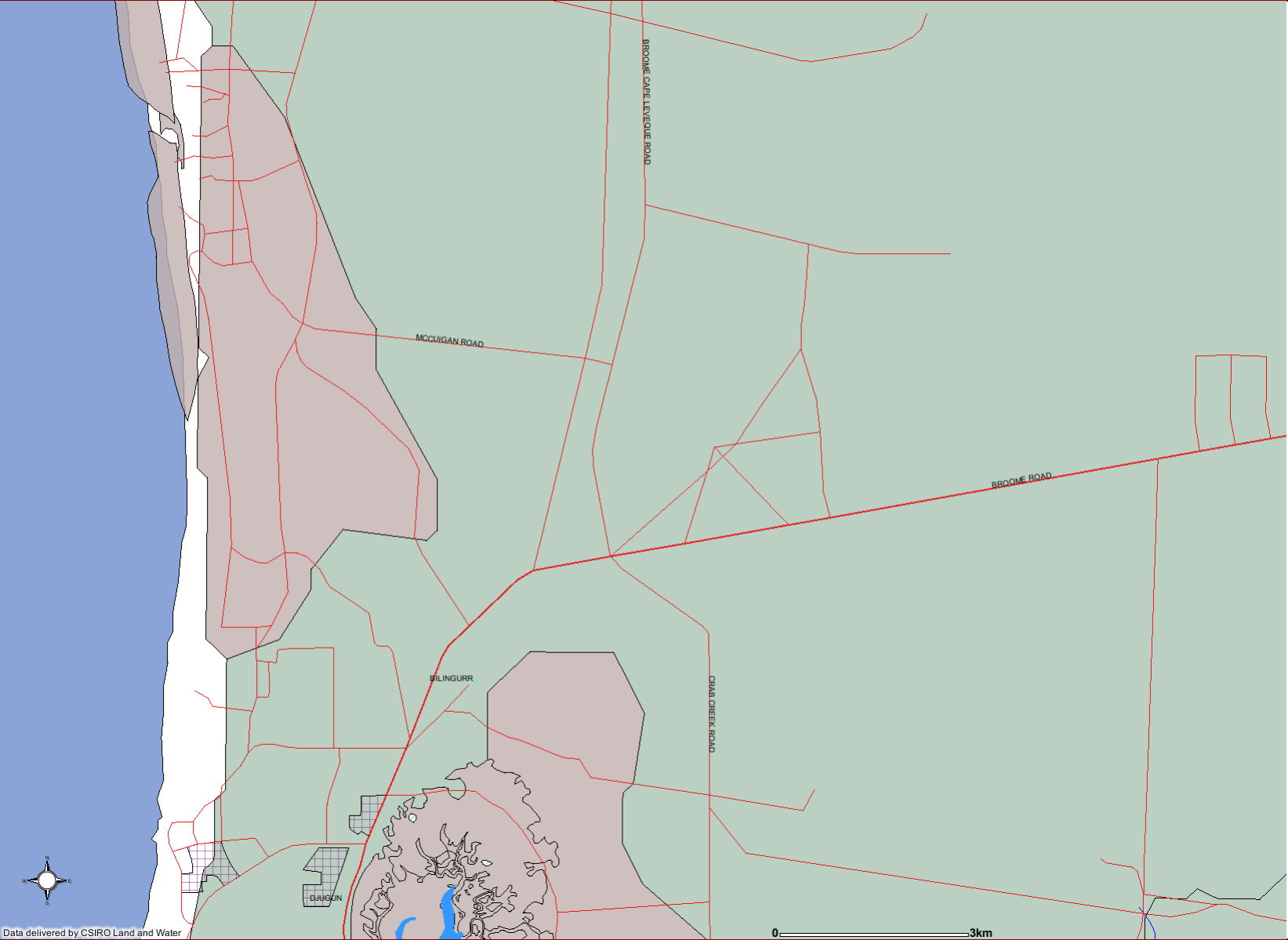
Yours sincerely



Liz Haddon-Cave
Freedom of Information Coordinator
BUSINESS DEVELOPMENT

9 March 2016

ASRIS



- Locations
- Roads (1:250K)
- Highway
- Other Roads
- Streams
- Major
- Minor
- Builtup Areas
- Inland Water Bodies
- ASS Reference Sites
- National ASS Atlas
- A1 High Probability/High Confidence
- A2 High Probability/Moderate Confidence
- A3 High Probability/Low Confidence
- A4 High Probability/Very Low Confidence
- A- High Probability/Confidence Unknown
- B1 Low Probability/High Confidence
- B2 Low Probability/Moderate Confidence
- B3 Low Probability/Low Confidence
- B4 Low Probability/Very Low Confidence
- B- Low Probability/Confidence Unknown
- C1 Extremely Low Probability/High Confidence
- C2 Extremely Low Probability/Moderate Confidence
- C3 Extremely Low Probability/Low Confidence
- C4 Extremely Low Probability/Very Low Confidence
- C- Extremely Low Probability/Confidence Unknown
- Base-Map

Data delivered by CSIRO Land and Water

0 3km

SW

17 Mar 2016

Appendix D – Biological desktop searches

EPBC Act Protected Matters Report (20 km buffer)

NatureMap flora report (20 km buffer)

NatureMap fauna report (20 km buffer)



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 26/02/16 16:05:33

[Summary](#)

[Details](#)

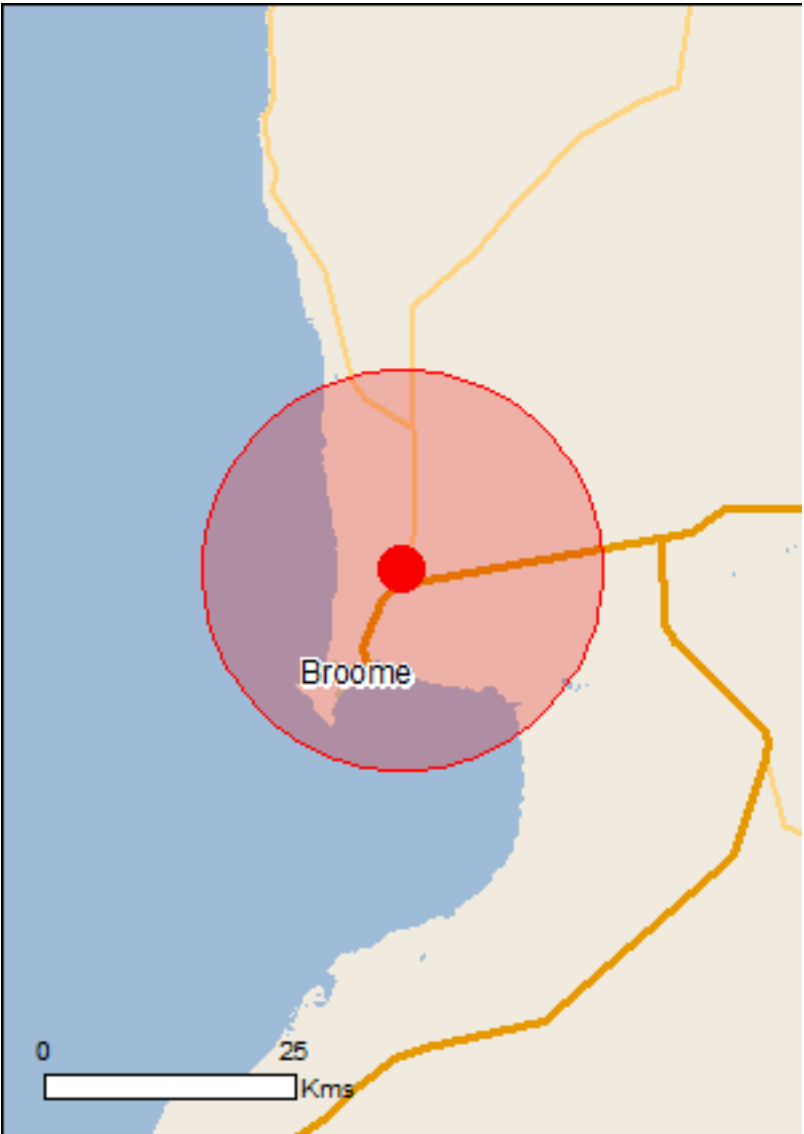
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
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(Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 20.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	25
Listed Migratory Species:	63

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	2
Commonwealth Heritage Places:	None
Listed Marine Species:	100
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	1

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	8
Regional Forest Agreements:	None
Invasive Species:	15
Nationally Important Wetlands:	2
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

National Heritage Properties		[Resource Information]
Name	State	Status
Natural		
The West Kimberley	WA	Listed place

Wetlands of International Importance (Ramsar)		[Resource Information]
Name		Proximity
Roebuck bay		Within Ramsar site

Commonwealth Marine Area		[Resource Information]
Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside the Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area. Generally the Commonwealth Marine Area stretches from three nautical miles to two hundred nautical miles from the coast.		

Name		
EEZ and Territorial Sea		

Marine Regions		[Resource Information]
If you are planning to undertake action in an area in or close to the Commonwealth Marine Area, and a marine bioregional plan has been prepared for the Commonwealth Marine Area in that area, the marine bioregional plan may inform your decision as to whether to refer your proposed action under the EPBC Act.		

Name		
North-west		

Listed Threatened Ecological Communities		[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.		

Name	Status	Type of Presence
Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	Endangered	Community likely to occur within area

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Roosting known to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat known to occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew [847]	Critically Endangered	Roosting known to occur within area
Polytelis alexandrae Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Macrotis lagotis Greater Bilby [282]	Vulnerable	Species or species habitat known to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheathtail Bat (Qld) [66889]	Critically Endangered	Species or species habitat likely to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat may occur within area
Plants		
Keraudrenia exastia Fringed Keraudrenia [66301]	Critically Endangered	Species or species habitat known to occur within area
Reptiles		
Aipysurus apraefrontalis Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Ctenotus angusticeps Airlie Island Ctenotus [25937]	Vulnerable	Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Sharks		
Carcharodon carcharias Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Breeding known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding known to occur within area

Name	Status	Type of Presence
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Foraging, feeding or related behaviour known to occur within area
Sterna albifrons Little Tern [813]		Breeding known to occur within area
Migratory Marine Species		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Carcharodon carcharias Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Dugong dugon Dugong [28]		Foraging, feeding or related behaviour known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding likely to occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur

Name	Threatened	Type of Presence
Orcinus orca Killer Whale, Orca [46]		within area Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Breeding known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Breeding known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat known to occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Roosting known to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area

Name	Threatened	Type of Presence
Calidris canutus Red Knot, Knot [855]	Critically Endangered	Roosting known to occur within area
Calidris ferruginea Curlew Sandpiper [856]		Roosting known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]		Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]		Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]		Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Glareola maldivarum Oriental Pratincole [840]	Critically Endangered	Roosting known to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Roosting known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Numenius madagascariensis Eastern Curlew [847]		Roosting known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species

Name	Threatened	Type of Presence
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		habitat known to occur within area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land	[Resource Information]
-------------------	--------------------------

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Defence - BROOME TRAINING DEPOT

Listed Marine Species	[Resource Information]
-----------------------	--------------------------

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Roosting known to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]		Roosting known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Roosting known to occur within area

Name	Threatened	Type of Presence
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]		Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]		Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]		Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Foraging, feeding or related behaviour known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Roosting known to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Roosting known to occur within area
Himantopus himantopus Black-winged Stilt [870]		Roosting known to occur within area
Hirundo daurica Red-rumped Swallow [59480]		Species or species habitat known to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within

Name	Threatened	Type of Presence
Motacilla cinerea Grey Wagtail [642]	Critically Endangered	area Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew [847]		Roosting known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Endangered*	Roosting known to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]		Species or species habitat likely to occur within area
Sterna albifrons Little Tern [813]		Breeding known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area
Fish		
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Cosmocampus banneri Roughridge Pipefish [66206]		Species or species

Name	Threatened	Type of Presence
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		habitat may occur within area Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within

Name	Threatened	Type of Presence
Solenostomus paegnius Rough-snout Ghost Pipefish [68425]		area Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammals		
Dugong dugon Dugong [28]		Foraging, feeding or related behaviour known to occur within area
Reptiles		
Acalyptophis peronii Horned Seasnake [1114]		Species or species habitat may occur within area
Aipysurus apraefrontalis Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
Aipysurus duboisii Dubois' Seasnake [1116]		Species or species habitat may occur within area
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area
Aipysurus tenuis Brown-lined Seasnake [1121]		Species or species habitat may occur within area
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnston's River Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Disteira major Olive-headed Seasnake [1124]	Vulnerable	Species or species habitat may occur within area
Emydocephalus annulatus Turtle-headed Seasnake [1125]		Species or species habitat may occur within area
Ephalophis greyi North-western Mangrove Seasnake [1127]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]		Breeding likely to occur within area
Hydrelaps darwiniensis Black-ringed Seasnake [1100]		Species or species habitat may occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Hydrophis mcdowelli null [25926]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [1111]	Vulnerable	Species or species habitat may occur within area
Lapemis hardwickii Spine-bellied Seasnake [1113]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]		Breeding known to occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera edeni Bryde's Whale [35]	Endangered	Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]		Species or species habitat likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]	Vulnerable	Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within

Name	Status	Type of Presence
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		area Breeding known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

<u>Commonwealth Reserves Marine</u>		<u>[Resource Information]</u>
Name	Label	
Roebuck	Multiple Use Zone (IUCN VI)	

Extra Information

State and Territory Reserves		<u>[Resource Information]</u>
Name	State	
Broome Bird Observatory	WA	
Broome Wildlife Centre	WA	
Unnamed WA51046	WA	
Unnamed WA51105	WA	
Unnamed WA51162	WA	
Unnamed WA51497	WA	
Unnamed WA51583	WA	
Unnamed WA51617	WA	

Invasive Species		<u>[Resource Information]</u>
Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.		

Name	Status	Type of Presence
Birds		
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Mammals		
Camelus dromedarius Dromedary, Camel [7]		Species or species habitat likely to occur within area
Equus asinus Donkey, Ass [4]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area

Plants		
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Jatropha gossypifolia Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Prosopis spp. Mesquite, Algaroba [68407]		Species or species habitat likely to occur within area

Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area

Nationally Important Wetlands		[Resource Information]
Name		State
Roebuck Bay		WA
Willie Creek Wetlands		WA

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-17.87516 122.27081

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Parks and Wildlife Commission NT, Northern Territory Government](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

NatureMap Species Report

Created By Guest user on 10/03/2016

Kingdom Plantae
Current Names Only Yes
Core Datasets Only Yes
Method 'By Line'
Vertices 17° 51' 29" S, 122° 16' 29" E 17° 52' 15" S, 122° 16' 17" E 17° 53' 09" S, 122° 16' 19" E
Group By Family

Family	Species	Records
Acanthaceae	7	16
Aizoaceae	7	23
Amaranthaceae	22	72
Anacardiaceae	1	2
Anadyomenaceae	1	2
Annonaceae	1	2
Apocynaceae	16	47
Araceae	4	6
Areschougaceae	2	7
Asteraceae	34	71
Bataceae	1	3
Bignoniaceae	1	4
Boraginaceae	12	36
Brassicaceae	3	5
Byblidaceae	2	14
Campanulaceae	2	2
Capparaceae	1	3
Caryophyllaceae	3	14
Caulerpaceae	8	14
Celastraceae	1	5
Ceramiaceae	1	1
Ceratophyllaceae	1	3
Champiaceae	1	1
Chenopodiaceae	12	52
Cleomaceae	3	8
Codiaceae	2	6
Combretaceae	8	37
Commelinaceae	2	6
Convolvulaceae	24	78
Coralliaceae	2	3
Cucurbitaceae	6	16
Cymodoceaceae	3	11
Cyperaceae	15	41
Dasyaceae	1	3
Droseraceae	1	1
Elatinaceae	1	1
Euphorbiaceae	20	69
Fabaceae	109	589
Goodeniaceae	11	51
Gracilariaceae	2	7
Gyrostemonaceae	2	21
Halimedeae	2	4
Halymeniaceae	2	5
Hemerocallidaceae	2	8
Hernandiaceae	2	14
Hydrocharitaceae	4	14
Hypnaceae	1	1
Lamiaceae	13	55
Lauraceae	3	11
Lecythidaceae	1	1
Liagoraceae	1	1
Linderniaceae	1	1
Loganiaceae	2	3
Loranthaceae	9	27
Lythraceae	2	2
Malvaceae	44	192
Marsileaceae	2	2
Meliaceae	3	5
Menispermaceae	1	10
Moraceae	7	19
Moringaceae	1	2
Myrtaceae	22	178
Nyctaginaceae	7	33
Oleaceae	2	8
Opiliaceae	1	2
Orchidaceae	1	1
Orobanchaceae	2	3
Pandanaceae	1	1
Passifloraceae	1	1
Peyssonneliaceae	1	1
Phyllanthaceae	15	40
Piperaceae	1	4
Plantaginaceae	2	4
Plumbaginaceae	1	1
Poaceae	87	274
Polygalaceae	1	2
Polygonaceae	1	1

Portulacaceae	8	23
Primulaceae	1	1
Proteaceae	10	53
Pteridaceae	2	3
Rhamnaceae	2	10
Rhizophoraceae	3	8
Rhodomelaceae	9	20
Rhodymeniaceae	2	12
Ricciaceae	1	1
Rubiaceae	22	74
Rutaceae	1	1
Santalaceae	3	17
Sapindaceae	3	7
Sapotaceae	1	10
Scrophulariaceae	1	4
Sebdeniaceae	1	5
Solanaceae	10	63
Stylidiaceae	1	2
Udoteaceae	1	1
Urticaceae	2	2
Valoniaceae	1	1
Verbenaceae	2	3
Violaceae	1	4
Zygophyllaceae	5	40
TOTAL	698	2649

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Acanthaceae				
1.	7161 <i>Asystasia gangetica</i>	Y		
2.	41725 <i>Asystasia gangetica</i> subsp. <i>gangetica</i>	Y		
3.	6828 <i>Avicennia marina</i> (White Mangrove)			
4.	14555 <i>Avicennia marina</i> subsp. <i>marina</i>			
5.	13959 <i>Hypoestes floribunda</i> var. <i>varia</i>			
6.	<i>Hypoestes</i> sp.			
7.	17890 <i>Ruellia tuberosa</i>	Y		
Aizoaceae				
8.	2818 <i>Sesuvium portulacastrum</i>			
9.	16690 <i>Tetragonia coronata</i>		P3	
10.	44305 <i>Trianthema pilosum</i>			
11.	2830 <i>Trianthema portulacastrum</i> (Giant Pigweed)	Y		
12.	<i>Trianthema</i> sp.			
13.	44362 <i>Trianthema triquetrum</i>			
14.	<i>Zaleya</i> sp.			Y
Amaranthaceae				
15.	2645 <i>Achyranthes aspera</i> (Chaff Flower)			
16.	2646 <i>Aerva javanica</i> (Kapok Bush)	Y		
17.	20028 <i>Alternanthera brasiliana</i>	Y		Y
18.	2648 <i>Alternanthera denticulata</i> (Lesser Joyweed)			
19.	2653 <i>Alternanthera pungens</i> (Khaki Weed)	Y		
20.	2662 <i>Amaranthus hybridus</i> (Slim Amaranth)	Y		
21.	2663 <i>Amaranthus interruptus</i> (Native Amaranth)			
22.	20018 <i>Amaranthus undulatus</i>			
23.	18363 <i>Gomphrena canescens</i> subsp. <i>canescens</i>			
24.	2677 <i>Gomphrena celosioides</i> (Gomphrena Weed)	Y		
25.	2682 <i>Gomphrena flaccida</i> (Gomphrena Weed)			
26.	2683 <i>Gomphrena leptoclada</i>			
27.	2686 <i>Gomphrena pusilla</i>		P2	
28.	<i>Gomphrena</i> sp.			
29.	2687 <i>Gomphrena tenella</i>			
30.	18374 <i>Guilleminea densa</i>	Y		
31.	2704 <i>Ptilotus calostachyus</i> (Weeping Mulla Mulla)			
32.	2725 <i>Ptilotus fusiformis</i>			
33.	2737 <i>Ptilotus lanatus</i>			
34.	41001 <i>Ptilotus nobilis</i> subsp. <i>nobilis</i> (Yellow Tails)			
35.	2751 <i>Ptilotus polystachyus</i> (Prince of Wales Feather)			
36.	43203 <i>Surreya diandra</i>			
Anacardiaceae				
37.	11027 <i>Schinus terebinthifolius</i>	Y		
Anadyomenaceae				
38.	35872 <i>Anadyomene plicata</i>			
Annonaceae				
39.	2944 <i>Miliusa brahei</i>			
Apocynaceae				
40.	6563 <i>Alstonia linearis</i> (Bitter Bark)			
41.	14925 <i>Calotropis gigantea</i>	Y		
42.	6567 <i>Carissa lanceolata</i> (Conkerberry, Marnuwiji)			
43.	12683 <i>Cryptostegia madagascariensis</i>	Y		
44.	6583 <i>Cynanchum carnosum</i>			
45.	6585 <i>Cynanchum pedunculatum</i>			
46.	13228 <i>Gymnanthera oblonga</i>			
47.	6572 <i>Ichnocarpus frutescens</i>			
48.	16537 <i>Marsdenia angustata</i>			
49.	<i>Marsdenia</i> sp.			
50.	6598 <i>Marsdenia viridiflora</i>			
51.	16535 <i>Marsdenia viridiflora</i> subsp. <i>tropica</i>			
52.	13006 <i>Sarcostemma viminalis</i> subsp. <i>australe</i>			
53.	6601 <i>Secamone elliptica</i>			
54.	13100 <i>Tylophora cinerascens</i>			
55.	6578 <i>Wrightia saligna</i>			
Araceae				
56.	<i>Epipremnum</i> sp.			

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
57.	28342	<i>Landoltia punctata</i> (Thin Duckweed)			
58.	1050	<i>Lemna aequinoctialis</i>			
59.	1045	<i>Pistia stratiotes</i> (Water Lettuce)	Y		

Areschougaceae

60.	26827	<i>Eucheuma denticulatum</i>			
61.	27281	<i>Solieria robusta</i>			

Asteraceae

62.	7811	<i>Acanthospermum hispidum</i> (Starburr)	Y		
63.	13230	<i>Ageratum conyzoides</i>	Y		
64.	7860	<i>Blumea integrifolia</i>			
65.	7865	<i>Blumea saxatilis</i>			
66.	7866	<i>Blumea tenella</i>			
67.		<i>Centratherum punctatum</i>			
68.	7939	<i>Conyza bonariensis</i> (Flaxleaf Fleabane)	Y		
69.	19063	<i>Cyanthillium cinereum</i>			
70.	7963	<i>Eclipta platyglossa</i>			
71.	42146	<i>Eclipta platyglossa</i> subsp. <i>borealis</i>			
72.	8450	<i>Eclipta prostrata</i>	Y		
73.		<i>Eleutheranthera ruderalis</i>			
74.	35558	<i>Flaveria trinervia</i> (Speedy Weed)	Y		
75.	19195	<i>Gamochaeta pensylvanica</i>	Y		
76.	7985	<i>Gnaphalium polycaulon</i> (Indian Cudweed)	Y		
77.	8136	<i>Olearia homolepis</i>			
78.	17816	<i>Pluchea ferdinandi-muelleri</i>			
79.	43944	<i>Pluchea longiseta</i>			
80.	8168	<i>Pluchea rubelliflora</i>			
81.		<i>Pluchea</i> sp.			
82.	8170	<i>Pluchea tetranthera</i>			
83.		<i>Praxelis clematidea</i>			
84.	41224	<i>Pterocaulon intermedium</i>		P3	
85.	41223	<i>Pterocaulon paradoxum</i>			
86.	41221	<i>Pterocaulon serrulatum</i> var. <i>velutinum</i>			
87.	13300	<i>Rhodanthe citrina</i>			
88.	10920	<i>Soliva sessilis</i> (Jo-jo, Onehunga Weed)	Y		
89.	8231	<i>Sonchus oleraceus</i> (Common Sowthistle)	Y		
90.	8239	<i>Streptoglossa macrocephala</i>			
91.	8240	<i>Streptoglossa odora</i>			
92.	8246	<i>Thespidium basiflorum</i>		P1	
93.	8252	<i>Tridax procumbens</i> (Tridax)	Y		
94.	15725	<i>Verbesina encelioides</i>	Y		
95.		<i>Wedelia</i> sp.			

Bataceae

96.	1743	<i>Batis argillicola</i>			
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Bignoniaceae

97.	7115	<i>Dolichandrone heterophylla</i> (Lemonwood)			
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Boraginaceae

98.		<i>Cordia</i> sp.			
99.	6682	<i>Ehretia saligna</i> (False Cedar)			
100.	14301	<i>Ehretia saligna</i> var. <i>saligna</i>			
101.	6707	<i>Heliotropium curassavicum</i> (Smooth Heliotrope)			
102.	6708	<i>Heliotropium diversifolium</i>			
103.	10882	<i>Heliotropium foliatum</i>			
104.	13126	<i>Heliotropium leptaleum</i>			
105.	6713	<i>Heliotropium ovalifolium</i>			
106.	6714	<i>Heliotropium paniculatum</i>			
107.	6727	<i>Trichodesma zeylanicum</i> (Camel Bush, Kumbalin)			
108.	11401	<i>Trichodesma zeylanicum</i> var. <i>latiseptalum</i>			
109.	11750	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>			

Brassicaceae

110.		<i>Cardamine</i> sp. Jandakot (P.Luff s.n. 4/7/1969)			Y
111.	3013	<i>Eruca sativa</i> (Purplevein Rocket)	Y		
112.	3061	<i>Raphanus raphanistrum</i> (Wild Radish)	Y		

Byblidaceae

113.	18073	<i>Byblis filifolia</i>			
114.	17854	<i>Byblis rorida</i>			

Campanulaceae

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
115.	37480	<i>Lobelia arnhemiaca</i>			
116.		<i>Wahlenbergia</i> sp.			
Capparaceae					
117.	2976	<i>Capparis lasiantha</i> (Split Jack, Balqarda)			
Caryophyllaceae					
118.	2898	<i>Polycarpaea corymbosa</i>			
119.	2903	<i>Polycarpaea longiflora</i>			
120.		<i>Polycarpaea</i> sp.			
Caulerpaceae					
121.	42620	<i>Caulerpa chemnitzia</i>			
122.	35158	<i>Caulerpa corynephora</i>			
123.	44547	<i>Caulerpa lamourouxii</i>			
124.	26568	<i>Caulerpa lentillifera</i>			
125.	26572	<i>Caulerpa peltata</i>			
126.	26576	<i>Caulerpa serrulata</i>			
127.	26577	<i>Caulerpa sertularioides</i>			
128.	26579	<i>Caulerpa taxifolia</i>			
Celastraceae					
129.	41200	<i>Denhamia cunninghamii</i> (Koonkara)			
Ceramiaceae					
130.	26587	<i>Centroceras clavulatum</i>			
Ceratophyllaceae					
131.	2925	<i>Ceratophyllum demersum</i> (Hornwort)			
Champiaceae					
132.	26619	<i>Champia stipitata</i>			
Chenopodiaceae					
133.	2504	<i>Dysphania plantaginella</i>			
134.	2573	<i>Neobassia astrocarpa</i>			
135.	30434	<i>Salsola australis</i>			
136.	2638	<i>Suaeda arbusculoides</i>			
137.	31616	<i>Tecticornia auriculata</i>			
138.	33236	<i>Tecticornia halocnemoides</i> (Shrubby Samphire)			
139.	33237	<i>Tecticornia halocnemoides</i> subsp. <i>halocnemoides</i>			
140.	33238	<i>Tecticornia halocnemoides</i> subsp. <i>tenuis</i>			
141.	33356	<i>Tecticornia indica</i> subsp. <i>indica</i>			
142.	33357	<i>Tecticornia indica</i> subsp. <i>julacea</i>			
143.	33318	<i>Tecticornia indica</i> subsp. <i>leiostachya</i> (Samphire)			
144.		<i>Tecticornia</i> sp.			
Cleomaceae					
145.		<i>Cleome</i> sp.			
146.	11886	<i>Cleome tetrandra</i> var. <i>tetrandra</i>			
147.	2988	<i>Cleome viscosa</i> (Tickweed, Tjinduwadhu)			
Codiaceae					
148.	35917	<i>Codium arabicum</i>			
149.	35857	<i>Codium dwarkense</i>			
Combretaceae					
150.	5296	<i>Lumnitzera racemosa</i> (White-flowered Black Mangrove)			
151.	5300	<i>Terminalia canescens</i> (Joolal)			
152.	5303	<i>Terminalia ferdinandiana</i> (Mador)			
153.	5305	<i>Terminalia grandiflora</i> (Yalu)			
154.	5306	<i>Terminalia hadleyana</i>			
155.	45697	<i>Terminalia kumpaja</i>			
156.	5307	<i>Terminalia latipes</i>			
157.	5309	<i>Terminalia petiolaris</i> (Masroorl)			
Commelinaceae					
158.	44923	<i>Callisia repens</i>	Y		
159.	1167	<i>Murdannia graminea</i> (Baniyu)			
Convolvulaceae					
160.	6606	<i>Bonamia media</i>			
161.	31213	<i>Cuscuta chinensis</i>			
162.	13733	<i>Cuscuta victoriana</i>			
163.	11416	<i>Evolvulus alsinoides</i> var. <i>decumbens</i>			
164.	14363	<i>Ipomoea batatas</i>	Y		
165.	6620	<i>Ipomoea cairica</i> (Coast Morning Glory)			

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
			Y		
166.	6623	<i>Ipomoea coptica</i>			
167.	6633	<i>Ipomoea muelleri</i> (Poison Morning Glory, Yumbu)			
168.	6635	<i>Ipomoea pes-caprae</i>			
169.	11312	<i>Ipomoea pes-caprae</i> subsp. <i>brasiliensis</i>			
170.		<i>Ipomoea pes-caprae</i> subsp. <i>pes-caprae</i>			Y
171.	18295	<i>Ipomoea pes-tigridis</i>	Y		
172.	6637	<i>Ipomoea polymorpha</i>			
173.	20003	<i>Ipomoea triloba</i>	Y		
174.	6643	<i>Jacquemontia paniculata</i>			
175.	34797	<i>Jacquemontia</i> sp. Broome (A.A. Mitchell 3028)		P1	
176.	6644	<i>Merremia aegyptia</i>	Y		
177.	6646	<i>Merremia dissecta</i>	Y		
178.	39840	<i>Merremia dissecta</i> var. <i>dissecta</i>	Y		
179.	6651	<i>Operculina aequiseipala</i>			
180.	6652	<i>Operculina brownii</i> (Potato Vine, Bara)			
181.	6653	<i>Polymeria ambigua</i> (Morning Glory)			
182.	9232	<i>Polymeria distigma</i>		P3	
183.		<i>Polymeria</i> sp.			

Corallinaceae

184.	26462	<i>Amphiroa fragilissima</i>			
185.	26983	<i>Jania adhaerens</i>			

Cucurbitaceae

186.	7370	<i>Citrullus lanatus</i> (Pie Melon)	Y		
187.	15036	<i>Coccinia grandis</i>	Y		
188.	17341	<i>Cucumis anguria</i> var. <i>anguria</i>	Y		
189.	7371	<i>Cucumis melo</i> (Ulcado Melon)			
190.	41722	<i>Cucumis picrocarpus</i>			
191.	7378	<i>Momordica balsamina</i> (Balsam Apple)	Y		

Cymodoceaceae

192.	128	<i>Cymodocea angustata</i>			
193.	130	<i>Halodule pinifolia</i>			
194.	131	<i>Halodule uninervis</i>			

Cyperaceae

195.	750	<i>Bulbostylis barbata</i>			
196.	12801	<i>Cyperus blakeanus</i>			
197.	777	<i>Cyperus bulbosus</i> (Bush Onion, Tjanmata)			
198.	781	<i>Cyperus compressus</i>	Y		
199.	784	<i>Cyperus conicus</i>			
200.	810	<i>Cyperus rotundus</i> (Nut Grass)	Y		
201.	812	<i>Cyperus scariosus</i>			
202.	814	<i>Cyperus squarrosus</i>			
203.	839	<i>Fimbristylis ammobia</i>			
204.	841	<i>Fimbristylis caespitosa</i>			
205.	847	<i>Fimbristylis cymosa</i>			
206.	870	<i>Fimbristylis oxystachya</i>			
207.	964	<i>Schoenoplectus lateriflorus</i>			
208.	989	<i>Schoenus falcatus</i>			
209.		<i>Scleria</i> sp.			

Dasyaceae

210.	26930	<i>Heterosiphonia crassipes</i>			
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Droseraceae

211.	17213	<i>Drosera broomensis</i>			
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Elatinaceae

212.	5183	<i>Bergia ammannioides</i>			
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Euphorbiaceae

213.	4583	<i>Adriana tomentosa</i>			
214.	17422	<i>Adriana tomentosa</i> var. <i>tomentosa</i>			
215.	4617	<i>Euphorbia australis</i> (Namana)			
216.	35307	<i>Euphorbia australis</i> var. <i>australis</i>			
217.	4623	<i>Euphorbia coghlanii</i> (Namana)			
218.	17342	<i>Euphorbia cyathophora</i>	Y		
219.	42849	<i>Euphorbia hassallii</i>			
220.	11157	<i>Euphorbia heterophylla</i>	Y		
221.	4629	<i>Euphorbia hirta</i> (Asthma Plant)	Y		
222.	4634	<i>Euphorbia mitchelliana</i>			

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223.	4635	<i>Euphorbia myrtilloides</i>			
224.	34757	<i>Euphorbia prostrata</i>	Y		
225.	4642	<i>Euphorbia schultzei</i>			
226.		<i>Euphorbia</i> sp.			
227.	42878	<i>Euphorbia thymifolia</i>	Y		Y
228.	42879	<i>Euphorbia trigonosperma</i>			
229.	10886	<i>Excoecaria agallocha</i> (Milky Mangrove)			
230.	4656	<i>Jatropha gossypifolia</i> (Bellyache Bush)	Y		
231.	4658	<i>Mallotus nesophilus</i>			
232.	31374	<i>Microstachys chamaelea</i>			

Fabaceae

233.	16979	<i>Abrus precatorius</i> subsp. <i>precatorius</i>			
234.	3204	<i>Acacia adoxa</i>			
235.	11215	<i>Acacia adoxa</i> var. <i>adoxoidea</i>			
236.	16160	<i>Acacia adoxa</i> var. <i>subglabra</i>			
237.	3209	<i>Acacia ampliceps</i>			
238.	44580	<i>Acacia ampliceps</i> x <i>bivenosa</i>			
239.	3212	<i>Acacia anaticeps</i>			
240.	3214	<i>Acacia ancistrocarpa</i> (Fitzroy Wattle)			
241.	3241	<i>Acacia bivenosa</i>			
242.	13403	<i>Acacia colei</i>			
243.	17013	<i>Acacia colei</i> var. <i>colei</i>			
244.	12054	<i>Acacia drepanocarpa</i> subsp. <i>drepanocarpa</i>			
245.	3313	<i>Acacia dunnii</i> (Elephant Ear Wattle, Lolord)			
246.	3326	<i>Acacia eriopoda</i> (Broome Pindan Wattle)			
247.	42200	<i>Acacia eriopoda</i> x <i>tumida</i> var. <i>tumida</i>			
248.	3370	<i>Acacia hilliana</i>			
249.	3371	<i>Acacia hippuroides</i>			
250.	3447	<i>Acacia monticola</i> (Gawar, Lilwardi)			
251.	42183	<i>Acacia monticola</i> x <i>tumida</i> var. <i>kulpam</i>		P3	
252.	3491	<i>Acacia platycarpa</i> (Pindan Wattle)			
253.	14977	<i>Acacia plectocarpa</i> subsp. <i>plectocarpa</i>			
254.		<i>Acacia</i> sp.			
255.	19456	<i>Acacia stellaticeps</i>			
256.	3579	<i>Acacia trachycarpa</i> (Minni Ritchi, Balgali)			
257.	3580	<i>Acacia translucens</i> (Poverty Bush, Banmung)			
258.	3585	<i>Acacia tumida</i> (Pindan Wattle, Walgali)			
259.	20321	<i>Acacia tumida</i> var. <i>kulpam</i>			
260.	19641	<i>Acacia tumida</i> var. <i>tumida</i>			
261.	3680	<i>Aeschynomene indica</i> (Budda Pea)			
262.	3609	<i>Albizia lebbekii</i>			
263.	17574	<i>Alysicarpus ovalifolius</i>	Y		
264.	17146	<i>Alysicarpus vaginalis</i>	Y		
265.	14487	<i>Aphyllodium glossocarpum</i>		P3	
266.	12757	<i>Bauhinia cunninghamii</i>			
267.		<i>Butea monosperma</i>			Y
268.	3624	<i>Caesalpinia major</i>			
269.		<i>Caesalpinia</i> sp.			
270.	10972	<i>Cajanus marmoratus</i>			
271.		<i>Calliandra</i> sp.			
272.	3749	<i>Canavalia rosea</i> (Wild Jack Bean)			
273.		<i>Centrosema molle</i>			
274.	13680	<i>Centrosema pascurum</i>	Y		
275.	18358	<i>Chamaecrista absus</i> var. <i>absus</i>			
276.	3769	<i>Clitoria ternatea</i>	Y		
277.	13466	<i>Crotalaria brevis</i>			
278.	3774	<i>Crotalaria cunninghamii</i> (Green Birdflower, Bilbun)			
279.	20176	<i>Crotalaria cunninghamii</i> subsp. <i>cunninghamii</i>			
280.	3783	<i>Crotalaria medicaginea</i>			
281.	20179	<i>Crotalaria medicaginea</i> var. <i>neglecta</i>			
282.	19398	<i>Crotalaria ramosissima</i>			
283.		<i>Crotalaria</i> sp.			
284.	17432	<i>Cullen corallum</i>			
285.	17116	<i>Cullen martinii</i>			
286.	17447	<i>Cullen pustulatum</i>			
287.	3851	<i>Desmodium brownii</i>			
288.	3853	<i>Desmodium filiforme</i>			
289.	3857	<i>Desmodium tortuosum</i> (Florida Beggarweed)	Y		
290.	3612	<i>Dichrostachys spicata</i> (Pied Piper Bush)			
291.	3871	<i>Erythrina vespertilio</i> (Yulbah)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
292.	3662 <i>Erythrophleum chlorostachys</i> (Ironwood, Dyundydu)			
293.	3886 <i>Galactia tenuiflora</i>			
294.	13829 <i>Glycine pindanica</i>		P3	
295.	3942 <i>Glycine tomentella</i> (Woolly Glycine)			
296.	3973 <i>Indigofera colutea</i> (Sticky Indigo)			
297.	3978 <i>Indigofera hirsuta</i> (Hairy Indigo)			
298.	3980 <i>Indigofera linifolia</i>			
299.	3981 <i>Indigofera linnaei</i> (Birdsville Indigo)			
300.	16061 <i>Indigofera oblongifolia</i>	Y		
301.	3989 <i>Isotropis atropurpurea</i> (Poison Sage)			
302.	4046 <i>Lablab purpureus</i> (Lablab Bean)	Y		
303.	4054 <i>Leptosema anomalum</i>			
304.	18351 <i>Leucaena leucocephala</i> subsp. <i>leucocephala</i>	Y		
305.	4070 <i>Macroptilium atropurpureum</i> (Purple Bean)	Y		
306.	4079 <i>Medicago polymorpha</i> (Burr Medic)	Y		
307.	4112 <i>Nomismia rhomboidea</i>			
308.	<i>Pachyrhizus erosus</i>			Y
309.	33482 <i>Peltophorum pterocarpum</i>	Y		
310.	<i>Phaseolus vulgaris</i>			Y
311.	<i>Prosopis</i> sp.			
312.	4190 <i>Rhynchosia australis</i> (Rhynchosia)			
313.	4191 <i>Rhynchosia minima</i> (Rhynchosia)			
314.	12303 <i>Senna costata</i>			
315.	12307 <i>Senna glutinosa</i> subsp. <i>glutinosa</i>			
316.	12312 <i>Senna notabilis</i>			
317.	10848 <i>Senna occidentalis</i>	Y		
318.	12313 <i>Senna oligoclada</i>			
319.	4196 <i>Sesbania cannabina</i> (Sesbania Pea)			
320.	4198 <i>Sesbania formosa</i> (White Dragon Tree)			
321.	<i>Sesbania grandiflora</i>			
322.	11235 <i>Sesbania simpliciuscula</i> var. <i>fitzroyensis</i>			
323.	<i>Sesbania</i> sp.			
324.	12353 <i>Stylosanthes hamata</i> (Verano Stylo)	Y		
325.	12354 <i>Stylosanthes scabra</i>	Y		
326.	4242 <i>Swainsona pterostylis</i>			
327.	3677 <i>Tamarindus indica</i> (Tamarind)	Y		
328.	4266 <i>Tephrosia crocea</i> (Baynjood)			
329.	4272 <i>Tephrosia leptoclada</i>			
330.	4279 <i>Tephrosia remotiflora</i>			
331.	4280 <i>Tephrosia rosea</i> (Flinders River Poison, Bungoo'dah)			
332.	19529 <i>Tephrosia rosea</i> var. <i>rosea</i>			
333.	4281 <i>Tephrosia simplicifolia</i>			
334.	<i>Tephrosia</i> sp.			
335.	4293 <i>Trifolium cernuum</i> (Drooping Flower Clover)	Y		
336.	15509 <i>Trifolium tomentosum</i> var. <i>tomentosum</i>	Y		
337.	34937 <i>Uraria lagopodioides</i>			
338.	18503 <i>Vigna radiata</i> var. <i>sublobata</i>			
339.	4327 <i>Zornia chaetophora</i>			
340.	12679 <i>Zornia muelleriana</i> subsp. <i>congesta</i>			
341.	12680 <i>Zornia prostrata</i> var. <i>prostrata</i>			

