



Department of  
**Parks and Wildlife**



## **PILBARA REGION**

## **OILED WILDLIFE RESPONSE PLAN**

### History of this Document

This plan was produced jointly by the Department of Parks and Wildlife (Parks and Wildlife) and the Australian Marine Oil Spill Centre (AMOSC) on behalf of the Petroleum Industry; it was reviewed by government and petroleum industry stakeholders and endorsed by Parks and Wildlife and AMOSC prior to its release on 03/11/2014.

### Exercise and Review periods

#### Exercising

This plan will be exercised at least annually in accordance with WestPlan Marine Oil Pollution (MOP) and/or petroleum titleholder oil pollution emergency plans.

#### Review

This plan will be reviewed and updated by both Parks and Wildlife AMOSC initially 6 months after release. Then following an incident or at least once every two years.

Version	Date		Reviewed by	Approved by
V1.1	27/10/2014			J Sharp

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## ACRONYMS

AIIMS	Australasian Inter-Service Incident Management System
AMOSC	Australian Marine Oil Spill Centre
AMOSplan	Australian Marine Oil Spill Plan
AMSA	Australian Maritime Safety Authority (Commonwealth)
ATV	All-Terrain Vehicle
BINR	Barrow Island Nature Reserve
C	Conservation Reserve
DFES (previously known as FESA)	Department of Fire and Emergency Service
DotE	The Department of the Environment (Commonwealth)
FESA	Fire and Emergency Services Authority
HMA	Hazard Management Agency
IAP	Incident Action Plan
IC	Incident Controller
IUCN	International Union for the Conservation of Nature
IMT	Incident Management Team
MOP	Marine Oil Pollution
MMA	Marine Management Area
MP	Marine Park
NAVCOMMSTA	Navy Communications Station
NIS	Non-Indigenous Species
nm	Nautical mile
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority (Commonwealth)
NR - A	Nature Reserve – Class A
NR - B	Nature Reserve – Class B
NR - C	Nature Reserve – Class C
OEPA	Office of the Environmental Protection Authority

OPEP	Oil Pollution Emergency Plan
OSR	Oil Spill Response
OSRA WMA	Oil Spill Response Atlas Web Mapping Application
OWA	Oiled Wildlife Advisor
OWDC	Oiled Wildlife Division Coordinator
OWR	Oiled Wildlife Response
PA	Port Authority
PROWRP	The Pilbara Region Oiled Wildlife Response Plan
SDO	The Parks and Wildlife State Duty Officer
SES	State Emergency Service
UCL	Unallocated Crown Land
UHF	Ultra High Frequency
VHF	Very High Frequency
VMR	Volunteer Marine Rescue
WA DoT	WA Department of Transport
WAOWRP	The Western Australian Oiled Wildlife Response Plan

## GLOSSARY OF TERMS

For clarity and in the context of this document:

Commonwealth Waters	Means any part of the sea, including the waters, seabed, and airspace, within Australia's exclusive economic zone and/or over the continental shelf of Australia that is not State or Territory waters.
National Plan	The National Plan for Maritime Environmental Emergencies and all policy, guidance and advisory documents produced and published in support.
Oiled Wildlife Response Level	OWR is divided into 6 levels based on the number of oiled wildlife, complexity of the response (fauna type and spatial extent) and expected duration of the response.
OWR Skill Level	Means the level of training required by personnel to fill an identified function/s.

Petroleum Industry	Means the oil and gas companies operating in Commonwealth and/or State waters.
Responsible Party	Means the entity that has been identified as owning or having the legal responsibility for the ship or facility that caused the incident.
State Waters	Means any part of the sea, including the waters, seabed, and airspace within 3 nautical miles of the territorial sea base line.
WestPlan MOP	State Emergency Management Plan for Marine Oil Pollution.

Other terms which may be useful are explained in the glossary of terms of the State Emergency Management Plan for Marine Oil Pollution (WestPlan MOP), The National Plan for Maritime Environmental Emergencies (National Plan), Australian Marine Oil Spill Plan (AMOSPlan) and petroleum industry Oil Pollution Emergency Plans (OPEP).



