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Learmonth Pipeline
Fabrication Facility

Level 1 Fauna Survey

Prepared for:
Subsea 7

October 2018

● people ● planet ● professional



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Executive Summary

360 Environmental Pty Ltd (360 Environmental) was commissioned by Subsea 7 to undertake a Level 1 Fauna Survey of the proposed Learmonth Pipeline Fabrication Facility. The purpose of the survey was to help determine the environmental values within and in proximity to the proposed development envelope.

The Survey Area was 547.2 ha in size, located approximately 35 km south of the Exmouth town site, in the Carnarvon biogeographic region of Western Australia.

A Department of Parks and Wildlife (DPaW, now the Department of Biodiversity Conservation and Attractions) threatened fauna database radial search (30 km), a *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (10km) and a NatureMap search (10 km) were undertaken to identify fauna species of conservation significance potentially occurring in the Survey Area.

Database searches returned 128 vertebrate fauna species from 50 families as potentially occurring in the vicinity of the Survey Area. Of these there were 22 reptile species from six families, 84 bird species from 32 families and 22 mammal species from 12 families.

A total of 58 conservation significant species (including Priority species) were returned from database searches, comprising three reptile, 44 bird and 11 mammal species.

During the field assessment 40 species from 29 families were recorded. This consisted of five reptile species from five families, 29 bird species from 20 families and six mammal species from four families. Six conservation significant species were recorded; the Osprey, Lesser Sand Plover, Caspian Tern, Lesser Crested Tern, Crested Tern and Rainbow Bee-eater. No 'critical habitat' for any of these species was recorded within the Survey Area.

Fifteen fauna habitat assessments were undertaken during the survey and four broad fauna habitats were identified and mapped (Beach, Hummock Grassland, Tecticornia Shrubland and Minor Drainage Line).

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1 Introduction

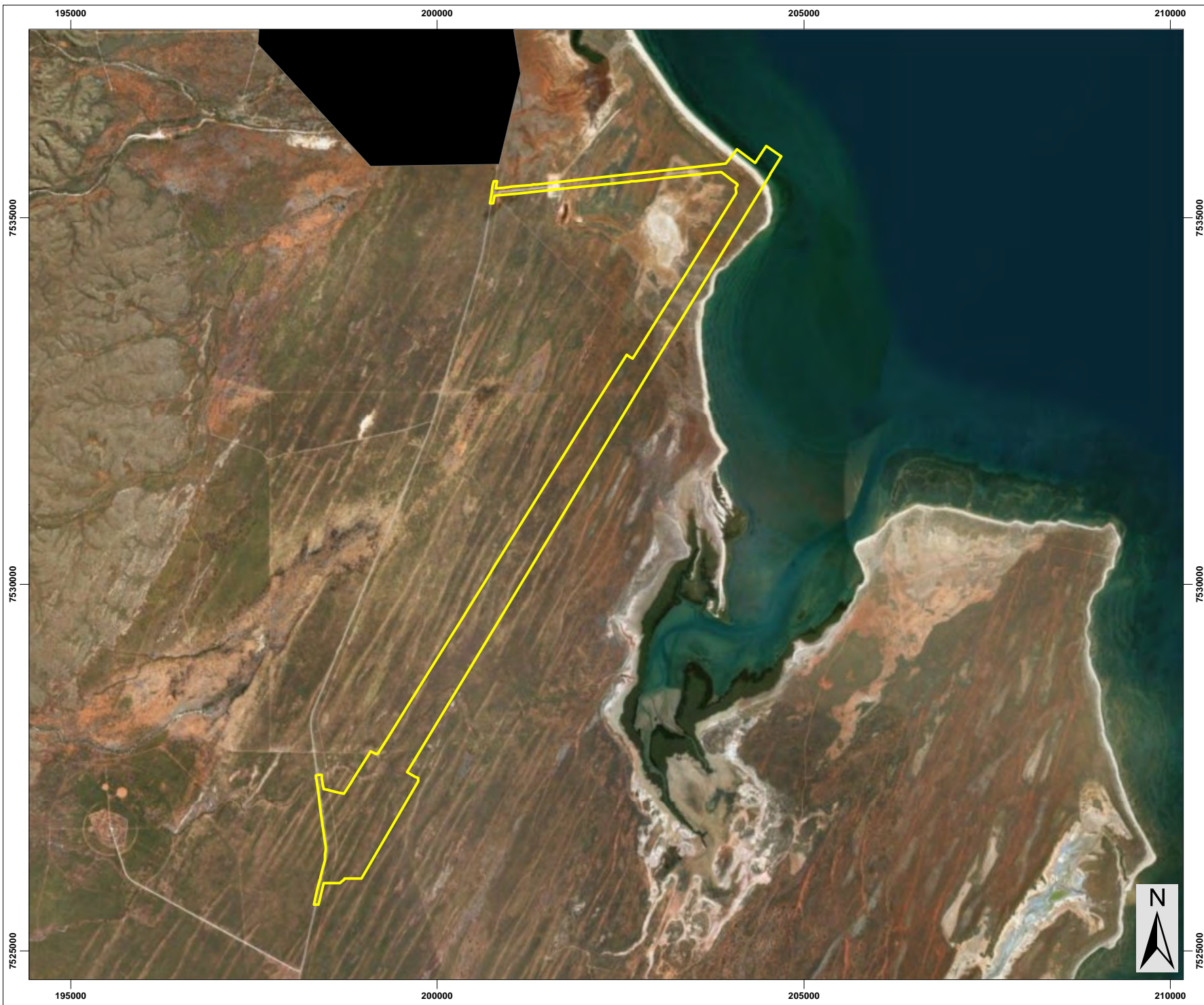
1.1 Background

360 Environmental Pty Ltd (360 Environmental) was commissioned by Subsea 7 to undertake a Level 1 Fauna Survey and a Habitat Assessment for their proposed development envelope near Learmonth, Western Australia (Figure 1). The Survey Area is 547.2 ha in size, located approximately 35 km south of the Exmouth town site, in the Carnarvon biogeographic region of Western Australia.

1.2 Objectives and Scope

The objectives of the fauna survey were to determine the environmental values within and adjacent to the proposed development envelope. This report has been written in accordance with the requirements of the Environmental Protection Authorities (EPA) Technical Guidance- *Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia* (2004). The scope of work for the fauna survey included:

- A desktop assessment of relevant literature, databases and spatial datasets to determine the likelihood of occurrence of fauna of conservation significance;
- A Level 1 fauna survey that included nocturnal spotlighting, motion cameras and bat monitoring;
- A fauna habitat assessment and mapping of habitat types within the Survey Area; and
- Provision of a report documenting the results of the desktop review and field assessment(s).

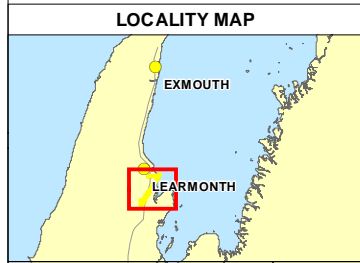
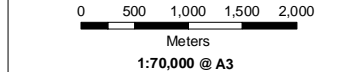


- Legend**
- Survey Area
 - Learmonth RAAF Base
 - Roads

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS
 - LOCALITY MAP SOURCED LANDGATE 2006
 - CADASTRE SOURCED FROM LANDGATE
 - AERIAL PHOTOGRAPHY SOURCED LANDGATE Sep 2013
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CREATED EW	CHECKED EW	APPROVED SW	REVISION 0

Subsea 7
Bundle Site, Learmonth
Fauna Survey

Figure 1
Site Location

2 Biophysical Environment

2.1 Climate

The closest long term official Bureau of Meteorology (BoM) weather station currently operating near to the Survey Area is at Learmonth Airport (Station number 5007), approximately 2.5 km to the north of the Survey Area.

Level 1 Fauna Field Survey (June 2017)

Learmonth Airport recorded 269.30 mm of rain in the 12 months prior to the Level 1 survey. This is 43.7 mm above the long-term average rainfall of 260.7 mm for the same period (BoM 2018). For the four months prior to the survey, Exmouth recorded 62 mm of rainfall or 38.2% (38.3 mm) below the long-term average of 100.3 mm (Figure 2) (BoM 2018).

Additional Fauna Habitat Assessment (August 2018)

Learmonth Airport recorded 154.6 mm rainfall in the 12 months prior to the additional fauna habitat assessment. This included a major rainfall event in June with a total of 91.2 mm of rainfall, which is 48 mm above the long-term average for the month (Figure 2) (BoM 2018).

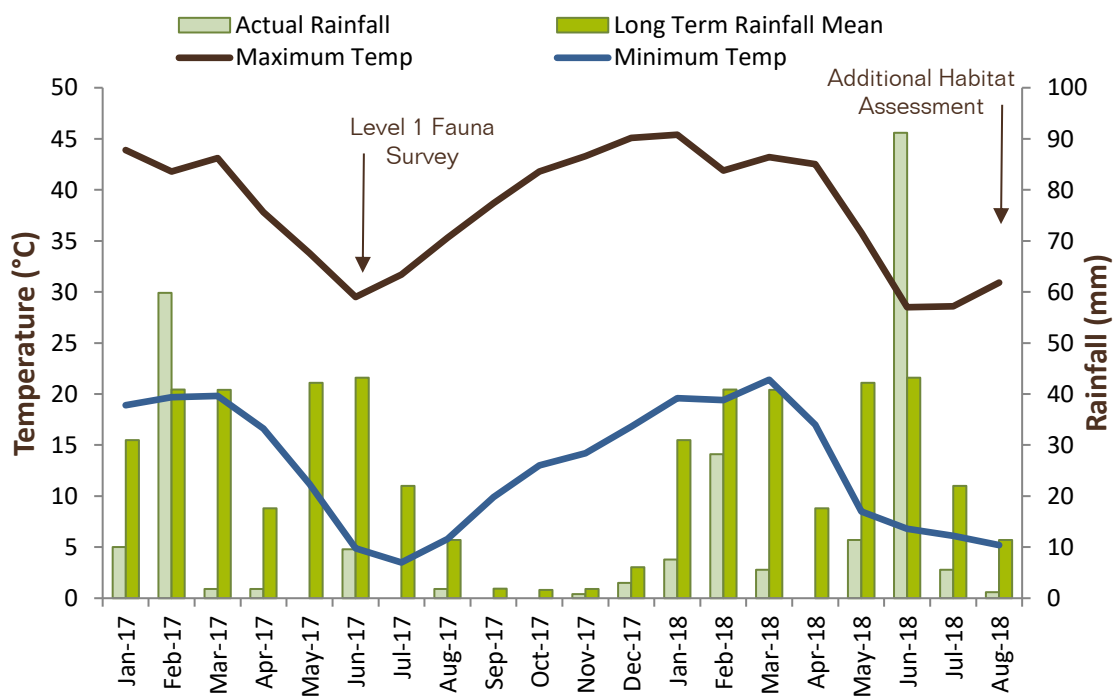


Figure 2: Monthly rainfall, long-term average rainfall and maximum and minimum temperature for Learmonth Airport (5007) (Bureau of Meteorology, 2018)

2.2 Biogeographic Regionalisation for Australia

The Biogeographic Regionalisation of Australia (IBRA7) divides Australia into 89 bioregions based on major biological and geographical/geological attributes. These bioregions are subdivided into 419 subregions, as part of a refinement of the IBRA framework. The Survey Area lies within the Carnarvon Bioregion and Cape Range subregion.

The Carnarvon bioregion is composed of quaternary alluvial, aeolian and marine sediments overlying Cretaceous strata. A mosaic of saline alluvial plains with samphire and saltbush low shrublands, Bowgada low woodland on sandy ridges and plains, Snakewood scrub on clay flats and tree to shrub steppe over hummock grasslands on and between red sand dune fields. Limestone strata with *Acacia stuartii* or *A. bivenosa* shrubland outcrop in the north, where extensive tidal flats in sheltered embayments support Mangal (Kendrick & Mau 2002).

2.3 Broad Vegetation

Mapping of Pre-European vegetation within Western Australia was completed on a broad scale (1:1,000,000) by Beard (1975) and later re-assessed by Shepherd et al. (2001) with some larger vegetation units divided into smaller units. The combined Pre-European database contains a total of 819 vegetation types within Western Australia where two broad vegetation types were identified and mapped over the Survey Area. The Shepherd et al. (2001) vegetation type in the Survey Area (along with the corresponding Beard [1975] type, in brackets) is described below:

- **Cape Range (117)** – Grass-steppe - Hummock grassland *Triodia* spp.; and
- **Coastal Dunes (662)** – Hummock grassland; shrub steppe; mixed *Acacia* scrub and dwarf scrub with soft spinifex and *Triodia basedowii*.

2.4 Previous Biological Studies

There have been a limited number of on ground and desktop assessments surrounding the Survey Area in the recent past. 360 Environmental was commissioned in 2015 to undertake a Level 1 Flora, Vegetation and Fauna Assessment for Lots 1403 and 1404 Truscott Crescent, Exmouth (about 35 km north of this current Survey Area). The Survey Area was one of five proposed caravan park sites. Given this is a fauna assessment we will only summarise the results of the fauna components of this previous work (Table 1). Please note, the Star Finch (*Neochmia ruficauda sclarescens*) is no longer a conservation significant species.

Table 1: Summary of Previous Fauna Surveys Undertaken in the Region

*Conservation significance is based on listing as of submission date on report and includes species listed as Priority species by DPaW, Scheduled under the WC act and threatened under the EPBC Act.

REFERENCE	SURVEY TYPE	SURVEY DATE	PROXIMITY TO SURVEY AREA	METHODS	HABITATS PRESENT	*CONSERVATION SIGNIFICANT SPECIES
Tourism WA Level 1 Flora, Vegetation and Fauna Assessment for Lots 1403 and 1404 Truscott Crescent, Exmouth (360 Environmental, 2015)	Level 1 Survey	6-7 May 2015	The area assessed is approximately 35 km to the north of the Survey Area	Desktop assessment - database searches and field survey	Sand Dune Acacia shrublands Buffel grassland	Three conservation significant species were recorded during the survey: <ul style="list-style-type: none"> • Osprey (<i>Pandion cristatus</i>), which was observed perching in the Survey Area • Rainbow Bee-eater (<i>Merops ornatus</i>) a number of which were observed foraging in the Survey Area. • Star Finch (<i>Neochmia ruficauda clarescens</i>) was observed perched in the Survey Area.