Goodeniaceae

342.	7451 <i>Dampiera lavandulacea</i>			
343.	7490 <i>Goodenia armitiana</i>			
344.	12514 <i>Goodenia bynesii</i>		P3	
345.	7521 <i>Goodenia lamprosperma</i>			
346.	7526 <i>Goodenia microptera</i>			
347.	7545 <i>Goodenia scaevolina</i> (Ngurubi)			
348.	13163 <i>Goodenia sepalosa</i> var. <i>sepalosa</i>			
349.	<i>Goodenia</i> sp.			
350.	7633 <i>Scaevola parvifolia</i> (Camel Weed)			
351.	13173 <i>Scaevola parvifolia</i> subsp. <i>parvifolia</i>			
352.	7663 <i>Velleia panduriformis</i> (Cabbage Poison)			

Gracilariaceae

353.	26873 <i>Gracilaria salicornia</i>			
354.	35871 <i>Hydropuntia urvillei</i>			

Gyrostemonaceae

355.	2778 <i>Codonocarpus cotinifolius</i> (Native Poplar, Kundurangu)			
356.	2789 <i>Gyrostemon tepperi</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Halimedaaceae				
357.	26894 <i>Halimeda macroloba</i>			
358.	35906 <i>Halimeda opuntia</i>			
Halymeniaceae				
359.	37642 <i>Halymenia durvillei</i>			
360.	38100 <i>Halymenia maculata</i>			
Hemerocallidaceae				
361.	1285 <i>Corynotheca micrantha</i> (Sand Lily)			
362.	11624 <i>Corynotheca micrantha</i> var. <i>gracilis</i>			
Hernandiaceae				
363.	2960 <i>Gyrocarpus americanus</i> (Helicopter Tree, Bilangkamar)			
364.	13748 <i>Gyrocarpus americanus</i> subsp. <i>pachyphyllus</i>			
Hydrocharitaceae				
365.	163 <i>Halophila minor</i>			
366.	164 <i>Halophila ovalis</i> (Sea Wrack)			
367.	165 <i>Halophila spinulosa</i>			
368.	166 <i>Hydrilla verticillata</i> (Water Thyme)			
Hypneaceae				
369.	26970 <i>Hypnea pannosa</i>			
Lamiaceae				
370.	6729 <i>Clerodendrum floribundum</i> (Lollybush)			
371.	13693 <i>Clerodendrum floribundum</i> var. <i>coriaceum</i>			
372.	13691 <i>Clerodendrum floribundum</i> var. <i>ovatum</i>			
373.	6732 <i>Clerodendrum tomentosum</i>			
374.	13688 <i>Clerodendrum tomentosum</i> var. <i>mollissima</i>			
375.	13690 <i>Clerodendrum tomentosum</i> var. <i>tomentosum</i>			
376.	6749 <i>Cyanostegia cyanocalyx</i>			
377.	41026 <i>Dasymalla teckiana</i>			
378.	6876 <i>Hyptis suaveolens</i> (Hyptis)	Y		
379.	6789 <i>Newcastelia cladotricha</i> (Lambs Tail)			
380.	44784 <i>Ocimum americanum</i>	Y		
381.	6907 <i>Ocimum basilicum</i> (Basil)	Y		
382.	6735 <i>Premna acuminata</i> (Ngalinginkal)			
Lauraceae				
383.	2949 <i>Cassytha capillaris</i>			
384.	2950 <i>Cassytha filiformis</i> (Love Vine, Jirawan)			
385.	<i>Cryptocarya hypospodia</i>			
Lecythidaceae				
386.	5290 <i>Planchonia careya</i> (Mangaloo, Yundu)			
Liagoraceae				
387.	26836 <i>Ganonema borowitzkae</i>			
Linderniaceae				
388.	<i>Lindernia</i> sp.			
Loganiaceae				
389.	6522 <i>Mitrasacme exserta</i>			
390.	6525 <i>Mitrasacme hispida</i>			
Loranthaceae				
391.	2369 <i>Amyema benthamii</i>			
392.	13700 <i>Amyema bifurcata</i>			
393.	11874 <i>Amyema sanguinea</i> var. <i>sanguinea</i>			
394.	<i>Amyema</i> sp.			
395.	2386 <i>Amyema thalassia</i>			
396.	11392 <i>Amyema villiflora</i> subsp. <i>villiflora</i>			
397.	11407 <i>Dendrophthoe acacioides</i> subsp. <i>acacioides</i>			
398.	2399 <i>Lysiana spathulata</i>			
399.	11809 <i>Lysiana spathulata</i> subsp. <i>spathulata</i>			
Lythraceae				
400.	5277 <i>Ammannia baccifera</i>			
401.	5278 <i>Ammannia multiflora</i>			
Malvaceae				
402.	16919 <i>Abutilon hannii</i>			
403.	4894 <i>Abutilon indicum</i> (Indian Lantern Flower)			
404.	11325 <i>Abutilon indicum</i> var. <i>australiense</i>			

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
405.	4901	<i>Abutilon otocarpum</i> (Desert Chinese Lantern)			
406.		<i>Abutilon</i> sp.			
407.	4995	<i>Adansonia gregorii</i> (Boab, Djungeri)			
408.	4907	<i>Alyogyne pinoniana</i> (Sand Hibiscus)			
409.	40917	<i>Androcalva loxophylla</i>			
410.	13010	<i>Brachychiton diversifolius</i> subsp. <i>diversifolius</i>			
411.	4997	<i>Camptostemon schultzei</i> (Kapok Mangrove)			
412.	12767	<i>Corchorus aestuans</i>			
413.	17339	<i>Corchorus incanus</i>			
414.	25847	<i>Corchorus incanus</i> subsp. <i>incanus</i>			
415.	4861	<i>Corchorus olitorius</i> (Jute)	Y		
416.	18415	<i>Corchorus sidoides</i> subsp. <i>sidoides</i>			
417.	18414	<i>Corchorus sidoides</i> subsp. <i>vermicularis</i>			
418.	4910	<i>Gossypium australe</i> (Native Cotton)			
419.	4913	<i>Gossypium hirsutum</i> (Upland Cotton)	Y		
420.	4916	<i>Gossypium populifolium</i>			
421.	13043	<i>Gossypium rotundifolium</i>			
422.		<i>Gossypium</i> sp.			
423.	4868	<i>Grewia breviflora</i>			
424.	4872	<i>Grewia retusifolia</i> (Dog's Balls)			
425.		<i>Grewia</i> sp.			
426.	4920	<i>Herissantia crispa</i>			
427.	29358	<i>Hibiscus apodus</i>			
428.	29316	<i>Hibiscus austrinus</i>			
429.	29317	<i>Hibiscus austrinus</i> var. <i>austrinus</i>			
430.	4929	<i>Hibiscus geranioides</i>			
431.	4933	<i>Hibiscus leptocladus</i>			
432.	18484	<i>Keraudrenia exastia</i>		T	
433.	19028	<i>Keraudrenia katatona</i>		P3	
434.	5024	<i>Keraudrenia nephrosperma</i>			
435.	5051	<i>Melhaniea oblongifolia</i>			
436.	4973	<i>Sida cordifolia</i>	Y		
437.	4977	<i>Sida fibulifera</i> (Silver Sida)			
438.	4979	<i>Sida hackettiana</i>			
439.	18150	<i>Sida rohlenae</i> subsp. <i>occidentalis</i>			
440.	45274	<i>Sida</i> sp. <i>Pindan</i> (B.G. Thomson 3398)			
441.	19712	<i>Sida</i> sp. <i>dark green fruits</i> (S. van Leeuwen 2260)			
442.	4989	<i>Sida spinosa</i> (Spiny Sida)			
443.	4992	<i>Thespesia populneoides</i> (Laba)			
444.	13468	<i>Triumfetta pentandra</i>	Y		
445.	5106	<i>Waltheria indica</i>			
Marsileaceae					
446.	73	<i>Marsilea angustifolia</i> (Narrow-leaf Nardoo)			
447.	76	<i>Marsilea hirsuta</i> (Nardoo)			
Meliaceae					
448.	17660	<i>Azadirachta indica</i>	Y		
449.		<i>Owenia mirrora</i>			
450.	4518	<i>Owenia reticulata</i> (Native Walnut, Bandal)			
Menispermaceae					
451.	2942	<i>Tinospora smilacina</i> (Snakevine, Oondala)			
Moraceae					
452.	25811	<i>Ficus aculeata</i>			
453.	31578	<i>Ficus aculeata</i> var. <i>indecora</i> (Ranji)			
454.		<i>Ficus eospila</i>			
455.	1753	<i>Ficus platypoda</i> (Native Fig, Makartu)			
456.		<i>Ficus</i> sp.			
457.		<i>Ficus subintermedia</i>			
458.	12096	<i>Ficus virens</i> var. <i>virens</i>			
Moringaceae					
459.		<i>Moringa</i> sp.			Y
Myrtaceae					
460.	5457	<i>Calytrix exstipulata</i> (Kimberley Heather)			
461.	16788	<i>Corymbia bella</i>			
462.	16783	<i>Corymbia candida</i>			
463.	17080	<i>Corymbia confertiflora</i>			
464.	16784	<i>Corymbia dendromerinx</i>			
465.	14650	<i>Corymbia flavesces</i>			

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
466.	17089	<i>Corymbia greeniana</i>			
467.	16789	<i>Corymbia paractia</i>		P1	
468.	17100	<i>Corymbia polycarpa</i>			
469.		<i>Corymbia</i> sp.			
470.	17084	<i>Corymbia zygophylla</i>			
471.	5586	<i>Eucalyptus ceracea</i> (Seppelt Range Gum)		T	
472.	5715	<i>Eucalyptus miniata</i> (Woollybutt, Manawan)			
473.		<i>Eucalyptus</i> sp.			
474.	5785	<i>Eucalyptus tectifica</i> (Darwin Box)			
475.	5805	<i>Eugenia reinwardtiana</i>		P1	
476.	9178	<i>Melaleuca alsophila</i>			
477.	17791	<i>Melaleuca cajuputi</i> subsp. <i>cajuputi</i>			
478.	5901	<i>Melaleuca dealbata</i> (Karnbor)			
479.	5942	<i>Melaleuca nervosa</i> (Fibre bark)			
480.		<i>Melaleuca</i> sp.			
481.	5989	<i>Melaleuca viridiflora</i> (Broadleaf Paperbark)			

Nyctaginaceae

482.	2770	<i>Boerhavia coccinea</i> (Tar Vine, Wituka)			
483.	8357	<i>Boerhavia diffusa</i>			
484.	2771	<i>Boerhavia dominii</i>			
485.	2772	<i>Boerhavia gardneri</i>			
486.	2773	<i>Boerhavia paludosa</i>			
487.		<i>Boerhavia repens</i>			
488.		<i>Boerhavia</i> sp.			

Oleaceae

489.	6501	<i>Jasminum didymum</i>			
490.	12059	<i>Jasminum didymum</i> subsp. <i>lineare</i> (Desert Jasmine)			

Opiliaceae

491.	2362	<i>Opilia amentacea</i>			
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Orchidaceae

492.	1628	<i>Cymbidium canaliculatum</i>			
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Orobanchaceae

493.	13682	<i>Buchnera asperata</i>			
494.	7103	<i>Striga curviflora</i>			

Pandanaceae

495.	104	<i>Pandanus spiralis</i> (Screw pine, Wakirri)			
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Passifloraceae

496.	5226	<i>Passiflora foetida</i> (Stinking Passion Flower)	Y		
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Peyssonneliaceae

497.	44731	<i>Sonderophycus capensis</i>			
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Phyllanthaceae

498.		<i>Breynia australasiae</i>			
499.		<i>Breynia desorii</i>			
500.	4603	<i>Bridelia tomentosa</i>			
501.	4654	<i>Flueggea virosa</i>			
502.	12013	<i>Flueggea virosa</i> subsp. <i>melanthesoides</i> (Dogwood, Guwal)			
503.		<i>Flueggea virosa</i> subsp. <i>virosa</i>			
504.	38421	<i>Notoleptopus decaisnei</i>			
505.	4673	<i>Phyllanthus amarus</i>	Y		
506.	4674	<i>Phyllanthus aridus</i>			
507.	45695	<i>Phyllanthus eremicus</i> (Desert Phyllanthus)		P3	
508.		<i>Phyllanthus</i> sp.			
509.	17794	<i>Phyllanthus tenellus</i>	Y		
510.	13927	<i>Phyllanthus urinaria</i>			
511.	4687	<i>Phyllanthus virgatus</i>			
512.		<i>Sauropus</i> sp.			

Piperaceae

513.	17320	<i>Peperomia pellucida</i>	Y		
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Plantaginaceae

514.	12487	<i>Stemodia florulenta</i>			
515.	12489	<i>Stemodia lathraia</i>			

Plumbaginaceae

516.	6490	<i>Muellerolimon salicorniaceum</i>			
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	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Poaceae					
517.	11193	<i>Aristida holathera</i> var. <i>latifolia</i>			
518.	211	<i>Aristida hygrometrica</i> (Northern Kerosene Grass)			
519.	212	<i>Aristida inaequiglumis</i> (Feathertop Threeawn)			
520.	13361	<i>Bothriochloa pertusa</i>	Y		
521.	241	<i>Brachyachne convergens</i> (Spider Grass)			
522.	41565	<i>Cenchrus americanus</i> (Pearl Millet)	Y		
523.	257	<i>Cenchrus biflorus</i> (Gallon's Curse)	Y		
524.	258	<i>Cenchrus ciliaris</i> (Buffel Grass)	Y		
525.	259	<i>Cenchrus echinatus</i> (Burrgrass)	Y		
526.	41563	<i>Cenchrus purpureus</i> (Elephant Grass)	Y		
527.	29721	<i>Cenchrus setiger</i> (Birdwood Grass)	Y		
528.		<i>Cenchrus</i> sp.			
529.	266	<i>Chloris barbata</i> (Purpletop Chloris)	Y		
530.	270	<i>Chloris pumilio</i>			
531.	272	<i>Chloris virgata</i> (Feathertop Rhodes Grass)	Y		
532.	28291	<i>Chrysopogon aciculatus</i>	Y		
533.	275	<i>Chrysopogon pallidus</i> (Ribbongrass)			
534.	282	<i>Cymbopogon procerus</i> (Lemon Grass)			
535.	283	<i>Cynodon dactylon</i> (Couch)	Y		
536.	288	<i>Dactyloctenium aegyptium</i> (Coast Button Grass)	Y		
537.	290	<i>Dactyloctenium radulans</i> (Button Grass)			
538.	309	<i>Digitaria bicornis</i> (Finger Grass)			
539.	311	<i>Digitaria ciliaris</i> (Summer Grass)	Y		
540.	313	<i>Digitaria ctenantha</i> (Comb Finger Grass)			
541.	35178	<i>Digitaria radicata</i>	Y		
542.		<i>Digitaria</i> sp.			
543.	342	<i>Ectrosia danesii</i>			
544.	345	<i>Ectrosia schultzei</i> (Hare's Foot Grass)			
545.	353	<i>Eleusine indica</i> (Crowsfoot Grass)	Y		
546.	363	<i>Enneapogon pallidus</i> (Conetop Nineawn)			
547.	15124	<i>Eragrostis amabilis</i>	Y		
548.	374	<i>Eragrostis cilianensis</i> (Stinkgrass)	Y		
549.	375	<i>Eragrostis cumingii</i> (Cuming's Love Grass)			
550.	380	<i>Eragrostis eriopoda</i> (Woollybutt Grass, Wangurnu)			
551.	381	<i>Eragrostis falcata</i> (Sickle Lovegrass)			
552.	388	<i>Eragrostis leptocarpa</i> (Drooping Lovegrass)			
553.	389	<i>Eragrostis minor</i> (Smaller Stinkgrass)	Y		
554.		<i>Eragrostis</i> sp.			
555.	17610	<i>Eragrostis tenuifolia</i>	Y		
556.	412	<i>Eriachne melicacea</i>			
557.	414	<i>Eriachne obtusa</i> (Northern Wandarrie Grass)			
558.	37420	<i>Eriachne</i> sp. Dampier Peninsula (K.F. Kenneally 5946)			
559.	443	<i>Heteropogon contortus</i> (Bunch Speargrass)			
560.	462	<i>Iseilema holmesii</i>			
561.		<i>Leptochloa</i> sp.			
562.	476	<i>Lolium perenne</i> (Perennial Ryegrass)	Y		
563.		<i>Mnesithea</i> sp.			
564.	503	<i>Panicum decompositum</i> (Native Millet, Kaltu-kaltu)			
565.	504	<i>Panicum effusum</i> (Hairy Panic Grass)			
566.	523	<i>Paspalidium rarum</i> (Rare Paspalidium)			
567.	533	<i>Paspalum vaginatum</i> (Salt Water Couch)	Y		
568.	546	<i>Perotis rara</i> (Comet Grass)			
569.	586	<i>Pseudochaetochloa australiensis</i>			
570.	599	<i>Schizachyrium fragile</i> (Senale Redgrass)			
571.	613	<i>Setaria verticillata</i> (Whorled Pigeon Grass)	Y		
572.	12920	<i>Sorghum interjectum</i>			
573.	619	<i>Sorghum plumosum</i> (Plume Canegrass)			
574.	12919	<i>Sorghum plumosum</i> var. <i>plumosum</i>			
575.		<i>Sorghum</i> sp.			
576.	620	<i>Sorghum stipoides</i> (Annual Sorghum)			
577.	622	<i>Sorghum timorense</i>			
578.	624	<i>Spinifex hirsutus</i> (Hairy Spinifex)			
579.	625	<i>Spinifex longifolius</i> (Beach Spinifex)			
580.	629	<i>Sporobolus australasicus</i> (Fairy Grass)			
581.	633	<i>Sporobolus mitchellii</i> (Ratstail Couch)			
582.	635	<i>Sporobolus virginicus</i> (Marine Couch)			
583.	669	<i>Thaumastochloa pubescens</i>			
584.	13362	<i>Themeda quadrivalvis</i>	Y		
585.	17888	<i>Triodia acutispicula</i>		P3	

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586.	34357	<i>Triodia caelestialis</i>		P3	
587.	13131	<i>Triodia epactia</i>			
588.	691	<i>Triodia microstachya</i>			
589.	17873	<i>Triodia schinzii</i>			
590.	715	<i>Urochloa mosambicensis</i> (Sabi Grass)	Y		
591.	717	<i>Urochloa piligera</i>			
592.	13902	<i>Urochloa praetervisa</i>			
593.	718	<i>Urochloa pubigera</i>			
594.	10865	<i>Urochloa subquadriflora</i>			
595.	725	<i>Whiteochloa airoides</i>			
596.	728	<i>Whiteochloa cymbiformis</i>			
597.		<i>Whiteochloa</i> sp.			
598.	729	<i>Xerochloa barbata</i> (Rice Grass)			
599.	730	<i>Xerochloa imberbis</i> (Rice Grass)			
600.	731	<i>Xerochloa laniflora</i> (Rice Grass)			
601.		<i>Xerochloa</i> sp.			
602.	732	<i>Yakirra australiensis</i>			
603.	735	<i>Yakirra pauciflora</i>			

Polygalaceae

604. 4577 *Polygala tepperi*

Polygonaceae

605. 11020 *Persicaria hydropiper*

Portulacaceae

606. 2866 *Calandrinia quadrivalvis*
 607. 2871 *Calandrinia strophilata*
 608. 2873 *Calandrinia uniflora*
 609. 2881 *Portulaca filifolia*
 610. 2883 *Portulaca napiformis*
 611. 2884 *Portulaca oleracea* (Purslane, Wakati)
 612. 2886 *Portulaca pilosa* (Djanggarra)
 613. *Portulaca* sp.

Primulaceae

614. 6478 *Aegiceras corniculatum* (River Mangrove)

Proteaceae

615. 2001 *Grevillea eriostachya* (Flame Grevillea, Kaliny-kaliny)
 616. 2076 *Grevillea pteridifolia* (Silky Grevillea)
 617. 2079 *Grevillea pyramidalis* (Caustic Bush, Tjungu)
 618. 15975 *Grevillea pyramidalis* subsp. *pyramidalis*
 619. 2081 *Grevillea refracta* (Silver-leaf Grevillea, Jamooda)
 620. 16476 *Grevillea refracta* subsp. *refracta*
 621. 13440 *Grevillea wickhamii* subsp. *aprica*
 622. 2129 *Hakea arborescens* (Common Hakea)
 623. 2178 *Hakea macrocarpa* (Dyaridany, Jaradinty)
 624. 2263 *Persoonia falcata* (Wild Pear, Gandala)

Pteridaceae

625. 44 *Acrostichum speciosum*
 626. 30 *Ceratopteris thalictroides*

Rhamnaceae

627. 4846 *Ventilago viminalis* (Supplejack, Barndaragu)
 628. 4847 *Ziziphus mauritiana* (Zornia)

Rhizophoraceae

629. 5291 *Bruguiera exaristata* (Ribbed Mangrove)
 630. 39680 *Ceriops australis*
 631. 5295 *Rhizophora stylosa* (Spotted-leaved Red Mangrove)

Rhodomelaceae

632. 35923 *Acanthophora muscoides*
 633. 26441 *Acanthophora spicifera*
 634. 35868 *Acrocystis nana*
 635. 26515 *Bostrychia tenella*
 636. 26628 *Chondria armata*
 637. 26782 *Digenea simplex*
 638. 27335 *Tolypocladia calodictyon*
 639. 27336 *Tolypocladia glomerulata*
 640. 35901 *Vidalia melvillii*

Rhodymeniaceae

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
641.	26516	<i>Botryocladia leptopoda</i>			
642.	26686	<i>Coelarthrum opuntia</i>			
Ricciaceae					
643.		<i>Riccia limbata</i>			
Rubiaceae					
644.	7319	<i>Dentella misera</i>			
645.		<i>Dentella</i> sp.			
646.	7328	<i>Gardenia pyriformis</i> (Malara)			
647.	15234	<i>Gardenia pyriformis</i> subsp. <i>keartlandii</i>			
648.		<i>Gardenia</i> sp.			
649.		<i>Mitracarpus hirtus</i>			
650.	7337	<i>Nauclea orientalis</i> (Leichardt Pine)			
651.	13341	<i>Oldenlandia argillacea</i>			
652.	12498	<i>Oldenlandia corymbosa</i>	Y		
653.	13340	<i>Oldenlandia corymbosa</i> var. <i>corymbosa</i>	Y		
654.	13343	<i>Oldenlandia mitrasacmoides</i> subsp. <i>mitrasacmoides</i>			
655.	13570	<i>Pavetta kimberleyana</i>			
656.	7357	<i>Pavetta muelleri</i>			
657.	18206	<i>Psydrax attenuata</i>			
658.	18207	<i>Psydrax attenuata</i> var. <i>tenella</i>			
659.	18208	<i>Psydrax pendulina</i>			
660.	28345	<i>Spermacoe dolichosperma</i>			
661.	20866	<i>Spermacoe hillii</i>			
662.	28347	<i>Spermacoe occidentalis</i>			
663.	28348	<i>Spermacoe phaeosperma</i>			
664.		<i>Spermacoe</i> sp.			
665.	7364	<i>Timonius timon</i>			
Rutaceae					
666.	12361	<i>Melicope elleryana</i>			
Santalaceae					
667.	11169	<i>Exocarpos latifolius</i> (Broad-leaved Cherry)			
668.		<i>Santalum album</i>			
669.	2357	<i>Santalum lanceolatum</i> (Northern Sandalwood, Yarnguli)			
Sapindaceae					
670.	4740	<i>Atalaya hemiglaucous</i> (Whitewood)			
671.	38461	<i>Dodonaea hispidula</i> var. <i>arida</i>			
672.	4777	<i>Dodonaea polyzyga</i>			
Sapotaceae					
673.	31172	<i>Sersalisia sericea</i> (Nangi)			
Scrophulariaceae					
674.	17158	<i>Myoporum montanum</i> (Native Myrtle)			
Sebdeniaceae					
675.	27274	<i>Sebdenia flabellata</i>			
Solanaceae					
676.		<i>Capsicum annuum</i>			
677.	14817	<i>Nicotiana heterantha</i>		P1	
678.	6991	<i>Solanum beagleholei</i>			
679.	7000	<i>Solanum cunninghamii</i>			
680.	7001	<i>Solanum dioicum</i> (Gilu)			
681.	7002	<i>Solanum diversiflorum</i>			
682.	7007	<i>Solanum esuriale</i> (Quena)			
683.	9259	<i>Solanum nodiflorum</i> (Glossy Nightshade)			
684.		<i>Solanum</i> sp.			
685.		<i>Solanum torvum</i>			
Stylidiaceae					
686.	45717	<i>Stylidium pindanicum</i> (Pindan Triggerplant)		P3	
Udoteaceae					
687.	27349	<i>Udotea flabellum</i>			
Urticaceae					
688.		<i>Pilea microphylla</i>			
689.		<i>Soleirolia</i> sp.			Y
Valoniaceae					
690.	36278	<i>Valonia aegagropila</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Verbenaceae				
691.	6734 <i>Phyla nodiflora</i> var. <i>nodiflora</i>	Y		
692.	13104 <i>Stachytarpheta cayennensis</i>	Y		
Violaceae				
693.	5215 <i>Hybanthus aurantiacus</i>			
Zygophyllaceae				
694.	4368 <i>Tribulopsis angustifolia</i>			
695.	4375 <i>Tribulus cistoides</i>			
696.	4380 <i>Tribulus occidentalis</i> (Perennial Caltrop)			
697.	<i>Tribulus</i> sp.			
698.	4383 <i>Tribulus terrestris</i> (Caltrop)	Y		

Conservation Codes

T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

¹ For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

Naturemap Fauna Report

Created By Guest user on 26/02/2016

Kingdom Animalia
Current Names Only Yes
Core Datasets Only Yes
Method 'By Line'
Vertices 17° 51' 31" S, 122° 16' 29" E 17° 52' 15" S, 122° 16' 19" E 17° 53' 04" S, 122° 16' 17" E
Group By Species Group

Species Group	Species	Records
Amphibian	10	55
Bird	375	22386
Fish	353	954
Invertebrate	1183	3313
Mammal	35	331
Reptile	104	664
TOTAL	2060	27703

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Amphibian				
1.	25371 <i>Cyclorana australis</i> (Giant Frog)			
2.	25374 <i>Cyclorana longipes</i> (Long-footed Frog)			
3.	25380 <i>Litoria caerulea</i> (Green Tree Frog)			
4.	25389 <i>Litoria nasuta</i> (Striped Rocket Frog)			
5.	25391 <i>Litoria rothii</i> (Northern Laughing Tree Frog)			
6.	25392 <i>Litoria rubella</i> (Little Red Tree Frog)			
7.	25430 <i>Notaden nichollsii</i> (Desert Spadefoot)			
8.	42305 <i>Platyplectrum ornatum</i> (Ornate Burrowing Frog)			
9.	25436 <i>Uperoleia aspera</i> (Derby Toadlet)			
10.	25446 <i>Uperoleia talpa</i> (Ratcheting Toadlet)			
Bird				
11.	24559 <i>Acanthagenys rufogularis</i> (Spiny-cheeked Honeyeater)			
12.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
13.	24281 <i>Accipiter cirrocephalus</i> subsp. <i>cirrocephalus</i> (Collared Sparrowhawk)			
14.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
15.	24283 <i>Accipiter fasciatus</i> subsp. <i>didimus</i> (Brown Goshawk)			
16.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
17.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
18.	25544 <i>Aegotheles cristatus</i> (Australian Owllet-nightjar)			
19.	24312 <i>Anas gracilis</i> (Grey Teal)			
20.	24314 <i>Anas querquedula</i> (Garganey)		IA	
21.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
22.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
23.	24332 <i>Anhinga melanogaster</i> subsp. <i>novaehollandiae</i> (Darter)			
24.	<i>Anhinga novaehollandiae</i>			
25.	25634 <i>Anous stolidus</i> (Common Noddy)		IA	
26.	24505 <i>Anous stolidus</i> subsp. <i>pileatus</i> (Common Noddy)		IA	
27.	24317 <i>Anseranas semipalmata</i> (Magpie Goose, Pied Goose)			
28.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
29.	24719 <i>Aprosmictus erythropterus</i> (Red-winged Parrot)			
30.	25554 <i>Apus pacificus</i> (Fork-tailed Swift)		IA	
31.	24334 <i>Apus pacificus</i> subsp. <i>pacificus</i> (Fork-tailed Swift)		IA	
32.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
33.	25538 <i>Aquila morphnoides</i> (Little Eagle)			
34.	24286 <i>Aquila morphnoides</i> subsp. <i>morphnoides</i> (Little Eagle)			
35.	24337 <i>Ardea garzetta</i> subsp. <i>nigripes</i> (Little Egret)			
36.	25558 <i>Ardea ibis</i> (Cattle Egret)		IA	
37.	25559 <i>Ardea intermedia</i> (Intermediate Egret)			
38.	41324 <i>Ardea modesta</i> (Eastern Great Egret)		IA	
39.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
40.	24341 <i>Ardea pacifica</i> (White-necked Heron)			

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
41.	25560	<i>Ardea sacra</i> (Eastern Reef Egret, Eastern Reef Heron)		IA	
42.	24343	<i>Ardea sacra</i> subsp. <i>sacra</i> (Eastern Reef Egret, Eastern Reef Heron)		IA	
43.		<i>Ardea</i> sp.			Y
44.		<i>Ardena pacifica</i>			
45.	24610	<i>Ardeotis australis</i> (Australian Bustard)			
46.	25736	<i>Arenaria interpres</i> (Ruddy Turnstone)		IA	
47.	24778	<i>Arenaria interpres</i> subsp. <i>interpres</i> (Ruddy Turnstone)		IA	
48.	25566	<i>Artamus cinereus</i> (Black-faced Woodswallow)			
49.	25567	<i>Artamus leucorhynchus</i> (White-breasted Woodswallow)			
50.	24355	<i>Artamus minor</i> (Little Woodswallow)			
51.	24356	<i>Artamus personatus</i> (Masked Woodswallow)			
52.	24357	<i>Artamus superciliosus</i> (White-browed Woodswallow)			
53.	24318	<i>Aythya australis</i> (Hardhead)			
54.	24685	<i>Bulweria bulwerii</i> (Bulwer's Petrel)			
55.		<i>Burhinus (Burhinus) grallarius</i>			
56.	24359	<i>Burhinus grallarius</i> (Bush Stone-curlew)			
57.	25561	<i>Butorides striatus</i> (Striated Heron, Mangrove Heron)			
58.	24346	<i>Butorides striatus</i> subsp. <i>stagnatilis</i> (Striated Heron, Mangrove Heron)			
59.		<i>Cacatua (Licmetis) sanguinea</i> subsp. <i>sanguinea</i>			
60.	24726	<i>Cacatua roseicapilla</i> subsp. <i>roseicapilla</i> (Galah)			
61.	25716	<i>Cacatua sanguinea</i> (Little Corella)			
62.	24728	<i>Cacatua sanguinea</i> subsp. <i>sanguinea</i> (Little Corella)			
63.	42307	<i>Cacomantis pallidus</i> (Pallid Cuckoo)			
64.	25599	<i>Cacomantis variolosus</i> (Brush Cuckoo)			
65.		<i>Calamanthus (Calamanthus) campestris</i> subsp. <i>rubiginosus</i>			
66.		<i>Calidris (Ereunetes) ruficollis</i>			
67.		<i>Calidris (Erolia) acuminata</i>			
68.		<i>Calidris (Erolia) ferruginea</i>			
69.	24779	<i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
70.	24780	<i>Calidris alba</i> (Sanderling)		IA	
71.	25738	<i>Calidris canutus</i> (Red Knot)		IA	
72.	24783	<i>Calidris canutus</i> subsp. <i>rogersi</i> (Red Knot (north-eastern Siberia))		T	
73.	24784	<i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
74.	24786	<i>Calidris melanotos</i> (Pectoral Sandpiper)		IA	
75.	24788	<i>Calidris ruficollis</i> (Red-necked Stint)		IA	
76.	24789	<i>Calidris subminuta</i> (Long-toed Stint)		IA	
77.	24790	<i>Calidris tenuirostris</i> (Great Knot)		T	
78.	24686	<i>Calonectris leucomelas</i> (Streaked Shearwater)		IA	
79.	25717	<i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
80.	25600	<i>Centropus phasianinus</i> (Pheasant Coucal)			
81.	30884	<i>Centropus phasianinus</i> subsp. <i>phasianinus</i> (Pheasant Coucal)			
82.	24564	<i>Certhionyx variegatus</i> (Pied Honeyeater)			
83.		<i>Charadrius (Charadrius) leschenaultii</i> subsp. <i>leschenaultii</i>			
84.	25574	<i>Charadrius dubius</i> (Little Ringed Plover)		IA	
85.	25575	<i>Charadrius leschenaultii</i> (Greater Sand Plover)		IA	
86.	24372	<i>Charadrius leschenaultii</i> subsp. <i>leschenaultii</i> (Greater Sand Plover (Mongolian))		T	
87.	24373	<i>Charadrius melanops</i> (Black-fronted Dotterel)			
88.	25576	<i>Charadrius mongolus</i> (Lesser Sand Plover)		T	
89.	24375	<i>Charadrius mongolus</i> subsp. <i>mongolus</i> (Lesser Sand Plover)		IA	
90.	24377	<i>Charadrius ruficapillus</i> (Red-capped Plover)			
91.	24378	<i>Charadrius veredus</i> (Oriental Plover)		IA	
92.	24321	<i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
93.		<i>Chlamydera nuchalis</i>			
94.		<i>Chroicocephalus novaehollandiae</i>			
95.	24431	<i>Chrysococcyx basalis</i> (Horsfield's Bronze Cuckoo)			
96.	24433	<i>Chrysococcyx minutillus</i> subsp. <i>minutillus</i> (Little Bronze Cuckoo)			
97.	24434	<i>Chrysococcyx osculans</i> (Black-eared Cuckoo)			
98.	24833	<i>Cincloramphus cruralis</i> (Brown Songlark)			
99.	24834	<i>Cincloramphus mathewsi</i> (Rufous Songlark)			
100.	24288	<i>Circus approximans</i> (Swamp Harrier)			
101.	24289	<i>Circus assimilis</i> (Spotted Harrier)			
102.	24565	<i>Cissomela pectoralis</i> (Banded Honeyeater)			
103.	25756	<i>Cisticola exilis</i> (Golden-headed Cisticola)			
104.	24835	<i>Cisticola exilis</i> subsp. <i>exilis</i> (Golden-headed Cisticola)			
105.	24774	<i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
106.	24394	<i>Climacteris melanura</i> subsp. <i>melanura</i> (Black-tailed Treecreeper)			
107.	25675	<i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
108.	24399	<i>Columba livia</i> (Domestic Pigeon)	Y		
109.	24566	<i>Conopophila rufogularis</i> (Rufous-throated Honeyeater)			
110.	25568	<i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			

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111.	25569 <i>Coracina papuensis</i> (White-bellied Cuckoo-shrike, Little Cuckoo-shrike)			
112.	24416 <i>Corvus bennetti</i> (Little Crow)			
113.	25593 <i>Corvus orru</i> (Torresian Crow)			
114.	<i>Corvus</i> sp.			
115.	25701 <i>Coturnix ypsilophora</i> (Brown Quail)			
116.	24672 <i>Coturnix ypsilophora</i> subsp. <i>cervina</i> (Brown Quail)			
117.	24420 <i>Cracticus nigrogularis</i> (Pied Butcherbird)			
118.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
119.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
120.	24436 <i>Cuculus saturatus</i> subsp. <i>optatus</i> (Oriental Cuckoo)		IA	
121.	<i>Cyanoptila cyanomelana</i>			Y
122.	24322 <i>Cygnus atratus</i> (Black Swan)			
123.	<i>Dacelo</i> (<i>Dacelo</i>) <i>leachii</i> subsp. <i>leachii</i>			
124.	25547 <i>Dacelo leachii</i> (Blue-winged Kookaburra)			
125.	24304 <i>Dacelo leachii</i> subsp. <i>leachii</i> (Blue-winged Kookaburra)			
126.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
127.	24324 <i>Dendrocygna arcuata</i> (Wandering Whistling Duck, Chestnut Whistling Duck)			
128.	24325 <i>Dendrocygna eytoni</i> (Plumed Whistling Duck)			
129.	25607 <i>Dicaeum hirundinaceum</i> (Mistletoebird)			
130.	<i>Dromaius novaehollandiae</i> subsp. <i>novaehollandiae</i>			
131.	25584 <i>Ducula bicolor</i> (Pied Imperial Pigeon)			
132.	<i>Egretta garzetta</i>			
133.	<i>Egretta novaehollandiae</i>			
134.	<i>Egretta picata</i>			
135.	<i>Elanus axillaris</i>			
136.	25540 <i>Elanus caeruleus</i> (Black-shouldered Kite)			
137.	24291 <i>Elanus scriptus</i> (Letter-winged Kite)		P4	
138.	<i>Elanus</i> sp.			Y
139.	<i>Elseymornis melanops</i>			
140.	24631 <i>Emblema pictum</i> (Painted Finch)			
141.	<i>Eolophus roseicapillus</i>			
142.	<i>Ephippiorhynchus</i> (<i>Ephippiorhynchus</i>) <i>asiaticus</i>			
143.	25578 <i>Ephippiorhynchus asiaticus</i> (Black-necked Stork)			
144.	24569 <i>Epthianura crocea</i> (Yellow Chat)			
145.	24570 <i>Epthianura tricolor</i> (Crimson Chat)			
146.	24379 <i>Erythronys cinctus</i> (Red-kneed Dotterel)			
147.	24632 <i>Erythrura gouldiae</i> (Gouldian Finch)		P4	
148.	<i>Esacus magnirostris</i>			
149.	24368 <i>Eurostopodus argus</i> (Spotted Nightjar)			
150.	25591 <i>Eurystomus orientalis</i> (Dollarbird)			
151.	24415 <i>Eurystomus orientalis</i> subsp. <i>pacificus</i> (Dollarbird)			
152.	25621 <i>Falco berigora</i> (Brown Falcon)			
153.	24471 <i>Falco berigora</i> subsp. <i>berigora</i> (Brown Falcon)			
154.	25622 <i>Falco cenchroides</i> (Australian Kestrel)			
155.	24472 <i>Falco cenchroides</i> subsp. <i>cenchroides</i> (Australian Kestrel)			
156.	24473 <i>Falco hypoleucos</i> (Grey Falcon)		T	
157.	25623 <i>Falco longipennis</i> (Australian Hobby)			
158.	24474 <i>Falco longipennis</i> subsp. <i>longipennis</i> (Australian Hobby)			
159.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
160.	24475 <i>Falco peregrinus</i> subsp. <i>macropus</i> (Australian Peregrine Falcon)		S	
161.	24476 <i>Falco subniger</i> (Black Falcon)			
162.	24478 <i>Fregata ariel</i> (Lesser Frigatebird)		IA	
163.	24479 <i>Fregata minor</i> (Greater Frigatebird)		IA	
164.	25727 <i>Fulica atra</i> (Eurasian Coot)			
165.	24792 <i>Gallinago megala</i> (Swinhoe's Snipe)		IA	
166.	24793 <i>Gallinago stenura</i> (Pin-tailed Snipe)		IA	
167.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
168.	24765 <i>Gallirallus philippensis</i> subsp. <i>mellori</i> (Buff-banded Rail)			
169.	42314 <i>Gavicalis virescens</i> (Singing Honeyeater)			
170.	<i>Gelochelidon nilotica</i>			
171.	24401 <i>Geopelia cuneata</i> (Diamond Dove)			
172.	24402 <i>Geopelia humeralis</i> (Bar-shouldered Dove)			
173.	25585 <i>Geopelia striata</i> (Zebra Dove)			
174.	24403 <i>Geopelia striata</i> subsp. <i>placida</i> (Peaceful Dove)			
175.	24404 <i>Geophaps plumifera</i> (Spinifex Pigeon)			
176.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
177.	25531 <i>Gerygone levigaster</i> (Mangrove Gerygone)			
178.	24273 <i>Gerygone levigaster</i> subsp. <i>levigaster</i> (Mangrove Gerygone)			
179.	25533 <i>Gerygone olivacea</i> (White-throated Gerygone)			
180.	24276 <i>Gerygone tenebrosa</i> (Dusky Gerygone)			