## 1. INTRODUCTION

The purpose of the *Pilbara Region Oiled Wildlife Response Plan* (PROWRP) is to provide operational guidance to respond to any injured or oiled wildlife resulting from a marine based spill from any source in the Pilbara region, Western Australia. This plan sits beneath and provides regional context to the Western Australian Oiled Wildlife Response plan (WAOWRP) noting each region within Western Australia has equivalent regional operational plans. At all times, this plan should be considered in conjunction with the State plan and both plans should be activated in the case of an oiled wildlife impact in this region, see WAOWRP Section 2, p13 for plan activation.

### 1.1 Scope

The PROWRP provides additional guidance to the WAOWRP for all instances of OWR in state waters adjacent to the Pilbara region and can be used as guidance for commonwealth waters surrounding WA for both Parks and Wildlife and petroleum titleholders. The operational boundaries of this plan includes the coastline and islands extending from Red Bluff (in the Ningaloo Marine Park), to the North East boundary of Pardoo Station (just east of Cape Keraudren) in the North. The Pilbara Region includes state waters which can extend well offshore. In areas such as the Montebello Islands the region extends up to 48 nautical miles (nm) from the mainland coast. By management agreement some activities in the Australian Territorial Waters (3-12nm offshore) of the Ningaloo Marine Park are managed by Parks and Wildlife.