3 Methods

The fauna survey was undertaken in accordance with the EPA requirements for the environmental surveying and reporting of fauna in Western Australia and EPBC Act survey and referral guidelines, where practical and relevant, and follows:

- *Terrestrial Biological Surveys as an Element of Biodiversity Protection*. Position Statement No. 3 (EPA 2002);
- *Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia*. Guidance Statement No. 56 (EPA 2004);
- *Technical Guide – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA-DEC 2010);
- *Survey Guidelines for Australia's Threatened Birds*. EPBC Act survey guidelines 6.2 (2010) (DSEWPaC);
- *Survey Guidelines for Australia's Threatened Frogs*. EPBC Act survey guidelines 6.3 (2010) (DSEWPaC);
- *Survey Guidelines for Australia's Threatened Mammals*. EPBC Act survey guidelines 6.5 (2011) (DSEWPaC); and
- *Survey Guidelines for Australia's Threatened Reptiles*. EPBC Act survey guidelines 6.6 (2011) (DSEWPaC).

3.1 Desktop Assessment

A 30 km Department of Biodiversity, Conservation and Attractions (DBCA) threatened fauna database search, and a 10 km NatureMap and EPBC Protected Matters Search Tool (PMST) radial search were each undertaken (Appendix B). The searches were undertaken to identify fauna species of conservation significance potentially occurring in the Survey Area (DPaW 2017a; DPaW 2017b and DEE 2017).

Collectively, these sources were used to compile a list of species that have been previously recorded in the vicinity of the Survey Area (Appendix C). This list invariably includes some species that do not occur in the Survey Area, as some fauna have a limited or patchy distribution or a high level of habitat specificity for habitats which are not located in the Survey Area e.g. waders/shorebirds that require coastal shores for habitat. Some fauna may also have become locally extinct or were erroneously identified in previous surveys. These fauna were examined and then excluded from the list where relevant.

3.1.1 Likelihood of Occurrence Criteria

The Likelihood of Occurrence for each species is based on the following criteria:

- Recorded: Recorded during the field survey;
- Likely: Suitable habitat is present in the Survey Area and the Survey Area is in the species' known distribution;
- Possible: Limited or no suitable habitat is present in Survey Area but is nearby. The species has good dispersal abilities and is known from the general area; and
- Unlikely: No suitable habitat is present in Survey Area but is nearby, the species has poor dispersal abilities, but is known from the general area; or suitable habitat is present, however, the Survey Area is outside of the species' known distribution.

3.2 Level 1 Fauna Survey

The field assessment was undertaken from 13 - 16 June 2017. The survey was consistent with standard protocols for the region and relevant EPA Guidance Statements and EPBC Act Survey Guidelines as outlined above in section 3.1 (where relevant and practical).

To verify the accuracy of the background research, the field component of the Level 1 fauna survey incorporated the following tasks:

- Utilising passive sampling which included:
 - Hand foraging for inactive and/or cryptic species (raking leaf litter, searching under rocks and logs and under loose litter);
 - Looking for scats, pellets, skeletal material, tracks, diggings; and
 - Opportunistic observations (visual or heard) of active species, in particular birds.
- Assessment of the habitat (within the Survey Area) to support species protected under State and/or Federal legislation or by the DBCA as a Priority species was undertaken.

Amphibians, reptiles and mammals are mainly recorded through intensive trapping (level 2 type surveys) and are infrequently recorded opportunistically. However, these animals were noted when active, or by identifiable signs such as scats, tracks and diggings.

3.2.1 Habitat Assessments

Habitat assessments were undertaken throughout the Survey Area to define and delineate (map habitats) the main habitats present (Figures 3a & 3b).

Each habitat description includes the following information:

- GPS co-ordinate recorded;

- Habitat condition assessed as completely degraded through to pristine, based on the scale given in Keighery (1994);
- Landscape position;
- Dominant vegetation and structure e.g. number of vegetation strata;
- Hollow-bearing trees and dead stags (e.g. average size and abundance of hollows);
- Description of any rock and rocky outcrops;
- Logs (e.g. abundance and size);
- Substrate (e.g. leaf litter);
- Wetlands, creeks, rivers, dams and other water bodies;
- Description of any observed nests and roosts;
- Subterranean roosts (e.g. caves, disused mineshafts and/or adits);
- Associated fauna species observed using the habitat;
- Disturbance e.g. cattle grazing, fire; and
- Photo showing a typical example of the broad habitat type.

3.2.2 Nocturnal Spotlighting

Spotlighting and head torching at night from vehicles and on foot is an important survey tool as much of the region's fauna is nocturnal and/or crepuscular, particularly conservation significant species. Nocturnal searches were conducted (two Zoologists searching for 60 minutes each, over two nights), totalling 240 minutes. In addition, spotlighting was also conducted from the vehicle while driving to the Survey Area and between spotlighting areas.

3.2.3 Bat Monitoring

Song Meter 2 (SM2) acoustic recording units were set up in suitable habitat at night to target micro-bat species. SM2 units were set up at two different locations (Figures 3a & 3b; Plate 1).



Plate 1: An example of an SM2 Unit

3.2.4 Camera Traps

Camera traps were setup during the field survey at eight separate locations for two nights per location (Table 2; Figures 3a & 3b; Plate 2). Camera traps were baited with sardines and universal bait (peanut butter, oats and water) and placed in their field of view. Cameras were used to target species of conservation significance that may occur in the Survey Area.

Table 2: Motion Sensitive Camera Locations (co-ordinates are in UTM's [GDA94])

CAMERA NUMBER	EASTING	NORTHING	DATES PLACED OUT
1	201998	7535474	13 – 15/06/17
2	202895	7535572	13 – 15/06/17
3	204181	7535618	13 – 15/06/17
6	202958	7533162	13 – 15/06/17
8	199375	7527066	14 – 16/06/17
9	199300	7527300	14 – 16/06/17
10	198634	7526316	14 – 16/06/17
12	199650	7527725	14 – 16/06/17



Plate 2: An example of a Motion Sensitive Camera

3.2.5 Taxonomy

For species identified in the desktop assessment, where there is doubt as to their true taxonomy (through subsequent name changes or taxonomic reviews), an effort was made to determine the current scientific name for each species. In some cases, old scientific names may be presented where correct nomenclature could not be determined due to name changes. Some taxon names may be followed by 'sp.', meaning that the species name was not given in the data source or the identification is in doubt. Where there are previously recorded species such as this that have the potential to be a conservation significant species, they are discussed specifically in the results and discussion section.

Taxonomy and nomenclature in this report follows the accepted listing of published terrestrial vertebrate species. The listing for amphibians and reptiles follows Cogger (2014), birds follows Christidis & Boles (2008) and mammals Van Dyck & Strahan (2008).

3.2.6 Additional Habitat Assessment

An additional habitat assessment was undertaken from 31 July - 6 August 2018 throughout the Survey Area to define and delineate (map habitats) the main habitats present (Figures 3a & 3b). The additional habitat assessment was undertaken to confirm the extent of the fauna habitats within the Survey Area (which had increased from the 2017 field survey). The additional habitat assessments allowed for the accurate extrapolation of the previously

identified habitats to extend to the boundary of the Survey Area. This was completed by botanists undertaking flora and vegetation fieldwork within the Survey Area.

4 Results

4.1 Limitations and Constraints

Table 3 discusses the survey limitations and constraints of the fauna assessment completed for the Survey Area.

Table 3: Limitations and Constraints Associated with the Survey Area

VARIABLE	IMPACT ON SURVEY OUTCOMES
Access	The Survey Area is 547.2 ha. The overall area was surveyed in a broad and general capacity, with all major habitats sampled and mapped.
Experience	<p>The personnel who executed the survey were practitioners suitably qualified in their respective fields:</p> <p>Field Zoologists: Dr Ron Firth (18 years' experience) and Laura Stevens (5 years' experience);</p> <p>Field Botanists (completed a follow up fauna habitat assessment in August 2018): Catherine Krens (15 years' experience) and Sophie Fox (8 years' experience);</p> <p>Data interpretation and reporting by: Andrew Hide, Zoologist (10 years' experience), Evan Webb, Ecologist (2 years' experience) and Laura Stevens; and</p> <p>Report review: Heidi Taylor (5 years' experience, Environmental Scientist); Dr Ron Firth; Scott Walker (20 years' experience) (Principal Ecologist).</p>
Timing, weather, season	<p>The Level 1 fauna survey was conducted from 13 to 16 June 2017 and a follow up fauna habitat assessment conducted from 31 July to 5 August 2018.</p> <p>Rainfall prior to the survey in 2017 was below the long-term average. Rainfall prior to the survey in 2018 was the same as the long-term average. During the survey weather conditions such as maximum and minimum temperatures were close to the long-term average. Given this, weather is unlikely to have impacted on the results of the survey to any significant extent, particularly as the assessment was a Level 1 (a reconnaissance survey with no trapping).</p>
Scope: Life forms sampled	The scope of this project was to undertake a Level 1 fauna survey (reconnaissance survey and an assessment of habitats in the Survey Area). Given the level of survey, many species that occur in the Survey Area would not have been observed, particularly small ground-dwelling fauna

VARIABLE	IMPACT ON SURVEY OUTCOMES
	that are normally captured by methods such as trapping. All conservation significant species previously recorded in the area have been considered. Based on the habitat present, those species deemed to potentially occur in the Survey Area have been addressed in this study.
Sources of information	The fauna desktop analysis used several sources to produce a list of fauna species previously recorded in the vicinity of the Survey Area. This included threatened fauna database (DPaW 2017a), NatureMap (DPaW 2017b) and the EPBC PMST (DEE 2017), as well as past reports, field guides and other scientific literature.
Completeness	A total 128 fauna species were recovered from database searches and a total of 40 species were recorded during the survey. SM2 units were placed out at two locations and camera traps at eight locations for two nights each. A total of 240 minutes of spotlighting were undertaken. A total of 15 fauna habitat assessments were carried out.
Disturbances	Much of the Survey Area is considered to be in Very Good condition, although sheep are present throughout the Survey Area.

4.2 Desktop Assessment

Database searches returned 128 vertebrate fauna species from 50 families as potentially occurring in the vicinity of the Survey Area. Of these, there were 22 reptile species from six families, 84 bird species from 32 families and 22 mammal species from 12 families.

A total of 58 conservation significant vertebrate fauna species (including Priority species) from 23 families were identified during the desktop review of the database searches (Appendix B). These were comprised of three reptile species from three families, 44 bird species from 14 families and 11 mammals from six families.

4.2.1 Conservation Significant Fauna

All three database searches returned a number of wetland species, in particular marine reptiles and mammals. These species require specific habitats (i.e. oceans) that are not present in the Survey Area and have been omitted from any further discussion.

A number of species returned from the database searches were also known to be historical records of species now extinct e.g. Burrowing Bettong (*Bettongia Lesueur*), Broad-faced Potoroo (*Potorous platyops*) and Lesser Stick-nest Rat (*Leporillus apicalis*) or extinct in the local area and or more broadly in the region e.g. Northern Quoll (*Dasyurus hallucatus*) and Shark Bay Mouse (*Pseudomys fieldi*). Also, some records were only returned from the

DBCA threatened fauna database, some of which were single records or undated records, these species have been omitted from any further discussion.

Occasionally there are inconsistencies in the database searches, for example, the Grey Wagtail has only two confirmed sightings in north-west WA (Johnstone & Storr 2004) yet it was present in the EPBC PMST and the Yellow Wagtail (*Motacilla flava*) requires edges of swamps, sewage ponds and salt-marshes (Pizzey 1997). These habitats are not present in the Study Area. As such these species have been omitted from any further discussion. The Barrow Island Golden Bandicoot (*Isododon auratus barrowensis*), is found exclusively on Barrow Island, which is approximately 200 km north-east of the Survey Area, this species has therefore been omitted from any further discussion.

It is important to note, that the EPBC PMST is not entirely based on point records, but also on broader information, for example bioclimatic distribution models. The DBCA threatened fauna database and NatureMap are based on point records. Consequently, the results of the EPBC PMST are in some cases less accurate, particularly at a local scale. Consequently, the EPBC PMST will include species that do not occur in the search area because for example there is no habitat or they are now known to be locally extinct.

In addition, many fauna are not distributed evenly across the landscape, are more abundant in some places than others are, and consequently more detectable (Currie 2007). Furthermore, some small, common ground-dwelling reptile and mammal species tend to be habitat specific, and many bird species can occur as regular migrants, occasional visitors or vagrants. Therefore all these species have been omitted from any further discussion regarding fauna results.

With the aforementioned species removed, a total of 47 conservation significant species (including Priority species) from the database searches were potentially considered to either be Likely, Possibly or Unlikely to occur in the Survey Area. These 47 species comprise two reptile, 43 bird and two mammal species.

Of these 47 conservation significant species, six species were recorded during the field survey, one species is considered 'Likely', 26 species are considered 'Possible' and 16 species are considered 'Unlikely' to occur within the Survey Area (Table 4).

Table 4: Conservation Significant Fauna Potentially Occurring in the Survey Area

En = Listed as Endangered under the EBPC Act, Vu = Listed as Vulnerable under the EBPC Act, Mi = Listed as Migratory under the EBPC Act, Ma = Listed as Marine under the EBPC Act, S = Scheduled under the WC Act, and P = Listed as Priority by the DBCA.

SPECIES	CONSERVATION STATUS	LIKELIHOOD
Reptiles		
Cape Range Stone Gecko (<i>Diplodactylus capensis</i>)	P2	Unlikely
Cape Range Slider (<i>Lerista allochira</i>)	P3	Unlikely
Birds		
Seabirds (various)	MiMa, S5	Possible
Coastal Waders (various)	MiMa, S5	Recorded
Fork-tailed Swift (<i>Apus pacificus</i>)	MiMa, S5	Unlikely
Eastern Great Egret (<i>Ardea modesta</i>)	Ma, S5	Unlikely
Cattle Egret (<i>Ardea ibis</i>)	Ma, S5	Unlikely
Little Egret (<i>Egretta garzetta</i>)	Ma, S5	Unlikely
Night Parrot (<i>Pezoporus occidentalis</i>)	En	Unlikely
Rainbow Bee-eater (<i>Merops ornatus</i>)	Ma	Recorded
Barn Swallow (<i>Hirundo rustica</i>)	MiMa, S4	Unlikely
Mammals		
Pilbara Leaf-nosed Bat (<i>Rhinonicteris aurantia</i>)	Vu	Unlikely
Black-flanked Rock-wallaby (<i>Petrogale lateralis lateralis</i>)	Vu	Unlikely

4.3 Field Survey

The field survey recorded a total of 40 species from 29 families, which consisted of five reptile species from five families, 29 bird species from 20 families and six mammal species from four families (Appendix C). The key findings from the survey is further explained for each fauna group.