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181.	24481	<i>Glareola maldivarum</i> (Oriental Pratincole)		IA	
182.	24443	<i>Grallina cyanoleuca</i> (Magpie-lark)			
183.	24484	<i>Grus rubicunda</i> (Brolga)			
184.	25627	<i>Haematopus fuliginosus</i> (Sooty Oystercatcher)			
185.	24487	<i>Haematopus longirostris</i> (Pied Oystercatcher)			
186.	24293	<i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)		IA	
187.	25541	<i>Haliastur indus</i> (Brahminy Kite)			
188.	24294	<i>Haliastur indus</i> subsp. <i>girrenera</i> (Brahminy Kite)			
189.	24295	<i>Haliastur sphenurus</i> (Whistling Kite)			
190.	24296	<i>Hamirostra isura</i> (Square-tailed Kite)			
191.	24297	<i>Hamirostra melanosternon</i> (Black-breasted Buzzard)			
192.	24633	<i>Heteromunia pectoralis</i> (Pictorella Mannikin)			
193.	25734	<i>Himantopus himantopus</i> (Black-winged Stilt)			
194.	24775	<i>Himantopus himantopus</i> subsp. <i>leucocephalus</i> (Black-winged Stilt)			
195.	25555	<i>Hirundapus caudacutus</i> (White-throated Needletail)		IA	Y
196.	24491	<i>Hirundo neoxena</i> (Welcome Swallow)			
197.	25629	<i>Hirundo nigricans</i> (Tree Martin)			
198.	24492	<i>Hirundo nigricans</i> subsp. <i>nigricans</i> (Tree Martin)			
199.	25630	<i>Hirundo rustica</i> (Barn Swallow)		IA	
200.		<i>Hydroprogne caspia</i>			
201.		<i>Irediparra gallinacea</i>			
202.		<i>Ixobrychus dubius</i>			
203.	24347	<i>Ixobrychus flavicollis</i> subsp. <i>australis</i> (Australian Black Bittern)		P1	
204.	25563	<i>Ixobrychus minutus</i> (Little Bittern)		P4	
205.	24367	<i>Lalage tricolor</i> (White-winged Triller)			
206.	25637	<i>Larus novaehollandiae</i> (Silver Gull)			
207.	24511	<i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
208.		<i>Lichmera</i> (<i>Lichmera</i>) <i>indistincta</i>			
209.	25661	<i>Lichmera indistincta</i> (Brown Honeyeater)			
210.	24582	<i>Lichmera indistincta</i> subsp. <i>indistincta</i> (Brown Honeyeater)			
211.	25739	<i>Limicola falcinellus</i> (Broad-billed Sandpiper)		IA	
212.	24794	<i>Limicola falcinellus</i> subsp. <i>sibiricus</i> (Broad-billed Sandpiper)		IA	
213.	24795	<i>Limnodromus semipalmatus</i> (Asian Dowitcher)		IA	
214.	30932	<i>Limosa lapponica</i> (Bar-tailed Godwit)		IA	
215.	42420	<i>Limosa lapponica</i> subsp. <i>baueri</i> (Bar-tailed Godwit (western Alaskan))		T	
216.	24796	<i>Limosa lapponica</i> subsp. <i>menzbieri</i> (Bar-tailed Godwit (northern Siberian))		T	
217.	25741	<i>Limosa limosa</i> (Black-tailed Godwit)		IA	
218.	24797	<i>Limosa limosa</i> subsp. <i>melanuroides</i> (Black-tailed Godwit)		IA	
219.	25683	<i>Lonchura castaneothorax</i> (Chestnut-breasted Mannikin)			
220.		<i>Lonchura maja</i>			Y
221.		<i>Lophoictinia isura</i>			
222.	24691	<i>Macronectes halli</i> (Northern Giant Petrel)			
223.	24326	<i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
224.		<i>Malurus</i> (<i>Leggeornis</i>) <i>elegans</i>			
225.	25651	<i>Malurus lamberti</i> (Variegated Fairy-wren)			
226.	25653	<i>Malurus melanocephalus</i> (Red-backed Fairy-wren)			
227.	24550	<i>Malurus melanocephalus</i> subsp. <i>cruentatus</i> (Red-backed Fairy-wren)			
228.	24583	<i>Manorina flavigula</i> (Yellow-throated Miner)			
229.	25758	<i>Megalurus gramineus</i> (Little Grassbird)			
230.	25759	<i>Megalurus timoriensis</i> (Tawny Grassbird)			
231.	24585	<i>Melithreptus albogularis</i> (White-throated Honeyeater)			
232.	25665	<i>Melithreptus gularis</i> (Black-chinned Honeyeater)			
233.	24736	<i>Melopsittacus undulatus</i> (Budgerigar)			
234.	24598	<i>Merops ornatus</i> (Rainbow Bee-eater)		IA	
235.		<i>Microcarbo melanoleucos</i>			
236.		<i>Microeca</i> (<i>Microeca</i>) <i>fascinans</i>			
237.	25693	<i>Microeca fascinans</i> (Jacky Winter)			
238.	25694	<i>Microeca flavigaster</i> (Lemon-breasted Flycatcher)			
239.	24657	<i>Microeca flavigaster</i> subsp. <i>tormenti</i> (Kimberley Flycatcher)			
240.	25542	<i>Milvus migrans</i> (Black Kite)			
241.	24298	<i>Milvus migrans</i> subsp. <i>affinis</i> (Black Kite)			
242.		<i>Mirafra</i> (<i>Mirafra</i>) <i>javanica</i> subsp. <i>halli</i>			
243.	25545	<i>Mirafra javanica</i> (Horsfield's Bushlark, Singing Bushlark)			
244.	24302	<i>Mirafra javanica</i> subsp. <i>horsfieldii</i> (Horsfield's Bushlark, Singing Bushlark)			
245.	25672	<i>Motacilla flava</i> (Yellow Wagtail)		IA	
246.	25610	<i>Myiagra inquieta</i> (Restless Flycatcher)			
247.	24448	<i>Myiagra inquieta</i> subsp. <i>nana</i> (Restless Flycatcher)			
248.	25611	<i>Myiagra rubecula</i> (Leaden Flycatcher)			
249.	25612	<i>Myiagra ruficollis</i> (Broad-billed Flycatcher)			
250.	24450	<i>Myiagra ruficollis</i> subsp. <i>mimikae</i> (Broad-billed Flycatcher)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
251.	25666 <i>Myzomela erythrocephala</i> (Red-headed Honeyeater)			
252.	24590 <i>Myzomela erythrocephala</i> subsp. <i>erythrocephala</i> (Red-headed Honeyeater)			
253.	25684 <i>Neochmia phaeton</i> (Crimson Finch)			
254.	24639 <i>Neochmia ruficauda</i> subsp. <i>clarescens</i> (Star Finch)			
255.	24327 <i>Nettapus pulchellus</i> (Green Pygmy-goose)			
256.	<i>Ninox</i> (<i>Hieracoglaux</i>) <i>connivens</i> subsp. <i>peninsularis</i>			
257.	25747 <i>Ninox connivens</i> (Barking Owl)			
258.	24819 <i>Ninox connivens</i> subsp. <i>connivens</i> (Barking Owl (southwest pop P2), Barking Owl)		P2	
259.	25748 <i>Ninox novaeseelandiae</i> (Boobook Owl)			
260.	24820 <i>Ninox novaeseelandiae</i> subsp. <i>boobook</i> (Boobook Owl)			
261.	24798 <i>Numenius madagascariensis</i> (Eastern Curlew)		T	
262.	<i>Numenius minutus</i>			Y
263.	24799 <i>Numenius minutus</i> (Little Curlew)		IA	
264.	25742 <i>Numenius phaeopus</i> (Whimbrel)		IA	
265.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
266.	24350 <i>Nycticorax caledonicus</i> subsp. <i>hilli</i> (Rufous Night Heron)			
267.	24742 <i>Nymphicus hollandicus</i> (Cockatiel)			
268.	24497 <i>Oceanites oceanicus</i> (Wilson's Storm Petrel)		IA	
269.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
270.	<i>Onychoprion fuscata</i>			
271.	24608 <i>Oriolus sagittatus</i> (Olive-backed Oriole)			
272.	24620 <i>Pachycephala lanioides</i> (White-breasted Whistler)			
273.	25678 <i>Pachycephala melanura</i> (Mangrove Golden Whistler)			
274.	24621 <i>Pachycephala melanura</i> subsp. <i>melanura</i> (Mangrove Golden Whistler)			
275.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
276.	<i>Pandion cristatus</i>			
277.	24299 <i>Pandion haliaetus</i> subsp. <i>cristatus</i> (Osprey)			
278.	24627 <i>Pardalotus rubricatus</i> (Red-browed Pardalote)			
279.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
280.	24642 <i>Passer montanus</i> (Eurasian Tree Sparrow)	Y		
281.	24674 <i>Pavo cristatus</i> (Common Peafowl, Indian Peafowl)	Y		
282.	24649 <i>Pelecanoides urinatrix</i> subsp. <i>exsul</i> (Common Diving Petrel)			
283.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
284.	24659 <i>Petroica goodenovii</i> (Red-capped Robin)			
285.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
286.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
287.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
288.	24801 <i>Phalaropus lobatus</i> (Red-necked Phalarope)		IA	
289.	24411 <i>Phaps histrionica</i> (Flock Bronzewing, Flock Pigeon)			
290.	25668 <i>Philemon citreogularis</i> (Little Friarbird)			
291.	24592 <i>Philemon citreogularis</i> subsp. <i>citreogularis</i> (Little Friarbird)			
292.	<i>Philemon</i> sp.			Y
293.	24802 <i>Philomachus pugnax</i> (Ruff)		IA	
294.	24677 <i>Pitta moluccensis</i> (Blue-winged Pitta)			
295.	<i>Platalea</i> (<i>Platalea</i>) <i>regia</i>			
296.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
297.	24842 <i>Platalea regia</i> (Royal Spoonbill)			
298.	24843 <i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
299.	24382 <i>Pluvialis fulva</i> (Pacific Golden Plover)		IA	
300.	24383 <i>Pluvialis squatarola</i> (Grey Plover)		IA	
301.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
302.	24678 <i>Podargus strigoides</i> subsp. <i>phalaenoides</i> (Tawny Frogmouth)			
303.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
304.	24643 <i>Poephila acuticauda</i> (Long-tailed Finch)			
305.	24681 <i>Poliocephalus poliocephalus</i> (Hoary-headed Grebe)			
306.	24752 <i>Polytelis alexandrae</i> (Princess Parrot)		P4	
307.	25706 <i>Pomatostomus temporalis</i> (Grey-crowned Babbler)			
308.	24684 <i>Pomatostomus temporalis</i> subsp. <i>rubeculus</i> (Grey-crowned Babbler)			
309.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
310.	24766 <i>Porphyrio porphyrio</i> subsp. <i>melanotus</i> (Purple Swamphen)			
311.	24769 <i>Porzana fluminea</i> (Australian Spotted Crane)			
312.	25732 <i>Porzana pusilla</i> (Baillon's Crane)			
313.	24771 <i>Porzana tabuensis</i> (Spotless Crane)			
314.	<i>Psittuteles versicolor</i>			
315.	30946 <i>Ptilinopus regina</i> subsp. <i>ewingii</i> (Rose-crowned Fruit-dove)			
316.	25725 <i>Ptilonorhynchus nuchalis</i> (Great Bowerbird)			
317.	24758 <i>Ptilonorhynchus nuchalis</i> subsp. <i>nuchalis</i> (Great Bowerbird)			
318.	24715 <i>Puffinus huttoni</i> (Hutton's Shearwater)		T	
319.	24716 <i>Puffinus pacificus</i> (Wedge-tailed Shearwater)		IA	
320.	42344 <i>Purnella albifrons</i> (White-fronted Honeyeater)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
321.	<i>Rallina fascinata</i>			Y
322.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
323.	<i>Rhipidura</i> (<i>Rhipidura</i>) <i>albiscapa</i> subsp. <i>albiscapa</i>			
324.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
325.	24457 <i>Rhipidura phasiana</i> (Mangrove Grey Fantail)			
326.	25616 <i>Rhipidura rufiventris</i> (Northern Fantail)			
327.	<i>Rostratula australis</i>			
328.	24777 <i>Rostratula benghalensis</i> subsp. <i>australis</i> (Australian Painted Snipe)		T	
329.	25605 <i>Scythrops novaehollandiae</i> (Channel-billed Cuckoo)			
330.	30948 <i>Smicromis brevirostris</i> (Weebill)			
331.	25674 <i>Sphecotheres viridis</i> (Figbird)			
332.	24517 <i>Stercorarius parasiticus</i> (Arctic Skua)		IA	
333.	24520 <i>Sterna anaethetus</i> subsp. <i>anaethetus</i> (Bridled Tern)			
334.	24521 <i>Sterna bengalensis</i> (Lesser Crested Tern)		IA	
335.	24522 <i>Sterna bergii</i> (Crested Tern)			
336.	24523 <i>Sterna caspia</i> (Caspian Tern)		IA	
337.	25640 <i>Sterna dougallii</i> (Roseate Tern)		IA	
338.	24524 <i>Sterna dougallii</i> subsp. <i>gracilis</i> (Roseate Tern)		IA	
339.	24525 <i>Sterna fuscata</i> subsp. <i>nubilosa</i> (Sooty Tern)			
340.	25642 <i>Sterna hirundo</i> (Common Tern)		IA	
341.	24527 <i>Sterna hirundo</i> subsp. <i>longipennis</i> (Common Tern)		IA	
342.	25643 <i>Sterna hybrida</i> (Whiskered Tern)			
343.	24528 <i>Sterna hybrida</i> subsp. <i>javanica</i> (Whiskered Tern)			
344.	24529 <i>Sterna leucoptera</i> (White-winged Black Tern)		IA	
345.	30949 <i>Sterna nilotica</i> (Gull-billed Tern)			
346.	<i>Sternula albifrons</i>			
347.	24482 <i>Stiltia isabella</i> (Australian Pratincole)			
348.	42348 <i>Stomiopera unicolor</i> subsp. <i>unicolor</i> (White-gaped Honeyeater)			
349.	25752 <i>Sturnus vulgaris</i> (Common Starling)	Y		
350.	42310 <i>Sugomel niger</i> (Black Honeyeater)			
351.	25754 <i>Sula leucogaster</i> (Brown Booby)		IA	
352.	24828 <i>Sula leucogaster</i> subsp. <i>plotus</i> (Brown Booby)		IA	
353.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
354.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
355.	25552 <i>Tadorna radjah</i> (Radjah Shelduck)			
356.	30872 <i>Taeniopygia bichenovii</i> (Double-barred Finch)			
357.	30873 <i>Taeniopygia bichenovii</i> subsp. <i>annulosa</i> (Double-barred Finch)			
358.	30870 <i>Taeniopygia guttata</i> (Zebra Finch)			
359.	30871 <i>Taeniopygia guttata</i> subsp. <i>castanotis</i> (Zebra Finch)			
360.	<i>Thalasseus bengalensis</i>			
361.	<i>Thalasseus bergii</i>			
362.	24844 <i>Threskiornis molucca</i> (Australian White Ibis)			
363.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
364.	25548 <i>Todiramphus chloris</i> (Collared Kingfisher)			
365.	42351 <i>Todiramphus pyrrhopygius</i> (Red-backed Kingfisher)			
366.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
367.	24309 <i>Todiramphus sanctus</i> subsp. <i>sanctus</i> (Sacred Kingfisher)			
368.	<i>Tribonyx ventralis</i>			
369.	25723 <i>Trichoglossus haematodus</i> (Rainbow Lorikeet)			
370.	24754 <i>Trichoglossus haematodus</i> subsp. <i>rubritorquis</i> (Red-collared Lorikeet)			
371.	24804 <i>Tringa cinerea</i> (Terek Sandpiper)		IA	
372.	24806 <i>Tringa glareola</i> (Wood Sandpiper)		IA	
373.	24808 <i>Tringa nebularia</i> (Common Greenshank)		IA	
374.	24810 <i>Tringa totanus</i> (Common Redshank)		IA	
375.	24847 <i>Turnix maculosa</i> subsp. <i>melanota</i> (Red-backed Button-quail)			
376.	24848 <i>Turnix pyrrhotorax</i> (Red-chested Button-quail)			
377.	<i>Turnix sp.</i>			
378.	24851 <i>Turnix velox</i> (Little Button-quail)			
379.	24852 <i>Tyto alba</i> subsp. <i>delicatula</i> (Barn Owl)			
380.	24853 <i>Tyto capensis</i> subsp. <i>longimembris</i> (Eastern Grass Owl)			
381.	24855 <i>Tyto novaehollandiae</i> subsp. <i>novaehollandiae</i> (Masked Owl (southern subsp))		P3	
382.	25577 <i>Vanellus miles</i> (Masked Lapwing)			
383.	24386 <i>Vanellus tricolor</i> (Banded Lapwing)			
384.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			
385.	24857 <i>Zosterops luteus</i> (Yellow White-eye)			

Fish

386.	? ?			
387.	<i>Abudefduf bengalensis</i>			
388.	<i>Abudefduf sp.</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
389.	<i>Acanthopagrus latus</i>			
390.	<i>Acanthopagrus palmaris</i>			
391.	<i>Acanthurus dussumieri</i>			
392.	<i>Acanthurus grammoptilus</i>			
393.	<i>Acanthurus olivaceus</i>			
394.	<i>Acentrogobius caninus</i>			
395.	<i>Acentrogobius nebulosus</i>			Y
396.	<i>Acentrogobius</i> sp.			
397.	<i>Acentrogobius viridipunctatus</i>			
398.	<i>Albula argentea</i>			Y
399.	<i>Alectis indica</i>			
400.	<i>Alionematichthys piger</i>			
401.	<i>Ambassis</i> sp.			
402.	<i>Ambassis vachellii</i>			
403.	<i>Amniataba caudavittata</i>			
404.	<i>Amoya gracilis</i>			
405.	<i>Amoya</i> sp.			
406.	<i>Amphiprion rubrocinctus</i>			
407.	<i>Anguilla bicolor</i>			
408.	<i>Antennarius pictus</i>			
409.	<i>Apocryptodon madurensis</i>			
410.	<i>Apocryptodon</i> sp.			
411.	<i>Apogon cookii</i>			
412.	<i>Apogon doederleini</i>			
413.	<i>Apogon pallidofasciatus</i>			
414.	<i>Apogon rueppellii</i>			
415.	<i>Apogon</i> sp.			
416.	<i>Apogonichthyoides timorensis</i>			
417.	<i>Archamia biguttata</i>			
418.	<i>Arius</i> sp.			
419.	<i>Arothron hispidus</i>			
420.	<i>Arothron manilensis</i>			
421.	<i>Arothron stellatus</i>			
422.	<i>Arrhamphus sclerolepis</i>			
423.	<i>Assiculus punctatus</i>			
424.	<i>Atherinomorus endrachtensis</i>			
425.	<i>Atherinosoma</i> sp.			
426.	<i>Atule mate</i>			
427.	<i>Bathygobius fuscus</i>			
428.	<i>Bathygobius parvus</i> (ms)			
429.	<i>Batrachomoeus dahli</i>			
430.	<i>Batrachomoeus occidentalis</i>			
431.	<i>Batrachomoeus</i> sp.			
432.	<i>Blennodesmus scapularis</i>			
433.	<i>Boleophthalmus caeruleomaculatus</i>			
434.	<i>Brachysomophis cirrocheilos</i>			
435.	<i>Callogobius</i> sp.			
436.	<i>Caranx bucculentus</i>			
437.	<i>Caranx ignobilis</i>			
438.	<i>Caranx sexfasciatus</i>			
439.	<i>Caranx</i> sp.			
440.	<i>Centriscus scutatus</i>			
441.	<i>Centrogenys vaigiensis</i>			
442.	<i>Cephalopholis boenak</i>			
443.	<i>Chaetodermis penicilligera</i>			
444.	<i>Chaetodon adiergastos</i>			
445.	<i>Chaetodon aureofasciatus</i>			
446.	<i>Chaetodontoplus duboulayi</i>			
447.	<i>Chanos chanos</i>			
448.	<i>Chelmon marginalis</i>			
449.	<i>Chelmon muelleri</i>			
450.	<i>Chelonodon patoca</i>			
451.	<i>Chiloscyllium punctatum</i>			
452.	<i>Chirocentrus dorab</i>			
453.	<i>Choerodon cyanodus</i>			
454.	<i>Choerodon schoenleinii</i>			
455.	<i>Choerodon</i> sp.			
456.	<i>Choeroichthys brachysoma</i>			
457.	<i>Chromileptes altivelis</i>			
458.	<i>Conger cinereus</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
459.	<i>Congrogadus spinifer</i>			
460.	<i>Congrogadus subducens</i>			
461.	<i>Cottapistus</i> sp.			
462.	<i>Craterocephalus capreoli</i>			
463.	<i>Craterocephalus mugiloides</i>			
464.	<i>Craterocephalus pauciradiatus</i>			
465.	<i>Craterocephalus</i> sp.			
466.	<i>Cymbacephalus bosschei</i>			
467.	<i>Cymbacephalus nematophthalmus</i>			
468.	<i>Cymbacephalus</i> sp.			
469.	<i>Cynoglossus maculipinnis</i>			
470.	<i>Cynoglossus</i> sp.			
471.	<i>Cypselurus</i> sp.			
472.	<i>Dampierosa daruma</i>			
473.	<i>Dinematichthys</i> sp.			
474.	<i>Drepane punctata</i>			
475.	<i>Drombus halei</i>			
476.	<i>Drombus</i> sp.			
477.	<i>Drombus triangularis</i>			
478.	<i>Echeneis naucrates</i>			
479.	<i>Elates ransonnetii</i>			
480.	<i>Eleutheronema tetradactylum</i>			
481.	<i>Eleutheronema tetradactylus</i>			
482.	<i>Elops hawaiiensis</i>			
483.	<i>Enneapterygius gracilis</i>			
484.	<i>Enneapterygius larsonae</i>			
485.	<i>Epinephelus areolatus</i>			
486.	<i>Epinephelus bleekeri</i>			
487.	<i>Epinephelus coioides</i>			
488.	<i>Epinephelus corallicola</i>			
489.	<i>Epinephelus fasciatus</i>			
490.	<i>Epinephelus homosinensis</i> (invalid)			
491.	<i>Epinephelus malabaricus</i>			
492.	<i>Epinephelus ongus</i> ?			Y
493.	<i>Epinephelus polyphkadion</i>			
494.	<i>Epinephelus quoyanus</i>			
495.	<i>Epinephelus sexfasciatus</i>			
496.	<i>Epinephelus</i> sp.			
497.	<i>Erosa daruma</i>			
498.	<i>Eugnathogobius polylepis</i>			
499.	<i>Euristhmus microceps</i>			
500.	<i>Eusurculus pistillum</i>			
501.	<i>Eviota bimaculata</i>			
502.	<i>Eviota inutilis</i>			
503.	<i>Eviota queenslandica</i>			
504.	<i>Eviota</i> sp.			
505.	<i>Favonigobius melanobranchus</i>			
506.	<i>Favonigobius</i> sp.			
507.	<i>Fistularia petimba</i>			
508.	<i>Fowleria aurita</i>			
509.	Gen. ? sp.			Y
510.	<i>Gerres filamentosus</i>			
511.	<i>Gerres</i> sp.			
512.	<i>Gerres subfasciatus</i>			
513.	<i>Gnathanodon speciosus</i>			
514.	<i>Gymnapogon annona</i>			Y
515.	<i>Gymnapogon</i> sp.			
516.	<i>Gymnothorax favagineus</i>			
517.	<i>Gymnothorax pseudothyroideus</i>			
518.	<i>Gymnothorax undulatus</i>			
519.	<i>Halichoeres melanochir</i>			
520.	<i>Halichoeres nigrescens</i>			
521.	<i>Halichthys taeniophorus</i>			
522.	<i>Halophryne diemensis</i>			
523.	<i>Halophryne ocellatus</i>			
524.	<i>Hapalogenys kishinouyei</i>			
525.	<i>Hemigobius hoevenii</i>			Y
526.	<i>Hemiramphus far</i>			
527.	<i>Hemiramphus robustus</i>			
528.	<i>Hemiscyllium trispeculare</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
529.	<i>Herklotsichthys blackburni</i>			
530.	<i>Himantura uarnak</i>			
531.	<i>Hippichthys gazella</i> (invalid)			Y
532.	<i>Hippichthys penicillus</i>			
533.	<i>Hippocampus angustus</i>			
534.	<i>Hippocampus planifrons</i>			
535.	<i>Hippocampus</i> sp.			
536.	<i>Hypoatherina temminckii</i>			
537.	<i>Hyporhamphus quoyi</i>			
538.	<i>Ichthyscopus spinosus</i>			
539.	<i>Ilisha striatula</i>			Y
540.	<i>Istiblennius meleagris</i>			
541.	<i>Istiblennius</i> sp.			
542.	<i>Istigobius decoratus</i>			
543.	<i>Istigobius diadema</i>			
544.	<i>Istigobius nigrocellatus</i>			
545.	<i>Istigobius ornatus</i>			
546.	<i>Istigobius</i> sp.			
547.	<i>Istigobius?</i> sp.			
548.	<i>Johnius amblycephalus</i>			
549.	<i>Labracinus lineatus</i>			
550.	<i>Lactoria cornuta</i>			
551.	<i>Laiphognathus multimaculatus</i>			
552.	<i>Lates calcarifer</i>			
553.	<i>Leiognathus equulus</i>			
554.	<i>Leiuranus semicinctus</i>			
555.	<i>Leptobrama muelleri</i>			
556.	<i>Lethrinus laticaudis</i>			
557.	<i>Lethrinus lentjan</i>			
558.	<i>Lethrinus</i> sp.			
559.	<i>Liza alata</i>			
560.	<i>Liza macrolepis</i>			Y
561.	<i>Liza subviridis</i>			
562.	<i>Liza vaigiensis</i>			
563.	<i>Lophiocharon hutchinsi</i>			
564.	<i>Lophiocharon trisignatus</i>			
565.	<i>Lutjanus carponotatus</i>			
566.	<i>Lutjanus erythropterus</i>			
567.	<i>Lutjanus lemniscatus</i>			
568.	<i>Lutjanus malabaricus</i>			
569.	<i>Lutjanus quinquelineatus</i>			
570.	<i>Lutjanus russellii</i>			
571.	<i>Lutjanus</i> sp.			
572.	<i>Lutjanus vitta</i>			
573.	<i>Marilyna darwinii</i>			
574.	<i>Marilyna meraukensis</i>			
575.	<i>Megalops cyprinoides</i>			
576.	<i>Melanotaenia</i> sp.			
577.	<i>Micrognathus micronotopterus</i>			
578.	<i>Monacanthus chinensis</i>			
579.	<i>Monacanthus</i> sp.			Y
580.	<i>Monothrix mizolepis</i>			Y
581.	<i>Mugil cephalus</i>			
582.	<i>Mugil</i> sp.			
583.	<i>Mugilogobius</i> sp.			
584.	<i>Muraenichthys</i> sp.			
585.	<i>Naso</i> sp.			
586.	<i>Nematalosa come</i>			
587.	<i>Nematalosa</i> sp.			
588.	<i>Nematalosa vlaminghi</i>			
589.	<i>Neosilurus hyrtlii</i>			
590.	<i>Netuma proxima</i>			
591.	<i>Netuma thalassina</i>			
592.	<i>Nibea microgenys</i>			Y
593.	<i>Norfolkia</i> sp.			
594.	<i>Notograptus guttatus</i>			
595.	<i>Notograptus</i> sp.			
596.	<i>Omobranchus ferox</i>			
597.	<i>Omobranchus germaini</i>			
598.	<i>Omobranchus lineolatus</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
599.	<i>Omobranchus rotundiceps</i>			
600.	<i>Omobranchus verticalis</i>			
601.	<i>Onuxodon margaritiferae</i>			
602.	<i>Ophichthus altipennis</i>			
603.	<i>Ophichthus rutidoderma</i>			
604.	<i>Ophieleotris aporos</i>			
605.	<i>Opistognathus darwiniensis</i>			
606.	<i>Opistognathus inornatus</i>			
607.	<i>Opistognathus reticulatus</i>			
608.	<i>Oplopomus caninoides</i>			Y
609.	<i>Orectolobus wardi</i>			
610.	<i>Ostorhinchus endekataenia</i>			Y
611.	<i>Ostorhinchus pallidofasciatus</i>			
612.	<i>Ostorhinchus rueppellii</i>			
613.	<i>Ostracion rhinorhynchus</i>			Y
614.	<i>Oxyeleotris</i> sp.			
615.	<i>Palutrus</i> sp.			
616.	<i>Pantolabus radiatus</i>			
617.	<i>Parablennius tasmanianus</i>			
618.	<i>Paracentropogon vespa</i>			
619.	<i>Paradiplogrammus enneactis</i>			
620.	<i>Paramonacanthus choirocephalus</i>			
621.	<i>Paraplagusia bilineata</i>			
622.	<i>Paraplagusia sinerama</i>			
623.	<i>Paraplagusia</i> sp.			
624.	<i>Paraploactis pulvinus</i>			
625.	<i>Paraplotosus albilabris</i>			
626.	<i>Paraplotosus butleri</i>			
627.	<i>Paraplotosus muelleri?</i>			Y
628.	<i>Parascloopsis</i> sp.			
629.	<i>Parascorpaena picta</i>			
630.	<i>Parascorpaena</i> sp.			
631.	<i>Pardachirus pavoninus</i>			
632.	<i>Parupeneus indicus</i>			
633.	<i>Pegasus volitans</i>			
634.	<i>Pempheris ypsilychnus</i>			
635.	<i>Pentapodus emeryii</i>			
636.	<i>Pentapodus porosus</i>			
637.	<i>Periophthalmus argentilineatus</i>			
638.	<i>Periophthalmus darwini</i>			Y
639.	<i>Periophthalmus koelreuteri</i>			
640.	<i>Periophthalmus minutus</i>			
641.	<i>Periophthalmus novaeguineensis</i>			
642.	<i>Periophthalmus</i> sp.			
643.	<i>Petroscirtes lupus</i>			
644.	<i>Petroscirtes</i> sp.			
645.	<i>Pisodonophis cancrivorus</i>			
646.	<i>Platybelone argalus</i>			
647.	<i>Platycephalus indicus</i>			
648.	<i>Platycephalus</i> sp.			
649.	<i>Platycephalus westraliae</i>			
650.	<i>Plectorhinchus multivittatus</i>			
651.	<i>Plectorhinchus unicolor?</i>			Y
652.	<i>Plotosus lineatus</i>			
653.	<i>Polydactylus macrochir</i>			Y
654.	<i>Polydactylus multiradiatus</i>			
655.	<i>Pomacanthus sexstriatus</i>			
656.	<i>Pomacentrus milleri</i>			
657.	<i>Pomadasys argenteus</i>			
658.	<i>Priolepis nuchifasciata</i>			
659.	<i>Prionobutis microps</i>			
660.	<i>Pristis</i> sp.			Y
661.	34037 <i>Pristis zijsron</i> (Green Sawfish)		T	
662.	<i>Psammodiscus ocellatus</i>			
663.	<i>Psammoperca waigiensis</i>			
664.	<i>Pseudochromis fuscus</i>			
665.	<i>Pseudochromis</i> sp.			
666.	<i>Pseudochromis wilsoni</i>			
667.	<i>Pseudogobius</i> sp.			
668.	<i>Pseudomugil cyanodorsalis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
669.	<i>Pseudorhombus arsius</i>			
670.	<i>Pseudorhombus</i> sp.			
671.	<i>Pterapogon mirifica</i>			
672.	<i>Ptereleotris</i> sp.			
673.	<i>Pterois antennata</i>			
674.	<i>Pterois</i> sp.			
675.	<i>Pterois volitans</i>			
676.	<i>Rastrelliger kanagurta</i>			
677.	<i>Remora remora</i>			
678.	<i>Rhina ancylostoma</i>			Y
679.	<i>Rhinobatos</i> sp.			
680.	<i>Rhizoprionodon acutus</i>			
681.	<i>Salarias sexfilum</i>			
682.	<i>Salarias sexfilum?</i>			Y
683.	<i>Sargocentron rubrum</i>			
684.	<i>Saurida undosquamis</i>			
685.	<i>Scaevius milii</i>			
686.	<i>Scartelaos histophorus</i>			
687.	<i>Scarus ghobban</i>			
688.	<i>Scolecenchelys macroptera</i>			
689.	<i>Scolopsis monogramma</i>			
690.	<i>Scolopsis monogramma?</i>			Y
691.	<i>Scolopsis</i> sp.			
692.	<i>Scomberoides commersonnianus</i>			
693.	<i>Scomberoides lysan</i>			
694.	<i>Scomberoides</i> sp.			Y
695.	<i>Scomberoides tol</i>			
696.	<i>Scomberomorus semifasciatus</i>			
697.	<i>Scomberomorus</i> sp.			
698.	<i>Scorpaenopsis neglecta</i>			
699.	<i>Selaroides leptolepis</i>			
700.	<i>Selenotoca multifasciata</i>			
701.	<i>Siganus</i> sp.			
702.	<i>Silhouettea</i> sp.			
703.	<i>Sillago analis</i>			
704.	<i>Sillago burra</i>			
705.	<i>Sillago burrus</i>			
706.	<i>Sillago sihama</i>			
707.	<i>Sillago sihama?</i>			Y
708.	<i>Sillago</i> sp.			
709.	<i>Soleichthys heterorhinos</i>			
710.	<i>Sphyræna putnamae</i>			
711.	<i>Spratelloides delicatulus</i>			
712.	<i>Stolephorus indicus</i>			
713.	<i>Strongylura</i> sp.			
714.	<i>Strongylura strongylura</i>			
715.	<i>Suggrundus</i> sp.			
716.	<i>Synanceia horrida</i>			
717.	<i>Synodus jaculum</i>			
718.	<i>Synodus sageneus</i>			
719.	<i>Taeniura lymma</i>			
720.	<i>Terapon jarbua</i>			
721.	<i>Terapon puta</i>			
722.	<i>Terapon</i> sp.			
723.	<i>Terapon theraps</i>			
724.	<i>Thyssa aestuaria</i>			
725.	<i>Thunnus orientalis</i>			
726.	<i>Toxotes chatareus</i>			
727.	<i>Trachinocephalus myops</i>			
728.	<i>Tragulichthys jaculiferus</i>			
729.	<i>Trichiurus lepturus</i>			
730.	<i>Trichonotus blochii</i>			
731.	<i>Trichonotus setiger</i>			
732.	<i>Upeneus</i> sp.			
733.	<i>Urogymnus asperrimus</i>			
734.	<i>Valamugil buchanani</i>			
735.	<i>Valamugil cunnesius</i>			
736.	<i>Valamugil</i> sp.			Y
737.	<i>Valenciennaea alleni</i>			
738.	<i>Valenciennaea alleni?</i>			Y

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Invertebrate				
739.	<i>Acanthopleura gemmata</i>			
740.	<i>Acanthopleura spinosa</i>			
741.	<i>Acrosterigma impolitum</i>			
742.	<i>Acrosterigma</i> sp.			
743.	<i>Actaea peronii</i>			Y
744.	<i>Actaea</i> sp.			Y
745.	<i>Actinocucumis typica</i>			
746.	<i>Actumnus</i> sp.			
747.	<i>Aesopus spiculum</i>			Y
748.	<i>Afroccumis africana</i>			
749.	<i>Aglaophenia cupressina</i>			
750.	<i>Alaba translucida</i>			
751.	<i>Alectryonella plicatula</i>			
752.	<i>Aliculastrum cylindricus</i>			
753.	<i>Allopeas gracile</i>			Y
754.	<i>Alocospira oblonga</i>			
755.	<i>Alpheus edwardsii</i>			Y
756.	<i>Alpheus</i> sp.			
757.	<i>Alpheus strenuus</i>			Y
758.	<i>Alvania</i> sp.			
759.	<i>Amarygmus diaperioides</i>			Y
760.	<i>Amblyomma moreliae</i>			
761.	<i>Ameloctopus litoralis</i>			Y
762.	<i>Amoria damonii</i>			
763.	<i>Amoria grayi</i>			
764.	<i>Amoria volva</i>			Y
765.	<i>Amphimetra tessellata</i>			
766.	<i>Amphioplus (Amphichilus) ochroleuca</i>			Y
767.	<i>Amphioplus (Lymanella) depressus</i>			
768.	<i>Amphipholis misera</i>			Y
769.	<i>Amphipholis squamata</i>			
770.	<i>Amphitritides ithya</i>			
771.	<i>Amphitritides</i> sp.			Y
772.	<i>Amphiura (Amphiura) abbreviata</i>			
773.	<i>Amphiura (Amphiura) bidentata</i>			Y
774.	<i>Amphiura (Amphiura) brachyactis</i>			Y
775.	<i>Amphiura (Amphiura) catephes</i>			
776.	<i>Amphiura (Amphiura) constricta</i>			
777.	<i>Amphiura (Amphiura) leucaspis</i>			
778.	<i>Amphiura (Amphiura) septemspinosa</i>			
779.	<i>Amphiura (Amphiura) stictacantha</i>			
780.	<i>Amphiura (Amphiura) velox</i>			
781.	<i>Amphiura (Ophiopeltis) tenuis</i>			
782.	<i>Amphiura</i> sp.			
783.	<i>Anachis</i> sp.			
784.	<i>Anacinetops</i> sp.			Y
785.	<i>Anadara (Anadara) crebricostata</i>			
786.	<i>Anaphothrips sudanensis</i>			
787.	<i>Anchistus</i> sp.			Y
788.	<i>Ancillista cingulata</i>			
789.	<i>Ancillista muscae</i>			
790.	<i>Angaria delphinus</i>			
791.	<i>Angulus armata</i>			
792.	<i>Annachlamys flabellata</i>			
793.	<i>Anodontia philippiana</i>			
794.	<i>Anodontia</i> sp.			
795.	<i>Anomalocardia (Anomalocardia) squamosa</i>			
796.	<i>Anseropoda rosacea</i>			
797.	<i>Anteaeolidiella foulisi</i>			Y
798.	<i>Anthenea australiae</i>			
799.	<i>Anthenea conjungens</i>			
800.	<i>Anthenea elegans</i>			
801.	<i>Anthenea polygnatha</i>			Y
802.	<i>Antheneoides dubius</i>			Y
803.	<i>Anthrenocerus australis</i>			
804.	<i>Antigona (Antigona) chemnitzii</i>			
805.	<i>Antigona (Antigona) lamellaris</i>			
806.	<i>Antigona</i> sp.			
807.	<i>Antisabia foliacea</i>			

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808.	<i>Aphrodita australis</i>			
809.	<i>Aphrodita kulmaris</i>			
810.	<i>Aquilonastra coronata</i>			Y
811.	<i>Arachnoides placenta</i>			
812.	<i>Arachnoides tenuis</i>			
813.	<i>Arca navicularis</i>			
814.	<i>Arca patriarchalis</i>			
815.	<i>Arca ventricosa</i>			
816.	<i>Archaster angulatus</i>			
817.	<i>Archimediella fastigiata</i>			
818.	<i>Archimediella</i> sp.			Y
819.	<i>Arcopaginula inflata</i>			
820.	<i>Arcuatula glaberrima</i>			
821.	<i>Arenifodiens vagina</i>			Y
822.	<i>Artema atlanta</i>			
823.	<i>Arthrorhabdus paucispinus</i>			
824.	<i>Asaphis violascens</i>			
825.	<i>Aspella platylaevis</i>			
826.	<i>Astele (Astele) monile</i>			
827.	<i>Astele (Astele) rubiginosum</i>			
828.	<i>Astele (Astele) similare</i>			Y
829.	<i>Astele (Astelena) scitulum</i>			Y
830.	<i>Astraliu pileolum</i>			
831.	<i>Astraliu rotularia</i>			
832.	<i>Astraliu stellare</i>			
833.	<i>Astropecten granulatus</i>			
834.	<i>Astropecten monacanthus</i>			
835.	<i>Astropecten</i> sp.			
836.	<i>Astropecten velitaris</i>			
837.	<i>Astropecten zebra</i>			
838.	<i>Atagema</i> sp.			
839.	<i>Atys</i> sp.			
840.	<i>Austracantha minax</i>			
841.	<i>Australobolbus pygmaeus</i>			Y
842.	<i>Austrogammarus haasei</i>			Y
843.	<i>Austrogymnocnemia bipunctata</i>			
844.	<i>Austroliotia australis</i>			
845.	<i>Austroliotia botanica</i>			Y
846.	<i>Austromantispa imbecilla</i>			
847.	<i>Austromitra</i> sp.			
848.	<i>Automate dolichognatha</i>			Y
849.	<i>Backobourkia collina</i>			
850.	<i>Bankia rochi</i>			
851.	<i>Barbatia (Abarbatia) parvivillosa</i>			Y
852.	<i>Barbatia (Barbatia) pistachia</i>			
853.	<i>Barbatia (Barbatirus) cometa</i>			
854.	<i>Barbatia (Cucullaearca) foliata</i>			
855.	<i>Barbatia (Savignyarca) scazon</i>			
856.	<i>Barbatia (Ustularca) amygdalumtostum</i>			
857.	<i>Barbatia</i> sp.			
858.	<i>Belosquilla laevis</i>			
859.	<i>Bhawania</i> sp.			
860.	<i>Bispira</i> sp.			Y
861.	<i>Bistolida brevidentata</i>			
862.	<i>Bistolida hirundo</i>			
863.	<i>Bistolida kieneri</i>			Y
864.	<i>Blasicrura pallidula</i> subsp. <i>rhinoceros</i>			Y
865.	<i>Blasicrura</i> sp.			
866.	<i>Bohadschia marmorata</i>			Y
867.	<i>Booneostrea cucullina</i>			
868.	<i>Boreosaragus confirmatus</i>			
869.	<i>Brachidontes</i> sp.			
870.	<i>Braunsapis falcata</i>			
871.	<i>Brechites (Brechites) australis</i>			
872.	<i>Brechites (Verpa) philippinensis</i>			Y
873.	<i>Bulla ampulla</i>			
874.	<i>Bulla vernicosa</i>			
875.	<i>Bursa granularis</i>			
876.	<i>Cabestana tabulata</i>			
877.	<i>Caecum</i> sp.			