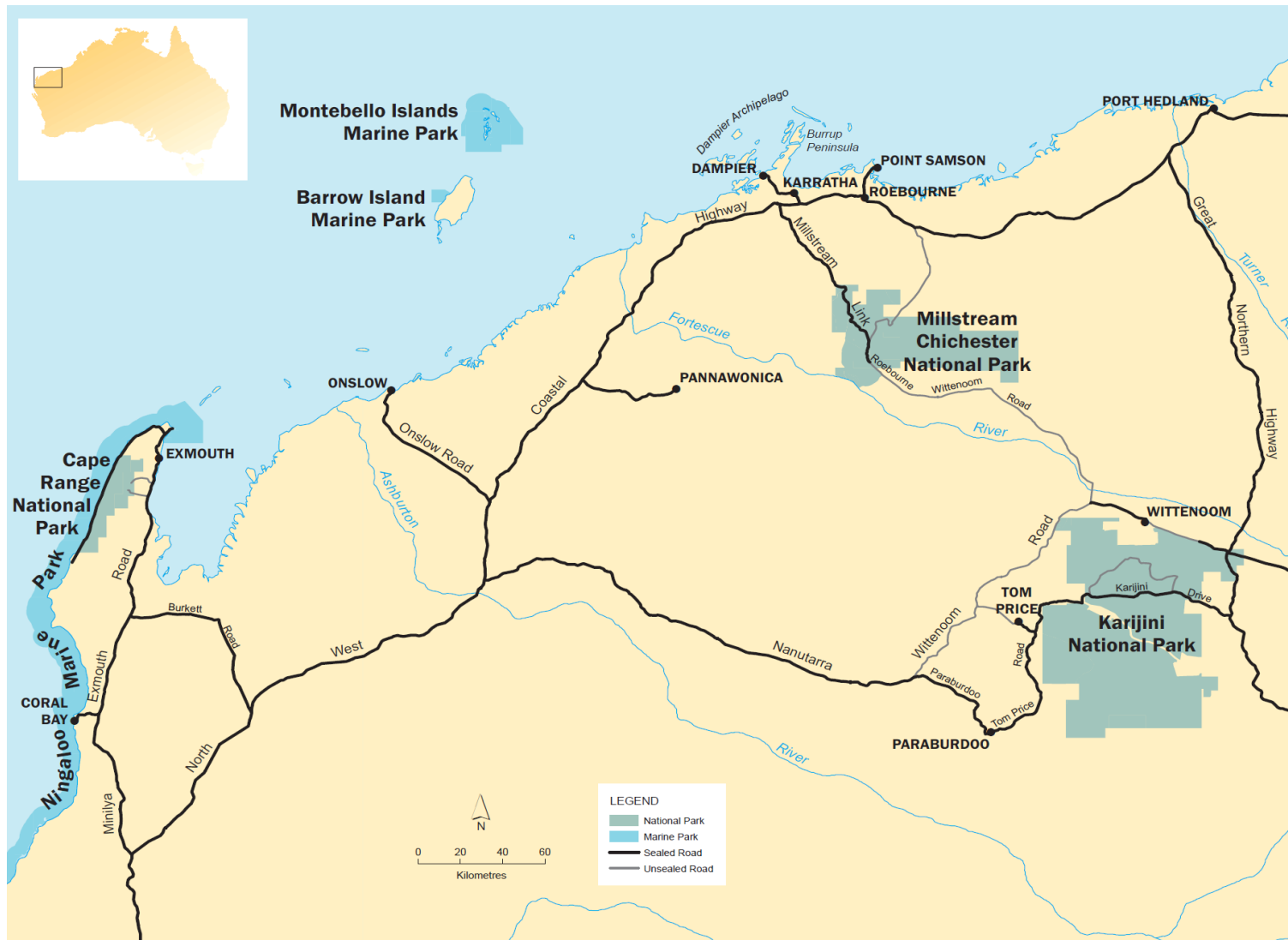


Figure 1: Map of the Pilbara Region

## 1.2 Management Objectives and Outcomes

Specific objectives include:

- Safe and efficient operational responses to oiled wildlife incidents by response teams
- Control and consistency of capturing, handling and treating oiled wildlife
- Ethical and total regard for the welfare of injured or oiled wildlife resulting from a marine oil pollution incident
- Guidance for decisions by the Incident Management Team (IMT) on prioritising habitats on Parks and Wildlife managed reserves, and wildlife aggregation areas
- Development of skills and knowledge within the Pilbara region across government and industry to ensure oiled wildlife response (OWR) can be undertaken safely, effectively and efficiently
- Knowledge and guidelines to facilitate the rapid rescue, stabilisation and rehabilitation of oil susceptible wildlife found in the Pilbara region
- Detail existing resources in the Pilbara region to respond to OWR

## 1.3 Geographical and Cultural Settings

The Pilbara region is a large land unit with a complex coastline extending over 750km in linear distance. It has many hundreds of islands in the Gulf, Mackerel, Montebello, Barrow, and Passage Islands, the Dampier Archipelago, and other island groups.

South of North West Cape the continental shelf is very close to the Australian mainland. Sandy beaches are intersected with low rocky headlands adjacent to a near-shore fringing coral reef and lagoon system. Coastlines to the east and north of Exmouth are characterised by low coastal flats, some beaches, mangroves and rocky shores with hundreds of offshore islands and reefs.

The Pilbara Region incorporates areas of high marine conservation significance as recognised in the representative system of marine reserves in the region including the Montebello and Barrow Islands Marine Conservation Reserves, the Ningaloo Coast World Heritage Area encompassing Ningaloo Reef Marine Park and Muiron Islands Marine Management Area and the proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area. The rich marine life and biodiversity of the region is of scientific importance and also contributes to the important tourist industry in the area.

The Pilbara region climate is mostly subtropical with relatively warm winters and very hot summer temperatures. The Pilbara coast is the area most predisposed to tropical cyclones in the southern hemisphere. Most rainfall occurs in summer and autumn. This is often during only two or three monsoon events lasting a couple of days or weeks and averages around 300mm per annum. After significant rain events, unsealed roads are often impassable and access to the coast is particularly difficult. Flooding of rivers and coastal areas is not uncommon after cyclones or a strong monsoon cycle.

From May to October the south east trade winds dominate the Pilbara coast with south westerly afternoon breezes being common from October to January. Aside from monsoon events, winds from February to April are usually light to moderate.

Tides in the Pilbara region vary from 1.5m in the south, to over 6m in the north near Eighty Mile Beach.

Within the region lies the ports of Dampier and Port Hedland which are two of the highest tonnage ports in Australia. Both have large tidal ranges and have significant technical approaches due to narrow or long entrance channels and the use of heavy displacement vessels. Secondary ports of Cape Preston, Barrow Island, Varanus Island and Port Sampson are also located within the region. The Port of Ashburton in the region will be operational in 2015/2016.