Amphibians

From the database searches, no amphibian species have been previously recorded in the Survey Area (Appendix B). During the survey, no amphibians were recorded.

Reptiles

From the database searches, a total of 22 reptile species have been previously recorded from the following six families in the surrounding area; Diplodactylidae, Pygopodidae, Gekkonidae, Scincidae, Agamidae and Elapidae. During the field assessment two reptile species were directly recorded; the Tree Dtella (*Gehyra variegata*) and Stimson's Python

(*Antaresia stimsoni*). Three reptile families were directly or indirectly (signs such as burrows) recorded during the survey but could not be attributed to species level because they were seen scurrying; a number of Skink (*Ctenotus* sp.), Dragon (*Ctenophorus* sp.) and Varanid (likely Gould's Sand Monitor [*Varanus gouldii*]) burrows were also observed in the Survey Area (Appendix C).

Birds

From the database searches, a total of 84 bird species from 32 families have been previously recorded in the surrounding area. During the field assessment 29 bird species were recorded from the following 20 families: Casuariidae, Columbidae, Accipitridae, Falconidae, Haematopodidae, Charadriidae, Laridae, Cacatuidae, Psittacidae, Maluridae, Meliphagidae, Campephagidae, Artamidae, Cracticidae, Rhipiduridae, Monarchidae, Corvidae, Meglauridae, Estrildidae, and Motacillidae (Appendix C).

Mammals

From the database searches, a total of 22 mammal species from 12 families have been previously recorded in the surrounding area. During the field assessment six mammal species were recorded; the Western Grey Kangaroo (*Macropus fuliginosus*), Common Sheath-tailed Bat (*Tapozous georgianus*), Gould's Wattled Bat (*Chalinolobus gouldii*), Little Broad-nosed Bat (*Scotorepens greyii*), Finlayson's Cave Bat (*Vespadelus finlaysoni*) and the introduced European Rabbit (*Oryctolagus cuniculus*) (Appendix C).

4.3.1 Fauna Habitat

In total 15 fauna habitat assessments were undertaken during the field survey and four broad fauna habitats were identified and mapped (Table 5; Appendix D; Figures 3a & 3b).

Table 5: Fauna Habitat in the Survey Area

FAUNA HABITAT	AREA (HA)	AREA (%)
Beach	7.1	1.3
Hummock Grassland	513.5	93.8
Tecticornia Shrubland	13.6	2.5
Minor Drainage Line	4.4	0.8
Cleared / track	8.5	1.6
Total	547.2	100

Four fauna habitat types that were identified in the survey area are widespread and common in the Exmouth region and are further explained.

Beach

Beach habitat comprised 1.3% of the Survey Area. This fauna habitat consists of a small area of sandy/shelly shoreline. This habitat provides potential foraging habitat in the form

of shallow saline water for coastal birds, such as the migratory birds returned from the database searches (for example Plovers, Sandpipers and Godwits) as well as those species recorded during the survey (Terns, Oystercatchers and Plover).

Hummock Grassland

Hummock Grassland comprised 93.8% of the Survey Area. This fauna habitat consisted primarily of *Triodia* hummocks. In places there were various scattered *Acacia* species (including *A. gregorii*, *A. bivenosa*, *A. coriacea* and *A. tetragonophylla*). In places, this habitat is a mix of grasses which have dense lower strata, providing habitat with considerable cover for small reptile species, bird and mammal species, and areas with a less dense midstorey, but with an increased cover of grasses. This habitat has little woody debris and leaf litter which would provide important microhabitat for some common reptile, bird and mammal species. Overall this habitat provides limited vegetation structure and hence limited fauna habitat for birds and mammals.

Tecticornia Shrubland

Tecticornia Shrubland comprised 2.5% of the Survey Area. The habitat lacks an overstorey or midstorey. The groundstorey is a mix of *Tecticornia* and *Frankenia* low shrubland on saline flats. This habitat provides limited foraging opportunities for a variety of small bird species, such as the Brown Song lark (*Cincloramphus cruralis*), which was recorded foraging in this habitat.

Minor Drainage Line

The Minor Drainage Line comprised 0.8% of the Survey Area. This fauna habitat consisted of scattered *Corymbia hamersleyana* over shrubland of *Acacia coriacea* and *Cullen* sp. over *Triodia* hummocks. The habitat contains moderate amounts of rocky outcropping, woody debris and leaf litter which act as important microhabitats for reptile, bird and mammal species. The presence of trees may provide roosting and nesting opportunities for birds, however, as this habitat type occupies less than 1% of the Survey Area and continues beyond the Survey Area extent, it is therefore unlikely to represent critical habitat to fauna species.

5 Discussion

5.1 Fauna of Conservation Significance

During the field assessment, six conservation significant species were recorded; the Osprey, Lesser Sand Plover, Caspian Tern, Lesser Crested Tern, Crested Tern and Rainbow Bee-eater, and are further discussed below.

Osprey (*Pandion cristatus*)

The Osprey is listed as marine and migratory under the EPBC Act. Coastal birds such as the Osprey require coasts and near-coastal wetland habitat, including estuaries, bays, inlets, islands and surrounding waters; coral atolls, reefs, lagoons, rock cliffs and stacks. The Osprey is moderately common to very common in sheltered seas around northern Australia and the West coast (and islands) south to 31°S (Garnett *et al.* 2011).

The Osprey feeds mainly on fish, including banded sweep, buff-bream, pike, garfish, smelt, groper, herring and mullet, as well as sea snakes from Shark Bay northwards, nesting seabirds (including White-faced Storm-petrels and Bridled Terns) and large lizards (Johnstone & Storr 1998).

There are no records of the Osprey in the DBCA threatened fauna database for the Exmouth area. However, it was present in the EPBC protected matters report and NatureMap results. The Osprey was observed flying over the Survey Area on a number of occasions. No nesting site was noted within the Survey Area.

The Osprey forages in marine/aquatic environments, therefore any loss of vegetation associated with the proposed works will not impact the foraging of this species.

Coastal Waders

The group of Coastal Waders consist of:

- Lesser Sand Plover (*Charadrius mongolus*);
- Caspian Tern (*Hydroprogne caspia*);
- Lesser Crested Tern (*Thalasseus bengalensis*); and
- Crested Tern (*Thalasseus bergii*).

The Survey Area contains a small portion of beach habitat which may be utilised by all four species of wader recorded during the survey. While these species were all Recorded in the Survey Area, it is important to note that the Survey Area comprises only 6 ha (or an approximately 600 m long section) of beach habitat. This habitat occurs extensively outside of the Survey Area and as such the impact of the proposed project on these species is therefore very limited, particularly at the regional scale.

Rainbow Bee-eater (*Merops ornatus*)

The Rainbow Bee-eater is listed as Marine under the EPBC Act and Schedule 5 under the WC Act. This species is one of the most common and widespread birds in Australia with a distribution that covers the majority of Australia (Barrett *et al.* 2003). It occurs in lightly wooded, often sandy country, preferring areas near water. It feeds on airborne insects, and nests throughout its range in WA, in burrows excavated in sandy ground or banks, often at the margins of roads and tracks. In WA this species can occur as a 'resident, breeding visitor, postnuptial nomad, passage migrant and winter visitor' (Johnstone & Storr 2004).

The DBCA threatened fauna database returned 5 records of the Rainbow Bee-eater. The species was observed on the wing and heard calling on numerous occasions throughout the Survey Area. The Survey Area does not contain any habitat that is of specific preference to the species, and the wider region surrounding the Survey Area, also contains habitat that will be utilised by the species.

5.1.1 Species Considered as Possibly Occurring

A total of 26 species are considered as Possibly occurring in the Survey Area based on the available desktop information and habitat present. The following species are discussed further.

Coastal Birds

All three database searches returned a number of wetland avifauna species, in particular coastal birds (i.e. waders) that require specific habitats (i.e. shorelines). There is a small area of beach habitat in the Survey Area. Habitat is therefore present for all of these species, a number of which were recorded during the survey (Appendix C). While these species are all considered Possible in the Survey Area, it is important to note that database searches returned limited records of these species. In addition only 6 ha (or an approximately 600 m long section of beach) of the entire Survey Area contains suitable habitat, and as such the impact of the proposed project on this habitat is limited, particularly at the regional scale given the extensive areas of shoreline in the local area and more broadly in the region. These species include:

- Greater Sand Plover (*Charadrius leschenaultii*);
- Lesser Sand Plover (*Charadrius mongolus*);
- Oriental Plover (*Charadrius veredus*);
- Grey Plover (*Pluvialis squatarola*);
- Oriental Pratincole (*Glareola maldivarum*);
- Common Noddy (*Anous stolidus*);
- Sooty Tern (*Sterna fuscata*);

- Australian Fairy Tern (*Sternula nereis*);
- Common Sandpiper (*Actitis hypoleucos*);
- Ruddy Turnstone (*Arenaria interpres*);
- Sharp-tailed Sandpiper (*Calidris acuminata*);
- Red Knot (*Calidris canutus*);
- Curlew Sandpiper (*Calidris ferruginea*);
- Pectoral Sandpiper (*Calidris melanotos*);
- Red-necked Stint (*Caliris ruficollis*);
- Great Knot (*Calidris tenuirostris*);
- Bar-tailed Godwit (*Limosa lapponica*);
- Bar-tailed Godwit (Western Alaskan) (*Limosa lapponica baueri*);
- Bar-tailed Godwit (Northern Siberian) (*Limosa lapponica menzbieri*);
- Eastern Curlew (*Numenius madagascariensis*);
- Whimbrel (*Numenius phaeopus*);
- Grey-tailed tattler (*Tringa brevipes*);
- Wood Sandpiper (*Tringa glareola*); and
- Common Greenshank (*Tringa nebularia*).

Barn Swallow (*Hirundo rustica*)

The Barn Swallow is listed as Migratory and Marine under the EPBC Act and as Schedule 4 under the WC Act. It is an uncommon to locally common summer visitor, mainly to coastal areas of north WA and south to Learmonth, inhabiting towns and wetlands (Johnstone & Storr 1998).

There are no records of the Barn Swallow in the DBCA threatened fauna database for the Exmouth area, but it was present in the EPBC protected matters report, which as noted in Section 4.2.2 is not entirely based on point records, but also on broader information, for example bioclimatic distribution models. Whereas the Department of Biodiversity Conservation and Attractions NatureMap and threatened fauna databases are based on point records.

Although there are a lack of DBCA records for this species in Exmouth; there is suitable habitat, and the Survey Area is within the known distribution of the species. The Barn Swallow is therefore considered as Possibly occurring in the Survey Area.

5.1.2 Species Considered as Unlikely to Occur

A total of 16 species of conservation significance are considered Unlikely to occur in the Survey Area and are further discussed below.

Cape Range Stone Gecko (*Diplodactylus capensis*)

This species is listed as P2 under the DBCA Priority List.

The Cape Range Stone Gecko is a small to moderate size terrestrial gecko found in the northern end of North West Cape. Here it is found under debris, logs and rocks on limestone hills with spinifex and low shrubs and trees (Cogger 2014).

The Survey Area lacks limestone hills, has limited logs and rocks that provide shelter and foraging habitat. There were 29 records of the Cape Range Stone Gecko in the DBCA threatened fauna database for the Exmouth area. It is therefore considered Unlikely that the Cape Range Stone Gecko will occur in the Survey Area.

Cape Range Slider (*Lerista allochira*)

This species is listed as P3 under the DBCA Priority List.

The Cape Range Slider is a burrowing species, which is usually found in loose soil or sand beneath stones, logs, termite mounds, etc., where they feed on ants, termites, and other small insects. At night they emerge to feed at the surface, immediately 'diving' into the loose sandy substrate when disturbed. This behaviour results in the distinctive disrupted wavy tracks which often criss-cross sand dunes (Cogger 2014).

The Cape Range Slider inhabits slopes and crests of heavily dissected limestone plateau sparsely vegetated with *Triodia* and shrubs. The Survey Area does not contain any suitable habitat.

There were 11 records of the Cape Range Slider in the DBCA threatened fauna database for the Exmouth area. However, given the absence of limestone slopes and dissected plateau the Cape Range Slider is considered Unlikely to occur in the Survey Area.

Night Parrot (*Pezoporus occidentalis*)

The Night Parrot is listed as Endangered under the EPBC Act and Schedule 1 under the WC Act. It is an enigmatic species thought possibly to be extinct until the recent recoveries of two dead specimens from Queensland (and new locations more recently). The type specimen and many early sightings, however, came from WA (Johnstone *et al.* 2013). A more recent sighting of the Night Parrot in the Pilbara comes from 12 April 2005 at a well near the Fortescue Marshes (Davis & Metcalf 2008), followed by breeding observations at Pullen Pullen Reserve in Western Queensland (Murphy *et al.* 2017). This was followed more recently by a sighting near Matuwa (Lorna Glen), north-east of Wiluna, in 2009 (Hamilton *et al.* 2017).

The DBCA threatened fauna database has no records of the Night Parrot in the search area and there is very limited ecological information available for this species such as its

preferred habitat (only very broad information). However, with increasing conservation focus being given to this species, more information is likely to become available, e.g. the discovery of Night Parrot nests in large Spinifex hummocks in Queensland (Murphy *et al.* 2017) which is a common and widespread habitat type throughout much of south-east Queensland and WA, including the Survey Area. In March 2017, a population was observed and photographed at an interior salt lake in central Western Australia (at this stage no more details are available). The Interim Night Parrot Survey Guidelines (May 2017) identifies the broad habitat requirements of the Night Parrot (roosting and nesting together with foraging) include areas of old-growth dense spinifex clumps (*Triodia*) (often >50 years unburnt, and especially hummocks that are ring forming) (DPaW 2017c). This is likely to include various native grasses and herbs, and may or may not contain shrubs or low trees (DPaW 2017c). Night parrots have been known to fly up to 40 km or more in a night during foraging expeditions, so foraging habitat is not necessarily within or adjacent to roosting areas. The Survey Area does not contain dense old growth spinifex clumps and there is an absence of nearby records and a very limited number of records in WA, consequently the Night Parrot is considered Unlikely in the Survey Area.