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878.	<i>Calappa philargius</i>			
879.	<i>Calappa</i> sp.			Y
880.	<i>Calliostoma</i> sp.			
881.	<i>Callista</i> (<i>Costacallista</i>) <i>planatella</i>			
882.	<i>Calomela suturalis</i>			
883.	<i>Calomela tarsalis</i>			
884.	<i>Calopia laseroni</i>			
885.	<i>Calosoma</i> (<i>Australodrepa</i>) <i>schayeri</i>			
886.	<i>Calthalotia arruensis</i>			
887.	<i>Calthalotia</i> sp.			
888.	<i>Camponotus johnclarki</i>			
889.	<i>Cancellaria</i> (<i>Merica</i>) <i>melanostoma</i> subsp. <i>westralis</i>			Y
890.	<i>Cancellaria</i> (<i>merica</i>)			
891.	<i>Cancellaria</i> (<i>sydaphera</i>)			Y
892.	<i>Cantharus</i> sp.			
893.	<i>Capillaster multiradiata</i>			Y
894.	<i>Cardiolucina australopilula</i>			
895.	<i>Cardiolucina</i> sp.			Y
896.	<i>Cardita crassicosta</i>			
897.	<i>Cardita muricata</i>			
898.	<i>Cardita</i> sp.			
899.	<i>Carenum transversicolle</i>			
900.	<i>Casmaria erinaceus</i> subsp. <i>erinaceus</i>			Y
901.	<i>Cassidula</i> (<i>Cassidula</i>) <i>aurisfelis</i>			Y
902.	<i>Cassidula</i> (<i>Cassidula</i>) <i>sowerbyana</i>			
903.	<i>Cassidula</i> (<i>Cassidula</i>) <i>doliolum</i>			Y
904.	<i>Castiarina broomensis</i>			Y
905.	<i>Castiarina coccinata</i>			
906.	<i>Catopsilia scylla</i> subsp. <i>etesia</i>			
907.	<i>Centrocardita squamigera</i>			
908.	<i>Ceradocus</i> sp.			
909.	<i>Ceratoleon mjobergi</i>			
910.	<i>Ceratonereis australis</i>			
911.	<i>Ceratonereis</i> sp.			
912.	<i>Ceratosoma trilobatum</i>			
913.	<i>Cercodemus anceps</i>			
914.	<i>Cerithidea</i> (<i>Cerithidea</i>) <i>largillierii</i>			
915.	<i>Cerithidea</i> (<i>Cerithidea</i>) <i>reidi</i>			
916.	<i>Cerithidea</i> (<i>Cerithideopsilla</i>) <i>cingulata</i>			
917.	<i>Cerithidea</i> sp.			
918.	<i>Cerithium balteatum</i>			
919.	<i>Cerithium coralium</i>			
920.	<i>Cerithium echinatum</i>			
921.	<i>Cerithium novaehollandiae</i>			
922.	<i>Cerithium tenellum</i>			
923.	<i>Cerithium torresi</i>			
924.	<i>Cerithium zonatum</i>			
925.	<i>Chalcophorotaenia australasiae</i>			
926.	<i>Chalcophorotaenia beltanae</i>			
927.	<i>Chalcophorotaenia quadriimpressa</i>			
928.	<i>Chama croceata</i>			Y
929.	<i>Chama lazarus</i>			
930.	<i>Chama limbula</i>			
931.	<i>Chama</i> sp.			
932.	<i>Charybdis</i> (<i>Charybdis</i>) <i>jaubertensis</i>			
933.	<i>Chicoreus</i> (<i>Chicoreus</i>) <i>cornucervi</i>			
934.	<i>Chicoreus</i> (<i>Rhizophorimurex</i>) <i>capucinus</i>			
935.	<i>Chicoreus</i> (<i>Triplex</i>) <i>banksii</i>			
936.	<i>Chicoreus</i> (<i>Triplex</i>) <i>cervicornis</i>			
937.	<i>Chicoreus</i> (<i>Triplex</i>) <i>microphyllus</i>			
938.	<i>Chicoreus</i> (<i>Triplex</i>) <i>torrefactus</i>			
939.	<i>Chicoreus</i> (<i>Triplex</i>) <i>trivialis</i>			
940.	<i>Chicoreus</i> sp.			
941.	<i>Chromodoris lineolata</i>			
942.	<i>Cicindela</i> (<i>Hypaetha</i>) <i>frenchi</i>			
943.	<i>Cicindela</i> (<i>Hypaetha</i>) <i>rafflesia</i> subsp. <i>expandosa</i>			Y
944.	<i>Circe</i> (<i>Circe</i>) <i>scripta</i>			
945.	<i>Circe</i> (<i>Redicirce</i>) <i>sulcata</i>			
946.	<i>Circe</i> (<i>circe</i>)			Y
947.	<i>Circe</i> sp.			

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948.	<i>Cirolana mekista</i>			Y
949.	<i>Cirolana</i> sp.			
950.	<i>Cladolabes schmeltzii</i>			Y
951.	<i>Clanculus atropurpureus</i>			
952.	<i>Clanculus margaritarius</i> subsp. <i>margaritarius</i>			
953.	<i>Clanculus septenarius</i>			Y
954.	<i>Clarkcomanthus littoralis</i>			
955.	<i>Clathria (Thalysias) lendenfeldi</i>			
956.	<i>Clementia (Clementia) papyracea</i>			Y
957.	<i>Clibanarius</i> sp.			
958.	<i>Clivina bovillae</i>			Y
959.	<i>Clorida depressa</i>			Y
960.	<i>Clubiona</i> sp.			
961.	<i>Clypeaster telurus</i>			
962.	<i>Clypeomorus batillariaeformis</i>			
963.	<i>Clypeomorus bifasciata</i>			
964.	<i>Clypeomorus petrosa</i> subsp. <i>petrosa</i>			
965.	<i>Clypeomorus</i> sp.			
966.	<i>Clypeomorus subbrevicula</i>			Y
967.	<i>Colochirus crassus</i>			
968.	<i>Colochirus quadrangularis</i>			
969.	<i>Colsymnola sericea</i>			
970.	<i>Colubraria janlochi</i>			
971.	<i>Comanthus briareus</i>			
972.	<i>Comanthus parvicirrus</i>			
973.	<i>Comanthus wahlbergii</i>			
974.	<i>Comaster audax</i>			Y
975.	<i>Comaster multifidus</i>			
976.	<i>Comaster</i> sp.			
977.	<i>Comatella maculata</i>			Y
978.	<i>Comatella</i> sp.			Y
979.	<i>Comatella stelligera</i>			
980.	<i>Comatula pectinata</i>			
981.	<i>Comatula rotalaria</i>			
982.	<i>Comatula solaris</i>			
983.	<i>Comatula</i> sp.			
984.	<i>Cominella (Cominella) acutinodosa</i>			
985.	<i>Complicachlamys wardiana</i>			
986.	<i>Conus achatinus</i>			
987.	<i>Conus anemone</i>			
988.	<i>Conus capitaneus</i>			
989.	<i>Conus chaldaeus</i>			
990.	<i>Conus lividus</i>			
991.	<i>Conus lizardensis</i>			Y
992.	<i>Conus</i> sp.			
993.	<i>Conus spectrum</i>			
994.	<i>Conus terebra</i>			
995.	<i>Conus trigonus</i>			
996.	<i>Conus victoriae</i>			
997.	<i>Corbula (Anisocorbula) taheitensis</i>			
998.	<i>Corbula (Caryocorbula) solidula</i>			Y
999.	<i>Corbula (Serracorbula) coxi</i>			Y
1000.	<i>Corbula (Serracorbula) crassa</i>			Y
1001.	<i>Corbula</i> sp.			Y
1002.	<i>Cosmophasis baehrae</i>			
1003.	<i>Craspedochiton laqueatus</i>			
1004.	<i>Crematogaster laeviceps</i> subsp. <i>broomensis</i>			
1005.	<i>Creontiades dilutus</i>			
1006.	<i>Crepidula</i> sp.			
1007.	<i>Crociosema plebejana</i>			
1008.	<i>Cronia (Cronia) aurantiaca</i>			
1009.	<i>Cronia (Cronia) avellana</i>			
1010.	<i>Cryptocoeloma haswelli</i>			Y
1011.	<i>Cryptopelta callista</i>			Y
1012.	<i>Cryptotermes secundus</i>			
1013.	<i>Ctena (Ctena) bella</i>			
1014.	<i>Ctenocardia (Ctenocardia) virgo</i>			Y
1015.	<i>Ctenocella pectinata</i>			
1016.	<i>Ctenoides annulata</i>			
1017.	<i>Cupidoliva nympha</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1018.	<i>Cyclosa camelodes</i>			
1019.	<i>Cydmaea</i> sp.			Y
1020.	<i>Cyllene sulcata</i>			
1021.	<i>Cymatium</i> (<i>Guttarium</i>) <i>muricinum</i>			
1022.	<i>Cymatium</i> (<i>Monoplex</i>) <i>exaratum</i>			
1023.	<i>Cymatium</i> (<i>Monoplex</i>) <i>thersites</i>			
1024.	<i>Cymatium</i> (<i>Monoplex</i>) <i>vespaceum</i>			
1025.	<i>Cymatium</i> (<i>Turritron</i>) <i>labiosum</i>			
1026.	<i>Cymatium</i> (<i>monoplex</i>)			
1027.	<i>Cymatium</i> (<i>turritron</i>)			Y
1028.	<i>Cymbiola nivosa</i>			
1029.	<i>Cyphogastra pistor</i>			Y
1030.	<i>Cyphogastra pistor</i> subsp. <i>pistor</i>			
1031.	<i>Cypraea</i> sp.			
1032.	<i>Cypraea tigris</i>			
1033.	<i>Dardanus</i> sp.			
1034.	<i>Decatopecten radula</i>			
1035.	<i>Demarziella mirifica</i>			
1036.	<i>Dendostrea folium</i>			
1037.	<i>Dendrodoris</i> sp.			
1038.	<i>Dentalium</i> (<i>Dentalium</i>) <i>burtonae</i>			Y
1039.	<i>Dentalium</i> (<i>Dentalium</i>) <i>intercalatum</i>			
1040.	<i>Dentalium</i> (<i>Dentalium</i>) <i>javanum</i>			
1041.	<i>Dentalium</i> sp.			
1042.	<i>Dentimargo mayii</i>			Y
1043.	<i>Dermestes</i> (<i>Dermestes</i>) <i>ater</i>			
1044.	<i>Diala lirulata</i>			
1045.	<i>Diala semistriata</i>			
1046.	<i>Dicathais orbita</i>			
1047.	<i>Dictenophiura stellata</i>			
1048.	<i>Dicyathifer manni</i>			
1049.	<i>Dinoderus minutus</i>			
1050.	<i>Dinoderus ocellaris</i>			Y
1051.	<i>Diodora jukesii</i>			
1052.	<i>Diodora singaporensis</i>			
1053.	<i>Diodora</i> sp.			
1054.	<i>Diodora ticaonica</i>			
1055.	<i>Diogenes avarus</i>			
1056.	<i>Diopatra lilliputiana</i>			
1057.	<i>Diopatra maculata</i>			
1058.	<i>Diphucrania broomensis</i>			Y
1059.	<i>Distoleon bistrigatus</i>			
1060.	<i>Divalinga bardwelli</i>			Y
1061.	<i>Divalucina cumingi</i>			Y
1062.	<i>Divaricella irplex</i>			
1063.	<i>Dodecaceria</i> sp.			
1064.	<i>Donax</i> (<i>Latona</i>) <i>columbella</i>			
1065.	<i>Donax</i> (<i>Latona</i>) <i>faba</i>			
1066.	<i>Donax</i> (<i>Tentidonax</i>) <i>veruinus</i>			
1067.	<i>Doriopsilla</i> sp.			
1068.	<i>Dorippe quadridens</i>			
1069.	<i>Dosinia deshaysii</i>			
1070.	<i>Dosinia histrio</i>			
1071.	<i>Dosinia incisa</i>			
1072.	<i>Dosinia scalaris</i>			
1073.	<i>Dosinia sculpta</i>			
1074.	<i>Drepanotermes basidens</i>			
1075.	<i>Drepanotermes diversicolor</i>			
1076.	<i>Drepanotermes rubriceps</i>			
1077.	<i>Dromidiopsis australiensis</i>			Y
1078.	<i>Dromidiopsis</i> sp.			
1079.	<i>Drupella rugosa</i>			
1080.	<i>Drupella</i> sp.			
1081.	<i>Dudua aprobola</i>			
1082.	<i>Duplicaria australis</i>			
1083.	<i>Duplicaria crakei</i>			
1084.	<i>Duplicaria duplicata</i>			
1085.	<i>Ebalia</i> sp.			Y
1086.	<i>Echinaster superbus</i>			Y
1087.	<i>Echinaster varicolor</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1088.	<i>Echinocyamus planissimus</i>			Y
1089.	<i>Echinodiscus auritus</i>			
1090.	<i>Echinogorgia</i> sp.			
1091.	<i>Eglisia tricarinata</i>			
1092.	<i>Elasmus broomensis</i>			Y
1093.	<i>Ellobium (Ellobium) aurisjudae</i>			
1094.	<i>Emarginula</i> sp.			
1095.	<i>Engina curtisiana</i>			
1096.	<i>Enigmonia aenigmatica</i>			Y
1097.	<i>Enochrus (Methydrus) elongatulus</i>			
1098.	<i>Ensiculus cultellus</i>			
1099.	<i>Epicodakia</i> sp.			
1100.	<i>Epitonium (Laeviscalia) tacitum</i>			
1101.	<i>Ergalatax margariticola</i>			
1102.	<i>Ergalatax</i> sp.			
1103.	<i>Eriophora biapicata</i>			
1104.	<i>Erosaria caputserpentis</i>			
1105.	<i>Erosaria helvola</i>			
1106.	<i>Erosaria miliaris</i>			
1107.	<i>Erosaria</i> sp.			
1108.	<i>Erronea caurica</i>			
1109.	<i>Erronea cylindrica</i>			
1110.	<i>Erronea erronea</i>			
1111.	<i>Erronea erronea</i> subsp. <i>errones</i>			Y
1112.	<i>Erronea pyriformis</i>			
1113.	<i>Erronea</i> sp.			
1114.	<i>Erronea subviridis</i>			
1115.	<i>Erronea subviridis</i> subsp. <i>dorsalis</i>			
1116.	<i>Euchelus atratus</i>			
1117.	<i>Euchelus dampierensis</i>			
1118.	<i>Euchelus rubrus</i>			
1119.	<i>Euchelus</i> sp.			
1120.	<i>Eucrassatella pulchra</i>			
1121.	<i>Eucrassatella</i> sp.			
1122.	<i>Eucrate</i> sp.			Y
1123.	<i>Eulima acutissima</i>			Y
1124.	<i>Eunaticina papilla</i>			
1125.	<i>Euplica</i> sp.			
1126.	<i>Euploea corinna</i>			
1127.	<i>Eupoecila australasiae</i>			Y
1128.	<i>Euprotomus vomer</i> subsp. <i>iredalei</i>			
1129.	<i>Euretaster insignis</i>			
1130.	<i>Euryale aspera</i>			
1131.	<i>Euryglossina (Euryglossina) storeyi</i>			Y
1132.	<i>Euthelepus marchinbar</i>			Y
1133.	<i>Euxanthus huoni</i>			Y
1134.	<i>Fibulariella oblonga</i>			
1135.	<i>Fimbria sowerbyi</i>			
1136.	<i>Finella pupoides</i>			
1137.	<i>Finella</i> sp.			
1138.	<i>Fragum fragum</i>			
1139.	<i>Fragum unedo</i>			
1140.	<i>Fultodromia spinifera</i>			Y
1141.	<i>Fulvia (Fulvia) aperta</i>			
1142.	<i>Fusinus (Fusinus) australis</i>			
1143.	<i>Fusinus (Fusinus) colus</i>			
1144.	<i>Fusinus</i> sp.			
1145.	<i>Gabbia kendricki</i>			
1146.	<i>Gafrarium</i> sp.			
1147.	<i>Gafrarium tumidum</i>			
1148.	<i>Gari (Gari) lessoni</i>			
1149.	<i>Gari (Psammobia) amethystus</i>			
1150.	<i>Gari (gari)</i>			Y
1151.	<i>Gazameda gunnii</i>			Y
1152.	<i>Gazameda</i> sp.			
1153.	<i>Gea theridioides</i>			
1154.	<i>Geckonima gecko</i>			
1155.	<i>Glauconome cerea</i>			
1156.	<i>Glauconome rugosa</i>			
1157.	<i>Glauconome</i> sp.			Y

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1158.	<i>Glenoleon annulatus</i>			
1159.	<i>Glossodoris</i> sp.			Y
1160.	<i>Glycera subaenea</i>			Y
1161.	<i>Glycera tridactyla</i>			Y
1162.	<i>Glycinde bonhourei</i>			Y
1163.	<i>Glycymeris (Glycymeris) dampierensis</i>			Y
1164.	<i>Glycymeris (Glycymeris) persimilis</i>			
1165.	<i>Gomphina (Gomphina) undulosa</i>			
1166.	<i>Goniodiscaster acanthodes</i>			
1167.	<i>Goniodiscaster australiae</i>			Y
1168.	<i>Gonocephalum meyricki</i>			
1169.	<i>Gonodactylus chiragra</i>			
1170.	<i>Gonodactylus</i> sp.			
1171.	<i>Graptacme aciculum</i>			
1172.	<i>Gymnanthenea globigera</i>			
1173.	<i>Gyraulus (Gyraulus) essingtonensis</i>			
1174.	<i>Gyrineum lacunatum</i>			
1175.	<i>Haliclona (Gellius) cymaeiformis</i>			
1176.	<i>Haliotis asinina</i>			
1177.	<i>Haliotis roei</i>			
1178.	<i>Haliotis</i> sp.			
1179.	<i>Haliotis squamata</i>			
1180.	<i>Haliotis varia</i>			
1181.	<i>Hapalochlaena</i> sp.			
1182.	<i>Haploscapanes barbarossa</i>			Y
1183.	<i>Harmonia octomaculata</i>			
1184.	<i>Hastula (Hastula) rufopunctata</i>			
1185.	<i>Hathliodes (Hathliodes) costulatus</i>			Y
1186.	<i>Haustellum multiplicatus</i>			Y
1187.	<i>Havelockia versicolor</i>			
1188.	<i>Helicoverpa punctigera</i>			
1189.	<i>Heliothis punctifera</i>			
1190.	<i>Hemidonax arafurensis</i>			
1191.	<i>Hemipodia simplex</i>			Y
1192.	<i>Hemithyone semperi</i>			Y
1193.	<i>Heoclisia acuta</i>			
1194.	<i>Heoclisia fundata</i>			
1195.	<i>Heoclisia</i> sp.			
1196.	<i>Herpetopoma aspersus</i>			
1197.	<i>Heterometra crenulata</i>			
1198.	<i>Heterometra</i> sp.			
1199.	<i>Heteropoda renibulbis</i>			
1200.	<i>Hexaplex stainforthi</i>			
1201.	<i>Hiatella</i> sp.			
1202.	<i>Hippopodina feegeensis</i>			
1203.	<i>Hispellinus multispinosus</i>			Y
1204.	<i>Histocidaris elegans</i>			Y
1205.	<i>Hogna crispipes</i>			
1206.	<i>Holothuria (Lessonothuria) lineata</i>			Y
1207.	<i>Holothuria (Lessonothuria) pardalis</i>			
1208.	<i>Holothuria (Mertensiothuria) hilla</i>			
1209.	<i>Holothuria (Mertensiothuria) leucospilota</i>			
1210.	<i>Holothuria (Stauropora) modesta</i>			
1211.	<i>Holothuria (Thymiosycia) arenicola</i>			
1212.	<i>Holothuria (Thymiosycia) impatiens</i>			
1213.	<i>Holothuria</i> sp.			
1214.	<i>Homalictus (Homalictus) exleyae</i>			
1215.	<i>Homalocantha secunda</i>			
1216.	<i>Hyastenus convexus</i>			
1217.	<i>Hyastenus elatus</i>			
1218.	<i>Hyastenus</i> sp.			
1219.	<i>Hybochelus cancellatus</i>			
1220.	<i>Hydroides albiceps</i>			
1221.	<i>Hydroides minax</i>			
1222.	<i>Hydroides rectus</i>			Y
1223.	<i>Hydroides</i> sp.			
1224.	<i>Hydroides tuberculatus</i>			
1225.	<i>Hyotissa hyotis</i>			
1226.	<i>Hypaulax ampliata</i>			
1227.	<i>Hypaulax tenuistriata</i>			Y

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1228.	<i>Hypselodoris</i> sp.			
1229.	<i>Ianthella flabelliformis</i>			
1230.	<i>Idanthyrus australiensis</i>			
1231.	<i>Ilyoplax strigicarpus</i>			
1232.	<i>Indianastra sarasini</i>			
1233.	<i>Inquisitor dampierius</i>			
1234.	<i>Inquisitor formidabilis</i>			Y
1235.	<i>Inquisitor lassulus</i>			
1236.	<i>Inquisitor</i> sp.			Y
1237.	<i>Iphone muricata</i>			
1238.	<i>Iphone ovata</i>			
1239.	<i>Iravadia (fairbankia)</i>			
1240.	<i>Iravadia (fluviocingula)</i>			
1241.	<i>Iravadia</i> sp.			
1242.	<i>Iridomyrmex anceps</i>			
1243.	<i>Iridomyrmex hartmeyer</i>			
1244.	<i>Iridomyrmex minor</i>			
1245.	<i>Iridomyrmex mjobergi</i>			
1246.	<i>Iridomyrmex roseatus</i>			
1247.	<i>Iridomyrmex rufoniger</i>			
1248.	<i>Iridomyrmex sanguineus</i>			
1249.	<i>Iridomyrmex</i> sp.			
1250.	<i>Irus (Irus) irus</i>			
1251.	<i>Ischnochiton (Ischnochiton) luticolens</i>			Y
1252.	<i>Ischnochiton</i> sp.			
1253.	<i>Isidorella newcombi</i>			
1254.	<i>Isognomon ephippium</i>			
1255.	<i>Isognomon isognomum</i>			
1256.	<i>Isognomon legumen</i>			
1257.	<i>Isognomon nucleus</i>			Y
1258.	<i>Isognomon</i> sp.			
1259.	<i>Isometrus maculatus</i>			Y
1260.	<i>Isopedella castanea</i>			
1261.	<i>Italochrysa insignis</i>			
1262.	<i>Janthina janthina</i>			
1263.	<i>Japonacteon suturalis</i>			
1264.	<i>Jolya elongata</i>			
1265.	<i>Jorunna funebris</i>			
1266.	<i>Laciolina sowerbii</i>			
1267.	<i>Lactiforis tropicalis</i>			
1268.	<i>Laemodonta (Laemodonta) octanfracta</i>			
1269.	<i>Laevichlamys squamosa</i>			
1270.	<i>Laevidentalium lubricatum</i>			
1271.	<i>Laevidentalium marshae</i>			Y
1272.	<i>Lambis (Harpago) chiragra</i>			
1273.	<i>Lambis (Lambis) lambis</i>			
1274.	<i>Lamellaria</i> sp.			Y
1275.	<i>Lamellolucina pilbara</i>			
1276.	<i>Lamprometra palmata</i>			
1277.	<i>Lamprometra</i> sp.			Y
1278.	<i>Lanice bidewa</i>			
1279.	<i>Lanicola lobata</i>			
1280.	<i>Laternula (Laternula) anatina</i>			
1281.	<i>Laternula (Laternula) valenciennesii</i>			Y
1282.	<i>Latirus belcheri</i>			Y
1283.	<i>Latirus paetelianus</i>			
1284.	<i>Latirus polygonus</i>			
1285.	<i>Latirus</i> sp.			
1286.	<i>Latirus walkeri</i>			
1287.	<i>Latrodectus geometricus</i>			
1288.	<i>Latrodectus hasseltii</i>			
1289.	<i>Leiosolenus (Leiosolenus) malaccanus</i>			
1290.	<i>Lepidiota bakkeri</i>			Y
1291.	<i>Lepidonotus adspersus</i>			
1292.	<i>Lepidonotus carinulatus</i>			
1293.	<i>Lepidonotus glaucus</i>			
1294.	<i>Lepidonotus</i> sp.			
1295.	<i>Lepidonotus yorkianus</i>			
1296.	<i>Lepsiella (bedeva)</i>			
1297.	<i>Leptodius</i> sp.			

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1298.	<i>Leptograpsus</i> sp.			Y
1299.	<i>Leptomys</i> (<i>Leptomys</i>) <i>psittacus</i>			
1300.	<i>Leptopentacta</i> <i>grisea</i>			
1301.	<i>Leptopius</i> sp.			
1302.	<i>Leptosynapta</i> <i>latipatina</i>			Y
1303.	<i>Leucosia</i> <i>anatum</i>			Y
1304.	<i>Leucosia</i> <i>ocellata</i>			Y
1305.	<i>Liloa</i> sp.			
1306.	<i>Lima</i> (<i>Lima</i>) <i>nimbifer</i>			
1307.	<i>Lima</i> (<i>Lima</i>) <i>vulgaris</i>			
1308.	<i>Lima</i> sp.			
1309.	<i>Limaria</i> (<i>Limaria</i>) <i>basilana</i>			Y
1310.	<i>Limopsis</i> (<i>Oblimopa</i>) <i>macgillivrayi</i>			Y
1311.	<i>Limopsis</i> (<i>limopsis</i>)			Y
1312.	<i>Linckia</i> <i>gouldingi</i>			
1313.	<i>Lioconcha</i> (<i>Lioconcha</i>) <i>fastigiata</i>			
1314.	<i>Liomera</i> sp.			
1315.	<i>Liotina</i> <i>peronii</i>			
1316.	<i>Lissophiothrix</i> <i>delicata</i>			Y
1317.	<i>Littoraria</i> (<i>Littorinopsis</i>) <i>cingulata</i>			Y
1318.	<i>Littoraria</i> (<i>Littorinopsis</i>) <i>cingulata</i> subsp. <i>cingulata</i>			
1319.	<i>Littoraria</i> (<i>Littorinopsis</i>) <i>filosa</i>			
1320.	<i>Littoraria</i> (<i>Littorinopsis</i>) <i>scabra</i>			
1321.	<i>Littoraria</i> (<i>Palustorina</i>) <i>articulata</i>			
1322.	<i>Littoraria</i> (<i>Palustorina</i>) <i>sulculosa</i>			Y
1323.	<i>Lobophytum</i> <i>crebriplicatum</i>			Y
1324.	<i>Loimia</i> <i>ingens</i>			
1325.	<i>Loimia</i> <i>ochracea</i>			
1326.	<i>Lophiotoma</i> <i>acuta</i>			Y
1327.	<i>Lophioturris</i> <i>indica</i>			
1328.	<i>Lophozozymus</i> <i>pictor</i>			
1329.	<i>Lophozozymus</i> sp.			
1330.	<i>Luidia</i> sp.			
1331.	<i>Lunulicardia</i> <i>retusum</i>			
1332.	<i>Lyctoxylon</i> sp.			Y
1333.	<i>Lyncina</i> <i>lynx</i>			
1334.	<i>Lyncina</i> <i>vitellus</i>			
1335.	<i>Lysidice</i> <i>ninetta</i>			
1336.	<i>Macoma</i> (<i>Macoma</i>) <i>praetexta</i>			Y
1337.	<i>Macoma</i> (<i>Psammacoma</i>) <i>consociata</i>			Y
1338.	<i>Macoma</i> (<i>Salmacoma</i>) <i>vappa</i>			Y
1339.	<i>Macrognathotermes</i> sp.			
1340.	<i>Macrophiathrix</i> <i>belli</i>			
1341.	<i>Macrophiathrix</i> <i>caenosa</i>			
1342.	<i>Macrophiathrix</i> <i>longipeda</i>			
1343.	<i>Macrophiathrix</i> <i>megapoma</i>			
1344.	<i>Macrophiathrix</i> <i>paucispina</i>			
1345.	<i>Macrophthalmus</i> (<i>Macrophthalmus</i>) <i>crassipes</i>			
1346.	<i>Macrophthalmus</i> sp.			
1347.	<i>Macrorhynchia</i> sp.			
1348.	<i>Macroschisma</i> <i>producta</i>			
1349.	<i>Macroschisma</i> <i>tasmaniae</i>			
1350.	<i>Mactra</i> (<i>Electromactra</i>) <i>antecedens</i>			
1351.	<i>Mactra</i> (<i>Mactra</i>) <i>abbreviata</i>			
1352.	<i>Mactra</i> (<i>Mactra</i>) <i>cumingii</i>			
1353.	<i>Mactra</i> (<i>Mactra</i>) <i>grandis</i>			Y
1354.	<i>Mactra</i> (<i>Mactra</i>) <i>incarnata</i>			
1355.	<i>Mactra</i> (<i>Mactra</i>) <i>luzonica</i>			Y
1356.	<i>Mactra</i> (<i>Mactra</i>) <i>olorina</i>			Y
1357.	<i>Mactra</i> (<i>Mactra</i>) <i>sericea</i>			
1358.	<i>Mactra</i> sp.			
1359.	<i>Mallada</i> <i>innotatus</i>			
1360.	<i>Malleus</i> <i>meridianis</i>			
1361.	<i>Malleus</i> <i>regulus</i>			
1362.	<i>Mancinella</i> <i>echinata</i>			
1363.	<i>Mancinella</i> sp.			
1364.	<i>Mancinella</i> <i>tuberosa</i>			Y
1365.	<i>Marcia</i> (<i>Hermitapes</i>) <i>hiantina</i>			
1366.	<i>Mastotermes</i> sp.			
1367.	<i>Matuta</i> <i>planipes</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1368.	<i>Mauritia arabica</i>			
1369.	<i>Mauritia arabica subsp. arabica</i>			
1370.	<i>Mauritia depressa</i>			
1371.	<i>Mauritia eglantina</i>			
1372.	<i>Mauritia histrio</i>			
1373.	<i>Mauritia mauritiana</i>			
1374.	<i>Mauritia sp.</i>			
1375.	<i>Medaeops granulosus</i>			Y
1376.	<i>Medaeus sp.</i>			Y
1377.	<i>Megacardita cf. incrassata</i>			
1378.	<i>Megacardita nodulosa</i>			
1379.	<i>Megacardita sp.</i>			
1380.	<i>Megacephala australasiae</i>			
1381.	<i>Megacephala basalis</i>			
1382.	<i>Megacephala bostockii</i>			Y
1383.	<i>Megacephala hopei</i>			Y
1384.	<i>Megamerus sp.</i>			
1385.	<i>Melampus (Melampus) flexuosus</i>			
1386.	<i>Melampus (Melampus) ovuloides</i>			
1387.	<i>Melampus (Signia) granifera</i>			
1388.	<i>Melanella martinii</i>			
1389.	<i>Melanella sp.</i>			
1390.	<i>Melo amphora</i>			
1391.	<i>Melo sp.</i>			
1392.	<i>Mensamaria intercedens</i>			
1393.	<i>Merimna atrata</i>			
1394.	<i>Merisca piratica</i>			
1395.	<i>Meropesta nicobarica</i>			
1396.	<i>Mesoginella australis</i>			
1397.	<i>Metrodora subulata</i>			
1398.	<i>Micippa sp.</i>			Y
1399.	<i>Micippa thalia</i>			
1400.	<i>Microcerotermes sp.</i>			
1401.	<i>Micropholcus fauroti</i>			Y
1402.	<i>Microprosthemus validum</i>			
1403.	<i>Microtragus senex</i>			
1404.	<i>Mictyris occidentalis</i>			
1405.	<i>Mimachlamys funebris</i>			Y
1406.	<i>Mimachlamys scabricostata</i>			
1407.	<i>Mimachlamys sp.</i>			
1408.	<i>Minthea rugicollis</i>			Y
1409.	<i>Missulena occatoria</i>			
1410.	<i>Mitra (Mitra) mitra</i>			
1411.	<i>Mitra (Mitra) variabilis</i>			
1412.	<i>Mitra (Nebularia) sowerbyi subsp. melvilli</i>			
1413.	<i>Mitrella (Dentimitrella) austrina</i>			
1414.	<i>Mitrella (Graphicomassa) puella</i>			
1415.	<i>Mitrella (Mitrella) essingtonensis</i>			
1416.	<i>Modiolus auriculatus</i>			
1417.	<i>Modiolus modulaides</i>			Y
1418.	<i>Modiolus philippinarum</i>			
1419.	<i>Monetaria annulus</i>			
1420.	<i>Monetaria moneta</i>			
1421.	<i>Monetaria sp.</i>			
1422.	<i>Monilea callifera</i>			
1423.	<i>Monocentrum macros</i>			Y
1424.	<i>Monodonta labio</i>			
1425.	<i>Monomorium destructor</i>			
1426.	<i>Monomorium fieldi</i>			
1427.	<i>Monomorium laeve</i>			
1428.	<i>Montfortula pulchra</i>			
1429.	<i>Mopsea sp.</i>			
1430.	<i>Mopsus mormon</i>			
1431.	<i>Moridilla brockii</i>			
1432.	<i>Morula (Morula) granulata</i>			
1433.	<i>Morula (Morula) marginalba</i>			
1434.	<i>Morula (morula)</i>			
1435.	<i>Morula sp.</i>			
1436.	<i>Murex (Murex) acanthostephes</i>			
1437.	<i>Murex (Murex) brevispina subsp. macgillivrayi</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1438.	<i>Musculus (Modiolarca) impactus</i>			
1439.	<i>Myadora complexa</i>			Y
1440.	<i>Myadora ovata</i>			Y
1441.	<i>Myra mamillaris</i>			Y
1442.	<i>Myra</i> sp.			Y
1443.	<i>Nassaria (Nassaria) acuminata</i>			
1444.	<i>Nassarius (Alectrion) glans</i>			
1445.	<i>Nassarius (Alectrion) glans subsp. glans</i>			
1446.	<i>Nassarius (Alectrion) glans subsp. particeps</i>			
1447.	<i>Nassarius (Alectrion) papillosus</i>			Y
1448.	<i>Nassarius (Hima) pauperus</i>			
1449.	<i>Nassarius (Nassarius) arcularia subsp. arcularia</i>			Y
1450.	<i>Nassarius (Nassarius) coronatus</i>			Y
1451.	<i>Nassarius (Niotha) albescens</i>			
1452.	<i>Nassarius (Niotha) albinus</i>			
1453.	<i>Nassarius (Niotha) conoidalis</i>			Y
1454.	<i>Nassarius (Telasco) reeveanus</i>			Y
1455.	<i>Nassarius (Telasco) sufflatus</i>			
1456.	<i>Nassarius (Zeuxis) algidus</i>			
1457.	<i>Nassarius (Zeuxis) bicallosus</i>			
1458.	<i>Nassarius (Zeuxis) celebensis</i>			
1459.	<i>Nassarius (Zeuxis) clarus</i>			
1460.	<i>Nassarius (Zeuxis) concinnus</i>			Y
1461.	<i>Nassarius (Zeuxis) crematus</i>			
1462.	<i>Nassarius (Zeuxis) dorsatus</i>			
1463.	<i>Nassarius (Zeuxis) fraudator</i>			
1464.	<i>Nassarius (hima)</i>			
1465.	<i>Nassarius</i> sp.			
1466.	<i>Natica fasciata</i>			
1467.	<i>Naticarius collei</i>			
1468.	<i>Neanthes</i> sp.			
1469.	<i>Nembrotha livingstonei</i>			
1470.	<i>Nembrotha purpureolineata</i>			Y
1471.	<i>Neoechinorhynchus (Neoechinorhynchus) topseyi</i>			Y
1472.	<i>Neoscona theisii</i>			
1473.	<i>Neotrapezium sublaevigatum</i>			
1474.	<i>Neotrigonia lamarckii</i>			Y
1475.	<i>Neotrigonia margaritacea</i>			
1476.	<i>Neotrigonia</i> sp.			
1477.	<i>Neotrigonia uniophora</i>			
1478.	<i>Nepanthia belcheri</i>			
1479.	<i>Nepanthia maculata</i>			Y
1480.	<i>Nephila edulis</i>			
1481.	<i>Nereis</i> sp.			
1482.	<i>Nerita (Linnerita) polita</i>			
1483.	<i>Nerita (Melanerita) atramentosa</i>			
1484.	<i>Nerita (Ritena) balteata</i>			
1485.	<i>Nerita (Ritena) undata</i>			
1486.	<i>Nerita (Theliostyla) albicilla</i>			
1487.	<i>Nerita (Theliostyla) chamaeleon</i>			
1488.	<i>Nerita (Theliostyla) squamulata</i>			
1489.	<i>Nerita</i> sp.			
1490.	<i>Notocistela pustulata</i>			
1491.	<i>Notocochlis gualteriana</i>			
1492.	<i>Novactaea michaelsoni</i>			Y
1493.	<i>Nudechinus darnleyensis</i>			
1494.	<i>Nudechinus scotiopremnus</i>			
1495.	<i>Octopus</i> sp.			
1496.	<i>Odontomachus ruficeps</i>			
1497.	<i>Odontomachus</i> sp.			
1498.	<i>Oecobius marathaus</i>			
1499.	<i>Ogyris amaryllis</i>			
1500.	<i>Oligometrides adeonae</i>			
1501.	<i>Olindias</i> sp.			Y
1502.	<i>Oliva australis</i>			
1503.	<i>Oliva brethinghami</i>			
1504.	<i>Oliva caerulea</i>			
1505.	<i>Oliva ornata</i>			
1506.	<i>Oliva</i> sp.			
1507.	<i>Omorgus (Omorgus) crotchi</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1508.	<i>Onchidium</i> sp.			
1509.	<i>Onthophagus carmodensis</i>			Y
1510.	<i>Onthophagus consentaneus</i>			
1511.	<i>Onthophagus ferox</i>			
1512.	<i>Onthophagus laminatus</i>			
1513.	<i>Onthophagus latro</i>			
1514.	<i>Onthophagus murchisoni</i>			
1515.	<i>Onthophagus parvus</i>			
1516.	<i>Onthophagus quadripustulatus</i>			
1517.	<i>Onthophagus</i> sp.			
1518.	<i>Oodes waterhousei</i>			
1519.	<i>Ophiactis fuscolineata</i>			
1520.	<i>Ophiactis luteomaculata</i>			Y
1521.	<i>Ophiactis macrolepidota</i>			
1522.	<i>Ophiactis modesta</i>			
1523.	<i>Ophiactis savignyi</i>			
1524.	<i>Ophiactis</i> sp.			
1525.	<i>Ophiarachnella gorgonia</i>			
1526.	<i>Ophiarachnella infernalis</i>			Y
1527.	<i>Ophiarachnella</i> sp.			
1528.	<i>Ophiarachnella sphenisci</i>			
1529.	<i>Ophiocentrus verticillatus</i>			
1530.	<i>Ophiochasma stellata</i>			
1531.	<i>Ophiocnemis marmorata</i>			
1532.	<i>Ophioconis cincta</i>			Y
1533.	<i>Ophiolepis unicolor</i>			
1534.	<i>Ophiomaza cacaotica</i>			
1535.	<i>Ophionereis dubia</i>			
1536.	<i>Ophionereis semoni</i>			
1537.	<i>Ophioplocus imbricatus</i>			
1538.	<i>Ophiothela danae</i>			
1539.	<i>Ophiothrix (Keystonea) martensi</i>			
1540.	<i>Ophiothrix (Keystonea) martensi subsp. australis</i>			
1541.	<i>Ophiothrix (Ophiothrix) ciliaris</i>			
1542.	<i>Ophiothrix (Ophiothrix) exigua</i>			Y
1543.	<i>Ophiothrix (Ophiothrix) plana</i>			Y
1544.	<i>Ophiothrix (Placophiothrix) lineocerulea</i>			
1545.	<i>Ophiothrix (Placophiothrix) melanosticta</i>			
1546.	<i>Ophiothrix</i> sp.			
1547.	<i>Ophiura (Ophiura) kinbergi</i>			Y
1548.	<i>Ophiura</i> sp.			
1549.	<i>Opisthopsis haddoni subsp. haddoni</i>			
1550.	<i>Opisthopsis</i> sp.			
1551.	<i>Orania</i> sp.			
1552.	<i>Orcus punctulatus</i>			Y
1553.	<i>Palmadusta clandestina</i>			
1554.	<i>Palmadusta clandestina subsp. candida</i>			
1555.	<i>Palmadusta lutea</i>			
1556.	<i>Paphia (Paphia) crassisulca</i>			
1557.	<i>Paphia (Paphia) semirugata</i>			
1558.	<i>Paphia (Paphia) undulata</i>			
1559.	<i>Paphia</i> sp.			
1560.	<i>Paphies (Amesodesma) elongata</i>			
1561.	<i>Paphies (Atactodea) heterodon</i>			
1562.	<i>Paphies (Atactodea) striata</i>			
1563.	<i>Papilio (Priniceps) fuscus subsp. canopus</i>			Y
1564.	<i>Papyrius</i> sp.			
1565.	<i>Paracaudina chilensis</i>			Y
1566.	<i>Paradyte crinoidicola</i>			
1567.	<i>Paraleonnates bolus</i>			
1568.	<i>Paralepidonotus ampulliferus</i>			
1569.	<i>Paramoera</i> sp.			
1570.	<i>Paratrechina longicornis</i>			
1571.	<i>Parroa howittii</i>			
1572.	<i>Patella (scutellastra)</i>			
1573.	<i>Patelloida cryptalirata</i>			
1574.	<i>Patelloida mimula</i>			
1575.	<i>Patelloida saccharina subsp. stella</i>			
1576.	<i>Patro australis</i>			
1577.	<i>Peasiella lutulenta</i>			