The waters offshore from the Pilbara Region are home to an extensive and rapidly developing oil and gas industry involving a range of operators presently including Apache, BHP, Chevron, Vermillion, Woodside and an array of smaller companies. The number of wells, processing facilities, and pipelines is growing considerably with several large projects currently under construction.

The frequency of shipping traffic, types of vessels, sea states, climatic conditions, and navigation hazards (both natural and manmade) place the Pilbara as one of the highest risk area in Australia, for a marine oil pollution incident.

## 2. REGIONAL OILED WILDLIFE RESPONSE PREPAREDNESS

While pre-planning and organisation is important for successful management of an incident, assessment of the unique conditions and determination of specific strategies pertinent to an event is critical. There are considerable examples of effective wildlife rescue and rehabilitation in spill events, however there are few examples of successful operations in remote areas during periods of extreme heat. A large scale marine oil pollution incident requiring capture and remediation of birds, nesting turtles, hatchlings, marine mammals, or shoreline foraging mammals and reptiles would be unprecedented in Australia and is likely to present many challenges.

In the Pilbara there are three critical challenges for the operations and the survival of compromised animals in an OWR. These three obstacles are inter-related. They are:

- remoteness and difficulty of access to much of the region
- distances involved
- The high temperatures experienced for much of the year.

Other unique issues are manageable with sufficient planning, adequate strategies and resources and include for example:

- managing quarantine constraints in certain areas such as Barrow Island and other nearby islands;
- integration with operations on oil and gas facility operations and
- dealing with islands that have large numbers of wildlife occupying beach and shore habitats.

Prior to an oil spill event it is ideal to have a range of environmental information prepared. This should include maps of species distribution and seasonality, population information, and critical habitat data showing breeding, feeding, and roosting areas. Even with detailed information from surveys there can be great variability in wildlife populations from year to year and hence pre-incident surveys are critically important to the success of OWR.

### 2.1 Regional Values

The Pilbara Priorities for Protection are summarised in table 1. These are based on published information and scored against the consequence of an oil spill outlined in table 2

Factors used to assess the consequence of a spill event on wildlife include the following:

- Conservation status of wildlife on a local, Regional, State, National, or international context is a prime consideration.
- Marine and terrestrial conservation reserves. These areas are identified as important for maintaining species and ecosystem function and are a priority for protection.
- The importance of the all-natural habitats for flora, fauna, species and ecosystem function including those outside of the Parks and Wildlife managed reserves.
- The long term consequence of oiling or deaths in the area.

Priorities can be determined based on species, ecological communities, across all lands and waters and on social values for the area. Priorities may also be determined as a combination of these factors. However priorities for protection will differ with differing circumstances that may manifest in an incident.

The table below shows the 10 highest priority areas in the region. This table is a summary of the more detailed information provided in the Operational Sectors Section in Appendix A of this document. The priority scores have been allocated using the information outlined in table 2 in tandem with published literature and Parks and Wildlife field data supplemented with input from the Petroleum Industry. The scores are for guidance and will be reviewed as part of the plan's 6 month review process.

*Table 1: Pilbara Priorities for Protection Summary*

PRIORITY	SECTOR IN APPENDIX A	LOCATION	REASON	PRIORITY SCORE
1	1 and 2	Ningaloo Marine Park	World Heritage listed area, green and loggerhead turtle nesting habitat, whale shark congregation area.	Very High
2	9	Rosemary Island	Significant Hawksbill turtle nesting habitat.	Very High
3	10	Barrow Island	Green Turtle and Flatback Turtle nesting, migratory birds, and rare mammal habitat.	Very High
4	3	NW Cape & Muiron Islands	Significant Green and loggerhead turtle nesting habitat.	Very High
5	9	Dampier Archipelago MP	Seabirds, Hawksbill and Flatback turtles, dugongs, Humpback Whale nursery area, mangrove habitat.	Very High
6	12	Montebello Islands MP	Hawksbill, Flatback, and Green Turtle nesting habitat, mangrove habitat, seabirds, Dugongs.	High
7	11	Lowendal Islands	Hawksbill Turtle nesting habitat and seabirds.	High
8	3 and 4	Exmouth Gulf	Large undisturbed areas of dense mangroves and high numbers of dugongs. Large nesting area for humpbacks (mothers and calves).	High
9	7	Great Sandy Islands NR	Turtle nesting habitat, seabirds & migratory bird habitats.	High
10	5	Mackerel Islands	Turtle nesting habitat and seabirds.	High

Note: greatest risk occurs in turtle nesting seasons, September – April.