Seabirds

The following seabirds are considered as Unlikely to occur in the Survey Area. They all require marine habitat and spend the majority of their lives at sea. The small amount of beach habitat in the Survey Area may be utilised by these species occasionally as part of a larger home range. They may fly overhead, however, they are unlikely to depend on this habitat and as such the proposed project is unlikely to have an impact on them, particularly at a regional scale. These species include:

- Southern Giant-Petrel (*Macronectes giganteus*);
- Flesh-footed Shearwater (*Ardenna carneipes*);
- Streaked Shearwater (*Calonectris leucomelas*);
- Wedge-tailed Shearwater (*Puffinus pacificus*);
- Campbell Albatross (*Thalassarche impavida*);
- Lesser Frigatebird (*Fregata ariel*); and
- White-bellied Sea-Eagle (*Haliaeetus leucogaster*).

Fork-tailed Swift (*Apus pacificus*)

The Fork-tailed Swift is listed as Marine Migratory under the EPBC Act and as Schedule 5 under the WC Act. It is a non-breeding visitor to all states and territories of Australia (Higgins 1999). The Fork-tailed Swift is a summer migrant to Australia usually during the months of October-April. The Fork-tailed Swift is an aerial species which forages high above the tree canopy and is mostly independent of terrestrial habitats. It occurs in flocks

of up to 2,000 birds and is often seen accompanying Tree Martins and Masked Wood swallows (Johnstone & Storr 1998).

There are no records of the Fork-tailed Swift in the DBCA threatened fauna database for the Exmouth area, but it was present in the EPBC protected matters report, which as noted in Section 4.2.2 is not entirely based on point records.

The Fork-tailed Swift is considered as Unlikely to occur in the survey area.

Eastern Great Egret (*Ardea modesta*)

The Eastern Great Egret is listed as marine under the EPBC Act and as Schedule 5 under the WC Act. There are seven records (two of which are historical) of the Eastern Great Egret in the DBCA threatened fauna database for the Exmouth area.

The Eastern Great Egret occurs through the greater part of WA, but not the arid eastern interior south of Lake Gregory and east of Lake Nabberu. It is common in well-watered Kimberley flatlands, but scarce to moderately common everywhere else in WA.

The Eastern Great Egret is usually found in ones, twos or small flocks, occasionally in very large aggregations. The Eastern Great Egret inhabits mainly shallow freshwaters (river pools, lakes and lagoons), as well as shallow salt water including mangrove creeks and tidal pools.

Limited DBCA database returns and a lack of suitable freshwater habitat, result in the Eastern Great Egret being considered as Unlikely to occur in the Survey Area.

Cattle Egret (*Ardea ibis*)

The Cattle Egret is listed as Marine under the EPBC Act and as Schedule 5 under the WC Act. It occurs casually in the wetter parts of WA. The species inhabits short grass, especially damp pastures and wetlands, usually in the company of cattle and occasionally other livestock. In WA it is an irregular visitor, occurring mostly in autumn, and is not thought to breed regularly (Johnstone & Storr 1998).

There are no records of the Cattle Egret in the DBCA threatened fauna database for the Exmouth area, but was present in the EPBC protected matters report.

Given the lack of records for this species in Exmouth and the lack of suitable habitat, the Cattle Egret is considered as Unlikely to occur in the survey area.

Little Egret (*Egretta garzetta*)

The Little Egret is listed as Marine under the EPBC Act and as Schedule 5 under the WC Act. The species inhabits tidal mudflats, saltmarshes, mangroves, freshwater wetlands and sewage ponds (Pizzey 1997).

There are no records of the Little Egret in the DBCA threatened fauna database for the Exmouth area, but was present in the EPBC protected matters report.

Given the lack of records for this species in Exmouth and the lack of suitable habitat, the Little Egret is considered as Unlikely to occur in the survey area.

Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*)

The Pilbara Leaf-nosed Bat is listed as Vulnerable under the EPBC Act and S3 under the WC Act.

The PLNB is dependent on caves and mines with very hot and humid roost sites (28-32°C and 96-100% humidity) during the dry season (Armstrong 2000; Churchill 2008). Caves and mines, which have these specific characteristics, are relatively uncommon in the Pilbara. Without these conditions, PLNB are susceptible to dehydration and hypothermia and can die within a few hours.

The PLNB is now known to be more widespread than previously supposed; however, most of its maternity roost sites are confined either to banded ironstone strata that may be mined or to underground mine adits that are now collapsing or being open cut (Woinarski et al. 2014).

There are no records of the Pilbara Leaf-nosed Bat in the DBCA threatened fauna database for the Exmouth area, but was present in the EPBC protected matters report.

Given the lack of records for this species in the area (and region) and the lack of suitable habitat, the Pilbara Leaf-nosed Bat is considered as Unlikely to occur in the survey area.

Black-flanked Rock-wallaby (*Petrogale lateralis lateralis*)

The Black-flanked Rock-wallaby is listed as Endangered under the EPBC Act.

Once patchily distributed but widespread throughout most of WA, the Black-flanked Rock-wallaby is now confined to small patches of suitable habitat. It has a very small area of occupancy and is severely fragmented with mostly small, isolated subpopulations. The Black-flanked Rock-wallaby inhabits rocky areas, caves, cliffs, screes and rock piles, where they shelter during the daytime. At dusk they emerge to feed on grasses, shrubs and occasionally seeds and fruits (Woinarski et al. 2012).

The DBCA threatened fauna database returned 18 records of the Black-flanked Rock-wallaby in the Exmouth area, however, they were all from nearby gorges. This habitat is not present in the Survey Area. This lack of suitable rocky habitat results in the Black-flanked Rock-wallaby being considered as Unlikely to occur in the Survey Area.

6 Conclusion

Fifteen fauna habitat assessments were undertaken during the survey and four broad fauna habitats were identified and mapped (Beach, Hummock Grassland, Tecticornia Shrubland and Minor Drainage Line).

A total of 47 conservation significant species (including Priority species) were considered to potentially occur in the Survey Area. These 47 species comprised two reptile, 43 bird and two mammal species.

During the field assessment 40 species from 29 families were recorded. This consisted of five reptile species from five families, 29 bird species from 20 families and six mammal species from four families. Six conservation significant species were recorded; the Osprey, Lesser Sand Plover, Caspian Tern, Lesser Crested Tern, Crested Tern and Rainbow Bee-eater. No 'critical habitat' for any of these species was recorded within the Survey Area.

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FIGURES



Legend

Survey Area

Fauna Sites

Habitat

Camera Trap

SM2

Fauna Habitat

Beach

Hummocky Grassland

Tecticornia shrubland

Cleared/Track

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS
- LOCALITY MAP SOURCED LANDGATE 2006
- IBRA7 REGIONS SOURCED DOE 2015
- AERIAL PHOTOGRAPHY SOURCED LANDGATE Sep 2013
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Metres

1:30,000 @ A3

LOCALITY MAP

LEARMONTH

PROJECT ID
2198

DATE
13/09/2018

HORIZONTAL DATUM AND PROJECTION
GDA 1994 MGA Zone 50

CREATED EW	CHECKED EW	APPROVED SW	REVISION 0
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**Subsea 7
Bundle Site, Learmonth**
Fauna Survey

**Figure 3a
Fauna Survey**



Legend

Survey Area

Fauna Sites

Habitat Assessment

Camera Trap

SM2

Fauna Habitat

Minor Drainage Line

Hummocky Grassland

Cleared/Track

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS
- LOCALITY MAP SOURCED LANDGATE 2006
- IBRA7 REGIONS SOURCED DOE 2015
- AERIAL PHOTOGRAPHY SOURCED LANDGATE Sep 2013
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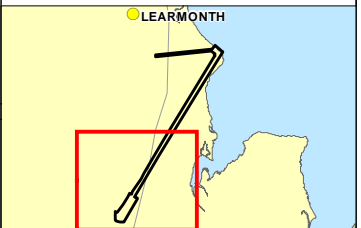
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0 250 500 750 1,000 1,250

Metres

1:30,000 @ A3

LOCALITY MAP



PROJECT ID	DATE
2198	13/09/2018

HORIZONTAL DATUM AND PROJECTION
GDA 1994 MGA Zone 50

CREATED	CHECKED	APPROVED	REVISION
EW	EW	SW	0

**Subsea 7
Bundle Site, Learmonth**

Fauna Survey

**Figure 3b
Fauna Survey**

APPENDIX A

Definition of Threatened Fauna Species Categories

Western Australian Threatened Fauna Categories Wildlife Conservation Act 1950 (WA)

CATEGORY	CODE	DESCRIPTION
Schedule 1	S1	Rare or likely to become extinct as critically endangered fauna.
Schedule 2	S2	Fauna that is rare or is likely to become extinct as endangered fauna.
Schedule 3	S3	Fauna that is rare or is likely to become extinct as vulnerable fauna.
Schedule 4	S4	Fauna presumed to be extinct.
Schedule 5	S5	Migratory birds protected under an international agreement.
Schedule 6	S6	Fauna that is of special conservation need as conservation dependent fauna.
Schedule 7	S7	Other specially protected fauna

Department of Parks and Wildlife Fauna Priority Codes

CATEGORY	CODE	DESCRIPTION
Priority 1	P1	Taxa with few, poorly known populations on threatened lands.
Priority 2	P2	Taxa with few, poorly known populations on conservation lands.
Priority 3	P3	Taxa with several, poorly known populations, some on conservation lands.
Priority 4	P4	Taxa in need of monitoring: not currently threatened or in need of special protection, but could become so. Usually represented on conservation lands.
Priority 5	P5	Taxa in need of monitoring: not considered threatened, but the subject of a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of Threatened Fauna Species under the EPBC Act

CONSERVATION CODE	DESCRIPTION
Ex	Extinct Taxa which at a particular time if, at the time, there is no reasonable doubt that the last member of the species has died.
ExW	Extinct in the Wild Taxa which is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons,

CONSERVATION CODE	DESCRIPTION
	anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
CE	Critically Endangered Taxa which at a particular time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
E	Endangered Taxa which is not critically endangered and it is facing a very high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
V	Vulnerable Taxa which is not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
CD	Conservation Dependent Taxa which at a particular time if, at that time, the species is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

Source: *Environment Protection and Biodiversity Conservation Act 1999*

APPENDIX B

Database Search Results

NAME	NAME_ID	FAMILY	GENUS	SPECIES	SUBSPECIES	COMMON_NAM	KINGDOM	CONVS_CODE	CLASS	CERTAINTY	METHOD	COUNT	LOCALITY	SITE_NAME	ACCURACY_M	YEAR
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	NORTH WEST CAPE	SHOTHOLE CANYON	50000	1976
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	NORTH WEST CAPE	SHOTHOLE CANYON	50000	1976
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	NORTH WEST CAPE	SHOTHOLE CANYON	50000	1976
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	NORTH WEST CAPE	SHOTHOLE CANYON	50000	1976
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	NORTH WEST CAPE	SHOTHOLE CANYON	50000	1978
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	NORTH WEST CAPE	SHOTHOLE CANYON	50000	1978
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	NORTH WEST CAPE	SHOTHOLE CANYON	50000	1978
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	SHOTHOLE CANYON	10000	1998
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	SHOTHOLE CANYON	10000	1998
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	SHOTHOLE CANYON	10000	1998
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	SHOTHOLE CANYON	10000	1998
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	SHOTHOLE CANYON	10000	1998
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	SHOTHOLE CANYON	200000	2000
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	CAPE RANGE NATIONAL PARK	50000	1997
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	LEARMONTH	SHOTHOLE CANYON	50000	1981
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	Cape Range National Park	50000	1997
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	CAPE RANGE NATIONAL PARK	50000	1997
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	CAPE RANGE NATIONAL PARK	200000	2008
Alypsurus apraefrontalis	25350	Elapidae	Alypsurus	apraefrontalis		short-nosed seasnake	Animalia	CR	REPTILE	WAM Vouchered	Specimen	1	LEARMONTH	EXMOUTH	10000	2004
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	MANDU MANDU GORGE	10000	1986
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	MANDU MANDU GORGE	10000	1986
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	MANDU MANDU GORGE	10000	1986
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	MANDU MANDU GORGE	10000	1986
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	MANDU MANDU GORGE	10000	1986
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	LEARMONTH	Cape Range National Park	50000	1997
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	LEARMONTH	CAPE RANGE NATIONAL PARK	50000	1998
Diplodactylus capensis	34146	Diplodactylidae	Diplodactylus	capensis		Cape Range stone gecko	Animalia	P2	REPTILE	WAM Vouchered	Specimen	1	LEARMONTH	LEARMONTH	50000	2000
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	LEARMONTH	LEARMONTH AIRSTRIP	50000	2001
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	LEARMONTH	LEARMONTH AIRSTRIP	50000	2001
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	MOUTH OF YARDIE CREEK	10000	1984
Lerista allochira	25120	Scincidae	Lerista	allochira		a skink	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	MOUTH OF YARDIE CREEK	10000	1984
Aprasia rostrata	24992	Pygopodidae	Aprasia	rostrata		Hermite Island worm-lizard	Animalia	P3	REPTILE	WAM Vouchered	Specimen	1	EXMOUTH GULF	BULLARA HS	10000	1993
Dugong dugon	24084	Dugongidae	Dugong	dugon		dugong	Animalia	OU	MAMMAL	WAM Vouchered	Specimen	1	NORTH WEST CAPE		0	1995
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		blind gudgeon	Animalia	VU	FISH	WAM Vouchered	Specimen	1	NORTH WEST CAPE		100000	1983
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		blind gudgeon	Animalia	VU	FISH	WAM Vouchered	Specimen	1	NORTH WEST CAPE		100000	1958
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		blind gudgeon	Animalia	VU	FISH	WAM Vouchered	Specimen	1	NORTH WEST CAPE		100000	1958
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		blind gudgeon	Animalia	VU	FISH	WAM Vouchered	Specimen	1	NORTH WEST CAPE		100000	1957
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		blind gudgeon	Animalia	VU	FISH	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK		100000	1979
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		blind gudgeon	Animalia	VU	FISH	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK		100000	1958
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		blind gudgeon	Animalia	VU	FISH	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK		100000	1958
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		blind gudgeon	Animalia	VU	FISH	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	rockhole 6 km N, 100m E, Yardi Creek	100000	1899
Charadrius mongolus mongolus	25576	Charadriidae	Charadrius	mongolus	mongolus	lesser sand plover	Animalia	EN & IA	BIRD	WAM Vouchered	Specimen	1	CAPE RANGE NATIONAL PARK	Yardi Creek River	0	1959
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	NORTH WEST CAPE		50	1989
Draculoides vinei	33915															