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1578.	<i>Pectinophora gossypiella</i>			
1579.	<i>Penion mandarinus</i>			
1580.	<i>Periglypta resticulata</i>			
1581.	<i>Perinereis aibuhitensis</i>			
1582.	<i>Perinereis helleri</i>			
1583.	<i>Perinereis nigropunctata</i>			
1584.	<i>Perinereis singaporiensis</i>			
1585.	<i>Peristernia reincarnata</i>			
1586.	<i>Peristernia</i> sp.			Y
1587.	<i>Peronella lesueurii</i>			
1588.	<i>Peronella orbicularis</i>			
1589.	<i>Peronella tuberculata</i>			
1590.	<i>Petraliella</i> sp.			
1591.	<i>Petricola (Petricola) divergens</i>			
1592.	<i>Phalangipus australiensis</i>			Y
1593.	<i>Phalium bandatum</i> subsp. <i>bandatum</i>			Y
1594.	<i>Phanerophthalmus</i> sp.			Y
1595.	<i>Phascolosoma (Phascolosoma) nigrescens</i>			
1596.	<i>Phasianotrochus eximius</i>			
1597.	<i>Phasianotrochus irisodontes</i>			
1598.	<i>Phenacovolva rosea</i>			Y
1599.	<i>Pheropsophus verticalis</i>			
1600.	<i>Philine angasi</i>			
1601.	<i>Philine</i> cf. <i>aperta</i>			Y
1602.	<i>Philocheras brucei</i>			Y
1603.	<i>Philyra</i> sp.			Y
1604.	<i>Phos (Phos) sculptilis</i>			
1605.	<i>Phos (Phos) senticosus</i>			
1606.	<i>Phyllacanthus longispinus</i>			
1607.	<i>Phyllidiella pustulosa</i>			
1608.	<i>Phyllophorella</i> sp.			Y
1609.	<i>Phyllophorus (Urodemella) proteus</i>			Y
1610.	<i>Phyllospongia</i> sp.			
1611.	<i>Pilodius</i> sp.			
1612.	<i>Pilosabia trigona</i>			
1613.	<i>Pilumnus pulcher</i>			Y
1614.	<i>Pilumnus semilanus</i>			Y
1615.	<i>Pilumnus</i> sp.			
1616.	<i>Pilumnus spinicarpus</i>			Y
1617.	<i>Pilumnus vespertilio</i>			
1618.	<i>Pimelopus nothus</i>			
1619.	<i>Pinctada albina</i>			
1620.	<i>Pinctada imbricata</i>			
1621.	<i>Pinctada maculata</i>			
1622.	<i>Pinctada maxima</i>			
1623.	<i>Pinctada reeveana</i>			
1624.	<i>Pinna bicolor</i>			
1625.	<i>Pinna deltodes</i>			Y
1626.	<i>Pinna muricata</i>			
1627.	<i>Pinnotheres latipes</i>			Y
1628.	<i>Pione</i> sp.			Y
1629.	<i>Pisania (Pisania) ignea</i>			
1630.	<i>Pisidia serratifrons</i>			
1631.	<i>Pisidia</i> sp.			Y
1632.	<i>Pistris serricostata</i>			
1633.	<i>Pitar (Pitarina) bullatus</i>			Y
1634.	<i>Pitar (Pitarina) noguchii</i>			Y
1635.	<i>Pitar (Pitarina) pellucidus</i>			Y
1636.	<i>Placamen calophyllum</i>			
1637.	<i>Placamen sidneyense</i>			Y
1638.	<i>Placamen tiara</i>			
1639.	<i>Placuna placenta</i>			
1640.	<i>Plagiocardium (Maoricardium) setosum</i>			Y
1641.	<i>Planaxis</i> sp.			
1642.	<i>Planaxis sulcatus</i>			
1643.	<i>Platydoris radiata</i>			
1644.	<i>Platydoris scabra</i>			
1645.	<i>Platynereis polyscalma</i>			
1646.	<i>Plesiochrysa ramburi</i>			
1647.	<i>Plesiocolochirus australis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1648.	<i>Plesiocolochirus dispar</i>			Y
1649.	<i>Plesiotrochus crinitus</i>			
1650.	<i>Plesiotrochus</i> sp.			
1651.	<i>Plocamopherus</i> sp.			
1652.	<i>Polinices (Conuber) conicus</i>			
1653.	<i>Polinices (Mammilla) simiae</i>			
1654.	<i>Polinices (Neverita) peselephanti</i>			
1655.	<i>Polinices (Polinices) flemingianus</i>			
1656.	<i>Polinices (Polinices) mammilla</i>			
1657.	<i>Polinices (mammilla)</i>			
1658.	<i>Polinices</i> sp.			Y
1659.	<i>Polia erythrostomus</i>			
1660.	<i>Polia fumosus</i>			
1661.	<i>Poltys</i> sp.			
1662.	<i>Polycirrus</i> sp.			
1663.	<i>Polycitor circes</i>			
1664.	<i>Pomatoleios kraussii</i>			
1665.	<i>Pomatostegus stellatus</i>			
1666.	<i>Portunus (Monomia) rubromarginatus</i>			
1667.	<i>Portunus (Portunus) pelagicus</i>			
1668.	<i>Prionocidaris bispinosa</i>			
1669.	<i>Prionovolva cavanaghi</i>			Y
1670.	<i>Prismatopus longispinus</i>			Y
1671.	<i>Processa sulcata</i>			Y
1672.	<i>Prolasius mjoebergella</i>			Y
1673.	<i>Protankyra verrilli</i>			Y
1674.	<i>Prothalotia strigata</i>			
1675.	<i>Protoreaster nodulosus</i>			
1676.	<i>Protula bispiralis</i>			
1677.	<i>Psammotreta (Psammotreta) solenella</i>			Y
1678.	<i>Pseudococcus symoni</i>			
1679.	<i>Pseudocolochirus violaceus</i>			
1680.	<i>Pseudonereis anomala</i>			
1681.	<i>Pseudoreaster obtusangulus</i>			
1682.	<i>Pseudoryctes validus</i>			Y
1683.	<i>Pseudoryctes wilsoni</i>			Y
1684.	<i>Pseudovertagus (Pseudovertagus) aluco</i>			
1685.	<i>Psilogramma</i> sp.			Y
1686.	<i>Pteria</i> sp.			
1687.	<i>Pterochelus akation</i>			
1688.	<i>Pterohelaeus gilesi</i>			Y
1689.	<i>Pterygia undulosa</i>			Y
1690.	<i>Pterynotus (Pterynotus) bednalli</i>			
1691.	<i>Pterynotus</i> sp.			
1692.	<i>Ptychobela nodulosa</i>			
1693.	<i>Ptychobela</i> sp.			Y
1694.	<i>Ptychobela suturalis</i>			
1695.	<i>Pupa</i> sp.			
1696.	<i>Pupa sulcata</i>			
1697.	<i>Pupoides contrarius</i>			
1698.	<i>Pupoides eremicolus</i>			Y
1699.	<i>Pupoides pacificus</i>			
1700.	<i>Purpuradusta gracilis</i>			
1701.	<i>Purpuradusta hammondae</i>			
1702.	<i>Pustulostrea tuberculata</i>			Y
1703.	<i>Pyramidella teres</i>			
1704.	<i>Pyrene flava</i>			
1705.	<i>Pyrene obscura</i>			
1706.	<i>Pyrene punctata</i>			
1707.	<i>Pyrene scripta</i>			
1708.	<i>Pyrgulina</i> sp.			
1709.	<i>Quistrachia leptogramma</i>			
1710.	<i>Rhagada gatta</i>			
1711.	<i>Rhagada reinga</i>			Y
1712.	<i>Rhagada</i> sp.			
1713.	<i>Rhinoclavis (Rhinoclavis) articulata</i>			
1714.	<i>Rhinoclavis (Rhinoclavis) aspera</i>			Y
1715.	<i>Rhinoclavis (Rhinoclavis) bituberculata</i>			
1716.	<i>Rhinoclavis (Rhinoclavis) fasciata</i>			
1717.	<i>Rhinoclavis (Rhinoclavis) sinensis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1718.	<i>Rhinoclavis</i> sp.			
1719.	<i>Rhynobrissus hemiasteroides</i>			Y
1720.	<i>Rhyparida didyma</i>			
1721.	<i>Rhyparida flavolatera</i>			Y
1722.	<i>Rhyparida ruficollis</i>			Y
1723.	<i>Rhytidoponera taurus</i>			
1724.	<i>Rhytiphora (platyomopsis)</i>			
1725.	<i>Rimella cancellata</i>			
1726.	<i>Rissoina (Phosinella) media</i>			
1727.	<i>Rissoina (Phosinella) paenula</i>			
1728.	<i>Rissoina (Rissoina) crassa</i>			
1729.	<i>Rissoina (Rissoina) tenuistriata</i>			
1730.	<i>Rostanga</i> sp.			
1731.	<i>Ruditapes bruguieri</i>			
1732.	<i>Rynkatorpa bisperforata</i>			
1733.	<i>Salinator fragilis</i>			
1734.	<i>Salinator</i> sp.			
1735.	<i>Salmacis sphaeroides</i>			
1736.	<i>Scaraphites laticollis</i>			
1737.	<i>Scaraphites laticollis</i> subsp. <i>gigas</i>			
1738.	<i>Schedorhinotermes actuosus</i>			
1739.	<i>Scolopendra morsitans</i>			
1740.	<i>Scopimera kochi</i>			Y
1741.	<i>Scutus (Scutus) antipodes</i>			
1742.	<i>Scutus (Scutus) olunguis</i>			
1743.	<i>Scutus (Scutus) unguis</i>			
1744.	<i>Semele australis</i>			Y
1745.	<i>Semele casta</i>			
1746.	<i>Semele jukesii</i>			
1747.	<i>Semele lamellosa</i>			
1748.	<i>Semele monilis</i>			
1749.	<i>Semipallium dringi</i>			Y
1750.	<i>Semipallium</i> sp.			Y
1751.	<i>Semiricinula</i> sp.			
1752.	<i>Sepia elliptica</i>			
1753.	<i>Sepia papuensis</i>			
1754.	<i>Sepia smithi</i>			
1755.	<i>Septifer bilocularis</i>			
1756.	<i>Sericesthis nigrolineata</i>			
1757.	<i>Serpula jukesii</i>			
1758.	<i>Serpula vasifera</i>			Y
1759.	<i>Serpulorbis</i> sp.			
1760.	<i>Serrata</i> sp.			
1761.	<i>Serratina capsoides</i>			
1762.	<i>Siliqua albida</i>			
1763.	<i>Siliquaria (Siliquaria) cumingii</i>			
1764.	<i>Siliquaria (Siliquaria) ponderosus</i>			
1765.	<i>Sinularia leptoclados</i>			Y
1766.	<i>Sinum haliotoideum</i>			
1767.	<i>Sinum zonale</i>			
1768.	<i>Siphonaria atra</i>			
1769.	<i>Siphonaria diemenensis</i>			
1770.	<i>Siphonaria laciniosa</i>			
1771.	<i>Siphonaria</i> sp.			
1772.	<i>Siphonaria tasmanica</i>			
1773.	<i>Solecuretus sulcatus</i>			Y
1774.	<i>Solen (Solen) fonesii</i>			
1775.	<i>Solen</i> sp.			
1776.	<i>Soletellina (Soletellina) biradiata</i>			
1777.	<i>Soletellina (Soletellina) connectens</i>			
1778.	<i>Sphallomorpha punctata</i>			Y
1779.	<i>Spirobranchus polytrema</i>			Y
1780.	<i>Spondylus linguafelis</i>			Y
1781.	<i>Spondylus</i> sp.			
1782.	<i>Spondylus spectrum</i>			
1783.	<i>Spondylus victoriae</i>			
1784.	<i>Stavelia subdistorta</i>			
1785.	<i>Steginoporella</i> sp.			
1786.	<i>Stellaster equestris</i>			
1787.	<i>Stellaster princeps</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1788.	<i>Stellaster</i> sp.			
1789.	<i>Stenopylis coarctata</i>			
1790.	<i>Stichopus naso</i>			
1791.	<i>Stolus buccalis</i>			
1792.	<i>Stolus minutus</i>			
1793.	<i>Stomatella impertusa</i>			
1794.	<i>Stomatia phymotis</i>			
1795.	<i>Stomatia sulcata</i>			
1796.	<i>Strombus (Canarium) mutabilis</i> subsp. <i>mutabilis</i>			
1797.	<i>Strombus (Canarium) urceus</i>			
1798.	<i>Strombus (Canarium) urceus</i> subsp. <i>orrae</i>			
1799.	<i>Strombus (Doxander) campbelli</i>			
1800.	<i>Strombus</i> sp.			
1801.	<i>Succinea (succinea)</i>			
1802.	<i>Suhpalacsa subtrahens</i>			
1803.	<i>Sunetta sunettina</i>			
1804.	<i>Sunetta vaginalis</i>			
1805.	<i>Synalpheus comatularum</i>			
1806.	<i>Synalpheus</i> sp.			
1807.	<i>Synalpheus stimpsonii</i>			
1808.	<i>Synaptula recta</i>			
1809.	<i>Syrinx aruanus</i>			
1810.	<i>Taeniacanthus</i> sp.			Y
1811.	<i>Talorchestia brucei</i>			
1812.	<i>Tamaria tumescens</i>			
1813.	<i>Tanea euzona</i>			
1814.	<i>Tanea sagittata</i>			
1815.	<i>Tapes (Tapes) deshayesii</i>			Y
1816.	<i>Tapes (Tapes) dorsatus</i>			
1817.	<i>Tapes</i> sp.			
1818.	<i>Tawera laticostata</i>			
1819.	<i>Tawera subnodulosa</i>			
1820.	<i>Tectarius</i> sp.			
1821.	<i>Tectus (Tectus) architectonicus</i>			
1822.	<i>Tectus (Tectus) fenestratus</i>			
1823.	<i>Tectus (Tectus) pyramis</i>			
1824.	<i>Tegillarca granosa</i>			
1825.	<i>Telescopium telescopium</i>			
1826.	<i>Tellina</i> sp.			
1827.	<i>Tellinella staurella</i>			
1828.	<i>Tellinella virgata</i>			
1829.	<i>Temnopleurus alexandri</i>			
1830.	<i>Temnotrema elegans</i>			
1831.	<i>Temnotrema</i> sp.			
1832.	<i>Terebella tantabiddycreekensis</i>			
1833.	<i>Terebellides woolawa</i>			Y
1834.	<i>Terebellum (Terebellum) terebellum</i>			
1835.	<i>Terebra areolata</i>			Y
1836.	<i>Terebra cingulifera</i>			Y
1837.	<i>Terebra exiguides</i>			Y
1838.	<i>Terebra laevigata</i>			Y
1839.	<i>Terebra</i> sp.			
1840.	<i>Terebra succincta</i>			
1841.	<i>Terebra textilis</i>			
1842.	<i>Terebralia palustris</i>			
1843.	<i>Terebralia semistriata</i>			
1844.	<i>Terebralia sulcata</i>			
1845.	<i>Teredothyra matocotana</i>			
1846.	<i>Tetralia glaberrima</i>			Y
1847.	<i>Tetralia</i> sp.			
1848.	<i>Thais gradata</i>			
1849.	<i>Thais javanica</i>			
1850.	<i>Thais</i> sp.			
1851.	<i>Thalamita danae</i>			
1852.	<i>Thalamita sima</i>			
1853.	<i>Theclinesches miskini</i>			
1854.	<i>Thelepus extensus</i>			
1855.	<i>Thelepus robustus</i>			
1856.	<i>Thereuopoda lesueurii</i>			
1857.	<i>Thomisus spectabilis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1858.	<i>Thormora jukesii</i>			
1859.	<i>Thrips florum</i>			Y
1860.	<i>Thrips hawaiiensis</i>			
1861.	<i>Thyasira</i> sp.			Y
1862.	<i>Thyone micra</i>			Y
1863.	<i>Tiarinia cornigera</i>			Y
1864.	<i>Tonna allium</i>			Y
1865.	<i>Tonna cumingii</i>			
1866.	<i>Tonna</i> sp.			
1867.	<i>Tonna variegata</i>			
1868.	<i>Toxometra nomina</i>			Y
1869.	<i>Treptopale</i> sp.			
1870.	<i>Tridacna</i> (<i>Chametrachea</i>) <i>maxima</i>			
1871.	<i>Tridacna</i> (<i>Chametrachea</i>) <i>squamosa</i>			
1872.	<i>Trigonostoma amasia</i>			Y
1873.	<i>Trigonostoma bicolor</i>			
1874.	<i>Trigonostoma</i> sp.			
1875.	<i>Trigonothops</i> (<i>Phloeocarabus</i>) <i>semivittatus</i>			Y
1876.	<i>Trikentron</i> sp.			Y
1877.	<i>Tripterotyphis lowei</i> subsp. <i>colemani</i>			
1878.	<i>Trisidos semitorta</i>			
1879.	<i>Trisidos tortuosa</i>			
1880.	<i>Tristaria grouvellei</i>			
1881.	<i>Trivia</i> (<i>Trivirostra</i>) <i>oryza</i>			
1882.	<i>Trochus hanleyanus</i>			
1883.	<i>Trochus histrio</i>			
1884.	<i>Trochus</i> sp.			Y
1885.	<i>Tudivasum inermis</i>			
1886.	<i>Tudivasum spinosa</i>			Y
1887.	<i>Turbo</i> (<i>Lunella</i>) <i>cinereus</i>			
1888.	<i>Turbo</i> (<i>Marmarostoma</i>) <i>brunneus</i>			
1889.	<i>Turbo</i> (<i>Marmarostoma</i>) <i>haynesi</i>			
1890.	<i>Turbo</i> (<i>Marmarostoma</i>) <i>squamosus</i>			
1891.	<i>Turbo</i> (<i>Turbo</i>) <i>petholatus</i>			
1892.	<i>Turbo</i> sp.			
1893.	<i>Turricula nelliae</i> subsp. <i>granobalteus</i>			
1894.	<i>Turris</i> sp.			Y
1895.	<i>Turritella terebra</i>			
1896.	<i>Urodacus granifrons</i>			Y
1897.	<i>Urodacus hoplurus</i>			
1898.	<i>Urodacus koolanensis</i>			
1899.	<i>Urodacus yaschenkoi</i>			
1900.	<i>Vanikoro cancellata</i>			
1901.	<i>Vanikoro</i> sp.			
1902.	<i>Venerupis</i> sp.			
1903.	<i>Vepricardium multispinosum</i>			Y
1904.	<i>Vexillum</i> (<i>Vexillum</i>) <i>plicarium</i>			
1905.	<i>Vexillum</i> (<i>Vexillum</i>) <i>vulpeculum</i>			
1906.	<i>Vexillum</i> (<i>vexillum</i>)			Y
1907.	<i>Vexillum</i> sp.			
1908.	<i>Volutaconus bednalli</i>			
1909.	<i>Volvarina agata</i>			Y
1910.	<i>Volvarina philippinaria</i>			Y
1911.	<i>Volvarina rex</i>			Y
1912.	<i>Vulsella vulsella</i>			
1913.	<i>Xylobosca gemina</i>			
1914.	<i>Xylodeleis obsipa</i>			
1915.	<i>Xylopsocus gibbicollis</i>			
1916.	<i>Zafra</i> sp.			
1917.	<i>Zebina</i> (<i>Zebina</i>) <i>subfirmata</i>			
1918.	<i>Zoila decipiens</i>			
1919.	<i>Zoila thersites</i> subsp. <i>thersites</i>			Y
1920.	<i>Zygometra comata</i>			Y
1921.	<i>Zygometra microdiscus</i>			

Mammal

1922.	24039	<i>Canis lupus</i> subsp. <i>dingo</i> (<i>Dingo</i>)	Y	
1923.	24181	<i>Chaerephon jobensis</i> (<i>Northern Freetail-bat</i>)		
1924.	24186	<i>Chalinolobus gouldii</i> (<i>Gould's Wattled Bat</i>)		
1925.	24188	<i>Chalinolobus nigrogriseus</i> (<i>Hoary Wattled Bat</i>)		
1926.	24084	<i>Dugong dugon</i> (<i>Dugong</i>)		

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				S	
1927.	24041	<i>Felis catus</i> (Cat)	Y		
1928.	24215	<i>Hydromys chrysogaster</i> (Water-rat)		P4	
1929.	24129	<i>Macropus agilis</i> (Agile Wallaby)			
1930.	24168	<i>Macrotis lagotis</i> (Bilby, Dalgyte)		T	
1931.	24051	<i>Megaptera novaeangliae</i> (Humpback Whale)		T	
1932.	24222	<i>Mesembriomys macrurus</i> (Golden-backed Tree-rat)		T	
1933.	24190	<i>Miniopterus schreibersii</i> subsp. <i>oriana</i> (Common Bentwing-bat)			
1934.	24182	<i>Mormopterus beccarii</i> (Beccari's Freetail-bat)			
1935.	24183	<i>Mormopterus loriae</i> (Little Northern Freetail-bat)			
1936.	24223	<i>Mus musculus</i> (House Mouse)	Y		
1937.	24192	<i>Nyctophilus amhemensis</i> (Arnhem Land Long-eared Bat)			
1938.	24194	<i>Nyctophilus geoffroyi</i> (Lesser Long-eared Bat)			
1939.	24138	<i>Onychogalea unguifera</i> (Northern Nailtail Wallaby, Karrabul)			
1940.		<i>Orcaella brevirostris</i>			
1941.	24060	<i>Orcaella heinsohni</i> (Australian Snubfin Dolphin)		P4	
1942.	24073	<i>Physeter macrocephalus</i> (Sperm Whale)		P4	
1943.		<i>Planigale</i> sp.			
1944.	24234	<i>Pseudomys delicatulus</i> (Delicate Mouse)			
1945.	24063	<i>Pseudorca crassidens</i> (False Killer Whale)			
1946.	24172	<i>Pteropus alecto</i> (Black Flying-fox)			
1947.	24173	<i>Pteropus scapulatus</i> (Little Red Flying-fox)			
1948.	24245	<i>Rattus rattus</i> (Black Rat)	Y		
1949.	24174	<i>Saccolaimus flaviventris</i> (Yellow-bellied Sheathtail-bat)			
1950.	24200	<i>Scotorepens greyii</i> (Little Broad-nosed Bat)			
1951.	24201	<i>Scotorepens sanborni</i> (Northern Broad-nosed Bat)			
1952.	24064	<i>Sousa chinensis</i> (Indo-Pacific Humpback Dolphin)		P4	
1953.	24157	<i>Trichosurus vulpecula</i> subsp. <i>arnhemensis</i> (Northern Brushtail Possum)			
1954.	30954	<i>Tursiops aduncus</i> (Indo-Pacific Bottlenose Dolphin)			
1955.	24069	<i>Tursiops truncatus</i> (Bottlenose Dolphin)			
1956.	24159	<i>Wyulda squamicaudata</i> (Scaly-tailed Possum)		P3	
Reptile					
1957.	25350	<i>Aipysurus apraefrontalis</i> (Short-nosed Seasnake)		T	
1958.	25351	<i>Aipysurus duboisii</i> (Dubois' Seasnake)			
1959.	25355	<i>Aipysurus laevis</i> (Olive Seasnake)			
1960.	42369	<i>Aipysurus mosaicus</i> (Mosaic Seasnake)			
1961.	25357	<i>Aipysurus tenuis</i> (Brown-lined Seasnake)			
1962.	42372	<i>Amalosia rhombifer</i> (Zigzag velvet gecko)			
1963.	30831	<i>Amphibolurus gilberti</i> (Ta-ta, Gilbert's Dragon)			
1964.		<i>Amphibolurus</i> sp.			
1965.	25317	<i>Antaresia childreni</i> (Children's Python)			
1966.	25241	<i>Antaresia stimsoni</i> subsp. <i>stimsoni</i> (Stimson's Python)			
1967.	25320	<i>Aspidites melanocephalus</i> (Black-headed Python)			
1968.		<i>Astrotia stokesii</i>			
1969.	25334	<i>Brachyuropsis roperi</i> (Northern Shovel-nosed Snake)			
1970.	25012	<i>Carlia amax</i> (Two-spined Rainbow Skink)			
1971.	25015	<i>Carlia munda</i> (Shaded-litter Rainbow Skink)			
1972.	25016	<i>Carlia rufilatus</i> (Red-sided Rainbow Skink)			
1973.	25017	<i>Carlia triacantha</i> (Desert Rainbow Skink)			
1974.	42382	<i>Chelodina burrungandjii</i> (Northern Long-necked Turtle)			
1975.	25336	<i>Chelonia mydas</i> (Green Turtle)		T	
1976.	24863	<i>Chlamydosaurus kingii</i> (Frill-necked Lizard)			
1977.	42921	<i>Crenadactylus ocellatus</i> subsp. <i>rostralis</i> (Clawless Gecko)			
1978.	30886	<i>Cryptoblepharus australis</i>			
1979.	42383	<i>Cryptoblepharus metallicus</i>			
1980.	25020	<i>Cryptoblepharus plagiocephalus</i>			
1981.	30890	<i>Cryptoblepharus ruber</i>			
1982.	30891	<i>Cryptoblepharus tyttos</i>			
1983.	24876	<i>Ctenophorus isolepis</i> subsp. <i>isolepis</i> (Crested Dragon, Military Dragon)			
1984.	24882	<i>Ctenophorus nuchalis</i> (Central Netted Dragon)			
1985.	24886	<i>Ctenophorus reticulatus</i> (Western Netted Dragon)			
1986.	25024	<i>Ctenotus angusticeps</i> (Airlie Island Ctenotus, Airlie Island Skink)		T	
1987.	25045	<i>Ctenotus helenae</i>			
1988.	25048	<i>Ctenotus inornatus</i>			
1989.	25061	<i>Ctenotus pantherinus</i> subsp. <i>calx</i> (Leopard Ctenotus)			
1990.	25070	<i>Ctenotus robustus</i>			
1991.	25073	<i>Ctenotus saxatilis</i> (Rock Ctenotus)			
1992.	25077	<i>Ctenotus serventyi</i>			
1993.		<i>Ctenotus</i> sp.			
1994.		<i>Delma</i> sp.			

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1995.	25004	<i>Delma tincta</i>			
1996.	42390	<i>Demansia angusticeps</i>			
1997.		<i>Demansia reticulata</i>			
1998.	24926	<i>Diplodactylus conspicillatus</i> (Fat-tailed Gecko)			
1999.		<i>Diplodactylus</i> sp.			
2000.	24896	<i>Diporiphora pindan</i>			
2001.		<i>Diporiphora</i> sp.			
2002.	25358	<i>Disteira kingii</i>			
2003.	25362	<i>Ephalophis greyae</i>			
2004.		<i>Ephalophis greyi</i>			
2005.	42404	<i>Eremiascincus isolepis</i>			
2006.	25327	<i>Fordonia leucobalia</i> (White-bellied Mangrove Snake)			
2007.	25301	<i>Furina ornata</i> (Moon Snake)			
2008.	24952	<i>Gehyra australis</i>			
2009.	24956	<i>Gehyra pilbara</i>			
2010.	24958	<i>Gehyra punctata</i>			
2011.	24959	<i>Gehyra variegata</i>			
2012.	25232	<i>Hemidactylus frenatus</i> (Asian House Gecko)	Y		
2013.	24961	<i>Heteronotia binoei</i> (Bynoe's Gecko)			
2014.	25363	<i>Hydrelaps darwiniensis</i>			
2015.	25366	<i>Hydrophis elegans</i> (Elegant Seasnake, Bar-bellied Seasnake)			
2016.	44656	<i>Hydrophis major</i>			
2017.	43369	<i>Hydrophis peronii</i> (Spiny-headed Seasnake)			
2018.	43385	<i>Hydrophis stokesii</i> (Stoke's Seasnake, Sea Snake)			
2019.	25121	<i>Lerista apoda</i>			
2020.	25125	<i>Lerista bipes</i>			
2021.	25138	<i>Lerista griffini</i>			
2022.	25146	<i>Lerista labialis</i>			
2023.	25170	<i>Lerista separanda</i> (Dampierland Plain Slider, skink)		P2	
2024.	25005	<i>Lialis burtonis</i>			
2025.	25321	<i>Liasis mackloti</i> subsp. <i>fuscus</i> (Water Python)			
2026.	30933	<i>Lucasium stenodactylum</i>			
2027.	25184	<i>Menetia greyii</i>			
2028.	25185	<i>Menetia maini</i>			
2029.	24904	<i>Moloch horridus</i> (Thorny Devil)			
2030.	25194	<i>Morethia ruficauda</i> subsp. <i>ruficauda</i>			
2031.	25195	<i>Morethia storri</i>			
2032.		<i>Myron resetari</i>			
2033.	25344	<i>Natator depressus</i> (Flatback Turtle)		T	
2034.		<i>Notechis ater</i>			
2035.	24906	<i>Pogona microlepidota</i> (Kimberley Bearded Dragon)			
2036.	25510	<i>Pogona minor</i> (Dwarf Bearded Dragon)			
2037.	24908	<i>Pogona minor</i> subsp. <i>mitchelli</i> (Dwarf Bearded Dragon)			
2038.		<i>Pogona</i> sp.			
2039.	25200	<i>Proablepharus tenuis</i>			
2040.	25261	<i>Pseudechis australis</i> (Mulga Snake)			
2041.	42416	<i>Pseudonaja mengdeni</i> (Western Brown Snake)			
2042.	25263	<i>Pseudonaja modesta</i> (Ringed Brown Snake)			
2043.	25264	<i>Pseudonaja nuchalis</i> (Gwardar, Northern Brown Snake)			
2044.	25009	<i>Pygopus nigriceps</i>			
2045.		<i>Ramphotyphlops</i> sp.			
2046.	24982	<i>Rhynchoedura ornata</i> (Western Beaked Gecko)			
2047.	25266	<i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
2048.	25268	<i>Simoselaps minimus</i> (Dampierland Burrowing Snake)		P2	
2049.		<i>Simoselaps semifasciatus</i>			
2050.	25517	<i>Strophurus ciliaris</i>			
2051.	24924	<i>Strophurus ciliaris</i> subsp. <i>aberrans</i>			
2052.	25307	<i>Suta punctata</i> (Spotted Snake)			
2053.	25202	<i>Tiliqua multifasciata</i> (Central Blue-tongue)			
2054.	25520	<i>Tiliqua scincoides</i> (Eastern Blue-tongue)			
2055.	25208	<i>Tiliqua scincoides</i> subsp. <i>intermedia</i>			
2056.	25209	<i>Varanus acanthurus</i> (Spiny-tailed Monitor)			
2057.	25218	<i>Varanus gouldii</i> (Bungarra or Sand Monitor)			
2058.	25222	<i>Varanus panoptes</i> subsp. <i>panoptes</i>			
2059.	25526	<i>Varanus tristis</i> (Racehorse Monitor)			
2060.	25227	<i>Varanus tristis</i> subsp. <i>tristis</i> (Racehorse Monitor)			

Conservation Codes

T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
S - Other specially protected fauna				
1 - Priority 1				
2 - Priority 2				
3 - Priority 3				
4 - Priority 4				
5 - Priority 5				

¹ For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

Appendix E – Site walkover data

Site walkover results

Site photographs



Photo A: Old materials area with dumped household goods, including ACM (see Figure 3, Appendix A)



Photo B: Dumped household goods in old materials area (see Figure 3, Appendix A)



Photo C: Fly tipping observed near eastern boundary within the centre of Site 2 (see Figure 3, Appendix A)



Photo D: Shotgun cartridges observed near eastern boundary within the centre of Site 2 (see Figure 3, Appendix A)



Photo E: Dumped rubbish observed near eastern boundary within the centre of Site 2 (see Figure 3, Appendix A)



Photo F: Dumped rubbish observed near eastern boundary within the centre of Site 2 (see Figure 3, Appendix A)



Photo G: Dumped soil/material used in road maintenance.



Photo H: Signed underground service spanning entire north-south length along the centre of Site 2.