*Table 2: Allocation of Priority Based on the Consequences of Spill in Identified Location*

POSSIBLE CONSEQUENCE OF SPILL	Priority from protection and response
Localised and short term (<1 year) effects on common wildlife or habitats outside of conservation reserves. Some oiled wildlife but no wildlife deaths.	Low
Localised and short term effects on habitats within conservation reserves. Some deaths <5% of a common species population outside of conservation reserves. Oiling of some common species inside conservation reserves.	Medium
Localised moderate term (<2 years) effects or widespread short term habitat effects (<6 months). On habitats Oiling of common species within a conservation reserve, or <10% of a local species population, oiling of >5% of local population of threatened species or detectable change in breeding capacity. Oiling or loss of any wildlife protected by treaty. Short term detectable loss of breeding capacity of any species.	Significant
Widespread significant regional habitat loss or moderate to long term (2-5 years) ecological effects (multiple species) of habitats or over 50% of shoreline or islands in a conservation reserve. Oiling of up to 10-50% of a Regional common species or deaths of <20% of regional or conservation reserve species population. Oiling of >10% or, deaths of <10% of WA threatened species population. Minor (5%) moderate term (<2 years) loss of breeding capacity for any species.	High
Significant long term ecological effects >5years (affecting many species) on ecosystem function on a bioregional or conservation land unit scale. Deaths of >20% of a regional or conservation reserve population. Oiling of over 20% of a WA threatened, species or deaths of >10% threatened species population. Loss of breeding capacity of a regional threatened species population. Significant >5% Moderate term (2-5 years) loss of breeding capacity.	Very High

A current list of Western Australian Threatened Species and Threatened Ecological Communities can be found in the WAOWRP or via the Parks and Wildlife website in 'plants and animals' tab under 'threatened species and communities' at [click here for link](#)

Where a petroleum industry company is the Control Agency for a marine oil pollution incident, sensitive receptors will have been identified within the potential spill area in the company's approved Oil Pollution Environment Plan (OPEP) and Environmental Plan (EP). These plans should be used in conjunction with this OWR plan and the WAOWRP to determine values and priorities for protection.

## 2.2 Prioritised Ecological Values

Coastline, vegetation and habitat data in the WA Oil Spill Response Atlas Web Mapping Application (OSRA WMA) are generally well populated and do not change quickly. Data on species at risk of oiling or impact to species habitat sites are however insufficient and currently being improved in the OSRA WMA system.

A number of high priority animal groups including marine turtles, coastal birds and dugongs have been identified in the Pilbara as needing improved data.

Appendix A of this plan provides a brief description of the landforms and coastal marine environment, and the broad environmental values for each of the predetermined sectors. Each sector has been further broken down into island and beach areas with greater descriptions provided of each and including details of important wildlife populations.

## 3. RESOURCES - EQUIPMENT

### 3.1 OWR Equipment

A list of portable OWR equipment in WA is listed below. The Australian Maritime Safety Authority (AMSA) OWR first strike response kits contents can be found on the AMSA website at OWR Kits (which is located on the website at: AMSA – Environment – Maritime environmental emergencies – National Plan – General Information - Oiled Wildlife), [click here for link](#). The Parks and Wildlife Karratha kit contents are detailed in Appendix G. OWR local kits which are located at Exmouth and Barrow Island Parks and Wildlife Offices contain local wildlife capture, handling and treatment equipment which is listed in Appendix H. AMOSC Exmouth kit contents are listed in Appendix I.