[illegible]

[illegible]

Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	50	2002	
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	50	2008	
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	50	2008	
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	50	2008	
Bamazomus subsolanus	33905	Hubbardiidae	Bamazomus	subsolanus		eastern Cape Range bamazomus	Animalia	EN	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	10000	2008	
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	10000	1999	
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	50	1989	
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	50	1989	
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	50	1989	
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	50	1989	
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range Draculoides	Animalia	P4	INVERTEBRATE	WAM Vouchered	Specimen	1	LEARMONTH	50	1989	
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	MAMMAL	Very certain	Translocation	27	DOOLE ISLAND	Release Bay, Doole Island - failed tran: 10000	1993	
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	MAMMAL	Very certain	Translocation	27	DOOLE ISLAND	Release Bay, Doole Island - failed tran: 10000	1993	
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	MAMMAL	Very certain	Translocation	27	DOOLE ISLAND	Release Bay, Doole Island - failed tran: 10000	1995	
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	MAMMAL	Very certain	Translocation	27	DOOLE ISLAND	Release Bay, Doole Island - failed tran: 10000	1995	
Isodon auratus barrowensis	24151	Peramelidae	Isodon	auratus	barrowensis	Barrow Island golden bandicoot	Animalia	VU	MAMMAL	Very certain	Translocation	92	DOOLE ISLAND	Doole Is - successful translocation 10000	2011	
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	1	NORTH WEST CAPE	9km South of Exmouth townsite 1000	0	
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Opportunistic sig	2	CAPE RANGE NATIONAL PARK	Shothole Canyon, Cape Range National Park	2005	
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	7	NORTH WEST CAPE	ShotHole Canyon	1000	0
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	4	CAPE RANGE NATIONAL PARK	Shothole Canyon	1000	0
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	1	CAPE RANGE NATIONAL PARK	Shothole Canyon, Northwest Cape	1000	2004
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	1	LEARMONTH	Shothole Canyon, ~12 miles NNW of Learmonth	1000	1961
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	1	CAPE RANGE NATIONAL PARK	Cape Range National Park	1000	0
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range draculoides	Animalia	P4	Arachnids	Certain	Unknown	2	LEARMONTH	Shot Pot Cave (Cave C106)	Not defined	1983
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range draculoides	Animalia	P4	Arachnids	Certain	Unknown	3	LEARMONTH	Dry Swallet Cave (Cave C 18)	Not defined	1983
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	1	LEARMONTH	Shothole Canyon	1000	0
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	1	CAPE RANGE NATIONAL PARK	Cape Range National Park	1000	0
Phascogale calura	24098	Dasyuridae	Phascogale	calura		red-tailed phascogale, kenngoor	Animalia	CD	Mammals	Certain	Survey	0	CAPE RANGE NATIONAL PARK	Cave 0.7 km and bearing 38.5 degrees	10000	0
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Not sure	Survey	0	CAPE RANGE NATIONAL PARK	Cave 0.7 km and bearing 38.5 degrees	10000	0
Nocticola flabella	33985	Nocticolidae	Nocticola	flabella		Cape Range Blind Cockroach	Animalia	P2	Insects	Certain	Survey	1	CAPE RANGE NATIONAL PARK	Cave C-169, Cape Range	1000	1987
Nocticola flabella	33985	Nocticolidae	Nocticola	flabella		Cape Range Blind Cockroach	Animalia	P2	Insects	Certain	Survey	1	CAPE RANGE NATIONAL PARK	Cave C-169, Cape Range	1000	1988
Pristis zijron	34037	Pristidae	Pristis	zijron		green sawfish	Animalia	VU	Fish	Certain	Survey	1	NORTH WEST CAPE	West Coast - Exmouth Bay area	10000	2008
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Moderately Certain	Secondary sign	0	LEARMONTH	Middle Gully (Site 12)	1000	2001
Nocticola flabella	33985	Nocticolidae	Nocticola	flabella		Cape Range Blind Cockroach	Animalia	P2	Insects	Certain	Survey	1	CAPE RANGE NATIONAL PARK	Cave C-103 (Trionomo), Cape Range	1000	1988
Nocticola flabella	33985	Nocticolidae	Nocticola	flabella		Cape Range Blind Cockroach	Animalia	P2	Insects	Certain	Survey	1	CAPE RANGE NATIONAL PARK	Cave C-103 (Trionomo - Area D), Cape Range	1000	1988
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Moderately Certain	Secondary sign	0	LEARMONTH	Charles Knife Canyon site (Site 10)	1000	2000
Chelonia mydas	25336	Cheloniidae	Chelonia	mydas		green turtle	Animalia	VU	Reptiles	Certain	Opportunistic sig	1	LEARMONTH	Approx 500m north of Learmonth Jett	1000	2002
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	3	CAPE RANGE NATIONAL PARK	Small steep gorge N of Oyster Stacks	1000	2002
Lerista allochira	25120	Scincidae	Lerista	allochira			Animalia	P3	Reptiles	Certain	Unknown	1	CAPE RANGE NATIONAL PARK	Bed of Mandu Mandu Gorge, North West	1000	0
Nocticola flabella	33985	Nocticolidae	Nocticola	flabella		Cape Range Blind Cockroach	Animalia	P2	Insects	Certain	Survey	1	LEARMONTH	Cave C126, Cape Range	10000	1988
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	5	CAPE RANGE NATIONAL PARK	Mandu Mandu Gorge	1000	2002
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	2	LEARMONTH	Cape Range National Park	1000	0
Sminthopsis longicaudata	24115	Dasyuridae	Sminthopsis	longicaudata		Long-tailed Dunnart	Animalia	P4	Mammals	Certain	Survey	0	LEARMONTH	Owl Roost Cave (CR4, Sample 1). Appr	1000	0
Mesembriomys macrurus	24222	Muridae	Mesembriomys	macrurus		golden-backed tree-rat	Animalia	P4	Mammals	Certain	Survey	0	LEARMONTH	Owl Roost Cave (CR4, Sample 1). Appr	10000	0
Mesembriomys macrurus	24222	Muridae	Mesembriomys	macrurus		golden-backed tree-rat	Animalia	P4	Mammals	Certain	Survey	0	LEARMONTH	Owl Roost Cave (CR4, Sample 18). Appr	10000	0
Leporillus apicalis	24218	Muridae	Leporillus	apicalis		lesser stick-nest rat	Animalia	EX	Mammals	Certain	Survey	0	LEARMONTH	Owl Roost Cave (CR4, Sample 1). Appr	10000	0
Zyomys pedunculatus	24249	Muridae	Zyomys	pedunculatus		central rock-rat, antina	Animalia	CR	Mammals	Not sure	Survey	0	LEARMONTH	Owl Roost Cave (CR4, Sample 1). Appr	10000	0
Zyomys pedunculatus	24249	Muridae	Zyomys	pedunculatus		central rock-rat, antina	Animalia	CR	Mammals	Certain	Survey	0	LEARMONTH	Owl Roost Cave (CR4, Sample 1). Appr	10000	0
Nocticola flabella	33985	Nocticolidae	Nocticola	flabella		Cape Range Blind Cockroach	Animalia	P2	Insects	Certain	Survey	2	CAPE RANGE NATIONAL PARK	Cave 167 (Spiral), Cape Range	1000	1988
Nocticola flabella	33985	Nocticolidae	Nocticola	flabella		Cape Range Blind Cockroach	Animalia	P2	Insects	Certain	Survey	1	CAPE RANGE NATIONAL PARK	Cave C-118, Cape Range	1000	1988
Nocticola flabella	33985	Nocticolidae	Nocticola	flabella		Cape Range Blind Cockroach	Animalia	P2	Insects	Certain	Survey	1	CAPE RANGE NATIONAL PARK	Cave C-118, Cape Range	1000	1988
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Not sure	Secondary sign	0	CAPE RANGE NATIONAL PARK	Gorge between Mandu Mandu Gorge	1000	2002
Ophisternon candidum	34038	Synbranchidae	Ophisternon	candidum		blind cave eel	Animalia	VU	Fish	Not defined	Historical (written)	0	CAPE RANGE NATIONAL PARK	Pilgramuna Well, Cape Range National Park	1000	0
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		cave gudgeon, blind gudgeon	Animalia	VU	Fish	Certain	Targeted survey	5	CAPE RANGE NATIONAL PARK	Pilgramuna Well (Cape Range N.P.)	1000	1989
Milyeringa veritas	34025	Eleotridae	Milyeringa	veritas		cave gudgeon, blind gudgeon	Animalia	VU	Fish	Certain	Unknown	1	CAPE RANGE NATIONAL PARK	Pilgramunna Well, cave C-274, Cape Range	500	1991
Ophisternon candidum	34038	Synbranchidae	Ophisternon	candidum		blind cave eel	Animalia	VU	Fish	Certain	Unknown	1	CAPE RANGE NATIONAL PARK	Pilgramunna Well, cave C-274, Cape Range	500	1991
Leporillus apicalis	24218	Muridae	Leporillus	apicalis		lesser stick-nest rat	Animalia	EX	Mammals	Certain	Survey	0	LEARMONTH	Unregistered Cave (Sample 4) 11.8 km NW of Learmonth	10000	0
Zyomys pedunculatus	24249	Muridae	Zyomys	pedunculatus		central rock-rat, antina	Animalia	CR	Mammals	Certain	Survey	0	LEARMONTH	Unregistered cave (Sample 3) 12.7 km NW of Learmonth	10000	0
Mesembriomys macrurus	24222	Muridae	Mesembriomys	macrurus		golden-backed tree-rat	Animalia	P4	Mammals	Certain	Survey	0	LEARMONTH	Unregistered cave (Sample 3) 12.7 km NW of Learmonth	10000	0
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	17	CAPE RANGE NATIONAL PARK	Pilgramunna Gorge (= Pilgonoman Gorge)	1000	2002
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	3	CAPE RANGE NATIONAL PARK	Pilgrimunna, at entrance to gorge	1000	2002
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Moderately Certain	Secondary sign	0	LEARMONTH	Site 17	1000	2001
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range draculoides	Animalia	P4	Arachnids	Certain	Unknown	2	LEARMONTH	Cave 15, Cape Range National Park	1000	1999
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	1	CAPE RANGE NATIONAL PARK	2 small gorges N of Sandy Bay	1000	2002
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Not sure	Secondary sign	0	CAPE RANGE NATIONAL PARK	Gorge near Sandy Bay	1000	2002
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	1	LEARMONTH	VCL W of Learmonth RAAF Base	1000	1999
Sminthopsis longicaudata	24115	Dasyuridae	Sminthopsis	longicaudata		Long-tailed Dunnart	Animalia	P4	Mammals	Certain	Survey	0	LEARMONTH	Monajee Cave (CR21, Sample 14). 3.6 km NW of Learmonth	10000	0
Bettongia lesueur graii	24161	Potoridae	Bettongia	lesueur	graii	boodie (inland), burrowing bettor	Animalia	EX	Mammals	Certain	Survey	0	LEARMONTH	Monajee Cave (CR21, Sample 14). 3.6 km NW of Learmonth	10000	0
Mesembriomys macrurus	24222	Muridae	Mesembriomys	macrurus		golden-backed tree-rat	Animalia	P4	Mammals	Certain	Survey	0	LEARMONTH	Monajee Cave (CR21, Sample 14). 3.6 km NW of Learmonth	10000	0
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Not sure	Survey	0	LEARMONTH	Monajee Cave (CR21, Sample 14). 3.6 km NW of Learmonth	10000	0
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	2	LEARMONTH	West of Learmonth. 1.2 km NW of pro	1000	2001
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	2	LEARMONTH	West of Learmonth. 1 km NW of propo	1000	2001
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	1	LEARMONTH	West of Learmonth. 1 km W of propo	1000	2001
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	3	LEARMONTH	West of Learmonth. 0.7 km W of prop	1000	2001
Diplodactylus capensis	34146	Gekkonidae	Diplodactylus	capensis		Cape Range Stone Gecko	Animalia	P2	Reptiles	Certain	Survey	1	LEARMONTH	Learmonth	1000	0
Lerista allochira	25120	Scincidae	Lerista	allochira			Animalia	P3	Reptiles	Certain	Survey	0	LEARMONTH	Floodplain Site 2	1000	2000

Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	1	LEARMONTH	Proposed limestone quarry near Learr	1000	2000
Lerista allochira	25120	Scincidae	Lerista	allochira			Animalia	P3	Reptiles	Certain	Survey	0	LEARMONTH	Drainage line Site 4	1000	2000
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	1	LEARMONTH	West of Learmonth. 1.25 km SW of pr	1000	2001
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range draculoides	Animalia	P4	Arachnids	Certain	Unknown	1	LEARMONTH	Cave 96, Cape Range National Park	1000	1999
Mesembriomys macrurus	24222	Muridae	Mesembriomys	macrurus		golden-backed tree-rat	Animalia	P4	Mammals	Certain	Survey	0	LEARMONTH	Cave CR6 (= WAM Cave 4) (Sample 12)	10000	0
Potorous platypus	24164	Potoroidae	Potorous	platypus		broad-faced potoroo	Animalia	EX	Mammals	Not sure	Survey	0	LEARMONTH	Cave CR6 (= WAM Cave 4) (Sample 12)	10000	0
Petrogale lateralis lateralis	24142	Macropodidae	Petrogale	lateralis	lateralis	black-flanked rock-wallaby, warru	Animalia	EN	Mammals	Certain	Opportunistic sig	2	CAPE RANGE NATIONAL PARK	Three small gorges	1000	2002
Dermochelys coriacea	25346	Dermochelyidae	Dermochelys	coriacea		leatherback turtle	Animalia	VU	Reptiles	Certain	Opportunistic sig	1	EXMOUTH GULF	Gales Bay near Roberts Island	500	1991
Dugong dugon	24084	Dugongidae	Dugong	dugon		dugong	Animalia	OS	Mammals	Certain	Opportunistic sig	20	EXMOUTH GULF	around Doole Island and bottom of R	1000	0
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Certain	Targeted survey	7	EXMOUTH GULF	Release Bay, Doole Island	500	1993
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Certain	Survey	3	EXMOUTH GULF	Release Bay, Doole Island	500	1996
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Certain	Targeted survey	8	EXMOUTH GULF	Narrow Neck, Doole Island	500	1995
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Certain	Survey	2	EXMOUTH GULF		500	1996
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Certain	Survey	5	EXMOUTH GULF	Reasonable Beach, Doole Island	500	1996
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Certain	Targeted survey	25	EXMOUTH GULF	Doole Island	10000	1995
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Certain	Targeted survey	27	EXMOUTH GULF	Release Bay, Doole Island, Whitmore,	1000	1993
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	Mammals	Certain	Survey	1	EXMOUTH GULF	Safe Mun Bay, Doole Island	500	1996
Sterna caspia (Hydroprogne caspia	24523	Laridae	Sterna	caspia		Caspian tern	Animalia	IA	BIRD	Moderately certain	Survey	1	EXMOUTH GULF	Roberts	0	1989
Sterna caspia (Hydroprogne caspia	24523	Laridae	Sterna	caspia		Caspian tern	Animalia	IA	BIRD	Moderately certain	Survey	1	EXMOUTH GULF	Roberts	0	1989
Sterna nereis nereis	24530	Laridae	Sterna	nereis	nereis	fairy tern	Animalia	VU	BIRD	Moderately certain	Survey	1	EXMOUTH GULF	Roberts	0	1989
Sterna caspia (Hydroprogne caspia	24523	Laridae	Sterna	caspia		Caspian tern	Animalia	IA	BIRD	Moderately certain	Survey	1	EXMOUTH GULF	Doole (island to West)	0	1989
Pseudomys fieldi	24236	Muridae	Pseudomys	fieldi		Shark Bay mouse, djoongari	Animalia	VU	MAMMAL	Not defined	Survey	1	EXMOUTH GULF	Doole	0	0
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	NORTH WEST CAPE	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	NORTH WEST CAPE	North West Cape, Exmouth Gulf	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	NORTH WEST CAPE	North West Cape, Exmouth Gulf	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon		dugong	Animalia	OS	MAMMAL	Certain	survey	1	LEARMONTH	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	LEARMONTH	Exmouth Gulf to Barrow Island, Exmo	3000	2013
Sousa sahulensis	0	Delphinidae	Sousa	sahulensis		Australian humpback dolphin	Animalia	P4	MAMMAL	Certain	Survey	3	N/A	ExmouthGulf_to_BarrowIsland, Exmo	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	Survey	3	N/A	ExmouthGulf_to_BarrowIsland, Exmo	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Sousa sahulensis	0	Delphinidae	Sousa	sahulensis		Australian humpback dolphin	Animalia	P4	MAMMAL	Certain	Survey	3	N/A	ExmouthGulf_to_BarrowIsland, Exmo	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	LEARMONTH	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	NORTH WEST CAPE	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Dugong dugon	24084	Dugongidae	Dugong	dugon		dugong	Animalia	OS	MAMMAL	Certain	survey	1	LEARMONTH	Exmouth Gulf to Barrow Island, Exmo	3000	2012
Draculoides vinei	33915	Hubbardiidae	Draculoides	vinei		Cape Range draculoides	Animalia	P4	INVERTEBRATE	Moderately certain	survey	1	CAPE RANGE NATIONAL PARK	Cape Range, cave C-79	10000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	LEARMONTH	North West Cape, Ningaloo	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	LEARMONTH	North West Cape, Ningaloo	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae		humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	LEARMONTH	Fremantle-Darwin,	100	2013

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Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Stenella longirostris	24067	Delphinidae	Stenella	longirostris	spinner dolphin	Animalia	P4	MAMMAL	Certain	survey	4	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	LEARMONTH	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	2	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	14	EXMOUTH GULF	ExmouthGulf, ExmouthGulf	100		2013
Pseudomys chapmani	24233	Muridae	Pseudomys	chapmani	western pebble-mound mouse, n	Animalia	P4	MAMMAL	Certain	survey	1	EXMOUTH GULF	Roy Hill, Opportunistic Site 03	100		2011
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Orcaella heinsohni	24060	Delphinidae	Orcaella	heinsohni	Australian snubfin dolphin	Animalia	P4	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Orcaella heinsohni	24060	Delphinidae	Orcaella	heinsohni	Australian snubfin dolphin	Animalia	P4	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	3	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	survey	1	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2013
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Megaptera novaeangliae	24051	Balaenopteridae	Megaptera	novaeangliae	humpback whale	Animalia	CD	MAMMAL	Certain	survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2012
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	2	EXMOUTH GULF	Exmouth Gulf to Barrow Island, Exmoi	3000		2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	2	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	2	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong	dugon	dugong	Animalia	OS	MAMMAL	Certain	Survey	1	N/A	ExmouthGulf_to_BarrowIsland,	Exmoi	3000	2014
Dugong dugon	24084	Dugongidae	Dugong													

[illegible]

Arenaria interpres interpres	24778	Scolopacidae	Arenaria	interpres	interpres	ruddy turnstone	Animalia	IA	BIRD	Moderately certain	Observational	1	EXMOUTH GULF	Doole Island	500	2001
Calidris acuminata	24779	Scolopacidae	Calidris	acuminata		sharp-tailed sandpiper	Animalia	IA	BIRD	Moderately certain	Observational	1	EXMOUTH GULF	Doole Island	500	2001
Limosa lapponica	30932	Scolopacidae	Limosa	lapponica		bar-tailed godwit	Animalia	IA (& VU at su	BIRD	Moderately certain	Observational	1	EXMOUTH GULF	Doole Island	500	2001
Pluvialis squatarola	24383	Charadriidae	Pluvialis	squatarola		grey plover	Animalia	IA	BIRD	Moderately certain	Observational	1	EXMOUTH GULF	Doole Island	500	2001
Glareola maldivarum	24481	Glareolidae	Glareola	maldivarum		oriental pratincole	Animalia	IA	BIRD	Moderately certain	Observational	1	EXMOUTH GULF	tidal flats Bullara station	100	2011
Calidris acuminata	24779	Scolopacidae	Calidris	acuminata		sharp-tailed sandpiper	Animalia	IA	BIRD	Moderately certain	Observational	1	LEARMONTH		18000	1978
Limosa lapponica	30932	Scolopacidae	Limosa	lapponica		bar-tailed godwit	Animalia	IA (& VU at su	BIRD	Moderately certain	Observational	1	LEARMONTH		18000	1978
Ardea modesta	41324	Ardeidae	Ardea	modesta		great egret, white egret	Animalia	IA	BIRD	Moderately certain	Observational	1	LEARMONTH		18000	1978
Calidris acuminata	24779	Scolopacidae	Calidris	acuminata		sharp-tailed sandpiper	Animalia	IA	BIRD	Moderately certain	Observational	1	LEARMONTH		18000	1978
Limosa lapponica	30932	Scolopacidae	Limosa	lapponica		bar-tailed godwit	Animalia	IA (& VU at su	BIRD	Moderately certain	Observational	1	LEARMONTH		18000	1978
Tringa glareola	24806	Scolopacidae	Tringa	glareola		wood sandpiper	Animalia	IA	BIRD	Moderately certain	Observational	1	LEARMONTH		18000	1978
Ardea modesta	41324	Ardeidae	Ardea	modesta		great egret, white egret	Animalia	IA	BIRD	Moderately certain	Observational	1	LEARMONTH		18000	1978
Arenaria interpres interpres	24778	Scolopacidae	Arenaria	interpres	interpres	ruddy turnstone	Animalia	IA	BIRD	Moderately certain	Observational	1	EXMOUTH GULF		18000	1981
Limosa lapponica	30932	Scolopacidae	Limosa	lapponica		bar-tailed godwit	Animalia	IA (& VU at su	BIRD	Moderately certain	Observational	1	EXMOUTH GULF		18000	1981
Merops ornatus	24598	Meropidae	Merops	ornatus		rainbow bee-eater	Animalia	IA	BIRD	Moderately certain	Observational	1	EXMOUTH GULF		18000	1977

APPENDIX C

Fauna Species List

Key: EPBC = Environmental Protection and Biodiversity Conservation Act 1999, WC = Wildlife Conservation Act 1950, DPaW = Department of Parks and Wildlife Priority Code, A = Listed in Naturemap, B= DEC Threatened and Priority fauna search, C = EPBC Protected Matters search, D= Current Survey

Note: For Definitions of Conservation Codes see Appendix A.

REPTILES		Conservation Codes						
Scientific Name	Common Name	EPBC	WC	DPaW	A	B	C	D
AGAMIDAE								
<i>Amphibolurus longirostris</i>	Long-nosed Dragon				X			X
<i>Ctenophorus</i> sp.	<i>Ctenophorus</i> sp.							
<i>Ctenophorus clayi</i>	Collared Dragon				X			
<i>Ctenophorus femoralis</i>	Dune Dragon				X			
<i>Ctenophorus isolepis</i>	Military Sand Dragon				X			
<i>Ctenophorus nuchali</i>	Central Netted Dragon				X			
<i>Pogona minor</i>	Dwarf Bearded Dragon				X			
DIPLODACTYLIDAE								
<i>Diplodactylus capensis</i>	Cape Range Stone Gecko			P2		X		
GEKKONIDAE								
<i>Gehyra variegata</i>	Tree Dtella				X			X
<i>Hemidactylus frenatus</i>	Asian House Gecko				X		X	
<i>Heteronotia benoei</i>	Bynoe's Gecko				X			
PYGOPODIDAE								
<i>Aprasia rostrata</i>	Monte Bellow Worm-lizard	VU				X		
<i>Lialis burtonis</i>	Burton's Snake Lizard				X			
SCINCIDAE								
<i>Ctenotus</i> sp.	<i>Ctenotus</i> sp.							X
<i>Ctenotus schomburgkii</i>	Schomburgks Ctenotus				X			
<i>Ctenotus saxatilis</i>	Rock Ctenotus				X			
<i>Cyclodomorphus melanops</i>	Slender Blue Tongue				X			
<i>Eremiascincus isolepis</i>	Northern Bar-lipped Skink				X			
<i>Lerista allochira</i>	Cape Range Slider			P3		X		
<i>Lerista petersoni</i>	Phantom Mole Slider				X			
<i>Leriista uniduo</i>	Spotted Broad-blazed Slider				X			
<i>Tiliqua multifasciata</i>	Central Blue-tongue				X			
VARANIDAE								
<i>Varanus gouldii</i>	Goulds Sand Monitor							X

REPTILES		Conservation Codes						
Scientific Name	Common Name	EPBC	WC	DPaW	A	B	C	D
BOIDAE								
<i>Antaresia stimsoni</i>	Stimson's Python							X
ELAPIDAE								
<i>Pseudonaja mengdeni</i>	Western Brown Snake				X			
<i>Pseudonaja modesta</i>	Ringed Brown Snake				X			

[X] fauna species recorded.

[*] denotes introduced species.

Key: EPBC = Environmental Protection and Biodiversity Conservation Act 1999, WC = Wildlife Conservation Act 1950, DPaW = Department of Parks and Wildlife Priority Code, A = Listed in Naturemap, B= DEC Threatened and Priority fauna search, C= EPBC Protected Matters search, D= Current Survey

Note: For Definitions of Conservation Codes see Appendix A.

BIRDS		Conservation Codes						
Scientific Name	Common Name	EPBC	WC	DPaW	A	B	C	D
CASUARIIDAE								
<i>Dromaius novaehollandiae</i>	Emu							X
COLUMBIDAE								
<i>Columba livia</i>	Rock Pigeon				X		X	
<i>Geopelia cuneata</i>	Diamond Dove							X
<i>Geopelia humeralis</i>	Bar-shouldered				X			
<i>Ocyphaps lophotes</i>	Crested Pigeon							X
APODIDAE								
<i>Apus pacificus</i>	Fork-tailed Swift	MiMa	S5				X	
PROCELLARIIDAE								
<i>Macronectes giganteus</i>	Southern Giant-Petrel	En					X	
<i>Ardeanna carneipes</i>	Flesh-footed Shearwater	MiMa	S5				X	
<i>Calonectris leucomelas</i>	Streaked Shearwater	MiMa	S5				X	
<i>Puffinus pacificus</i>	Wedge-tailed Shearwater		S5		X			
DIOMEDEIDAE								
<i>Thalassarche impavida</i>	Campbell Albatross	Vu					X	
FREGATIDAE								
<i>Fregata ariel</i>	Lesser Frigatebird	MiMa	S5				X	
PHALACROCORACIDAE								
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant				X			
<i>Phalacrocorax varius</i>	Pied Cormorant				X			
PELECANIDAE								
<i>Pelecanus conspicillatus</i>	Australian Pelican				X			
CICONIIDAE								
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork				X			
ARDEIDAE								
<i>Ardea modesta</i>	Eastern Great Egret	Ma	S5		X	X	X	
<i>Ardea ibis</i>	Cattle Egret	Ma	S5		X		X	
<i>Egretta garzetta</i>	Little Egret	Ma	S5		X			
<i>Egretta novaehollandiae</i>	White-faced Heron				X			
ACCIPITRIDAE								
<i>Aquila audax</i>	Wedge-tailed Eagle							X
<i>Circus assimilis</i>	Spotted Harrier				X			X
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	Ma			X		X	
<i>Haliastur indus</i>	Brahminy Kite				X			