Photo I: Old barb wire fence line within Site 1 spanning along a skewed direction to the proposed site boundary (see Figure 3, Appendix A)

Appendix F – Vegetation and flora data

Flora species list

Flora likelihood of occurrence assessment

Flora quadrat data

Flora species list

Family	Taxon	Status	Site 1	Site 2
Aizoaceae	<i>Trianthema pilosum</i>		x	x
Amaranthaceae	<i>Ptilotus polystachyus</i>			x
Apocynaceae	<i>Carissa lanceolata</i>		x	
Apocynaceae	<i>Cynanchum floribundum</i>		x	x
Apocynaceae	<i>Marsdenia angustata</i>		x	x
Apocynaceae	<i>Wrightia saligna</i>			x
Asteraceae	<i>Pterocaulon ?intermedium</i>	P3	x	x
Bignoniaceae	<i>Dolichandrone heterophylla</i>		x	x
Boraginaceae	<i>Ehretia saligna</i>		x	x
Boraginaceae	<i>Heliotropium foliatum</i>		x	
Boraginaceae	<i>Heliotropium leptaleum</i>		x	
Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>		x	x
Capparaceae	<i>Capparis lasiantha</i>			x
Celastraceae	<i>Denhamia cunninghamii</i>		x	x
Celastraceae	<i>Stackhousia intermedia</i>			x
Combretaceae	<i>Terminalia canescens</i>			x
Combretaceae	<i>Terminalia kumpaja</i>	P3		x
Commelinaceae	<i>Murdannia graminea</i>		x	x
Convolvulaceae	<i>Evolvulus alsinoides</i>		x	x
Convolvulaceae	<i>Jacquemontia</i> sp. Broome (A.A. Mitchell 3028)	P1		x
Convolvulaceae	<i>Polymeria ambigua</i>			x
Cucurbitaceae	<i>Cucumis melo</i>		x	x
Cyperaceae	<i>Cyperus conicus</i>		x	
Cyperaceae	<i>Scleria brownii</i>		x	x
Euphorbiaceae	<i>Euphorbia schultzii</i> var. <i>comans</i>		x	x
Fabaceae	<i>Acacia adoxa</i> var. <i>subglabra</i>			x
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		x	x

Family	Taxon	Status	Site 1	Site 2
Fabaceae	<i>Acacia eriopoda</i>		x	x
Fabaceae	<i>Acacia tumida</i> var. <i>pilbarensis</i>		x	x
Fabaceae	<i>Bauhinia cunninghamii</i>		x	x
Fabaceae	<i>Cajanus marmoratus</i>			x
Fabaceae	<i>Chamaecrista moorei</i>		x	x
Fabaceae	<i>Crotalaria medicaginea</i>		x	x
Fabaceae	<i>Erythrophleum chlorostachys</i>		x	x
Fabaceae	<i>Galactia tenuiflora</i>			x
Fabaceae	<i>Glycine</i> aff. <i>pindanica</i>	^		x
Fabaceae	<i>Glycine pindanica</i>	P3		x
Fabaceae	<i>Glycine tomentella</i>		x	x
Fabaceae	<i>Indigofera linifolia</i>			x
Fabaceae	<i>Indigofera trita</i>			x
Fabaceae	<i>Rhynchosia minima</i>		x	x
Fabaceae	<i>Senna costata</i>		x	x
Fabaceae	<i>Senna notabilis</i>			x
Fabaceae	<i>Senna oligoclada</i>			x
Fabaceae	<i>Stylosanthes scabra</i>	*		x
Fabaceae	<i>Tephrosia crocea</i>			x
Fabaceae	<i>Tephrosia leptoclada</i>		x	x
Fabaceae	<i>Tephrosia</i> sp. D Kimberley Flora		x	x
Fabaceae	<i>Zornia chaetophora</i>		x	x
Fabaceae	<i>Zornia prostrata</i>			x
Goodeniaceae	<i>Goodenia sepalosa</i> var. <i>sepalosa</i>		x	x
Goodeniaceae	<i>Velleia panduriformis</i>			x
Gyrostemonaceae	<i>Codonocarpus cotinifolius</i>		x	x
Gyrostemonaceae	<i>Gyrostemon tepperi</i>		x	x
Hemerocallidaceae	<i>Corynotheca micrantha</i> var. <i>gracilis</i>		x	x
Hernandiaceae	<i>Gyrocarpus americanus</i>			x

Family	Taxon	Status	Site 1	Site 2
Lamiaceae	<i>Clerodendrum floribundum</i> var. <i>ovatum</i>		x	
Lamiaceae	<i>Premna acuminata</i>		x	x
Lauraceae	<i>Cassytha capillaris</i>			x
Loranthaceae	<i>Lysiana spathulata</i> subsp. <i>spathulata</i>			x
Malvaceae	<i>Abutilon otocarpum</i>		x	x
Malvaceae	<i>Brachychiton diversifolius</i>		x	x
Malvaceae	<i>Corchorus ?sidoides</i>			x
Malvaceae	<i>Gossypium australe</i>			x
Malvaceae	<i>Grewia retusifolia</i>		x	x
Malvaceae	<i>Hibiscus leptocladus</i>		x	x
Malvaceae	<i>Melhaniania oblongifolia</i>		x	x
Malvaceae	<i>Sida</i> sp. (insufficient material)		x	x
Malvaceae	<i>Sida</i> sp. Pindan (B.G. Thomson 3398)			x
Malvaceae	<i>Waltheria indica</i>		x	x
Menispermaceae	<i>Tinospora smilacina</i>		x	x
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		x	x
Myrtaceae	<i>Corymbia flavescens</i>		x	x
Myrtaceae	<i>Corymbia</i> sp. (reshooting)		x	x
Myrtaceae	<i>Corymbia zygophylla</i>		x	x
Myrtaceae	<i>Eucalyptus tectifica</i>		x	x
Nyctaginaceae	<i>Boerhavia coccinea</i>		x	
Oleaceae	<i>Jasminum didymum</i> subsp. <i>lineare</i>		x	x
Orchidaceae	<i>Cymbidium canaliculatum</i>			x
Phyllanthaceae	<i>Breynia cernua</i>		x	x
Phyllanthaceae	<i>Phyllanthus exilis</i>		x	x
Poaceae	<i>Aristida holathera</i>		x	x
Poaceae	<i>Cenchrus biflorus</i>	*		x
Poaceae	<i>Chrysopogon pallidus</i>		x	x
Poaceae	<i>Ectrosia schultzei</i>			x

Family	Taxon	Status	Site 1	Site 2
Poaceae	<i>Eleusine indica</i>	*		X
Poaceae	<i>Eragrostis eriopoda</i>		X	X
Poaceae	<i>Eriachne obtusa</i>		X	X
Poaceae	<i>Paspalidium</i> sp. (insufficient material)			X
Poaceae	<i>Sehima nervosum</i>	RE		X
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>			X
Poaceae	<i>Triodia schinzii</i>		X	X
Poaceae	<i>Whiteochloa cymbiformis</i>			X
Polygalaceae	<i>Polygala tepperi</i>		X	
Proteaceae	<i>Grevillea pyramidalis</i>		X	X
Proteaceae	<i>Grevillea refracta</i>			X
Proteaceae	<i>Hakea arborescens</i>		X	X
Proteaceae	<i>Hakea macrocarpa</i>		X	X
Proteaceae	<i>Persoonia falcata</i>		X	X
Rhamnaceae	<i>Ventilago viminalis</i>		X	X
Rubiaceae	<i>Gardenia pyriformis</i> subsp. <i>keartlandii</i>		X	X
Rubiaceae	<i>Spermacoce occidentalis</i>			X
Santalaceae	<i>Santalum lanceolatum</i>			X
Sapindaceae	<i>Dodonaea hispidula</i>			X
Sapotaceae	<i>Sersalisia sericea</i>			X
Solanaceae	<i>Solanum cunninghamii</i>		X	X
Violaceae	<i>Hybanthus aurantiacus</i>		X	X
Zygophyllaceae	<i>Tribulopsis angustifolia</i>		X	X

X = present, ^ = significant flora, RE = range extension, * = introduced species

Flora likelihood of occurrence assessment guidelines

Likelihood of occurrence	Guideline
Known	Species recorded within Sites from field survey results.
Likely	Species previously recorded within 20 km and large areas of suitable habitat occur in the Sites.
Possible	Species previously recorded within 20 km and areas of suitable habitat occur/may occur in the Sites.
Unlikely	Species previously recorded within 20 km, but suitable habitat does not occur in the Sites.
Highly unlikely	Species not previously recorded within 20 km, suitable habitat does not occur in the Sites and/or the Sites are outside the natural distribution of the species.
Other considerations	Intensity of survey, availability of access, growth form type, recorded flowering times, cryptic nature of species

Flora likelihood of occurrence assessment

Family	Taxon	Status		Description (if available) (WA Herbarium 1998–)	Efficacy of field survey	Likelihood of occurrence	Source
		EPBC Act	WC Act /DPaW				
Aizoaceae	<i>Tetragonia coronata</i>		P3	Decumbent annual, herb. Fl. yellow, Jul. Red clay loam. Calcrete outcrops.	Medium	Unlikely – the species has been recorded within 20 km of the Sites, but no suitable habitat occurs.	NM, WAHERB
Amaranthaceae	<i>Gomphrena pusilla</i>		P2	Slender branching annual, herb, to 0.2 m high. Fl. white, Mar to Apr or Jun. Fine beach sand. Behind foredune, on limestone.	High	Unlikely – the species has been recorded within 20 km of the Sites, but no suitable habitat occurs.	NM, WAHERB, TPFL
Asteraceae	<i>Pterocaulon intermedium</i>		P3	Perennial shrub to 0.6 m high. Narrow stems wings, long peduncles. Fl. pink, Apr to Oct. Often in near coastal locations where it favours sandy swales or dunes. Also found in shrubland/ woodland on plains in sandy soils.	High	Known – the species was recorded within Site 2 during the field survey.	NM, WAHERB, TPFL
Asteraceae	<i>Thespidium basiflorum</i>		P1	Densely tufted, multi-stemmed perennial, herb, to 0.2 m high. Fl. green, May to Aug. Sandy soils. Creeks.	Medium	Unlikely – the species has been recorded within 20 km of the Sites, but no creeks or drainage areas were recorded within the Sites.	NM, WAHERB
Convolvulaceae	<i>Jacquemontia</i> sp. Broome (A.A. Mitchell 3028)		P1	Disturbed Pindan.	High	Known – this species was recorded within Site 2 during the field survey.	NM, WAHERB

Family	Taxon	Status		Description (if available) (WA Herbarium 1998–)	Efficacy of field survey	Likelihood of occurrence	Source
		EPBC Act	WC Act /DPaW				
Convolvulaceae	<i>Polymeria distigma</i>		P3	Hairy, prostrate herb, Fl. pink. Grows in sandy soils in pindan, cracking clays, rangelands, road verges and disturbed areas. Endemic to WA, found from the Kimberley to Pilbara.	Medium	Unlikely – the species has been recorded within 20 km of the Sites and some suitable habitat occurs. However, this species is not cryptic and the Sites were sufficiently traversed during the field survey.	NM
Fabaceae	<i>Acacia monticola x tumida</i> var. <i>kulparn</i>		P3	Shrub to 2.5 m high with pseudo minni ritchi bark. Likely to represent a hybrid between <i>A. monticola</i> and <i>A. tumida</i> var. <i>pilbarensis</i> . Sandplains, ?Pindan.	High	Unlikely – the species has been recorded within 20 km of the Sites and suitable habitat occurs. However, this species is not cryptic and the Sites were sufficiently traversed during the field survey.	NM, WAHERB
Fabaceae	<i>Aphyllodium glossocarpum</i>		P3	Spreading or erect shrub, to 1.2 m high. Fl. pink-purple, Apr to Oct. Sand. Pindan.	Medium	Possible – the species has been recorded within 20 km of the Sites and suitable habitat occurs. Although the Sites were sufficiently traversed during the field survey, this species is cryptic	NM, WAHERB
Fabaceae	<i>Glycine pindanica</i>		P3	Prostrate or scrambling perennial, herb or climber. Fl. pink/blue-purple, Feb to Mar or Jun. Pindan soils.	High	Known – the species was recorded adjacent to Site 2 during the field survey.	NM, WAHERB, TPFL
Goodeniaceae	<i>Goodenia byrnesii</i>		P3	Prostrate to decumbent herb, stems to 30 cm. Fl. yellow, Jan to Feb. Sand. Edge of creek.	Medium	Unlikely – the species has been recorded within 20 km of the Sites, but no creeks or drainage areas were recorded within the Sites.	NM, WAHERB, TPFL
Malvaceae	<i>Keraudrenia exastia</i>	CR	T	Erect, compact, multi-stemmed shrub, 0.7-0.9 m high. Fl. purple, Apr to Dec. Red sand in pindan. Coastal sites, relict desert dune swale	High	Unlikely – the species has been recorded within 20 km of the Sites, but the Sites do not occur in a coastal location or dune swale. This species is not cryptic.	NM, EPBC PMST, WAHERB, TPFL

Family	Taxon	Status		Description (if available) (WA Herbarium 1998–)	Efficacy of field survey	Likelihood of occurrence	Source
		EPBC Act	WC Act /DPaW				
Malvaceae	<i>Keraudrenia katatona</i>		P3	Erect, compact, multi-stemmed shrub, to 1 m high, grey leaved. Fl. purple, Mar to Aug. Red sand. Desert dunes in pindan, ranges, disturbed areas.	High	Unlikely – the species has been recorded within 20 km of the Sites and some suitable habitat occurs. However, this species is not cryptic and the Sites were sufficiently traversed during the field survey.	NM, WAHERB, TPFL
Myrtaceae	<i>Corymbia paractia</i>		P1	Tree (often several-stemmed), 4-6(-12) m high, bark smooth, white, shedding in thin scales. Fl. white, Apr to May or Oct to Dec. Skeletal soils. In transition zone between coastal beach dunes & red pindan soils.	High	Unlikely – the species has been recorded within 20 km of the Sites, but the Sites are not located in the transitional zone between coastal beach dunes and pindan soils. This species is not cryptic.	NM, WAHERB
Myrtaceae	<i>Eucalyptus ceracea</i>		T	Tree (mallee, sometimes), 3-6 m high, bark fibrous-flaky. Fl. orange, Jun to Nov. Skeletal sandy soils. Sandstone ridges & scree slopes.	High	Unlikely – the species has been recorded within 20 km of the Sites, but no suitable habitat occurs. This species is not cryptic.	NM
Myrtaceae	<i>Eugenia reinwardtiana</i>		P1	Shrub or tree, 3-8 m high. Fl. white, Jun. Along watercourses.	High	Unlikely – the species has been recorded within 20 km of the Sites, but no creeks or drainage areas were recorded within the Sites. This species is not cryptic.	NM
Phyllanthaceae	<i>Phyllanthus eremicus</i>		P3	Woody shrub to 0.5 m high. Fl. green/yellow, May to Aug. Grows on rocky outcrops or on red sandplains with low shrubs of <i>Acacia</i> , <i>Grevillea</i> and <i>Hakea</i> (Barrett and Telford 2015).	High	Unlikely – the species has been recorded within 20 km of the Sites and suitable habitat occurs. However, this species is not cryptic and the Sites were sufficiently traversed during the field survey.	NM, WAHERB

Family	Taxon	Status		Description (if available) (WA Herbarium 1998–)	Efficacy of field survey	Likelihood of occurrence	Source
		EPBC Act	WC Act /DPaW				
Poaceae	<i>Triodia acutispicula</i>		P3	Tussock-forming resinous perennial, grass-like or herb, 0.5-1.5 m high, lemma bi-textured, glabrous, with transverse demarcation, spikelet terete. Fl. cream-brown, Jan to Apr. Sandy soils. River levees, pindan plains, rocky hillslopes & outcrops	High	Unlikely – the species has been recorded within 20 km of the Sites and suitable habitat occurs. However, this species is not cryptic and the Sites were sufficiently traversed during the field survey.	NM
Poaceae	<i>Triodia caelestialis</i>		P3	Non-resinous, perennial grass. Differs from <i>T. acutispicula</i> in taller clumps, glabrous lemma, longer hairs at leaf orifice and longer ligule. Grows on sandstone ranges, outcrops in sands (Armstrong 2008).	High	Unlikely – the species has been recorded within 20 km of the Sites and suitable habitat occurs. However, this species is not cryptic and the Sites were sufficiently traversed during the field survey.	NM, WAHERB
Solanaceae	<i>Nicotiana heterantha</i>		P1	Decumbent, short-lived annual or perennial, herb, to 0.5 m high, forming low, spreading colonies. Fl. white-cream, Mar to Jun or Sep. Black clay. Seasonally wet flats.	Medium	Unlikely – the species has been recorded within 20 km of the Sites, but no suitable habitat occurs. Furthermore, no creeks or drainage areas were recorded within the Sites.	NM, WAHERB, TPFL
Stylidiaceae	<i>Stylidium pindanicum</i>		P3	Annual herb to c. 0.3 m high. Leaves slender, numerous, held in a terminal rosette. Fl. pink or mauve, May to Aug. Restricted to seasonally damp areas over pindan sands (Barrett et al. 2015)	Medium	Unlikely – the species has been recorded within 20 km of the Sites, but no suitable habitat occurs. Furthermore, no seasonally wet or drainage areas were recorded within the Sites.	NM, WAHERB
Combretaceae	<i>Terminalia kumpaja</i>		P3	Shrub or spreading tree to 6 m high. Narrow leaves and small flowers. Fl. white to cream, Jun to Nov. Restricted to red pindan sands (Barrett 2015).	High	Known – the species was recorded within Site 2 during the field survey.	WAHERB

References

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- Barrett, RL 2015, Examining range disjunctions in Australian *Terminalia* (Combretaceae) with taxonomic revision of the *T. canescens* and *T. cunninghamii* species complexes, *Australian Systematic Botany*, vol. 28, pp 23-45.
- Barrett, RL and Telford, IRH 2015, Two new species of *Phyllanthus* from northern Australia and notes on *Phyllanthus*, *Sauropus* and *Synostemon* (Phyllanthaceae) in Western Australia, *Nuytsia*, vol. 26, pp 146-166.
- Barrett, RL, Barrett, MD, Kenneally, KF and Lowrie, A 2015, Four new species of *Stylidium* (Stylidiaceae) from the Kimberley region of Western Australia, *Nuytsia*, vol. 26, pp 127-141
- .

Site ID:	Q01	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	19/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422639.85 mE	8022976.23 mN
Location:	Site 2		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), few trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	2-10		
Leaf litter:	Moderate		
Wood litter:	Moderate		



Species List:

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Myrtaceae	<i>Corymbia flavescens</i>		U1	<2T	3.0-4.0
Myrtaceae	<i>Corymbia zygophylla</i>		U1	<2T	5.0-6.0
Fabaceae	<i>Bauhinia cunninghamii</i>		M1	<10	2.0-3.0
Fabaceae	<i>Acacia eriopoda</i>		M1	<2N	3.0-4.0
Bignoniaceae	<i>Dolichandrone heterophylla</i>		M1	<2T	2.5
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M1	<2T	2.0
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		M1	<2T	2.0
Rhamnaceae	<i>Ventilago viminalis</i>		M2	<2N	1.4
Celastraceae	<i>Denhamia cunninghamii</i>		M2	<2T	1.6
Fabaceae	<i>Bauhinia cunninghamii</i>		M2	<2N	1.0-1.5
Boraginaceae	<i>Ehretia saligna</i>		M2	<2T	1.3
Malvaceae	<i>Brachychiton diversifolius</i>		M2	<2T	1.8
Proteaceae	<i>Hakea macrocarpa</i>		M2	<2N	1.8
Fabaceae	<i>Senna costata</i>		M2	<2T	1.4
Fabaceae	<i>Acacia eriopoda</i>		M2	<2N	1.0-2.0

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		G1	10-30	1.0
Convolvulaceae	<i>Jacquemontia</i> sp. Broome (A.A. Mitchell 3028)	P1	G1	<2N	0.4
Poaceae	<i>Eriachne obtusa</i>		G1	10-30	0.5
Sapindaceae	<i>Dodonaea hispidula</i>		G1	<2T	1.0
Fabaceae	<i>Acacia adoxa</i> var. <i>subglabra</i>		G1	<2N	0.4
Oleaceae	<i>Jasminum didymum</i> subsp. <i>lineare</i>		G1	<2T	0.3
Poaceae	<i>Triodia schinzii</i>		G1	2-10	1.0
Cucurbitaceae	<i>Cucumis melo</i>		G1	<2T	CREEPER
Lauraceae	<i>Cassytha capillaris</i>		G2	<2T	CREEPER
Malvaceae	<i>Sida</i> sp. (insufficient material)		G2	<2N	0.1
Malvaceae	<i>Melhania oblongifolia</i>		G2	<2T	0.2
Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>		G2	<2T	0.2
Menispermaceae	<i>Tinospora smilacina</i>		G2	<2T	CREEPER
Fabaceae	<i>Tephrosia</i> sp. D Kimberley Flora		G2	<2T	0.3
Violaceae	<i>Hybanthus aurantiacus</i>		G2	<2T	0.2
Solanaceae	<i>Solanum cunninghamii</i>		G2	<2T	0.2

Site ID:	Q02	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	19/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422938.76 mE	8023526.00 mN
Location:	Site 2		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), few trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	10-30		
Leaf litter:	Moderate		
Wood litter:	Moderate		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Myrtaceae	<i>Corymbia flavescentis</i>		U1	<2T	5.0-6.0
Myrtaceae	<i>Corymbia zygophylla</i>		U1	<2T	3.0-4.0
Hernandiaceae	<i>Gyrocarpus americanus</i>		U1	<2T	3.5
Fabaceae	<i>Acacia eriopoda</i>		M1	2-10	2.0-4.0
Proteaceae	<i>Grevillea pyramidalis</i>		M1	<2T	2.0
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M1	<2N	2.0
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		M1	<2T	3.0
Malvaceae	<i>Brachychiton diversifolius</i>		M1	<2T	3.5
Fabaceae	<i>Bauhinia cunninghamii</i>		M2	2-10	1.0-2.0
Poaceae	<i>Triodia schinzii</i>		M2	10-30	1.2
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	2-10	1.3
Proteaceae	<i>Grevillea pyramidalis</i>		M2	<2N	1.8
Sapindaceae	<i>Dodonaea hispidula</i>		M2	<2T	1.8
Apocynaceae	<i>Marsdenia angustata</i>		M2	<2N	1.0

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Boraginaceae	<i>Ehretia saligna</i>		M2	<2T	1.3
Bignoniaceae	<i>Dolichandrone heterophylla</i>		M2	<2T	1.6
Proteaceae	<i>Hakea macrocarpa</i>		M2	<2T	1.7
Rhamnaceae	<i>Ventilago viminalis</i>		M2	<2N	1.2
Combretaceae	<i>Terminalia canescens</i>		M2	<2T	1.9
Celastraceae	<i>Denhamia cunninghamii</i>		M2	<2T	0.1
Rubiaceae	<i>Gardenia pyriformis</i> subsp. <i>keartlandii</i>		M2	<2T	1.0
Fabaceae	<i>Acacia eriopoda</i>		M2	<2N	1.0-2.0
Commelinaceae	<i>Murdannia graminea</i>		G1	<2T	0.4
Oleaceae	<i>Jasminum didymum</i> subsp. <i>lineare</i>		G1	<2N	0.4
Convolvulaceae	<i>Jacquemontia</i> sp. Broome (A.A. Mitchell 3028)	P1	G1	<2N	0.4
Fabaceae	<i>Acacia adoxa</i> var. <i>subglabra</i>		G1	<2N	0.4
Poaceae	<i>Eriachne obtusa</i>		G1	2-10	0.5
Menispermaceae	<i>Tinospora smilacina</i>		G2	<2T	CREEPER
Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>		G2	<2T	0.1
Violaceae	<i>Hybanthus aurantiacus</i>		G2	<2T	0.3
Fabaceae	<i>Glycine tomentella</i>		G2	<2T	Prostrate
Malvaceae	<i>Melhania oblongifolia</i>		G2	<2T	0.2
Gyrostemonaceae	<i>Gyrostemon tepperi</i>		G2	<2N	0.3
Malvaceae	<i>Sida</i> sp. (insufficient material)		G2	<2N	0.3
Malvaceae	<i>Waltheria indica</i>		G2	<2T	0.2

Site ID:	Q03	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	20/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422786.18 mE	8024026.99 mN
Location:	Site 2		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), most trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	30-70		
Leaf litter:	Moderate		
Wood litter:	Moderate		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Fabaceae	<i>Acacia eriopoda</i>		M1	10-30	2.0-3.0
Myrtaceae	<i>Eucalyptus tectifica</i>		M1	<2T	2.0-3.0
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M1	<2T	2.0
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	10-30	1.5
Fabaceae	<i>Acacia eriopoda</i>		M2	<2T	1.0-2.0
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M2	<2T	1.5-2.0
Proteaceae	<i>Hakea macrocarpa</i>		M2	<2T	1.7
Proteaceae	<i>Persoonia falcata</i>		M2	<2T	1.5
Apocynaceae	<i>Marsdenia angustata</i>		M2	<2T	1.0
Boraginaceae	<i>Ehretia saligna</i>		M2	<2N	1.0-2.0
Poaceae	<i>Eriachne obtusa</i>		G1	2-10	0.6
Fabaceae	<i>Acacia adoxa</i> var. <i>subglabra</i>		G1	<2N	0.4
Poaceae	<i>Triodia schinzii</i>		G1	2-10	1.0
Commelinaceae	<i>Murdannia graminea</i>		G1	<2N	0.8

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Malvaceae	<i>Waltheria indica</i>		G1	<2T	0.4
Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>		G2	<2N	0.2
Convolvulaceae	<i>Jacquemontia</i> sp. Broome (A.A. Mitchell 3028)	P1	G2	<2N	0.3
Malvaceae	<i>Sida</i> sp. (insufficient material)		G2	<2N	0.4
Malvaceae	<i>Abutilon otocarpum</i>		G2	<2T	0.1
Fabaceae	<i>Rhynchosia minima</i>		G2	<2T	CREEPER
Solanaceae	<i>Solanum cunninghamii</i>		G2	<2T	0.1
Fabaceae	<i>Galactia tenuiflora</i>		G2	<2T	Prostrate

Site ID:	Q04	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	20/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422989.46 mE	8024426.84 mN
Location:	Site 2		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), most trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	30-70		
Leaf litter:	Sparse		
Wood litter:	Sparse		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Fabaceae	<i>Acacia eriopoda</i>		M1	10-30	2.0-3.0
Fabaceae	<i>Bauhinia cunninghamii</i>		M1	<2T	2.0
Menispermaceae	<i>Tinospora smilacina</i>		M1	<2T	CREEPER
Myrtaceae	<i>Corymbia</i> sp. (reshooting)		M1	<2T	2.0
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M1	<2T	2.0
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		M1	<2T	2.0
Boraginaceae	<i>Ehretia saligna</i>		M2	<2N	1.0-2.0
Poaceae	<i>Triodia schinzii</i>		M2	10-30	1.2
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	10-30	1.2
Proteaceae	<i>Grevillea pyramidalis</i>		M2	<2N	1.2
Apocynaceae	<i>Wrightia saligna</i>		M2	<2N	1.5-2.0
Bignoniaceae	<i>Dolichandrone heterophylla</i>		M2	<2T	1.4
Fabaceae	<i>Bauhinia cunninghamii</i>		M2	<2N	1.5-2.0
Malvaceae	<i>Brachychiton diversifolius</i>		M2	<2T	1.0-1.5

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Gyrostemonaceae	<i>Codonocarpus cotinifolius</i>		M2	<2T	1.3
Poaceae	<i>Eriachne obtusa</i>		G1	10-30	0.7
Hemerocallidaceae	<i>Corynotheca micrantha</i> var. <i>gracilis</i>		G1	<2T	0.4
Poaceae	<i>Eragrostis eriopoda</i>		G1	<2T	0.4
Malvaceae	<i>Sida</i> sp. (insufficient material)		G2	<2N	0.3
Lauraceae	<i>Cassytha capillaris</i>		G2	<2N	CREEPER
Violaceae	<i>Hybanthus aurantiacus</i>		G2	<2N	0.1
Malvaceae	<i>Melhania oblongifolia</i>		G2	<2N	0.2
Fabaceae	<i>Glycine tomentella</i>		G2	<2T	Prostrate
Gyrostemonaceae	<i>Gyrostemon tepperi</i>		G2	<2N	0.3
Rubiaceae	<i>Spermacoce occidentalis</i>		G2	<2T	Prostrate
Commelinaceae	<i>Murdannia graminea</i>		G2	<2T	0.3
Fabaceae	<i>Chamaecrista moorei</i>		G2	<2T	0.1
Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>		G2	<2T	0.4
Fabaceae	<i>Tephrosia leptoclada</i>		G2	<2T	0.3
Cucurbitaceae	<i>Cucumis melo</i>		G2	<2T	CREEPER
Goodeniaceae	<i>Goodenia sepalosa</i> var. <i>sepalosa</i>		G2	<2T	Prostrate

Site ID:	Q05	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	20/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422940.22 mE	8024826.99 mN
Location:	Site 2		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), most trees killed		
Disturbances:	Dry conditions, fire have killed most Eucalyptus species in this area.		
Surface component:			
Loose soil (%):	30-70		
Leaf litter:	Sparse		
Wood litter:	Moderate		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Myrtaceae	<i>Corymbia</i> sp. (reshooting)		M1	<2T	3.0
Fabaceae	<i>Acacia eriopoda</i>		M1	10-30	2.0-5.0
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M1	<2T	2.0-2.5
Fabaceae	<i>Bauhinia cunninghamii</i>		M1	10-30	4.0-5.0
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		M1	<2T	3.5
Rubiaceae	<i>Gardenia pyriformis</i> subsp. <i>keartlandii</i>		M1	<2T	3.0
Proteaceae	<i>Hakea macrocarpa</i>		M1	<2T	3.0
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	10-30	1.5
Poaceae	<i>Triodia schinzii</i>		M2	10-30	1.2
Fabaceae	<i>Bauhinia cunninghamii</i>		M2	<2N	1.0-2.0
Boraginaceae	<i>Ehretia saligna</i>		M2	<2N	1.5
Oleaceae	<i>Jasminum didymum</i> subsp. <i>lineare</i>		M2	<2N	CREEPER
Fabaceae	<i>Senna costata</i>		M2	<2T	1.6

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Proteaceae	<i>Grevillea pyramidalis</i>		M2	<2T	1.6
Poaceae	<i>Eriachne obtusa</i>		G1	<2N	0.7
Gyrostemonaceae	<i>Gyrostemon tepperi</i>		G1	<2N	0.4
Fabaceae	<i>Tephrosia</i> sp. D Kimberley Flora		G1	<2T	0.4
Menispermaceae	<i>Tinospora smilacina</i>		G1	<2T	CREEPER
Malvaceae	<i>Waltheria indica</i>		G2	<2N	0.3
Solanaceae	<i>Solanum cunninghamii</i>		G2	<2N	0.1
Lauraceae	<i>Cassytha capillaris</i>		G2	<2T	CREEPER
Fabaceae	<i>Galactia tenuiflora</i>		G2	<2T	Prostrate
Commelinaceae	<i>Murdannia graminea</i>		G2	<2N	0.3
Violaceae	<i>Hybanthus aurantiacus</i>		G2	<2N	0.3
Malvaceae	<i>Melhania oblongifolia</i>		G2	<2N	0.3
Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>		G2	<2N	0.2
Fabaceae	<i>Glycine tomentella</i>		G2	<2T	Prostrate

Site ID:	Q06	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	21/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422489.49 mE	8022776.11 mN
Location:	Site 2		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), few trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	10-30		
Leaf litter:	Moderate		
Wood litter:	Moderate		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Myrtaceae	<i>Corymbia flavescentis</i>		U1	2-10	6.0-7.0
Myrtaceae	<i>Eucalyptus tectifica</i>		M1	2-10	3.0-4.0
Poaceae	<i>Eragrostis eriopoda</i>		M1	2-10	4.0-6.0
Proteaceae	<i>Hakea macrocarpa</i>		M1	<2T	3.0-4.0
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		M1	<2T	2.0
Malvaceae	<i>Brachychiton diversifolius</i>		M1	<2T	3.0-4.0
Fabaceae	<i>Bauhinia cunninghamii</i>		M1	<2N	3.0-5.0
Menispermaceae	<i>Tinospora smilacina</i>		M1	<2T	CREEPER
Proteaceae	<i>Persoonia falcata</i>		M2	<2T	1.6
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	<2N	1.2
Rubiaceae	<i>Gardenia pyriformis</i> subsp. <i>keartlandii</i>		M2	<2N	1.5
Rhamnaceae	<i>Ventilago viminalis</i>		M2	<2N	1.6
Fabaceae	<i>Bauhinia cunninghamii</i>		M2	<2N	1.0-2.0
Malvaceae	<i>Grewia retusifolia</i>		M2	<2T	2.0

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Phyllanthaceae	<i>Breynia cernua</i>		M2	<2T	1.8
Boraginaceae	<i>Ehretia saligna</i>		M2	<2N	2.0
Proteaceae	<i>Hakea arborescens</i>		M2	<2N	1.7
Hernandiaceae	<i>Gyrocarpus americanus</i>		M2	<2T	1.0
Poaceae	<i>Whiteochloa cymbiformis</i>		G1	10-30	1.0
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		G1	10-30	1.0
Commelinaceae	<i>Murdannia graminea</i>		G1	<2N	0.4
Fabaceae	<i>Acacia adoxa</i> var. <i>subglabra</i>		G1	<2N	0.4
Poaceae	<i>Eriachne obtusa</i>		G1	<2N	0.5
Poaceae	<i>Triodia schinzii</i>		G1	<2N	0.9
Malvaceae	<i>Waltheria indica</i>		G1	<2T	0.4
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		G1	<2T	0.5
Fabaceae	<i>Galactia tenuiflora</i>		G2	2-10	Prostrate
Convolvulaceae	<i>Jacquemontia</i> sp. Broome (A.A. Mitchell 3028)	P1	G2	2-10	CREEPER
Malvaceae	<i>Sida</i> sp. (insufficient material)		G2	<2N	0.2
Malvaceae	<i>Abutilon otocarpum</i>		G2	<2T	0.3
Oleaceae	<i>Jasminum didymum</i> subsp. <i>lineare</i>		G2	<2T	0.4
Malvaceae	<i>Melhania oblongifolia</i>		G2	<2T	0.2

Site ID:	Q07	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	21/03/2016	Described by:	JT
Co-ordinates:	MGA 51	423189.43 mE	8025225.72 mN
Location:	Site 2		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), most trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	10-30		
Leaf litter:	Moderate		
Wood litter:	Sparse		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Fabaceae	<i>Acacia eriopoda</i>		M1	10-30	2.0-3.0
Menispermaceae	<i>Tinospora smilacina</i>		M1	<2T	CREEPER
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M1	<2T	2.5
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		M1	<2T	2.0
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	<2N	1.4
Proteaceae	<i>Persoonia falcata</i>		M2	<2T	2.0
Rhamnaceae	<i>Ventilago viminalis</i>		M2	<2N	1.0-2.0
Boraginaceae	<i>Ehretia saligna</i>		M2	<2N	1.0-2.0
Proteaceae	<i>Grevillea refracta</i>		M2	<2T	1.5
Malvaceae	<i>Grewia retusifolia</i>		M2	<2T	1.5
Fabaceae	<i>Bauhinia cunninghamii</i>		M2	<2N	1.4
Proteaceae	<i>Hakea macrocarpa</i>		M2	<2T	1.4
Malvaceae	<i>Brachychiton diversifolius</i>		M2	<2T	1.0-2.0
Myrtaceae	<i>Corymbia flavescentis</i>		M2	<2T	2.0

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Celastraceae	<i>Denhamia cunninghamii</i>		M2	<2T	2.0
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		G1	10-30	1.0
Poaceae	<i>Eriachne obtusa</i>		G1	10-30	0.5
Poaceae	<i>Eragrostis eriopoda</i>		G1	<2N	0.4
Commelinaceae	<i>Murdannia graminea</i>		G1	<2T	0.4
Malvaceae	<i>Melhania oblongifolia</i>		G1	<2N	0.4
Poaceae	<i>Triodia schinzii</i>		G1	2-10	1.0
Celastraceae	<i>Denhamia cunninghamii</i>		G1	<2T	0.5
Malvaceae	<i>Waltheria indica</i>		G1	<2T	0.4
Fabaceae	<i>Senna costata</i>		G1	<2T	0.5
Gyrostemonaceae	<i>Gyrostemon tepperi</i>		G2	<2N	0.3
Malvaceae	<i>Sida</i> sp. (insufficient material)		G2	<2N	0.2
Fabaceae	<i>Glycine tomentella</i>		G2	<2N	0.1
Violaceae	<i>Hybanthus aurantiacus</i>		G2	<2N	0.3
Lauraceae	<i>Cassytha capillaris</i>		G2	<2N	CREEPER
Solanaceae	<i>Solanum cunninghamii</i>		G2	<2N	0.1
Fabaceae	<i>Chamaecrista moorei</i>		G2	<2T	0.2
Proteaceae	<i>Grevillea pyramidalis</i>		G2	<2T	0.1
Fabaceae	<i>Rhynchosia minima</i>		G2	<2T	CREEPER
Euphorbiaceae	<i>Euphorbia schultzei</i> var. <i>comans</i>		G2	<2T	0.1
Celastraceae	<i>Stackhousia intermedia</i>		G2	<2T	0.1
Goodeniaceae	<i>Goodenia sepalosa</i> var. <i>sepalosa</i>		G2	<2T	Prostrate
Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>		G2	<2T	0.1

Site ID:	Q08	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	21/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422488.40 mE	8025576.68 mN
Location:	Site 1		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), few trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	30-70		
Leaf litter:	Moderate		
Wood litter:	Moderate		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Myrtaceae	<i>Eucalyptus tectifica</i>		U1	<2T	8.0-10.0
Fabaceae	<i>Acacia eriopoda</i>		M1	10-30	2.0-3.0
Proteaceae	<i>Grevillea pyramidalis</i>		M1	<2T	2.0
Fabaceae	<i>Erythrophleum chlorostachys</i>		M1	<2T	2.5
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		M1	<2T	1.0
Fabaceae	<i>Bauhinia cunninghamii</i>		M2	<2N	1.0-2.0
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	<2N	1.2
Malvaceae	<i>Brachychiton diversifolius</i>		M2	<2T	1.8
Bignoniaceae	<i>Dolichandrone heterophylla</i>		M2	<2N	1.4
Rhamnaceae	<i>Ventilago viminalis</i>		M2	<2T	1.2
Boraginaceae	<i>Ehretia saligna</i>		M2	<2N	1.8
Fabaceae	<i>Senna costata</i>		M2	<2T	1.5
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M2	<2T	1.0
Proteaceae	<i>Persoonia falcata</i>		M2	<2T	2.0

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Phyllanthaceae	<i>Breynia cernua</i>		M2	<2T	1.5
Hemerocallidaceae	<i>Corynotheca micrantha</i> var. <i>gracilis</i>		G1	2-10	0.5
Poaceae	<i>Eragrostis eriopoda</i>		G1	<2N	0.6
Gyrostemonaceae	<i>Gyrostemon tepperi</i>		G1	<2N	0.4
Poaceae	<i>Aristida holathera</i>		G1	<2N	0.4
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		G1	10-30	0.8
Commelinaceae	<i>Murdannia graminea</i>		G2	<2N	0.4
Malvaceae	<i>Waltheria indica</i>		G2	<2N	0.3
Fabaceae	<i>Glycine tomentella</i>		G2	<2N	Prostrate
Boraginaceae	<i>Heliotropium foliatum</i>		G2	<2N	0.1
Zygophyllaceae	<i>Tribulopsis angustifolia</i>		G2	<2T	Prostrate
Boraginaceae	<i>Heliotropium leptaleum</i>		G2	<2T	0.1
Aizoaceae	<i>Trianthema pilosum</i>		G2	<2T	Prostrate
Fabaceae	<i>Chamaecrista moorei</i>		G2	<2T	0.1
Fabaceae	<i>Zornia chaetophora</i>		G2	<2T	0.2
Fabaceae	<i>Crotalaria medicaginea</i>		G2	<2T	0.1
Violaceae	<i>Hybanthus aurantiacus</i>		G2	<2N	0.3
Menispermaceae	<i>Tinospora smilacina</i>		G2	<2T	CREEPER

Site ID:	Q09	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	21/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422640.88 mE	8025827.89 mN
Location:	Site 1		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), few trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	30-70		
Leaf litter:	Moderate		
Wood litter:	Moderate		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Fabaceae	<i>Acacia eriopoda</i>		M1	10-30	2.0-4.0
Boraginaceae	<i>Ehretia saligna</i>		M1	<2N	2.0
Proteaceae	<i>Hakea macrocarpa</i>		M1	<2N	2.5
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		M1	<2T	2.0
Fabaceae	<i>Acacia eriopoda</i>		M2	2-10	1.5-2.0
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	<2N	1.4
Myrtaceae	<i>Corymbia</i> sp. (reshooting)		M2	<2T	1.8
Proteaceae	<i>Persoonia falcata</i>		M2	<2T	1.6
Gyrostemonaceae	<i>Codonocarpus cotinifolius</i>		M2	<2T	1.2
Bignoniaceae	<i>Dolichandrone heterophylla</i>		M2	<2T	1.8
Fabaceae	<i>Bauhinia cunninghamii</i>		M2	<2T	1.6
Malvaceae	<i>Grewia retusifolia</i>		M2	<2T	1.4
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		G1	30-70	1.0
Poaceae	<i>Eragrostis eriopoda</i>		G1	<2N	0.5