*Table 3: Oiled Wildlife Response Equipment in WA*

Resource	Location	Owner	Contact
OWR Kit	Fremantle	AMSA	AMSA Duty Officer 02 6230 6811 or via AMOSC Duty Officer 0438 3793 28 or via WA Department of Transport (WA DoT) 9480-9924
OWR Kit	Dampier	AMSA	AMSA Duty Officer 02 6230 6811 or via AMOSC Duty Officer 0438 3793 28 or via WA Department of Transport (WA DoT) 9480-9924
OWR Kit	Exmouth	AMOSC	AMOSC Duty Officer 0438 3793 28
OWR Kit	Broome	AMOSC	AMOSC Duty Officer 0438 3793 28
OWR Kit	Fremantle	Parks and Wildlife	Senior Wildlife Officer Perth 9219 9849
OWR Kit	Karratha Parks and Wildlife office	Parks and Wildlife	Karratha Duty Officer 9182 2088
OWR Local Kit	Exmouth Parks and Wildlife Office	Parks and Wildlife	Exmouth office 9947 8000
OWR Local Kit	Barrow Island Parks and Wildlife office	Parks and Wildlife	Barrow Office 9412 2639
OWR Container	Fremantle	AMOSC	AMOSC Duty Officer 0438 3793 28
OWR Container	Dampier	AMSA	AMSA Duty Officer 02 6230 6811 or via AMOSC Duty Officer 0438 3793 28 or via WA DoT 9480-9924

Further equipment and supplies will be required to establish facilities and rehabilitation care. See Appendix F and K for specialist and general OWR equipment suppliers and contractors in the region.



Further OWR equipment can be sourced nationally in other jurisdictions from AMOSC and National Plan stockpiles, see Section 7, p41 of the WAOWRP for further information (State Wide Resources and Arrangements).

## 3.2 Communications

A Communications Support Unit forms part of the oil spill response (OSR). Within the OWR structure, a Wildlife Communications Officer/unit role is also designated. The Communications Officer in the Logistics Unit is responsible for maintaining effective communication between the various response groups operating during the OWR. In accordance with the Australasian Inter-service Incident Management System (AIIMS), a communications plan for the incident will be prepared. If the field of operations for OSR and OWR overlap, a single communications plan is preferred. The OWR operations area may well differ greatly to the OSR field and, if so, separate communications plans may be required. If a separate OWR communications plan is put in place it should overlap at appropriate points in the AIIMS structure with the OSR communications plan.

### 3.2.1 Communications when Parks and Wildlife are Coordinating OWR

If Parks and Wildlife are coordinating the OWR, the communications plan in the internal Parks and Wildlife regional Incident Preparedness Response Plan (IPRP) should be followed.

Parks and Wildlife radio networks, satellite phones, and mobile phones are commonly used for normal Parks and Wildlife operations in the Pilbara. Fixed communications are located in vehicles vessels and some offices and work centres.

On a local scale, ultra-high frequency (UHF) radios can be useful for groups in close proximity. In some locations such as stations (e.g. Ningaloo Station) repeater UHF networks are in place and could be utilised. The ports of Barrow Island, Port Hedland, Varanus Island, and Dampier have fixed marine very high frequency (VHF) repeater radio networks set up.

### 3.2.2 Communications when Petroleum Industry is Coordinating OWR

If the Petroleum Industry is leading the OWR, the wildlife division should integrate into the existing communications structure of the OSR. Further communication resources are available through Parks and Wildlife if required.

### 3.2.3 Ship to Ship/Ship to Shore Communication

Typically, ship to shore communication will be via VHF and secondarily through mobile phones where reception is available. Permanent VHF stations are located at Parks and Wildlife Offices in Karratha and Exmouth. Dampier Port and Port Hedland Port also have a VHF base station.

Workboats all have VHF and along with all other vessels will have a listening watch on Channel 16. The communication channel during the response will be specified by the Communications Officer to all functional units when developing the communications plan.

### 3.2.4 Ground to Ground Communication

In the event of shoreline wildlife capture, good communications is essential. A number of VHF and UHF units are held by Parks and Wildlife Karratha; additional units can be obtained from Parks and Wildlife Perth. These units would be used by the OWR field teams.

### 3.2.5 Outside Communications

A log should be kept of all calls and emails/fax messages as is consistent with command and control requirements of incident response. To assist in this task, consideration should be given to the use of voice recorders to use during emergencies when notes cannot be taken.