BIRDS		Conservation Codes						
Scientific Name	Common Name	EPBC	WC	DPaW	A	B	C	D
<i>Haliastur spheurnus</i>	Whistling Kite				X			X
<i>Pandion cristatus</i>	Osprey	MiMa	S5		X		X	X
FALCONIDAE								
<i>Falco cenchroides</i>	Nankeen Kestrel				X			X
GRUIFORMES								
<i>Grus rubicunda</i>	Brolga				X			
HAEMATOPODIDAE								
<i>Haematopus fuliginosus</i>	Sooty Oysercatcher				X			X
<i>Haematopus longirostris</i>	Pied Oystercatcher							X
CHARADRIIDAE								
<i>Charadrius leschenaultii</i>	Greater Sand Plover	Vu, MiMa	S3		X			X
<i>Charadrius mongolus</i>	Lesser Sand Plover	En, MiMa	S5			X		
<i>Charadrius ruficapillus</i>	Red-capped Plover				X			
<i>Charadrius veredus</i>	Oriental Plover	MiMa					X	
<i>Pluvialis squatarola</i>	Grey Plover	MiMa			X	X		
GLAREOLIDAE								
<i>Glareola maldivarum</i>	Oriental Pratincole	MaMi				X	X	
LARIDAE								
<i>Anous stolidus</i>	Common Noddy	MiMa					X	X X X X
<i>Chroicocephalus novaehollandiae</i>	Silver Gull				X			
<i>Hydroprogne caspia</i>	Caspian Tern	MiMa			X	X	X	
<i>Thalasseus bengalensis</i>	Lesser Crested Tern	Ma			X			
<i>Thalasseus bergii</i>	Crested Tern	MiMa			X			
<i>Sterna fuscata</i>	Sooty Tern	Ma					X	
<i>Sternula nereis</i>	Australian Fairy Tern	Ma			X	X	X	
SCOLOPACIDAE								
<i>Actitis hypoleucos</i>	Common Sandpiper	MaMi			X		X	
<i>Arenaria interpres</i>	Ruddy Turnstone	MaMi			X	X		
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	MaMi			X	X	X	
<i>Calidris canutus</i>	Red Knot	En					X	
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE, MaMi			X		X	
<i>Calidris melanotos</i>	Pectoral Sandpiper	Mi					X	
<i>Caliris ruficollis</i>	Red-necked Stint	MaMi			X	X		
<i>Calidris tenuirostris</i>	Great Knot	CE, MaMi	S5		X			
<i>Limosa lapponica</i>	Bar-tailed Godwit	MaMi			X	X	X	
<i>Limosa lapponica baueri</i>	Bar-tailed Godwit (Western Alaskan)	Vu					X	
<i>Limosa lapponica menzbieri</i>	Bar-tailed Godwit (Northern Siberian)	CE					X	
<i>Numenius madagascariensis</i>	Eastern Curlew	CE				X	X	
<i>Numenius phaeopus</i>	Whimbrel	MaMi				X		
<i>Tringa brevipes</i>	Grey-tailed tattler	MaMi		P4	X			
<i>Tringa glareola</i>	Wood Sandpiper	MaMi				X		
<i>Tringa nebularia</i>	Common Greenshank	MaMi			X	X	X	
CACATUIDAE								

BIRDS	Scientific Name	Common Name	Conservation Codes						
			EPBC	WC	DPaW	A	B	C	D
	<i>Melopsittacus undulatus</i>	Budgerigar							X
PSITTACIDAE									
	<i>Eolophus roseicapillus</i>	Galah							X
	<i>Pezoporus occidentalis</i>	Night Parrot	En					X	
HALCYONIDAE									
	<i>Todiramphus chloris</i>	Collared Kingfisher				X			
	<i>Todiramphus pyrrhopygius</i>	Red-backed Kingfisher				X			
	<i>Todiramphus sanctus</i>	Sacred Kingfisher				X			
MEROPIDAE									
	<i>Merops ornatus</i>	Rainbow Bee-eater	Ma	S5		X	X	X	
MALURIDAE									
	<i>Malurus lamberti</i>	Variegated Fairy-wren							X
	<i>Malurus leucopterus</i>	White-winged Fairy-wren				X			
ACANTHIZIDAE									
	<i>Gerygone tenebrosa</i>	Dusky Gerygone				X			
MELIPHAGIDAE									
	<i>Epthianura aurifrons</i>	Orange Chat				X			
	<i>Lichenostomus virescens</i>	Singing Honeyeater				X			X
	<i>Lichmera indistincta</i>	Brown Honeyeater				X			
	<i>Manorina flavigula</i>	Yellow-throated Miner				X			X
CAMPEPHAGIDAE									
	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike				X			X
PACHYCEPHALIDAE									
	<i>Colluricincla harmonica</i>	Grey Shrike-thrush				X			
	<i>Pachycephala laniioides</i>	White-breasted Whistler				X			
	<i>Pachycephala melanura</i>	Mangrove Golden Whistler				X			
ARTAMIDAE									
	<i>Artamus leucorhynchus</i>	White-breasted Woodswallow				X			
	<i>Artamus personatus</i>	Masked Woodswallow							X
CRACTICIDAE									
	<i>Cracticus nigrogularis</i>	Pied Butcherbird							X
RHIPIDURIDAE									
	<i>Rhipidura albiscapa</i>	Grey Fantail				X			
	<i>Rhipidura leucophrys</i>	Willie Wagtail				X			X
	<i>Rhipidura phasiana</i>	Mangrove Grey Fantail				X			
MONARCHIDAE									
	<i>Grallina cyanoleuca</i>	Magpie-Lark							X
CORVIDAE									
	<i>Corvus bennetti</i>	Little Crow				X			
	<i>Corvus orru</i>	Torresian Crow							X
PETROICIDAE									
	<i>Peneonanthe pulverulenta</i>	Mangrove Robin				X			
MEGALURIDAE									

BIRDS		Conservation Codes						
Scientific Name	Common Name	EPBC	WC	DPaW	A	B	C	D
<i>Cincloramphus cruralis</i>	Brown Songlark							X
HIRUNDINIDAE								
<i>Cheramoeca leucosterna</i>	White-backed Swallow				X			
<i>Hirundo neoxena</i>	Welcome Swallow				X			
<i>Hirundo rustica</i>	Barn Swallow	MiMa	S4				X	
<i>Petrochelidon nigricans</i>	Tree Martin				X			
NECTARINIIDAE								
<i>Dicaeum hirundinaceam</i>	Mistletoebird				X			
ESTRILDIDAE								
<i>Taeniopygia guttata</i>	Zebra Finch							X

Key: EPBC = Environmental Protection and Biodiversity Conservation Act 1999, WC = Wildlife Conservation Act 1950, DPaW = Department of Parks and Wildlife Priority Code, A = Listed in Naturemap, B= DEC Threatened and Priority fauna search, C = EPBC Protected Matters search, D= Current Survey

Note: For Definitions of Conservation Codes see Appendix A.

MAMMALS		Conservation Codes						
Scientific Name	Common Name	EPBC	WC	DPaW	A	B	C	D
DASYURIDAE								
<i>Dasyurus hallucatus</i>	Northern Quoll	En					X	
<i>Phascogale calura</i>	Red-tailed Phascogale	Vu				X		
<i>Sminthopsis longicaudata</i>	Long-tailed Dunnart				P4	X		
PERAMELIDAE								
<i>Isodon auratus barrowensis</i>	Barrow Island Golden Bandicoot	Vu	S3			X		
POTOROIDAE								
<i>Bettongia lesueur</i>	Burrowing Bettong	Ex	S4			X		
<i>Potopus platyops</i>	Broad-faced Potoroo	Ex	S4			X		
MACROPODIDAE								
<i>Macropus fuliginosus</i>	Western Grey Kangaroo							X
<i>Petrogale lateralis lateralis</i>	Black-flanked Rock-wallaby	En				X	X	
HIPPOSIDERIDAE								
<i>Rhinonictis aurantia</i>	Pilbara Leaf-nosed Bat	Vu					X	
EMBALLONURIDAE								
<i>Taphozous georgianus</i>	Common Sheath-tailed Bat							X
VESPERTILIONIDAE								
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat							X
<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat				X			
<i>Scotorepens greyii</i>	Little Broad-nosed Bat							X
<i>Vespadelus finlaysoni</i>	Finlaysons Cave Bat							X
MURIDAE								
<i>Leporillus apicalis</i>	Lesser Stick-nest Rat					X		
<i>Mesembriomys macrurus</i>	Golden-backed Tree-rat			P4		X		
<i>*Mus musculus</i>	House Mouse				X		X	
<i>Pseudomys chapmani</i>	Western Pebble-mouse			P4		X		
<i>Pseudomys fieldi</i>	Shark Bay Mouse	Vu				X		
<i>Rattus rattus</i>	Black rat				X		X	
<i>Rattus tunneyi</i>	Pale Field-rat				X			
<i>Zyzomys pedunculatus</i>	Central Rock-rat	CE	S1			X		
LEPORIDAE								
<i>*Oryctolagus cuniculus</i>	European Rabbit				X		X	X
CANIDAE								
<i>*Vulpes vulpes</i>	Red Fox				X		X	
FELIDAE								
<i>*Felis catus</i>	Feral Cat				X		X	
EQUIDAE								
<i>*Equus caballus</i>	Horse						X	


MAMMALS		Conservation Codes						
Scientific Name	Common Name	EPBC	WC	DPaW	A	B	C	D
BOVIDAE								
<i>Capra hircus</i>	Goat						X	


[X] fauna species recorded.


[*] denotes introduced species.


APPENDIX D

Habitat Assessments


FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)											
Location: Exmouth - Subsea 7						Habitat Assessment: 1					
Project: 2198											
Date: 13/06/2017			Easting: 201998			Aspect		N		NE	
Quadrat Size: 50 x 50			Northing: 7535474					E		S	
											
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay		
VEGETATION											
Vegetation Description	Dune ridge	Other:		Vegetation Species	Average Height (m)	Cover					
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick		
	Riverine Woodland	Overstorey	Acacia sp.		2	0 <5%	1 <20%	2 20-60%	3 60-100%		
	Other Grassland	Midstorey	/			0 <5%	1 <20%	2 20-60%	3 60-100%		
	Euc. Woodland	Ground Cover	Triodia		0.5	0 <5%	1 <20%	2 20-60%	3 60-100%		
CONDITION											
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr	
DISTURBANCE											
General						Cattle					
Tracks	0 heavy	1 medium *	2 mild (tracks)	3 none		0 heavy	1 medium	2 mild	3 none		
GROUND COVER											
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%		
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%		
MICROHABITATS											
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common		
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common		
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common		
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water	0 none	1 rare	2 moderate	3 common		
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m		
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common		
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common		
SPECIES											
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs							
Bilby	YES	NO		Outside of species distribution							
Quoll	YES	NO									
Pebble Mouse	YES	NO									
Birds			Mammals			Reptiles					
Zebra Finch		Yellow-throated Miner		Rabbit scats		G.variegata					
Singing Honeyeater		Variagated Fairy Wren									
Crow		Pied Butcherbird									
Crested Pigeon											


FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)										
Location: Exmouth - Subsea 7						Habitat Assessment: 2				
Project: 2198										
Date: 13/06/2017			Easting: 202895			Aspect	N	NE	SW	NW
Quadrat Size: 50 x 50			Northing: 7535572				E	S	W	N/A
										
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay	
Vegetation Description	VEGETATION									
	Dune swale	Other:		Vegetation Species	Average Height (m)	Cover				
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick	
	Riverine Woodland	Overstorey	Acacia sp.		2	0 <5%	1 <20%	2 20-60%	3 60-100%	
	Other Grassland	Midstorey	/			0 <5%	1 <20%	2 20-60%	3 60-100%	
	Euc. Woodland	Ground Cover	Triodia		0.5	0 <5%	1 <20%	2 20-60%	3 60-100%	
CONDITION										
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr
DISTURBANCE										
Tracks	General		3 none		0 heavy		1 medium		2 mild	
GROUND COVER										
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%	
MICROHABITATS										
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common	
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common	
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common	
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common	
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m	
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common	
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common	
SPECIES										
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs						
Bilby	YES	NO		Outside of species distribution						
Quoll	YES	NO								
Pebble Mouse	YES	NO								
Birds			Mammals			Reptiles				
Emu			Cat							


FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)												
Location: Exmouth - Subsea 7						Habitat Assessment: 3						
Project: 2198												
Date: 13/06/2017			Easting: 204181			Aspect	N	NE	SW	NW		
Quadrat Size: 50 x 50			Northing: 7535618				E	S	W	N/A		
												
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay			
VEGETATION												
Vegetation Description	Dune swale	Other:		Vegetation Species	Average Height (m)	Cover						
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick			
	Riverine Woodland	Overstorey	Acacia sp.		2	0 <5%	1 <20%	2 20-60%	3 60-100%			
	Other Grassland	Midstorey	Acacia sp.		1	0 <5%	1 <20%	2 20-60%	3 60-100%			
	Euc Woodland	Ground Cover	Triodia		0.5	0 <5%	1 <20%	2 20-60%	3 60-100%			
CONDITION												
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr		
DISTURBANCE												
General							Cattle					
Tracks	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild (sheep)	3 none			
GROUND COVER												
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%			
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%			
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%			
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%			
MICROHABITATS												
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common			
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common			
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common			
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common			
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m			
Suitability for Bats	YES			NO		Termite Mounds	0 none	1 rare	2 moderate	3 common		
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common			
SPECIES												
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs								
Bilby	YES	NO		Outside of species distribution								
Quoll	YES	NO										
Pebble Mouse	YES	NO										
Birds			Mammals				Reptiles					
Zebra Finch			Sheep									
Variagated Fairy Wren												
Willie Wagtail												


FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)												
Location: Exmouth - Subsea 7							Habitat Assessment: 4					
Project: 2198												
Date: 13/06/2017			Easting: 203950				Aspect	N	NE	SW	NW	
Quadrat Size: 50 x 50			Northing: 7534800					E	S	W	N/A	
												
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay			
VEGETATION												
Vegetation Description	Dune ridge	Other:		Vegetation Species	Average Height (m)	Cover						
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick			
	Riverine Woodland	Overstorey	Acacia sp.		2	0 <5%	1 <20%	2 20-60%	3 60-100%			
	Other Grassland	Midstorey	Acacia sp.		1	0 <5%	1 <20%	2 20-60%	3 60-100%			
	Euc. Woodland	Ground Cover	Triodia		0.5	0 <5%	1 <20%	2 20-60%	3 60-100%			
CONDITION												
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr		
DISTURBANCE												
General						Cattle						
Tracks	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild (sheep)	3 none			
GROUND COVER												
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%			
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%			
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%			
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%			
MICROHABITATS												
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common			
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common			
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common			
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common			
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m			
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common			
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common			
SPECIES												
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs								
Bilby	YES	NO		Outside of species distribution								
Quoll	YES	NO										
Pebble Mouse	YES	NO										
BIRDS												
Zebra Finch			Mammals				Reptiles					
Willie Wagtail												
Budgies												


FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL
(North West)

Location: Exmouth - Subsea 7						Habitat Assessment: 5				
Project: 2198										
Date: 13/06/2017			Easting: 203600			Aspect	N	NE	SW	NW
Quadrat Size: 50 x 50			Northing: 7534250				E	S	W	N/A
										