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Poaceae	<i>Eriachne obtusa</i>		G1	2-10	0.7
Malvaceae	<i>Hibiscus leptocladus</i>		G1	<2T	0.5
Commelinaceae	<i>Murdannia graminea</i>		G2	<2N	0.3
Phyllanthaceae	<i>Phyllanthus exilis</i>		G2	<2N	0.1
Boraginaceae	<i>Heliotropium foliatum</i>		G2	<2N	0.1
Fabaceae	<i>Chamaecrista moorei</i>		G2	<2T	0.1
Fabaceae	<i>Tephrosia leptoclada</i>		G2	<2T	0.1
Goodeniaceae	<i>Goodenia sepalosa</i> var. <i>sepalosa</i>		G2	<2N	Prostrate
Gyrostemonaceae	<i>Gyrostemon tepperi</i>		G2	<2N	0.4
Violaceae	<i>Hybanthus aurantiacus</i>		G2	<2N	0.4
Solanaceae	<i>Solanum cunninghamii</i>		G2	<2T	0.1
Polygalaceae	<i>Polygala tepperi</i>		G2	<2T	0.1
Malvaceae	<i>Melhania oblongifolia</i>		G2	<2N	0.4
Cyperaceae	<i>Scleria brownii</i>		G2	<2T	0.2

Site ID:	Q10	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	22/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422789.50 mE	8025576.20 mN
Location:	Site 1		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), few trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	30-70		
Leaf litter:	Moderate		
Wood litter:	Moderate		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Myrtaceae	<i>Corymbia flavescentis</i>		U1	<2T	4.0-5.0
Fabaceae	<i>Acacia eriopoda</i>		M1	2-10	2.0-4.0
Proteaceae	<i>Hakea macrocarpa</i>		M1	<2T	3.0-5.0
Fabaceae	<i>Acacia colei</i> var. <i>colei</i>		M1	<2T	2.0
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	<2N	1.2
Fabaceae	<i>Erythrophleum chlorostachys</i>		M2	2-10	1.0-2.0
Boraginaceae	<i>Ehretia saligna</i>		M2	<2N	1.0-2.0
Myrtaceae	<i>Corymbia</i> sp. (reshooting)		M2	<2T	1.8
Malvaceae	<i>Brachychiton diversifolius</i>		M2	<2T	2.0
Fabaceae	<i>Bauhinia cunninghamii</i>		M2	<2N	1.2
Proteaceae	<i>Persoonia falcata</i>		M2	<2T	1.0
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M2	<2T	2.0
Malvaceae	<i>Grewia retusifolia</i>		M2	<2T	1.7
Apocynaceae	<i>Carissa lanceolata</i>		M2	<2T	1.8

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Lamiaceae	<i>Clerodendrum floribundum</i> var. <i>ovatum</i>		M2	<2T	1.0
Fabaceae	<i>Acacia eriopoda</i>		M2	10-30	1.5-2.0
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		G1	30-70	1.0
Commelinaceae	<i>Murdannia graminea</i>		G1	<2N	0.5
Oleaceae	<i>Jasminum didymum</i> subsp. <i>lineare</i>		G1	<2T	CREEPER
Poaceae	<i>Eragrostis eriopoda</i>		G1	<2N	0.4
Bignoniaceae	<i>Dolichandrone heterophylla</i>		G1	<2T	0.5
Malvaceae	<i>Melhania oblongifolia</i>		G1	<2T	0.6
Solanaceae	<i>Solanum cunninghamii</i>		G2	<2N	0.1
Gyrostemonaceae	<i>Gyrostemon tepperi</i>		G2	<2N	0.3
Fabaceae	<i>Chamaecrista moorei</i>		G2	<2N	0.3
Boraginaceae	<i>Heliotropium foliatum</i>		G2	<2N	0.1
Fabaceae	<i>Glycine tomentella</i>		G2	<2N	Prostrate
Violaceae	<i>Hybanthus aurantiacus</i>		G2	<2N	0.3
Nyctaginaceae	<i>Boerhavia coccinea</i>		G2	<2T	Prostrate
Aizoaceae	<i>Trianthema pilosum</i>		G2	<2T	Prostrate
Phyllanthaceae	<i>Phyllanthus exilis</i>		G2	<2T	0.2
Convolvulaceae	<i>Evolvulus alsinoides</i>		G2	<2T	0.1

Site ID:	Q11	Project:	6132965
Type:	Quadrat	Size:	50 x 50 m
Date:	22/03/2016	Described by:	JT
Co-ordinates:	MGA 51	422889.73 mE	8025776.85 mN
Location:	Site 1		
Landform and slope:	Plain, negligible slope		
Drainage:	Good		
Soil colour & type:	Orange loamy sand		
Vegetation condition:	2		
Fire age & intensity:	Old (> 5 years), few trees killed		
Disturbances:	Dry conditions		
Surface component:			
Loose soil (%):	30-70		
Leaf litter:	Moderate		
Wood litter:	Moderate		



Species List

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Fabaceae	<i>Acacia eriopoda</i>		M1	10-30	2.0-4.0
Proteaceae	<i>Hakea macrocarpa</i>		M1	<2N	3.0-4.0
Myrtaceae	<i>Corymbia</i> sp. (reshooting)		M1	<2T	2.0
Fabaceae	<i>Bauhinia cunninghamii</i>		M1	<2T	3.0-4.0
Moraceae	<i>Ficus aculeata</i> var. <i>indecora</i>		M1	<2T	2.0
Bignoniaceae	<i>Dolichandrone heterophylla</i>		M2	<2T	1.8
Proteaceae	<i>Grevillea pyramidalis</i>		M2	<2N	1.0-1.8
Poaceae	<i>Sorghum plumosum</i> var. <i>plumosum</i>		M2	30-70	1.5
Boraginaceae	<i>Ehretia saligna</i>		M2	<2T	1.5
Proteaceae	<i>Persoonia falcata</i>		M2	<2T	1.8
Fabaceae	<i>Erythrophleum chlorostachys</i>		M2	<2T	1.0
Poaceae	<i>Triodia schinzii</i>		M2	10-30	1.5
Apocynaceae	<i>Carissa lanceolata</i>		M2	<2N	1.8
Celastraceae	<i>Denhamia cunninghamii</i>		M2	<2T	1.4

Family	Taxon	Status	Stratum	Cover (%)	Height (m)
Commelinaceae	<i>Murdannia graminea</i>		G1	<2N	0.5
Poaceae	<i>Triodia schinzii</i>		G1	2-10	1.0
Gyrostemonaceae	<i>Gyrostemon tepperi</i>		G2	<2N	0.3
Malvaceae	<i>Sida</i> sp. (insufficient material)		G2	<2N	0.3
Fabaceae	<i>Glycine tomentella</i>		G2	<2N	Prostrate
Boraginaceae	<i>Heliotropium leptaleum</i>		G2	<2T	0.2
Violaceae	<i>Hybanthus aurantiacus</i>		G2	<2T	0.3
Solanaceae	<i>Solanum cunninghamii</i>		G2	<2T	0.1
Proteaceae	<i>Grevillea pyramidalis</i>		G2	<2N	0.1
Fabaceae	<i>Chamaecrista moorei</i>		G2	<2T	0.2

Appendix G – Fauna data

Fauna species list

Fauna Likelihood of occurrence assessment

Trapping data

Bilby Plot data

Fauna species recorded during the Phase 1 and 2 field surveys

Family	Genus	Species	Common Name	Status	Dec-15		Mar-16	
					Site 1	Site 2	Site 1	Site 2
Birds								
Acanthizidae	<i>Gerygone</i>	<i>albogularis</i>	White-throated Gerygone		X	X		X
Acanthizidae	<i>Smicrornis</i>	<i>brevirostris</i>	Weebill				X	
Accipitridae	<i>Accipiter</i>	<i>cirrocephalus</i>	Collared Sparrowhawk		X			
Accipitridae	<i>Accipiter</i>	<i>fasciatus</i>	Brown Goshawk					X
Accipitridae	<i>Aquila</i>	<i>morphnoides</i>	Little Eagle					X
Accipitridae	<i>Haliastur</i>	<i>sphenurus</i>	Whistling Kite					X
Accipitridae	<i>Haliastur</i>	<i>indus</i>	Brahmany Kite					X
Accipitridae	<i>Milvus</i>	<i>migrans</i>	Fork-tailed Kite			X	X	X
Artamidae	<i>Artamus</i>	<i>cinereus</i>	Black-faced Woodswallow		X	X	X	X
Artamidae	<i>Artamus</i>	<i>personatus</i>	Masked Woodswallow					X
Artamidae	<i>Cracticus</i>	<i>nigrogularis</i>	Pied Butcherbird		X	X	X	X
Artamidae	<i>Cracticus</i>	<i>tibicen</i>	Australian Magpie		X	X	X	X
Cacatuidae	<i>Cacatua</i>	<i>banksii macrorhynchus</i>	Red-tailed Black Cockatoo					X
Cacatuidae	<i>Cacatua</i>	<i>sanguinea sanguinea</i>	Little Corella				X	X
Cacatuidae	<i>Eolophus</i>	<i>roseicapillus</i>	Galah			X		
Campephagidae	<i>Coracina</i>	<i>novae hollandiae</i>	Black-faced Cuckoo-Shrike		X	X	X	X
Campephagidae	<i>Lalage</i>	<i>sueurii</i>	White-winged Triller			X		
Columbidae	<i>Geopelia</i>	<i>striata</i>	Peaceful Dove		X	X	X	X
Columbidae	<i>Geopelia</i>	<i>humeralis</i>	Bar-shouldered Dove				X	X
Columbidae	<i>Ocyphaps</i>	<i>lophotes</i>	Crested Pigeon			X		X
Coraciidae	<i>Eurystomus</i>	<i>orientalis</i>	Dollarbird			X		
Corvidae	<i>Corvus</i>	<i>orru</i>	Torresian Crow		X	X	X	X
Cuculidae	<i>Centropus</i>	<i>phasianinus phasianinus</i>	Pheasant Coucal			X		X
Estrildidae	<i>Poephila</i>	<i>acuticauda</i>	Long-tailed Finch		X	X		X
Estrildidae	<i>Taeniopygia</i>	<i>bichenovii</i>	Double-barred Finch				X	
Falconidae	<i>Falco</i>	<i>berigora berigora</i>	Brown Falcon		X	X	X	X

Family	Genus	Species	Common Name	Status	Dec-15		Mar-16	
					Site 1	Site 2	Site 1	Site 2
Falconidae	<i>Falco</i>	<i>cenchroides cenchroides</i>	Nankeen Kestrel					X
Halcyonidae	<i>Dacelo</i>	<i>leachii leachii</i>	Blue-winged Kookaburra			X	X	X
Halcyonidae	<i>Todiramphus</i>	<i>sanctus</i>	Sacred Kingfisher			X	X	X
Maluridae	<i>Malurus</i>	<i>lamerti</i>	Variegated Fairy-wren		X			X
Maluridae	<i>Malurus</i>	<i>melanocephalus</i>	Red-backed Fairy-wren		X	X	X	X
Megaluridae	<i>Cincloramphus</i>	<i>mathewsi</i>	Rufous Songlark					X
Meliphagidae	<i>Lichenostomus</i>	<i>virescens</i>	Singing Honeyeater		X	X	X	X
Meliphagidae	<i>Lichmera</i>	<i>indistincta indistincta</i>	Brown Honeyeater		X		X	X
Meliphagidae	<i>Philemon</i>	<i>citreogularis citreogularis</i>	Little Friarbird		X	X	X	X
Meropidae	<i>Merops</i>	<i>ornatus</i>	Rainbow Bee-eater	S5, IA		X	X	X
Monarchidae	<i>Grallina</i>	<i>cyanoleuca</i>	Magpie-lark			X		X
Monarchidae	<i>Myiagra</i>	<i>inquieta</i>	Restless Flycatcher			X		X
Nectariniidae	<i>Dicaeum</i>	<i>hirundinaceum</i>	Mistletoebird				X	X
Neosittidae	<i>Daphoenositta</i>	<i>chrysoptera leucoptera</i>	White-winged Sittella			X		X
Otididae	<i>Ardeotis</i>	<i>australis</i>	Australian Bustard			X		
Pachycephalidae	<i>Pachycephala</i>	<i>rufiventris</i>	Rufous Whistler		X	X		X
Pardalotidae	<i>Pardalotus</i>	<i>striatus</i>	Striated Pardalote				X	X
Petroicidae	<i>Microeca</i>	<i>fascinans</i>	Jacky Winter			X		
Podargidae	<i>Podargus</i>	<i>strigoides</i>	Tawny Frogmouth					X
Pomatostomidae	<i>pomatostomus</i>	<i>temporalis</i>	Grey-crowned Babbler			X	X	X
Psittacidae	<i>Aprosmictus</i>	<i>erythropterus coccineopterus</i>	Red-winged Parrot			X	X	X
Psittacidae	<i>Trichoglossus</i>	<i>haematodus rubritorquis</i>	Red Collared Lorikeet		X	X	X	X
Psittacidae	<i>Psitteuteles</i>	<i>versicolor</i>	Varried Lorikeet					X
Ptilonorhynchidae	<i>Ptilonorhynchus</i>	<i>nuchalis nuchalis</i>	Great Bowerbird				X	X
Rhipiduridae	<i>Rhipidura</i>	<i>leucophrys</i>	Willie Wagtail		X	X		X
Strigidae	<i>Ninox</i>	<i>novaehollandiae</i>	Boobook Owl				X	X
Threskiornithidae	<i>Threskiornis</i>	<i>spinicollis</i>	Straw-necked Ibis					X
Turnicidae	<i>Turnix</i>	<i>velox</i>	Little Button Quail		X			

Family	Genus	Species	Common Name	Status	Dec-15		Mar-16	
					Site 1	Site 2	Site 1	Site 2
Amphibians								
Hylidae	<i>Litoria</i>	<i>caurelea</i>	Green Tree Frog					X
Mammals								
Bovidae	<i>Bos</i>	<i>taurus</i>	Cow	int			X	X
Canidae	<i>Canus</i>	<i>dingo</i>	Dingo		X	X		X
Equidae	<i>Equus</i>	<i>caballus</i>	Horse	int				X
Emballonuridae	<i>Saccolaimus</i>	<i>flaviventris</i>	Yellow-bellied Sheath-tailed Bat					?
Felidae	<i>Felis</i>	<i>catus</i>	Feral Cat	int	X	X	X	X
Macropodidae	<i>Macropus</i>	<i>agilis</i>	Agile Wallaby		X	X	X	X
Molossidae	<i>Chaerephon</i>	<i>jobensis</i>	Northern Freetail Bat					?
Molossidae	<i>Ozimops</i>	<i>cobourgianus</i>	Little North-western Mastiff Bat	P1				X
Muridae	<i>Pseudomys</i>	<i>delicatus</i>	Delicate Mouse				X	
Muridae	<i>Pseudomys</i>	<i>nanus</i>	Western Chestnut Mouse				X	X
Tachyglossidae	<i>Tachyglossus</i>	<i>aculeatus</i>	Echidna			X	X	X
Vespertilionidae	<i>Scotorepens</i>	<i>greyii</i>	Little Broad-nosed Bat					X
Reptiles								
Agamidae	<i>Amphibolurus</i>	<i>gilberti gilberti</i>	Gilberts Water Dragon				X	X
Agamidae	<i>Chlamydosaurus</i>	<i>kingii</i>	Frilled Lizard				X	X
Agamidae	<i>Diporiphora</i>	<i>pindan</i>	Pindan Dragon		X	X	X	X
Agamidae	<i>Pogona</i>	<i>minor</i>	Dwarf Bearded Dragon				X	X
Boidae	<i>Aspidites</i>	<i>melanocephalus</i>	Black-headed Python				X	
Boidae	<i>Antaresia</i>	<i>stimsoni</i>	Stimsons Python					X
Diplodactylidae	<i>Diplodactylus</i>	<i>conspicillatus</i>	Fat-tailed Gecko				X	X
Diplodactylidae	<i>Lucasium</i>	<i>stenodactylum</i>	Sandplain Gecko				X	
Diplodactylidae	<i>Strophurus</i>	<i>ciliaris aberrans</i>	Northern Spiny-tailed Gecko				X	X
Elapidae	<i>Brachyuropsis</i>	<i>roperi</i>	Northern Shovel-nosed snake				X	X
Elapidae	<i>Demansia</i>	<i>angusticeps</i>	Dampierlands Whipsnake				X	
Elapidae	<i>Furina</i>	<i>ornata</i>	Moon Snake					X

Family	Genus	Species	Common Name	Status	Dec-15		Mar-16	
					Site 1	Site 2	Site 1	Site 2
Elapidae	<i>Pseudechis</i>	<i>australis</i>	Mulga Snake			X		X
Elapidae	<i>Pseudonaja</i>	<i>mengdeni</i>	Gwardar					X
Gekkonidae	<i>Amalosia</i>	<i>rhombifer</i>	Zig Zag Gecko			X		
Gekkonidae	<i>Gehyra</i>	<i>australis</i>	Northern Dtella			X		
Gekkonidae	<i>Gehyra</i>	<i>pilbara</i>	Pilbara Dtella				X	X
Gekkonidae	<i>Gehyra</i>	<i>variegata</i>	Tree Dtella					X
Gekkonidae	<i>Hemidactylus</i>	<i>frennatus</i>	House Gecko	int				X
Gekkonidae	<i>Heteronotia</i>	<i>binoei</i>	Bynoe's Gecko				X	X
Pygopodidae	<i>Lialis</i>	<i>burtonis</i>	Burton's Legless Lizard		X	X		X
Pygopodidae	<i>Delma</i>	<i>tincta</i>	Excitable Delma					X
Scincidae	<i>Carlia</i>	<i>munda</i>	Striped Rainbow Skink		X		X	X
Scincidae	<i>Cryptoblephorus</i>	<i>ruber</i>	Ruber Snake-eyed Skink				X	X
Scincidae	<i>Cryptoblephorus</i>	<i>tytthos</i>	Pygmy Snake-eyed Skink			X		
Scincidae	<i>Ctenotus</i>	<i>inornatus</i>	Plain Ctenotus		X	X	X	X
Scincidae	<i>Ctenotus</i>	<i>pantherinus calx</i>	Leopard Skink				X	X
Scincidae	<i>Ctenotus</i>	<i>robustus</i>	Robust Skink				X	X
Scincidae	<i>Ctenotus</i>	<i>serventi</i>	North-western Sand-loam Ctenotus				X	X
Scincidae	<i>Erimascincus</i>	<i>isolepis</i>	Northern Bar-lipped Skink				X	X
Scincidae	<i>Lerista</i>	<i>griffini</i>	Griffin's Burrowing skink				X	X
Scincidae	<i>Menetia</i>	<i>greyii</i>	Common Dwarf Skink				X	
Scincidae	<i>Problephorus</i>	<i>tenuis</i>	Slender Snake-eyed Skink					X
Scincidae	<i>Tiliqua</i>	<i>multifasciata</i>	Central Blue-tongue					X
Scincidae	<i>Tiliqua</i>	<i>scincoides intermedia</i>	Northern Blue-tongue					X
Typhlopidae	<i>Anilius</i>	<i>diversus</i>	Northern Blindsnake				X	X
Typhlopidae	<i>Anilius</i>	<i>grypus</i>	Northern Beaked Blindsnake				X	
Varanidae	<i>Varanus</i>	<i>acanthurus</i>	Ridge-tailed Monitor		X			X
Varanidae	<i>Varanus</i>	<i>gouldii</i>	Gould's Monitor		X	X	X	X
Varanidae	<i>Varanus</i>	<i>panpotes panoptes</i>	Yellow-spotted Monitor				X	X

Family	Genus	Species	Common Name	Status	Dec-15		Mar-16	
					Site 1	Site 2	Site 1	Site 2
Varanidae	<i>Varanus</i>	<i>tristis tristis</i>	Racehorse Goanna				X	X

S5 Schedule 5 (Species under international Agreement) under WC Act.
IA International Agreement under EPBC Act.
P1 Priority 1 listed species under DPaW.
Int Introduced Species
X Recorded Species

Fauna likelihood of occurrence assessment

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
Birds							
<i>Falco hypoleucos</i> (Grey Falcon)	VU	-	-	Y	-	The Grey Falcon inhabits lightly timbered country, especially stony plains and lightly timbered acacia scrub. This species is considered scarce to rare and is usually found singularly or sometimes in pairs (Morcombe 2004). In Pilbara WA, the grey falcon is very rare. The distribution of the Grey Falcon is centred on inland drainage systems, where it frequents timbered lowland plains, particularly acacia shrublands cross by tree-lined watercourses. It also hunts in treeless areas and frequents tussock grassland and open woodland, especially in winter, but it generally avoids deserts.	Likely – opportunistic use Habitat: Habitat is available for this species on the Sites. Records: Numerous records in WA and several individuals have been recorded in Broome with the most recent in 2002.
<i>Rostratula benghalensis</i> subsp. <i>australis</i> (Australian Painted Snipe)	EN	EN	-	Y	Y	The Australian Painted Snipe is rarely seen as it is extremely secretive, keeping to dense vegetation of swamps, emerging only in subdued light of dawn and dusk. The preferred habitat of this species includes surrounds and shallows of wetlands that are well vegetated with dense low cover (Morcombe 2004).	Unlikely Habitat: No habitat is present on the Sites for this species to utilise. Records: Numerous records in the Broome region both south and east. Several individuals have been recorded on the Roebuck Plains (associated with Roebuck Bay) with the most recent in 2004.
<i>Tyto novaehollandiae</i> subsp. <i>kimberli</i> (Masked Owl)	P1	V	-	-	Y	The distribution of the northern sub-species of the Masked Owl is poorly known, however it is thought to occur in three subpopulations including the Kimberley, Northern Territory and Cape York. In the Kimberley region, the species occurs from Yampi Sound north-east to Cambridge Gulf, including Windjana Gorge and Augustus Island. The Masked Owl inhabits a variety of habitats from riparian forest, rainforest, open forest, Melaleuca swamps and the edges of mangroves, as well as along the margins of sugar cane fields (DotE 2016).	Unlikely Habitat: Limited habitat is present on the Sites for this species to utilise and the species is not known to occur in the area. Records: No records are present in the Broome region the species is known from the Kimberley bioregion.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Erythrotriorchis radiatus</i> (Red Goshawk)	V	V	-	-	Y	The Red Goshawk occurs in coastal and sub-coastal areas in wooded and forested lands of tropical and warm-temperate Australia (Marchant and Higgins 1993). Riverine forests are also used frequently (Debus 1991; 1993). Such habitats typically support high bird numbers and biodiversity, especially medium to large species which the goshawk requires for prey. The Red Goshawk nests in large trees, frequently the tallest and most massive in a tall stand, and nest trees are invariably within one km of permanent water (Aumann and Baker-Gabb 1991).	Unlikely Habitat: Limited habitat is present on the Sites for this species to utilise and the species is not known to occur in the area. Records: No records are present in the Broome region the species is known from the Kimberley bioregion.
<i>Falco peregrinus</i> subsp. <i>macropus</i> (Australian Peregrine Falcon)	OS	-	-	Y	-	The Peregrine Falcon is uncommon but wide-ranging across Australia. Habitat is extremely diverse, from rainforest to arid scrub, from coastal heath to alpine. The Peregrine Falcon nests primarily on ledges of cliffs, shallow tree hollows, and ledges of building in cities (Morcombe 2004).	Likely – opportunistic use Habitat: Habitat is available for this species on the Sites. Records: Numerous records in the Broome area with records documented regularly, the last being in 2009.
<i>Gallinago megala</i> (Swinhoe's Snipe)	IA	-	-	Y	-	Swinhoe's Snipe breeds in central and southern Siberia. Few definite records exist for Swinhoe's Snipe in Australia. The species has been recorded in the north between the Kimberley Divide and Cape York Peninsula. In Western Australia the species has been recorded in Pilbara, the Kimberley region, Mount Goldsworthy, Mount Blaize and in the north-west regions around the Mitchell Plateau. Habitat specific to Australia includes the dense clumps of grass and rushes round the edges of fresh and brackish wetlands. This includes swamps, billabongs, river pools, small streams and sewage ponds. They are also found in drying claypans and inundated plains pitted with crab holes.	Unlikely Habitat: No habitat is present on the Sites for this species to utilise. Records: Numerous records in the Broome region. Several individuals have been recorded in the northern area of Roebuck Bay and on the Roebuck Plains (associated with Roebuck Bay) with the most recent in 2009.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Gallinago stenura</i> (Pin-tailed Snipe)	IA	-	-	Y	-	The species distribution within Australia is not well understood. There are confirmed records from NSW, south-west Western Australia, Pilbara and the Top End. In NSW a single banded bird was reported near West Wyalong. In Western Australia the species was reported at Pilbara, Port Headland, Myaree Pool, Maitland River and near Karratha. In Pilbara the distribution is believed to be bound by Pardoo (Banningarra Spring) and the lower Maitland River and Shay Gap. The Pin-tailed Snipe has also been reported on the Cocos-Keeling Islands as well as Christmas Island. During non-breeding period the Pin-tailed Snipe occurs most often in or at the edges of shallow freshwater swamps, ponds and lakes with emergent, sparse to dense cover of grass/sedge or other vegetation. The species is also found in drier, more open wetlands such as claypans in more arid parts of species' range. It is also commonly seen at sewage ponds; not normally in saline or inter-tidal wetlands.	Unlikely Habitat: No habitat is present on the Sites for this species to utilise. Records: Two records in coastal Broome region. Individuals have been recorded in the northern area of Roebuck Bay with the most recent in 2004.
<i>Elanus scriptus</i> (Letter-winged Kite)	P4	-	-	Y	-	The letter-winged kite is a conspicuous raptor with a core range in central Australia. The adult is a small and graceful, predominantly pale grey and white, bird with black shoulders and red eyes. Breeding is eruptive in response to population booms of the Long-haired Rat during good times. The letter-winged Kite is able to achieve a sudden population increase and during this time disburses in search of resources. The species is rarely recorded in Western Australia but has been seen in the Carnarvon, northern Deserts and Kimberley region during a population boom.	Unlikely – occasional opportunistic use Habitat: Habitat is available for this species on the Sites. Records: Very few records in WA, however two individuals have been recorded in Broome in 1994.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Erythrura gouldiae</i> (Gouldian Finch)	P4	EN	-	Y	Y	The Gouldian Finch inhabits open woodlands that are dominated by Eucalyptus trees and support a ground cover of Sorghum and other grasses (Boekel 1980). The critical components of suitable core habitat for the Gouldian Finch appear to be the presence of favoured annual and perennial grasses (especially Sorghum), a nearby source of surface water and, in the breeding season, unburnt hollow-bearing Eucalyptus trees (especially <i>E. tintinnans</i> , <i>E. brevifolia</i> and <i>E. leucophloia</i>) (Higgins et al. 2006).	Unlikely – occasional opportunistic use Habitat: Habitat is available for this species on the Sites, however no water sources are present. Records: Two very old records are preserved in the Western Australian Museum from a Broome location however no recent records are present. In 2010 a small flock was recorded at County Downs Station on Cape Leveque.
<i>Ixobrychus flavicollis</i> subsp. <i>australis</i> (Australian Black Bittern)	P1	-	-	Y	-	The Black Bittern has a wide distribution, from the southern NSW north to Cape York and along the entire northern coast to the Kimberley region. The species also occurs in the south-western corner of Western Australia (Marchant and Higgins 1990). The Australian Black Bittern occurs in diverse wetlands, estuarine and littoral and requires dense water-edge vegetation, even if only a narrow fringe. Habitats also include dense surrounds of freshwater springs and billabongs, and tidal reaches of creeks and rivers (Morcombe 2004)."	Unlikely Habitat: No habitat is present on the Sites for this species to utilise. Records: Numerous records in the Kimberley region with only one record from Broome. This record is from 1999 and was recorded within the Roebuck Plains east of the Sites.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Ixobrychus minutus</i> (Little Bittern)	P4	-	-	Y	-	<p>This secretive bird species occurs in the north-east of the Kimberley, across to the Northern Territory. The Little Bittern tends to inhabit freshwater swamps, lakes and rivers with dense reedbeds, tall sedges and well-vegetated margins, rarely emerging into the open (Morcombe 2004). It can also occur in brackish-saline mangroves, salt marsh and coastal lagoons. The Little Bittern camouflages itself by freezing in pose to mimic the narrow, vertical shape and colour of reeds (Morcombe 2004). The species breeds mainly between October and January in Australia. It breeds singly or occasionally in small loose groups in favourable areas. The nest is constructed from reeds and twigs and is generally placed near open pools in thick emergent vegetation close to the surface of the water. The Little Bittern feeds on insects, fish and amphibians. This species is threatened by habitat degradation and loss through direct destruction, pollution and hydrological changes.</p>	<p>Unlikely</p> <p>Habitat: No habitat is present on the Sites for this species to utilise.</p> <p>Records: Scattered records in the Kimberley region with only two records from Broome. These records are from 1900 and 2001 and from within the Coconut Wells wetlands north of Broome.</p>

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Merops ornatus</i> (Rainbow Bee-eater)	IA	MiT	-	Y	Y	<p>The Rainbow Bee-eater occurs mainly in open forests and woodlands, shrublands, and in various cleared or semi-cleared habitats, including farmland and areas of human habitation (Higgins 1999). It usually occurs in open, cleared or lightly-timbered areas that are often, but not always, located in close proximity to permanent water (Badman 1979; Boekel 1976; Fry 1984; Roberts 1979; Storr 1984a, 1984b, 1985a in DotE 2016). It also occurs in inland and coastal sand dune systems, and in mangroves in northern Australia, and has been recorded in various other habitat types including heathland, sedgeland, vine forest and vine thicket, and on beaches (Higgins 1999). The movement patterns of the Rainbow Bee-eater are complex, and are not fully understood. Populations that breed in southern Australia are migratory. After breeding, they move north and remain there for the duration of the Australian winter. However, populations that breed in northern Australia are considered to be resident, and in many northern localities the Rainbow Bee-eater is present throughout the year (Emison et al. 1987; Lane 1963; Morris et al. 1981; Saunders and Ingram 1995; Serventy 1948; Serventy and Whittell 1976; Terrill and Rix 1950 in DotE 2015).</p>	<p>Known – opportunistic use, breeding habitat and foraging</p> <p>Habitat: Habitat is available for this species on the Sites.</p> <p>Records: Several birds observed over the survey period. Numerous records in the Broome area with records documented regularly, the last being in 2016.</p>

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Polytelis alexandrae</i> (Princess Parrot)	P4	V	-	Y	Y	The Princess Parrot inhabits sand dunes and sand flats in the arid zone of western and central Australia. It occurs in open savanna woodlands and shrublands that usually consist of scattered stands of <i>Eucalyptus</i> (including <i>E. gongylocarpa</i> , <i>E. chippendalei</i> and mallee species), <i>Casuarina</i> or <i>Allocasuarina</i> trees; an understorey of shrubs such as <i>Acacia</i> (especially <i>A. aneura</i>), <i>Cassia</i> , <i>Eremophila</i> , <i>Grevillea</i> , <i>Hakea</i> and <i>Senna</i> ; and a ground cover dominated by <i>Triodia</i> species (Allen 1987; Baxter and Henderson 2000;). It also frequents <i>Eucalyptus</i> or <i>Allocasuarina</i> trees in riverine or littoral areas (Carter 1993).	Unlikely - occasional opportunistic use Habitat: Habitat is available for this species on the Sites. Records: Very few records in WA, with most records being from the central desert areas. One record is from Broome town however this record is dubious and potentially an escaped aviary bird.
<i>Ardea ibis</i> (Cattle Egret)	IA	MiT	-	Y	Y	The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands. It has occasionally been seen in arid and semi-arid regions however this is extremely rare. High numbers have been observed in moist, low-lying poorly drained pastures with an abundance of high grass; it avoids low grass pastures. It uses predominately shallow, open and fresh wetlands including meadows and swamps with low emergent vegetation and abundant aquatic flora. They have sometimes been observed in swamps with tall emergent vegetation (Marchant and Higgins 1990).	Unlikely - occasional opportunistic use Habitat: Limited habitat is available for this species on the Sites. Records: Numerous records in the Kimberley region with scattered records from Broome. Most records are associated to Roebuck Bay and the Roebuck Plains east of the Sites.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Ardea modesta</i> (Eastern Great Egret)	IA	MiT	-	Y	Y	The Eastern Great Egret has been reported in a wide range of wetland habitats (for example inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated, large and small, natural and artificial). These include swamps and marshes; margins of rivers and lakes; damp or flooded grasslands, pastures or agricultural lands; reservoirs; sewage treatment ponds; drainage channels; salt pans and salt lakes; salt marshes; estuarine mudflats, tidal streams; mangrove swamps; coastal lagoons; and offshore reefs. The Eastern Great Egret may retreat to permanent wetlands or coastal areas when other wetlands are dry (for example, during drought). This may occur annually in some regions with regular wet and dry seasons or erratically where the availability of wetland habitat is also erratic (Marchant and Higgins 1990).	Unlikely Habitat: No wetland habitat is available for this species. Records: Numerous records in the Kimberley region with scattered records from Broome. Most records are associated to Roebuck Bay, Willies Creek, Coconut well wetland and the Roebuck Plains east of the Sites.
<i>Plegadis falcinellus</i> (Glossy Ibis)	IA	-	-	Y	-	The Glossy Ibis' preferred habitat for foraging and breeding are fresh water marshes at the edges of lakes and rivers, lagoons, flood-plains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation. The species is occasionally found in coastal locations such as estuaries, deltas, saltmarshes and coastal lagoons. Within Australia, the largest contiguous areas of prime habitat are in inland and northern floodplain areas (Marchant and Higgins 1990).	Unlikely Habitat: No wetland habitat is available for this species. Records: Numerous records in the Kimberley region with scattered records from Broome. Most records are associated to Roebuck Bay, Willies Creek and the Roebuck Plains east of the Sites.
<i>Cuculus saturatus</i> subsp <i>optatus</i> (Oriental Cuckoo)	IA	MiT	-	Y	Y	The Oriental Cuckoo is a vagrant to Australia visiting much of Northern Australia and the east coast. A solitary species that prefers dense foliage in rain forests, monsoonal thickets, vine scrub, riverine vegetation forests and paperbark swamps (Morcombe 2004). This species tends to be uncommon.	Unlikely - occasional opportunistic use Habitat: Limited habitat is available for this species on the Sites. Records: No records from Broome.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Glareola maldivarum</i> (Oriental Pratincole)	IA	-	-	Y	-	In non-breeding grounds in Australia, the Oriental Pratincole usually inhabits open plains, floodplains or short grassland (including farmland or airstrips), often with extensive bare areas. They often occur near terrestrial wetlands, such as billabongs, lakes or creeks, and artificial wetlands such as reservoirs, salt works and sewage farms, especially around the margins. The species also occurs along the coast, inhabiting beaches, mudflats and islands, or around coastal lagoons (Lloyd and Lloyd 1991).	Unlikely Habitat: No habitat is available for this species on the Sites. Records: Numerous records in the Kimberley region with scattered records from Broome. Most records are associated to Roebuck Bay, Willies Creek and the Roebuck Plains east of the Sites.
<i>Hirundapus caudacutus</i> (White-throated Needletail)	IA	-	-	Y	-	White-throated Needletails are a non-breeding migrant to Australia. The species migrates from its breeding grounds in the northern hemisphere in about October each year and leave somewhere between May and August. Typically the species is known from good numbers across eastern Australia however the species has been observed in the Broome area. White-throated Needletails are mostly an aerial species however they are known to roost in tree. Feeding is undertaken on the wing and primarily consists of flying insects, such as termites, ants, beetles and flies (Birdlife Australia 2016).	Unlikely - occasional opportunistic use Habitat: Limited habitat is available for this species on the Sites. Records: One record from Broome in 2000. No other records in WA.
<i>Apus pacificus</i> (Fork-tailed Swift)	IA	-	-	Y	-	In south-west WA there are sparsely scattered records along the south coast, ranging from the Eyre Bird Observatory and west to Denmark. They are widespread in coastal and sub-coastal areas between Augusta and Carnarvon, including some on nearshore and offshore islands. This species is almost exclusively aerial, flying less than 1 m to at least 300 m above ground. This species is considered rare in the south-west region (DotE 2016)	Unlikely - occasional opportunistic use Habitat: Limited habitat is available on the Sites due to this species being exclusively aerial. Records: Numerous records from around Broome however mostly associated to the Roebuck Plains.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Hirundo rustica</i> (Barn Swallow)	IA	MiT	-	Y	Y	In Australia, the Barn Swallow is recorded in open country in coastal lowlands, often near water, towns and cities. Birds are often sighted perched on overhead wires, and also in or over freshwater wetlands, paperbark Melaleuca woodland, mesophyll shrub thickets and tussock grassland.	Unlikely - occasional opportunistic use Habitat: Limited habitat is available on the Sites due no water bodies or wetlands present in the area. Records: Numerous records from around Broome however mostly associated to the Roebuck Plains, Willies Creek and Broome town ship.
<i>Cecropis daurica</i> (Red-rumped Swallow)	IA	MiT	-	-	Y	The Red-rumped Swallow is a small member of the swallow family. It breeds in open hilly country of temperate southern Europe and Asia from Portugal and Spain to Japan, India and tropical Africa. They winter in Africa or India and are vagrants to Christmas Island and northern Australia. The specie prefers to hunt for flying insects over open plains.	Highly Unlikely Habitat: Limited habitat is available for this species on the Sites. Records: No records from Broome.
<i>Motacilla flava</i> (Yellow Wagtail)	IA	MiT	-	Y	Y	A migratory species that regularly visits northern Australia particularly the area from Broome to Darwin (Morcombe 2004). The species prefers coastal habitat near to water where it prefers to forage. However the species has been recorded further inland feeding on plains (Morcombe 2004).	Unlikely - occasional opportunistic use Habitat: Limited habitat is available on the Sites due no water bodies, plains or wetlands present in the area. Records: Two records from Broome, 2002 and 2003.
<i>Motacilla cinerea</i> (Grey Wagtail)	IA	MiT	-	-	Y	Like the Yellow Wagtail the Grey is a migratory species that regularly visits northern Australia particularly the area from Broome to Darwin (Morcombe 2004). The species prefers coastal habitat near to water where it prefers to forage. However the species has been recorded further inland feeding on plains (Morcombe 2004).	Unlikely - occasional opportunistic use Habitat: Limited habitat is available on the Sites due no water bodies, plains or wetlands present in the area. Records: No records from Broome.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
Mammals							
<i>Hydromys chrysogaster</i> (Water-rat)	P4	-	-	Y	-	The Water Rat lives in the vicinity of permanent bodies of fresh or brackish water, from sub-alpine streams to lakes and farm dams, and on sheltered coastal beaches, mangroves and offshore islands. It can travel considerable distance overland and is an occasional vagrant to temporary waters. Water Rat's dens are made at the end of tunnels in banks and occasionally in logs (Van Dyck and Strahan 2008).	Unlikely Habitat: No wetland or riverine or estuarine habitat is available on the Sites for this species. Records: One record from Broome in 1971. No other records in the region.
<i>Trichosurus vulpecula arnhemensis</i> (Northern Brushtail Possum)	V		X	Y		<i>Trichosurus vulpecula arnhemensis</i> is a sub species of the Common Brushtail Possum (<i>Trichosurus vulpecula vulpecula</i>), with its most distinguishing feature being its geographic range and in Western Australia a smaller tail length. In Western Australia the subspecies is known from the Kimberley and Pilbara regions and is also found on Barrow Island (Nowak 1999). The Northern Brushtail Possum is able to live in a variety of habitats, including residential areas, vine thickets, forests, woodlands and areas without trees that offer caves and burrows for shelter (such as those on Barrow Island). Typically the species is a nocturnal and solitary however the Northern Brushtail Possum has been known to partake in den sharing and to have a certain amount of tolerance for other individuals (Kerle 1991). Males may occupy a territory of up to 4 hectares and females, up to 2 ha (Ganslosser 1990).	Unlikely – opportunistic use only Habitat: Limited habitat is available for this species on the Sites. The Pindan Shrubland has few Eucalypts with hollows. Records: Numerous records in the Broome town ship and Coconut wells area with records documented regularly, the last being in 2016. There are no records for the Project area or surrounds.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Macrotis lagotis</i> (Bilby)	V	V	-	Y	Y	<p>The Greater Bilby distribution in Western Australia is restricted to the north, including the Pilbara, Sandy, Gibson Desert and Dampier Peninsular. The Greater Bilby usually spends the daytime in burrows, often built against termite mounds, spinifex hummock or shrubs (Van Dyck and Strahan 2008). Extant population of the Greater Bilby occur in a variety of habitats, usually on landforms with level to low slope topography and light to medium soils. It occupies three major vegetation types; open tussock grassland on uplands and hills, mulga woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas. Laterite and rock feature substrates are an important part of Greater Bilby habitat. These habitat support shrub species, such as <i>Acacia</i> and <i>Dodonaea</i>, which have root-dwelling larvae that provide a constant food source for the Greater Bilby. After dark they leave their burrows to feed and populations are known to move long distances when current habitat ranges become unsuitable. Bilbies are largely solitary, widely dispersed and found in low numbers. The current occurrence of the Greater Bilby is strongly associated with higher rainfall and temperatures, which promote areas of higher plant and food production. The Greater Bilby may also prefer these conditions as higher rainfall and temperatures are not well tolerated by foxes (Pavey 2006; Southgate et al. 2007).</p>	<p>Likely – opportunistic use, breeding habitat and foraging</p> <p>Habitat: Habitat is available for this species on the Sites.</p> <p>Records: Numerous records in the Broome area with records documented regularly, the last being in 2016.</p>