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay	
VEGETATION										
Vegetation Description	Dune swale	Other:		Vegetation Species	Average Height (m)	Cover				
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick	
	Riverine Woodland	Overstorey	Acacia sp.		0 <5%	1 <20%	2 20-60%	3 60-100%		
	Other Grassland	Midstorey	Acacia sp.		0 <5%	1 <20%	2 20-60%	3 60-100%		
	Euc. Woodland	Ground Cover	Triodia		0 <5%	1 <20%	2 20-60%	3 60-100%		
CONDITION										
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr
DISTURBANCE										
Tracks	General		DISTURBANCE		Cattle					
	0 heavy	1 medium *	2 mild	3 none	0 heavy	1 medium	2 mild (sheep)	3 none		
GROUND COVER										
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%	
MICROHABITATS										
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common	
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common	
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common	
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common	
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m	
Suitability for Bats	YES			NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common	
SPECIES										
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs						
Bilby	YES	NO		Outside of species distribution						
Quoll	YES	NO								
Pebble Mouse	YES	NO								
Birds										
Mammals										
Reptiles										


FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)													
Location: Exmouth - Subsea 7						Habitat Assessment: 6							
Project: 2198													
Date: 14/06/2017			Easting: 202958			Aspect	N	NE	SW	NW			
Quadrat Size: 50 x 50			Northing: 7533162				E	SE	W	N/A			
													
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay				
VEGETATION													
Vegetation Description	Spinifex plain	Other:		Vegetation Species	Average Height (m)	Cover							
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick				
	Riverine Woodland	Overstorey			0 <5%	1 <20%	2 20-60%	3 60-100%					
	Other Grassland	Midstorey			0 <5%	1 <20%	2 20-60%	3 60-100%					
	Euc. Woodland	Ground Cover	Triodia	0.5	0 <5%	1 <20%	2 20-60%	3 60-100%					
CONDITION													
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	LAST FIRE						
							0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr			
DISTURBANCE													
General						Cattle							
Tracks	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild (sheep)	3 none				
GROUND COVER													
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%				
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%				
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%				
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%				
MICROHABITATS													
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common				
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common				
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common				
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water	0 none	1 rare	2 moderate	3 common				
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m				
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common				
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common				
SPECIES													
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs									
Bilby	YES	NO		Outside of species distribution									
Quoll	YES	NO											
Pebble Mouse	YES	NO											
Birds			Mammals			Reptiles							
			Rabbit scats			Very old Varanid burrows							
						(possibly Gouldii)							
						Ctenotus sp.							


FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)											
Location: Exmouth - Subsea 7						Habitat Assessment: 7					
Project: 2198											
Date: 14/06/2017			Easting: 202592			Aspect		N		NE	
Quadrat Size: 50 x 50			Northing: 7532587					E		SE	
											
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay		
VEGETATION											
Vegetation Description	Spinifex plain	Other:		Vegetation Species	Average Height (m)	Cover					
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick		
	Riverine Woodland	Overstorey	Acacia sp.	2	0 <5%	1 <20%	2 20-60%	3 60-100%			
	Other Grassland	Midstorey	Acacia sp.	1	0 <5%	1 <20%	2 20-60%	3 60-100%			
	Euc Woodland	Ground Cover	Triodia	0.5	0 <5%	1 <20%	2 20-60%	3 60-100%			
CONDITION											
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr	
DISTURBANCE											
Tracks	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild (sheep and rabbit)	3 none		
GROUND COVER											
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%		
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%		
MICROHABITATS											
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common		
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common		
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common		
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common		
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m		
Suitability for Bats	YES			NO		Termite Mounds	0 none	1 rare	2 moderate	3 common	
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common		
SPECIES											
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs							
Bilby	YES	NO		Outside of species distribution							
Quoll	YES	NO									
Pebble Mouse	YES	NO									
BIRDS											
Pied Butcherbird				Mammals				Reptiles			
				Rabbit scats							
				Kangaroo scats							

FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)																	
Location: Exmouth - Subsea 7						Habitat Assessment: 8											
Project: 2198																	
Date: 14/06/2017			Easting: 199375			Aspect	N	NE	SW	NW							
Quadrat Size: 50 x 50			Northing: 7527066				E	SE	W	N/A							
																	
						Soil Texture											
						(Red) sand		sandy-loam		loam		cracking clay		clay			
						VEGETATION											
						Vegetation Description	Spinifex plain	Other:		Vegetation Species	Average Height (m)	Cover					
Acacia Shrubland	Stratum		Scattered Plants	Sparse	Moderate		Thick										
Riverine Woodland	Overstorey	Acacia sp.	2.5	0 <5%	1 <20%		2 20-60%	3 60-100%									
Other Grassland	Midstorey	Acacia sp.	1	0 <5%	1 <20%		2 20-60%	3 60-100%									
Euc. Woodland	Ground Cover	Triodia	0.5	0 <5%	1 <20%		2 20-60%	3 60-100%									
CONDITION																	
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr							
DISTURBANCE																	
General		Cattle															
Tracks	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild (sheep)	3 none								
GROUND COVER																	
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%								
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%								
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%								
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%								
MICROHABITATS																	
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common								
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common								
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common								
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common								
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m								
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common								
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common								
SPECIES																	
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs													
Bilby	YES	NO		Outside of species distribution													
Quoll	YES	NO															
Pebble Mouse	YES	NO															
Birds		Mammals				Reptiles											

FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)											
Location: Exmouth - Subsea 7						Habitat Assessment: 9					
Project: 2198											
Date: 14/06/2017			Easting: 199300			Aspect	N	NE	SW	NW	
Quadrat Size: 50 x 50			Northing: 7527300				E	SE	W	N/A	
											
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay		
VEGETATION											
Vegetation Description	Spinifex plain	Other:		Vegetation Species	Average Height (m)	Cover					
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick		
	Riverine Woodland	Overstorey	Acacia sp.			2.5	0 <5%	1 <20%	2 20-60%	3 60-100%	
	Other Grassland	Midstorey	Acacia sp.			1	0 <5%	1 <20%	2 20-60%	3 60-100%	
	Euc. Woodland	Ground Cover	Triodia			0.5	0 <5%	1 <20%	2 20-60%	3 60-100%	
CONDITION											
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr	
DISTURBANCE											
General		Cattle									
Tracks	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild (sheep)	3 none		
GROUND COVER											
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%		
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%		
MICROHABITATS											
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common		
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common		
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common		
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common		
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m		
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common		
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common		
SPECIES											
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs							
Bilby	YES	NO		Outside of species distribution							
Quoll	YES	NO									
Pebble Mouse	YES	NO									
Birds		Mammals				Reptiles					

FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)											
Location: Exmouth - Subsea 7						Habitat Assessment: 10					
Project: 2198											
Date: 15/06/2017			Easting: 198634			Aspect	N	NE	SW	NW	
Quadrat Size: 50 x 50			Northing: 7526316				E	SE	W	N/A	
											
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay		
VEGETATION											
Vegetation Description	Dune Ridge	Other:		Vegetation Species	Average Height (m)	Cover					
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick		
	Riverine Woodland	Overstorey	Acacia sp.			0 <5%	1 <20%	2 20-60%	3 60-100%		
	Other Grassland	Midstorey				0 <5%	1 <20%	2 20-60%	3 60-100%		
	Euc. Woodland	Ground Cover	Triodia			0 <5%	1 <20%	2 20-60%	3 60-100%		
CONDITION											
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr	
DISTURBANCE											
General		Cattle									
Telstra Track	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild	3 none		
GROUND COVER											
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%		
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%		
MICROHABITATS											
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common		
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common		
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common		
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common		
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m		
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common		
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common		
SPECIES											
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs							
Bilby	YES	NO		Outside of species distribution							
Quoll	YES	NO									
Pebble Mouse	YES	NO									
Birds			Mammals			Reptiles					
Brown Songlark						Ctenophorous burrows					

FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)												
Location: Exmouth - Subsea 7						Habitat Assessment: 11						
Project: 2198												
Date: 15/06/2017			Easting: 198884			Aspect	N	NE	SW	NW		
Quadrat Size: 50 x 50			Northing: 7526240				E	SE	W	N/A		
												
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay			clay		
VEGETATION												
Vegetation Description	Dube swale	Other:		Vegetation Species	Average Height (m)	Cover						
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick			
	Riverine Woodland	Overstorey	Acacia sp.			2.5	0 <5%	1 <20%	2 20-60%	3 60-100%		
	Other Grassland	Midstorey	Acacia sp.			1	0 <5%	1 <20%	2 20-60%	3 60-100%		
	Euc. Woodland	Ground Cover	Triodia			0.5	0 <5%	1 <20%	2 20-60%	3 60-100%		
CONDITION												
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr		
DISTURBANCE												
General			Cattle									
Tracks	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild rabbits	3 none			
GROUND COVER												
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%			
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%			
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%			
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%			
MICROHABITATS												
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common			
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common			
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common			
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common			
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m			
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common			
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common			
SPECIES												
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs								
Bilby	YES	NO		Outside of species distribution								
Quoll	YES	NO										
Pebble Mouse	YES	NO										
Birds			Mammals				Reptiles					

FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL (North West)											
Location: Exmouth - Subsea 7						Habitat Assessment: 12					
Project: 2198											
Date: 15/06/2017			Easting: 199650			Aspect	N	NE	SW	NW	
Quadrat Size: 50 x 50			Northing: 7527725				E	SE	W	N/A	
											
Soil Texture	(Red) sand		sandy-loam		loam		cracking clay		clay		
VEGETATION											
Vegetation Description	Dune Ridge	Other:		Vegetation Species	Average Height (m)	Cover					
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick		
	Riverine Woodland	Overstorey	Acacia sp.		2.5	0 <5%	1 <20%	2 20-60%	3 60-100%		
	Other Grassland	Midstorey	Acacia sp.			0 <5%	1 <20%	2 20-60%	3 60-100%		
	Euc. Woodland	Ground Cover	Triodia		0.5	0 <5%	1 <20%	2 20-60%	3 60-100%		
CONDITION											
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr	
DISTURBANCE											
Telstra Track	General		3		2		1		0		
	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild	3 none		
GROUND COVER											
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%		
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%		
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%		
MICROHABITATS											
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common		
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common		
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common		
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common		
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m		
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common		
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common		
SPECIES											
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs							
Bilby	YES	NO		Outside of species distribution							
Quoll	YES	NO									
Pebble Mouse	YES	NO									
Birds			Mammals			Reptiles					

FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL

(North West)

Location: Exmouth - Subsea 7

Habitat Assessment: 13

Project: 2198

Date: 16/06/2017

Easting: 201750

Aspect

N

NE

SW

NW

Quadrat Size: 50 x 50

Northing: 7531250

E

SE

W

N/A



Soil Texture

(Red) sand

sandy-loam

loam

cracking clay

clay

VEGETATION

Vegetation Description

Dube swale	Other:	Vegetation Species	Average Height (m)	Cover				
Acacia Shrubland	Stratum			Scattered Plants	Sparse	Moderate	Thick	
Riverine Woodland	Overstorey	Acacia sp.	2.5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	Acacia sp.	1	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Triodia	0.5	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION

LAST FIRE

Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr
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General

DISTURBANCE

Cattle

Tracks	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild rabbits	3 none	
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GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%	

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

SPECIES				
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs
Bilby	YES	NO		Outside of species distribution
Quoll	YES	NO		
Pebble Mouse	YES	NO		
Birds		Mammals		Reptiles

FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL

(North West)

Location: Exmouth - Subsea 7

Habitat Assessment: 14

Project: 2198

Date: 16/06/2017

Easting: 199650

Aspect

N

NE

SW

NW

Quadrat Size: 50 x 50

Northing: 7527725

E

SE

W

N/A



Soil Texture

(Red) sand

sandy-loam

loam

cracking clay

clay

VEGETATION

Vegetation Description

Dune Ridge	Other:	Vegetation Species	Average Height (m)	Cover				
Acacia Shrubland	Stratum			Scattered Plants	Sparse	Moderate	Thick	
Riverine Woodland	Overstorey	Acacia sp.	2.5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	Acacia sp.		0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Triodia	0.5	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION

LAST FIRE

Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yr	2 4-5 Yr	3 >5 Yr
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General

DISTURBANCE

Cattle

Track	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild	3 none	
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GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%	

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

SPECIES				
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs
Bilby	YES	NO		Outside of species distribution
Quoll	YES	NO		
Pebble Mouse	YES	NO		
Birds		Mammals		Reptiles

FAUNA HABITAT ASSESSMENT SHEET - 360 ENVIRONMENTAL
(North West)

Location: Exmouth - Subsea 7 Habitat Assessment: 15

Project: 2198

Date: 16/06/2017	Easting: 198884	Aspect	N	NE	SW	NW
Quadrat Size: 50 x 50	Northing: 7526240		E	SE	W	N/A



Soil Texture	(Red) sand	sandy-loam	loam	cracking clay	clay
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Vegetation Description	VEGETATION									
	Dube swale	Other:		Vegetatio n Species	Average Height (m)	Cover				
	Acacia Shrubland	Stratum				Scattered Plants	Sparse	Moderate	Thick	
	Riverine Woodland	Overstorey	Acacia sp.	2.5	0 ≤5%	1 ≤20%	2 20-60%	3 60-100%		
	Other Grassland	Midstorey	Acacia sp.	1	0 ≤5%	1 ≤20%	2 20-60%	3 60-100%		
	Euc Woodland	Ground Cover	Triodia	0.5	0 ≤5%	1 ≤20%	2 20-60%	3 60-100%		

CONDITION					LAST FIRE					
Scale:	5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1 -3 Yr	2 4-5 Yr	3 >5 Yr

General				DISTURBANCE				Cattle		
Tracks	0 heavy	1 medium *	2 mild	3 none		0 heavy	1 medium	2 mild rabbits	3 none	

GROUND COVER										
Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%	Other:	0 <5%	1 <20%	2 20-60%	3 60-100%	

MICROHABITATS										
Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common	
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Tree Hollows	0 none	1 rare	2 moderate	3 common	
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Tree Hollows	0 none	1 rare	2 moderate	3 common	
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common	
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m	
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common	
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common	

SPECIES				
Mulgara	YES	NO	DETAILS	Suitable habitat with sandy soil and within distribution but no signs
Bilby	YES	NO		Outside of species distribution
Quoll	YES	NO		
Pebble Mouse	YES	NO		
Birds		Mammals		Reptiles



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