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Mesembriomys macrurus</i> (Golden-backed Tree-rat)	P4	-	-	Y	-	The Golden-backed Tree Rat is recorded utilising habitats in the Kimberley as rainforest patches on volcanic, lateritic, sandstone and floodplain surfaces, Eucalypt-dominated woodlands over tussock or hummock grasslands on volcanic hill country. Lateritic uplands (with <i>Livistona</i> sp.), Black soil plains (with <i>Pandanus</i> sp.), Rugged sandstone screes and coastal beaches adjacent to the above communities or mangroves (Palmer et al. 2003).	Unlikely Habitat: Habitat is present on the Sites for this species to utilise (i.e. woodlands). Records: Three records from 1895 located north of Broome town site at a site called watershed. No other records are from this area with the next closest record in Derby. The species is primarily known to occur in the north-western Kimberley region.
<i>Wyulda squamicaudata</i> (Scaly-tailed Possum)	P3	-	-	Y	-	The scaly-tailed possum is only found in north-western Australia in the Kimberley region. The species is monotypic in its genus, it is sometimes known simply by its genus — the Wyulda. The possum has a limited range and is found in high rainfall coastal regions of the north Kimberley between Yampi Sound and Kalumburu, as well as further inland in the east Kimberley at Emma Gorge and near the Bungle Bungles. Populations also inhabit Bigge Island and Boongaree Island of the northwest coast. The preferred habitat of this animal is sandstone based woodlands where it can shelter in rock piles and fissures and feed in the trees at night (Van Dyck et al. 2003).	Unlikely Habitat: No habitat is present on site for this species to utilise (i.e. rock and woodlands in association). Records: One record (1970) located at Broome town site however the descriptive location of this record is from the Shire of Broome which means the location is general and likely incorrect. All other records of the species are from the north-western Kimberley or Kununurra and Bungle Bungles

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Saccolaimus saccolaimus</i> subsp. <i>nudicluniatum</i> (Bare-rumped Sheathtail Bat)	-	CR	-	-	Y	The bare-rumped sheathtail bat is a large insectivorous bat. The fur is dark red-brown to almost black, with white speckles, and this fur doesn't extend to the rump. This species has a wide distribution from India through south-eastern Asia to the Solomon Islands, and including northern and eastern Australia. The north-eastern Australian populations are described as the subspecies <i>S. s. nudicluniatum</i> . This is a high-flying insectivorous bat. Specimens have been collected from open Pandanus woodland, eucalypt tall open forests and coastal lowlands, including eucalypt woodlands and rainforests (Churchill 1998, Duncan et al. 1999). It roosts in tree hollows and caves (Duncan et al. 1999).	Unlikely Habitat: This species is not known from the region although some habitat is present for the species on the Sites. Records: This species is only known from two populations in the Northern Territory and Queensland. The species prefers heavily wooded areas where it shelters in tree hollows (Churchill 1998).
<i>Xeromys myoides</i> (Water mouse)	-	V	-	-	Y	Although the water mouse had been documented in three distinct locations (Northern Territory, central south Queensland, south-east Queensland) they require similar habitat including mangroves and the associated saltmarsh, sedgelands, clay pans, heathlands and freshwater wetlands. The water mouse creates nests which are important for breeding and refuge from high tide and predators. The Water Mouse constructs five types of nests: free-standing, termitarium-like mound nests or mounds at the base of mangrove trees (e.g. <i>Avicennia marina</i>), mound nests on small elevated 'islands' within the tidal zone, mound nests or holes in supralittoral banks; nests inside hollow tree trunks, and nests in spoil heaps created as a result of human activity (Van Dyck and Gynther 2003; Van Dyck et al. 2003).	Highly Unlikely Habitat: No habitat is available for this species on the Sites. Records: No records from Broome.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
Reptiles							
<i>Ctenotus angusticeps</i> (Airlie Island Ctenotus)	V	V	-	Y	Y	This species was formerly known from only two widely separated localities in Western Australia: Airlie Island, off the north-west coast and Roebuck Bay, just south of Broome. On Airlie Island it inhabits Acacia shrublands, coastal spinifex and tussock grasses. On the mainland, the Airlie Island Ctenotus generally inhabits samphire shrubland in the intertidal zone along mangrove (Grey Mangrove (<i>Avicennia marina</i>) with occasional Red Mangrove (<i>Rhizophora stylosa</i>) margins, however, subtle differences in vegetation/topography exist among sites where the species has been recorded. The Roebuck Bay lizards have been observed on coastal mudflats vegetated with samphire (Wilson and Swan 2010). Earlier this year (2012) this species was recorded in Port Hedland in samphire adjacent to mangroves. Recent surveys to determine the extent of this species' distribution outside of Port Hedland recorded species 70 km west and 50 km east of Port Hedland and an additional 10 locations between Karratha and Broome (BHPB pers. comm.) therefore showing the distribution of this species is more widespread than previously thought.	Highly Unlikely Habitat: No habitat is available for this species on the Sites. Records: Numerous records from around Broome however mostly associated to the Roebuck Bay and Willies Creek.
<i>Lerista separanda</i> (Dampierland Plain Slider)	P2	-	-	Y	-	<i>Lerista separanda</i> is known from sandy areas of south-western Kimberley coast, between Kimbleton and Nita Downs Station (Wilson and Swan 2010). Dampierland Plain Slider is known from the Broome area primarily from the coastal dunes and adjoining environment.	Unlikely Habitat: No habitat is available for this species on the Sites. Records: Numerous records from around Broome however mostly associated coastal dunes.

Species	Status		Desktop Search			Ecology and habitat	Likelihood of occurrence
	WC Act	EPBC Act	Add	NM	PMST		
<i>Simoselaps minimus</i> (Dampierland Burrowing Snake)	P2	-	-	Y	-	Dampierland Burrowing Snake is known from sandy areas of south-western Kimberley coast, on the Dampierlands Peninsular (Wilson and Swan 2010). Dampierland Burrowing Snake is known from the Broome area primarily from the coastal dunes and adjoining environment.	Likely Habitat: Typically this species is found in sandy soils along the coast, however one specimen was recorded on Coconut Wells Road alongside the Sites. Records: Numerous records from around Broome however mostly associated coastal dunes.

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Fauna trapping data: Nights 1 to 4

Species	Common Name	Night 1 - 14.3.16							Night 2 - 15.3.16							Night 3 - 16.3.16				Night 4 - 17.3.16						
		Site 1				Site 2			Site 1	Site 2	Site 3		Site 4			Site 1	Site 2	Site 3	Site 4	Site 1		Site 2	Site 3	Site 4	Site 5	Site 6
		Trap	Acti	Bird	PM	Trap	Acti	Bird	Trap	Trap	Trap	Acti	Trap	Acti	Bird	Trap	Trap	Trap	Trap	Trap	Bird	Trap	Trap	Trap	Trap	Trap
Frogs																										
<i>Litoria caurelea</i>	Green Tree Frog				1																					
Mammals																										
<i>Canus dingo</i>	Dogs		1									1		1												
<i>Equus caballus</i>	Horse																									
<i>Bos taurus</i>	Cow											1														
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tailed Bat																									
<i>Felis catus</i>	Feral Cat						1					1		1												
<i>Macropus agilis</i>	Agile Wallaby		4		1		2					1		2			1A		1A	1A			2A			1A
<i>Chaerephon jobensis</i>	Northern Freetail Bat																									
<i>Pseudomys delicatulus</i>	Delicate Mouse																									
<i>Pseudomys nanus</i>	Western Chestnut Mouse																									
<i>Tachyglossus aculeatus</i>	Echidna		1																							
<i>Ozimops cobourgianus</i>	Little North-western Mastiff Bat																									
<i>Scotorepens greyii</i>	Little Broad-nosed Bat																									
Reptiles																										
<i>Amphibolurus gilberti</i>	Gilberts Water Dragon		1																							
<i>Chlamydosaurus kingii</i>	Frilled Lizard											1														
<i>Diporiphora pindan</i>	Pindan Dragon		2				1																			
<i>Pogona minor</i>	Dwarf Bearded Dragon		1																							
<i>Aspidites melanocephalus</i>	Black-headed Python																									
<i>Antaresia stimsoni</i>	Stimson's Python				2																					
<i>Diplodactylus conspicillatus</i>	Fat-tailed Gecko																									
<i>Lucasium stenodactylum</i>	Sandplain Gecko																									
<i>Strophurus ciliaris</i>	Northern Spiny-tailed Gecko				1																				1P	
<i>Brachyurophis roperi</i>	Northern Shovel-nosed snake					1F				1F															1F	
<i>Furina ornata</i>	Moon Snake															2F										
<i>Pseudechis australis</i>	Mulga Snake															1F										
<i>Pseudonaja mengdeni</i>	Gwardar																									
<i>Demansia angusticeps</i>	Dampierlands Whipsnake																									
<i>Gehyra pilbara</i>	Pilbara Dtella	5F			20		13		1F	1F							2F			6F		4F				
<i>Gehyra variegata</i>	Tree Dtella																									
<i>Hemidactylus frennatus</i>	House Gecko					1F																				
<i>Heteronotia binoei</i>	Bynoe's Gecko	4F			20		12		1F		2F					4F	2F	2F		3F		1F	1F		1P	
<i>Delma tincta</i>	Excitable Delma																									
<i>Lialis burtonis</i>	Burton's Legless Lizard																									
<i>Carlia munda</i>	Striped Rainbow Skink	2F	1			3F			1F							1F										
<i>Cryptoblephorus ruber</i>	Ruber Snake-eyed Skink																									
<i>Ctenotus robustus</i>	Robust Ctenotus																								2F	
<i>Ctenotus inornatus</i>	Plain Ctenotus						1											1F	1C		1F				3F	
<i>Ctenotus pantherinus</i>	Leopard Skink																									
<i>Ctenotus serventi</i>	North-west Sand-loam Ctenotus						1										1F								2P	
<i>Erimascincus isolepis</i>	Northern Bar-lipped Skink	2F				4F	3														1F					
<i>Lerista griffini</i>	Griffin's Burrowing skink	2F	1																						1P	
<i>Menetia greyii</i>	Common Dwarf Skink																									
<i>Problephorus tenuis</i>	Slender Snake-eyed Skink																									

Species	Common Name	Night 1 - 14.3.16							Night 2 -15.3.16							Night 3 - 16.3.16				Night 4 - 17.3.16					
		Site 1				Site 2			Site 1	Site 2	Site 3	Site 4			Site 1	Site 2	Site 3	Site 4	Site 1		Site 2	Site 3	Site 4	Site 5	Site 6
		Trap	Acti	Bird	PM	Trap	Acti	Bird	Trap	Trap	Trap	Acti	Trap	Acti	Bird	Trap	Trap	Trap	Trap	Trap	Bird	Trap	Trap	Trap	Trap
<i>Tiliqua multifasciata</i>	Central Blue-tongue																								
<i>Tiliqua scincoides</i>	Northern Blue-tongue									1F															
<i>Aniliios diversus</i>	Northern Blindsnake																								
<i>Aniliios gryp</i> <i>us</i>	Northern Beaked Blindsnake																								
<i>Varanus accanthurus</i>	Ridge-tailed Monitor																								
<i>Varanus gouldii</i>	Gould's Monitor		2		1		1				1C												1C		
<i>Varanus panpotes</i>	Yellow-spotted Monitor		1										1C					1C						1C	
<i>Varanus tristis</i>	Racehorse Goanna						1																1A		
Birds																									
<i>Smicromnis brevirostris</i>	Weebill																								
<i>Gerygone albogularis</i>	White-throated Gerygone			1				1												1					
<i>Accipiter fasciatus</i>	Brown Goshawk													1											
<i>Hieraaetus morphnoides</i>	Little Eagle							1																	
<i>Haliastur sphenurus</i>	Whistling Kite													1											
<i>Haliastur indus</i>	Brahmany Kite							1																	
<i>Milvus migrans</i>	Fork-tailed Kite			1				1																	
<i>Artamus cinereus</i>	Black-faced Woodswallow			6																					
<i>Artamus personatus</i>	Masked Woodswallow																								
<i>Cracticus nigrogularis</i>	Pied Butcherbird							2																	
<i>Cracticus tibicen</i>	Australian Magpie													4											
<i>Cacatua sanguinea</i>	Little Corella			4																					
<i>Calyptorhynchus banksii</i>	Red-tailed Black Cockatoo																								
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-Shrike			2				2																	
<i>Geopelia humeralis</i>	Bar-shouldered Dove			2																					
<i>Geopelia striata placida</i>	Peaceful Dove			2																					
<i>Ocyphaps lophotes</i>	Crested Pigeon			2																					
<i>Corvus orru</i>	Torresian Crow			2				3																	
<i>Poephila acuticauda</i>	Long-tailed Finch																								
<i>Taeniopygia bichenovii</i>	Double-barred Finch																								
<i>Falco berigora berigora</i>	Brown Falcon			1				1																	
<i>Falco cenchroides</i>	Nankeen Kestrel			1																					
<i>Dacelo leachii</i>	Blue-winged Kookaburra			1				1												1					
<i>Todiramphus sanctus</i>	Sacred Kingfisher							1																	
<i>Malurus lamberti</i>	Variegated Fairy Wren																			5					
<i>Malurus melanocephalus</i>	Red-backed Fairy-Wren			4				2												4					
<i>Cincloramphus mathewsi</i>	Rufous Songlark			1																					
<i>Lichenostomus virescens</i>	Singing Honeyeater			1																2					
<i>Lichmera indistincta</i>	Brown Honeyeater																			1					
<i>Manorina flavigula</i>	Yellow-throated Miner																			4					
<i>Philemon citreogularis</i>	Little Friarbird			6																2					
<i>Merops ornatus</i>	Rainbow Bee-eater																								
<i>Grallina cyanoleuca</i>	Magpie-lark														2					2					
<i>Myiagra inquieta</i>	Restless Flycatcher																			1					
<i>Dicaeum hirundinaceum</i>	Mistletoebird			1											1					1					
<i>Daphoenositta chrysoptera</i>	White-winged Sittella																								
<i>Pachycephala rufiventris</i>	Rufous Whistler							1												2					
<i>Pardalotus striatus</i>	Striated Pardalote																								
<i>Podargus strigoides</i>	Tawny Frogmouth				1																				

Species	Common Name	Night 1 - 14.3.16							Night 2 -15.3.16							Night 3 - 16.3.16				Night 4 - 17.3.16						
		Site 1				Site 2			Site 1	Site 2	Site 3		Site 4			Site 1	Site 2	Site 3	Site 4	Site 1		Site 2	Site 3	Site 4	Site 5	Site 6
		Trap	Acti	Bird	PM	Trap	Acti	Bird	Trap	Trap	Trap	Acti	Trap	Acti	Bird	Trap	Trap	Trap	Trap	Trap	Bird	Trap	Trap	Trap	Trap	Trap
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler							4																		
<i>Aprosmictus erythropterus</i>	Red-winged Parrot																			5						
<i>Ptilonorhynchus nuchalis</i>	Great Bowerbird														1											
<i>Trichoglossus haematodus</i>	Red-collared Lorikeet							8												6						
<i>Psitteuteles versicolor</i>	Varried Lorrikeet							4																		
<i>Rhipidura leucophrys</i>	Willie Wagtail							1							1											
<i>Ninox novaeseelandiae</i>	Boobook Owl				1																					
<i>Threskiornis spinicollis</i>	Straw-necked Ibis			4																						

Fauna trapping data: Nights 5 to 7

Species	Common Name	Night 5 -18.3.16									Night 6 - 19.3.16							Night 7 - 20.3.16								
		Site 1	Site 2	Site 3	Site 4	Site 5				Site 6	Site 1	Site 2	Site 3	Site 4		Site 5	Site 6	Site 7	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	
		Trap	Trap	Trap	Trap	Trap	Acti	Bird	PM	Trap	Trap	Trap	Trap	Bird	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	
Frogs																										
<i>Litoria caurelea</i>	Green Tree Frog																									
Mammals																										
<i>Canus dingo</i>	Dogs																									
<i>Equus caballus</i>	Horse																									
<i>Bos taurus</i>	Cow					1																				
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tailed Bat																									
<i>Felis catus</i>	Feral Cat					1	1																			
<i>Macropus agilis</i>	Agile Wallaby		3A			4	1				1A															
<i>Chaerephon jobensis</i>	Northern Freetail Bat																									
<i>Pseudomys delicatulus</i>	Delicate Mouse						1																			
<i>Pseudomys nanus</i>	Western Chestnut Mouse																									
<i>Tachyglossus aculeatus</i>	Echidna					1																				
<i>Ozimops cobourgianus</i>	Little North-western Mastiff Bat																									
<i>Scotorepens greyii</i>	Little Broad-nosed Bat																									
Reptiles																										
<i>Amphibolurus gilberti</i>	Gilberts Water Dragon					1																			1A	
<i>Chlamydosaurus kingii</i>	Frilled Lizard					1																				
<i>Diporiphora pindan</i>	Pindan Dragon					1P	3															1F			1P	
<i>Pogona minor</i>	Dwarf Bearded Dragon					1																				
<i>Aspidites melanocephalus</i>	Black-headed Python					1																				
<i>Antaresia stimsoni</i>	Stimson's Python																	1F								
<i>Diplodactylus conspicillatus</i>	Fat-tailed Gecko														1F										1P	
<i>Lucasium stenodactylum</i>	Sandplain Gecko					1F																				
<i>Strophurus ciliaris</i>	Northern Spiny-tailed Gecko							1																		
<i>Brachyurophis roperi</i>	Northern Shovel-nosed snake					1F																				
<i>Furina ornata</i>	Moon Snake									1F		1F						1F								
<i>Pseudechis australis</i>	Mulga Snake																									
<i>Pseudonaja mengdeni</i>	Gwardar												1C													
<i>Demansia angusticeps</i>	Dampierlands Whipsnake					1																				
<i>Gehyra pilbara</i>	Pilbara Dtella		3F	1F				20			1F							1F								
<i>Gehyra variegata</i>	Tree Dtella									1F																
<i>Hemidactylus frennatus</i>	House Gecko																									
<i>Heteronotia binoei</i>	Bynoe's Gecko	5F	1F	3F				20		2F		1F						2F		1F		1F				
<i>Delma tincta</i>	Excitable Delma																									
<i>Lialis burtonis</i>	Burton's Legless Lizard																								1P	

Species	Common Name	Night 5 -18.3.16									Night 6 - 19.3.16							Night 7 - 20.3.16							
		Site 1	Site 2	Site 3	Site 4	Site 5				Site 6	Site 1	Site 2	Site 3	Site 4		Site 5	Site 6	Site 7	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7
		Trap	Trap	Trap	Trap	Trap	Acti	Bird	PM	Trap	Trap	Trap	Trap	Bird	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap
<i>Carlia munda</i>	Striped Rainbow Skink			1F			1						1F			1P			2F						
<i>Cryptoblephorus ruber</i>	Ruber Snake-eyed Skink						1											1A							
<i>Ctenotus robustus</i>	Robust Ctenotus																								
<i>Ctenotus inornatus</i>	Plain Ctenotus	1F	1F	1F		4F	4					1F			3F				2F			4F		2F	
<i>Ctenotus pantherinus</i>	Leopard Skink						1																	1F	
<i>Ctenotus serventi</i>	North-west Sand-loam Ctenotus					1P				1A						1C	1C					1P			
<i>Erimascincus isolepis</i>	Northern Bar-lipped Skink		2F																					1P	
<i>Lerista griffini</i>	Griffin's Burrowing skink			1F		1P																1P			
<i>Menetia greyii</i>	Common Dwarf Skink														1P										
<i>Problephorus tenuis</i>	Slender Snake-eyed Skink																								
<i>Tiliqua multifasciata</i>	Central Blue-tongue									1C															
<i>Tiliqua scincoides</i>	Northern Blue-tongue				1C																		1C		
<i>Anilius diversus</i>	Northern Blindsnake					1P									2P										
<i>Anilius grypus</i>	Northern Beaked Blindsnake																								
<i>Varanus accanthurus</i>	Ridge-tailed Monitor																			1F					
<i>Varanus gouldii</i>	Gould's Monitor							1								1C	1C								
<i>Varanus panpotes</i>	Yellow-spotted Monitor						2														1C				
<i>Varanus tristis</i>	Racehorse Goanna																								
Birds																									
<i>Smicromnis brevirostris</i>	Weebill						4																		
<i>Gerygone albogularis</i>	White-throated Gerygone																								
<i>Accipiter fasciatus</i>	Brown Goshawk																								
<i>Hieraaetus morphnoides</i>	Little Eagle																								
<i>Haliastur sphenurus</i>	Whistling Kite																								
<i>Haliastur indus</i>	Brahmany Kite																								
<i>Milvus migrans</i>	Fork-tailed Kite						1							1											
<i>Artamus cinereus</i>	Black-faced Woodswallow						4							4											
<i>Artamus personatus</i>	Masked Woodswallow													2											
<i>Cracticus nigrogularis</i>	Pied Butcherbird						1							1											
<i>Cracticus tibicen</i>	Australian Magpie						2							2											
<i>Cacatua sanguinea</i>	Little Corella						12																		
<i>Calyptorhynchus banksii</i>	Red-tailed Black Cockatoo													8											
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-Shrike						1							2											
<i>Geopelia humeralis</i>	Bar-shouldered Dove						1																		
<i>Geopelia striata placida</i>	Peaceful Dove													1											
<i>Ocyphaps lophotes</i>	Crested Pigeon																								
<i>Corvus orru</i>	Torresian Crow						2							2											

Species	Common Name	Night 5 -18.3.16									Night 6 - 19.3.16							Night 7 - 20.3.16							
		Site 1	Site 2	Site 3	Site 4	Site 5				Site 6	Site 1	Site 2	Site 3	Site 4		Site 5	Site 6	Site 7	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7
		Trap	Trap	Trap	Trap	Trap	Acti	Bird	PM	Trap	Trap	Trap	Trap	Bird	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap	Trap
<i>Poephila acuticauda</i>	Long-tailed Finch													2											
<i>Taeniopygia bichenovii</i>	Double-barred Finch							2																	
<i>Falco berigora berigora</i>	Brown Falcon							1						1											
<i>Falco cenchroides</i>	Nankeen Kestrel																								
<i>Dacelo leachii</i>	Blue-winged Kookaburra							1						1											
<i>Todiramphus sanctus</i>	Sacred Kingfisher							1																	
<i>Malurus lamberti</i>	Variegated Fairy Wren																								
<i>Malurus melanocephalus</i>	Red-backed Fairy-Wren							6						3											
<i>Cincloramphus mathewsi</i>	Rufous Songlark																								
<i>Lichenostomus virescens</i>	Singing Honeyeater							1						1											
<i>Lichmera indistincta</i>	Brown Honeyeater							2						2											
<i>Manorina flavigula</i>	Yellow-throated Miner																								
<i>Philemon citreogularis</i>	Little Friarbird							2																	
<i>Merops ornatus</i>	Rainbow Bee-eater							2						2											
<i>Grallina cyanoleuca</i>	Magpie-lark																								
<i>Myiagra inquieta</i>	Restless Flycatcher																								
<i>Dicaeum hirundinaceum</i>	Mistletoebird							1																	
<i>Daphoenositta chrysoptera</i>	White-winged Sittella																								
<i>Pachycephala rufiventris</i>	Rufous Whistler													2											
<i>Pardalotus striatus</i>	Striated Pardalote							1						1											
<i>Podargus strigoides</i>	Tawny Frogmouth																								
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler							3																	
<i>Aprosmictus erythropterus</i>	Red-winged Parrot							4																	
<i>Ptilonorhynchus nuchalis</i>	Great Bowerbird							1																	
<i>Trichoglossus haematodus</i>	Red-collared Lorikeet							6																	
<i>Psitteuteles versicolor</i>	Varried Lorrikeet																								
<i>Rhipidura leucophrys</i>	Willie Wagtail													1											
<i>Ninox novaeseelandiae</i>	Boobook Owl								1																
<i>Threskiornis spinicollis</i>	Straw-necked Ibis																								

Fauna trapping data: Nights 8 to 10

Species	Common Name	Night 8 - 21.3.16											Night 9 - 22.3.16								Night 10 - 23.3.16				
		Site 1		Site 2			Site 3	Site 4	Site 5	Site 6	Site 7		Site 3		Site 4	Site 5	Site 6		Site 7		Site 5	Site 6	Site 7	Total No.	
		Trap	Bat	Trap	Bird	PM	Trap	Trap	Trap	Trap	Trap	PM	Trap	Bat	Trap	Trap	Trap	Acti	Trap	Bird	Trap	Trap	Trap		
Frogs																									
<i>Litoria caurelea</i>	Green Tree Frog																								
Mammals																									
<i>Canus dingo</i>	Dogs																	1							
<i>Equus caballus</i>	Horse																	2							
<i>Bos taurus</i>	Cow																	4							
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tailed Bat		R											R											
<i>Felis catus</i>	Feral Cat					1						1						1							
<i>Macropus agilis</i>	Agile Wallaby					2						2									1A				
<i>Chaerephon jobensis</i>	Northern Freetail Bat		R											R											
<i>Pseudomys delicatulus</i>	Delicate Mouse																								
<i>Pseudomys nanus</i>	Western Chestnut Mouse								1P		1P												1E		
<i>Tachyglossus aculeatus</i>	Echidna																	1							
<i>Ozimops cobourgianus</i>	Little North-western Mastiff Bat													X											
<i>Scotorepens greyii</i>	Little Broad-nosed Bat		X											X											
<i>Amphibolurus gilberti</i>	Gilberts Water Dragon																	1							
<i>Chlamydosaurus kingii</i>	Frilled Lizard																	1							
<i>Diporiphora pindan</i>	Pindan Dragon								1P							1		2							
<i>Pogona minor</i>	Dwarf Bearded Dragon																								
<i>Aspidites melanocephalus</i>	Black-headed Python																								
<i>Antaresia stimsoni</i>	Stimson's Python											1													
<i>Diplodactylus conspicillatus</i>	Fat-tailed Gecko																						1 (F)		
<i>Lucasium stenodactylum</i>	Sandplain Gecko																								
<i>Strophurus ciliaris</i>	Northern Spiny-tailed Gecko					1			1F		1P	2	1F					1					1F		
<i>Brachyurophis roperi</i>	Northern Shovel-nosed snake																				1F				
<i>Furina ornata</i>	Moon Snake																								
<i>Pseudechis australis</i>	Mulga Snake																								
<i>Pseudonaja mengdeni</i>	Gwardar																	1							
<i>Demansia angusticeps</i>	Dampierlands Whipsnake															1F									
<i>Gehyra pilbara</i>	Pilbara Dtella	2F				1							1F					4			1F				
<i>Gehyra variegata</i>	Tree Dtella																								
<i>Hemidactylus frennatus</i>	House Gecko																								
<i>Heteronotia binoei</i>	Bynoe's Gecko	5F		1F			2F		1F									2							
<i>Delma tincta</i>	Excitable Delma																		1P						
<i>Lialis burtonis</i>	Burton's Legless Lizard										1P														
<i>Carlia munda</i>	Striped Rainbow Skink	2F		1F			1F																		
<i>Cryptoblephorus ruber</i>	Ruber Snake-eyed Skink																								
<i>Ctenotus robustus</i>	Robust Ctenotus						1F		2F										1F				1F		

Species	Common Name	Night 8 - 21.3.16											Night 9 - 22.3.16								Night 10 - 23.3.16			
		Site 1		Site 2			Site 3	Site 4	Site 5	Site 6	Site 7		Site 3		Site 4	Site 5	Site 6		Site 7		Site 5	Site 6	Site 7	Total No.
		Trap	Bat	Trap	Bird	PM	Trap	Trap	Trap	Trap	Trap	PM	Trap	Bat	Trap	Trap	Trap	Acti	Trap	Bird	Trap	Trap	Trap	
<i>Ctenotus inornatus</i>	Plain Ctenotus								1F		3F		1E		1C	5F			6FP		1F			
<i>Ctenotus pantherinus</i>	Leopard Skink																				1P		1F	
<i>Ctenotus serventi</i>	North-west Sand-loam Ctenotus								1F															
<i>Erimascincus isolepis</i>	Northern Bar-lipped Skink			1F															1F					
<i>Lerista griffini</i>	Griffin's Burrowing skink								2FP												2P		3P	
<i>Menetia greyii</i>	Common Dwarf Skink																							
<i>Problephorus tenuis</i>	Slender Snake-eyed Skink										2FP													
<i>Tiliqua multifasciata</i>	Central Blue-tongue																							
<i>Tiliqua scincoides</i>	Northern Blue-tongue										1E							1				1C		
<i>Anilius diversus</i>	Northern Blindsnake										1P								2P					
<i>Anilius grypus</i>	Northern Beaked Blindsnake								2P															
<i>Varanus accanthurus</i>	Ridge-tailed Monitor																						1E	
<i>Varanus gouldii</i>	Gould's Monitor																	1						
<i>Varanus panpotes</i>	Yellow-spotted Monitor								1E		1F		1C											
<i>Varanus tristis</i>	Racehorse Goanna																							
Birds																								
<i>Smicromnis brevirostris</i>	Weebill																							
<i>Gerygone albogularis</i>	White-throated Gerygone																							
<i>Accipiter fasciatus</i>	Brown Goshawk																							
<i>Hieraaetus morphnoides</i>	Little Eagle																							
<i>Haliastur sphenurus</i>	Whistling Kite																							
<i>Haliastur indus</i>	Brahmany Kite																							
<i>Milvus migrans</i>	Fork-tailed Kite				1															1				
<i>Artamus cinereus</i>	Black-faced Woodswallow																			6				
<i>Artamus personatus</i>	Masked Woodswallow																							
<i>Cracticus nigrogularis</i>	Pied Butcherbird				1															1				
<i>Cracticus tibicen</i>	Australian Magpie																							
<i>Cacatua sanguinea</i>	Little Corella																							
<i>Calyptorhynchus banksii</i>	Red-tailed Black Cockatoo				12																			
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-Shrike				1																			
<i>Geopelia humeralis</i>	Bar-shouldered Dove																							
<i>Geopelia striata placida</i>	Peaceful Dove																			2				
<i>Ocyphaps lophotes</i>	Crested Pigeon																							
<i>Corvus orru</i>	Torresian Crow																			2				
<i>Poephila acuticauda</i>	Long-tailed Finch																							
<i>Taeniopygia bichenovii</i>	Double-barred Finch																							
<i>Falco berigora berigora</i>	Brown Falcon				1															1				
<i>Falco cenchroides</i>	Nankeen Kestrel																							
<i>Dacelo leachii</i>	Blue-winged Kookaburra																							
<i>Todiramphus sanctus</i>	Sacred Kingfisher																							

Species	Common Name	Night 8 - 21.3.16											Night 9 - 22.3.16								Night 10 - 23.3.16			
		Site 1		Site 2			Site 3	Site 4	Site 5	Site 6	Site 7		Site 3		Site 4	Site 5	Site 6		Site 7		Site 5	Site 6	Site 7	Total No.
		Trap	Bat	Trap	Bird	PM	Trap	Trap	Trap	Trap	Trap	PM	Trap	Bat	Trap	Trap	Trap	Acti	Trap	Bird	Trap	Trap	Trap	
<i>Malurus lamberti</i>	Variegated Fairy Wren																							
<i>Malurus melanocephalus</i>	Red-backed Fairy-Wren				4																			
<i>Cincloramphus mathewsi</i>	Rufous Songlark																							
<i>Lichenostomus virescens</i>	Singing Honeyeater				1																			
<i>Lichmera indistincta</i>	Brown Honeyeater				1																			
<i>Manorina flavigula</i>	Yellow-throated Miner																							
<i>Philemon citreogularis</i>	Little Friarbird				3															3				
<i>Merops ornatus</i>	Rainbow Bee-eater																							
<i>Grallina cyanoleuca</i>	Magpie-lark				4																			
<i>Myiagra inquieta</i>	Restless Flycatcher				1																			
<i>Dicaeum hirundinaceum</i>	Mistletoebird				1																			
<i>Daphoenositta chrysoptera</i>	White-winged Sittella				4																			
<i>Pachycephala rufiventris</i>	Rufous Whistler																			2				
<i>Pardalotus striatus</i>	Striated Pardalote				1																			
<i>Podargus strigoides</i>	Tawny Frogmouth																							
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler				4															4				
<i>Aprosmictus erythropterus</i>	Red-winged Parrot				8																			
<i>Ptilonorhynchus nuchalis</i>	Great Bowerbird				1																			
<i>Trichoglossus haematodus</i>	Red-collared Lorikeet																			6				
<i>Psitteuteles versicolor</i>	Varried Lorrikeet																							
<i>Rhipidura leucophrys</i>	Willie Wagtail				1																			
<i>Ninox novaeseelandiae</i>	Boobook Owl																							
<i>Threskiornis spinicollis</i>	Straw-necked Ibis																			2				

Bilby plot data for December 2015 and March 2016 for the project area

Dec-15	On plot': 2 ha search area is located >30 m from impact area of road																													Bilby presence/absence score: 0= No recorded evidence, 1= possible evidence but not confirmed, 2= Evidence present but old and not active, 3= Active area with good evidence								
c	Track age: 1= 1-2 days, 2= 3-7days, 3=>7 days																			On road': 100m section searched adjacent to road/trackfs=freshscats,os=oldscats																		
Sp details	bilby							dog				cat				cow				Agile						1=few,2=med,3=lots												
plot no.	dig 1 2 plate dig conic dig shrub (no.) scat							1 2 3 abund				1 2 3 abund				1 2 3 abund				1 2 3 abund		scat	digs	Rodent	bustard	crow/ magpie	quail	goanna	dragon	Sm bird	echidna	Other	Last Rain events	Bilby presence/ absence score	bilby notes			
1								r			1	r			1						1m	1m						r,1b				4/12 rain	0	No sign of use				
2				1m														1		1	1fo	1fo						1db				4/12 rain	1	Some digs present possibly Bilby but no other evidence found to confirm				
3																					1fo	1fo			r			1bd	b			4/12 rain	0	No sign of use				
4																					1o	1f						1bd				4/12 rain	0	No sign of use				
5								r			1						1		1	1mo	1mo			r				1bd			snake	4/12 rain	0	No sign of use				
6								r	r		1						r	r		1		1mo	1m	b			r		1db			4/12 rain	0	No sign of use				
7								r	r	r	1							1	1	1	1mo	1m	b			r		1db				4/12 rain	0	No sign of use				
8								r	r		1	r			1					1	1	1r	1	1o	1m			1	r		1db		r	1	4/12 rain	0	No sign of use	
Mar-16	On plot': 2 ha search area is located >30 m from impact area of road																																					
c	Track age: 1= 1-2 days, 2= 3-7days, 3=>7 days																			On road': 100m section searched adjacent to road/trackfs=freshscats,os=oldscats										Bilby presence/absence score: 0= No recorded evidence, 1= possible evidence but not confirmed, 2= Evidence present but old and not active, 3= Active area with good evidence								
Spp details	bilby							dog				cat				cow				Agile						1=few,2=med,3=lots												
plot no.	dig 1 2 plate dig conic dig shrub s (no.) scat							1 2 3 abund				1 2 3 abund				1 2 3 abund				1 2 3 abund		scat	digs	Rodent	bustard	crow/ magpie	quail	goanna	dragon	Sm bird	echidna	Other	Last Rain events	Bilby presence/ absence score	bilby notes			
1 - 16/3												1r		r	1					1r			1	o	mo				r	r	1rdb				15/3 LR	0	Mostly 40% cover in PA	
2 - 16/3									r		1								1	1		1	mo	fm					rb					15/3 LR	0	Mostly 40% cover in PA		
3 - 15/3													1		1						1	1	m	fm					1db		1				0	Mostly 40% cover in PA		
4 - 19/3									1		1			1	1			1	1		1	fm	fm	b			1	1db	b		r		horse	15/3 LR	0	Mostly 40% cover in PA. Some digs present possibly Bilby but no other evidence found to confirm		
5 -19/3								r		r	1	r		r	1			1	1	r		1	2	fo	2fo	br			r		1rd	rb	r	r		15/3 LR	0	Mostly 50% cover, in PA
6 - 19/3									r		1								1r		1	1	fo	fo					1d				snake	15/3 LR	0	Around termitaria 20% cover, the rest approx. 50%		
7 - 19/3													r	1					1r	1	1r	2	fo	fo					1db						15/3 LR	0	Mostly 60% cover, in PA	
8 - 19/3																			1	1	1	1	fm	fm	b				1db			fd			15/3 LR	0	Mostly 60% cover, but outside PA	
9 - 22/3								r	1		1	r			1				1r	1		2	m	fm				r		rdb			fd			15/3 LR	0	Mostly 30% cover, but outside PA
10 - 22/3								1r		r	1	r			1		r		1	1	r	1	o	mo	b	1	1		rdb	b					15/3 LR	0	Mostly 40% cover, but outside PA	

Key

Track age: 1= 1-2 days, 2= 3-7 days, 3=>7 days

1 = Evidence present (1/2), 2 = Medium amount of evidence (3/5), 3 = Lots of evidence (>5)

f = Fresh evidence (within 2 nights), m = Medium aged evidence (3/7 nights), o = Old evidence (> 1 week)

r = Evidence on road, d = diggings, b = burrow , fs=fresh scats, os=old scats, j=juvenile

abund: 1=few, 2=medium, 3=lots

Bilby presence/absence score: 0= No recorded evidence, 1= possible evidence but not confirmed, 2= Evidence present but old and not active, 3= Active area with good evidence

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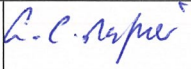
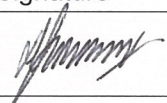
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