### 3.2.6 Communication Plan

As the OWR is escalated, communication systems will need to meet the demands of the increasing number of responders and spatial complexities of the response effort. The Communications Officer in the logistics unit is responsible for developing and maintaining the communications plan through the response.

## 3.3 Vessels

### 3.3.1 Parks and Wildlife Vessels

The Parks and Wildlife Pilbara Region has a number of vessels used for operations. Most of these vessels are trailerable. For a list of available vessel resources, contact the regional duty officer on 9182 2088.

### 3.3.2 Industry Vessels

Industry has a large variety of vessels in the Pilbara region (landing craft transport), transfer vessels, barges, tugs etc.). These may be identified in the petroleum industry OPEPs and the logistics section of the OSR will source these assets as required.

### 3.3.3 Other vessels available for hire

WA DoT maintains lists of all Surveyed Passenger Vessels (SPV) and the Parks and Wildlife licensing system can be interrogated to find local tour operators.

Islands such as Barrow Island have specific quarantine entry requirements for vessels, equipment and personnel. These include prescriptive measures to prevent the introduction of non-indigenous species (NIS) including plants, animals and pathogens and must be considered and adhered to.

### 3.3.4 Vessel Launch Sites

Much of the Pilbara coastline is relatively inaccessible and constructed vessel launch ramps are widely distributed. To assist with local access, Appendix E – Pilbara Launch Ramps and Natural Launch Points outlines launch ramps and natural launch points along the Pilbara coastline.

## 3.4 Aerial

### 3.4.1 Aircraft Resource List

The Department for Fire and Emergency Service or DFES (previously known as the Fire and Emergency Services Authority of WA or FESA) has produced a contracted aviation resource guide for the Pilbara region. This guide presents a list of all known aviation service providers and was prepared for emergency response activities See Appendix C for a copy of the Pilbara Aviation Resource Guide.

Please note that aerial operations within certain areas for example Barrow Island will be subject to quarantine requirements.

### 3.4.2 Aircraft Landing Strips

Details of aircraft landing strips are maintained by the Parks and Wildlife Regional Fire Coordinator as part of the Pilbara Region standard incident response preparations. Details of current strips can be found in Appendix D – Pilbara Aircraft Landing Strips.

## 4. RESOURCES – PERSONNEL

### 4.1 Trained personnel

The level of an OWR is explained in Section 5, p35 of the WAOWRP (OWR Incident Types and Personnel Required). This level informs the number of OWR personnel required and the skill requirements of these personnel, which is also outlined in Section 5 of the WAOWRP. Descriptions of each of the roles in detail can be found in Appendix A, p43 of the WAOWRP. A description of the OWR incident structure and therefore how these personnel will interact with each other is outlined in Section 3, p15 of the WAOWRP (Oiled Wildlife Response Incident Management Structure) and further detail can be found in Section 4, p17 (Stages of Oiled Wildlife Response) of the WAOWRP. Through the agreement between Parks and Wildlife and AMOSC, a state wide capacity to respond to an OWR event will be maintained. Parks and Wildlife and AMOSC will maintain a list of trained personnel and resources available. Either party may request assistance from the other if their internal pool of trained personnel or expertise has been exhausted. Table 8 below is replicated from the WAOWRP (Section 7, p 41 State Wide Resources) and summarises indicative personnel numbers required under varying OWR scenarios according to the skill requirements and the number of personnel available from both Parks and Wildlife and AMOSC to assist in the response. These standards are to be worked towards over the two years following the release of the WAOWRP.

*Table 4: Oiled Wildlife Response Level and Personnel Numbers*

SKILL REQUIREMENT	OWR RESPONSE LEVEL & PERSONNEL NUMBERS					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
OWR 4	1	1	3	2	2	2
OWR 3	2	0	4	4	4	4
OWR 2	4	9	15	17	18	18
OWR 1	0	14	33	47	84	90
Technicians (i.e Vets)	0	1	2	4	4	4
Other Specified Skills	0	0	2	3	4	4
<b>Total</b>	<b>7</b>	<b>25</b>	<b>59</b>	<b>77</b>	<b>116</b>	<b>122</b>

### 4.2 Wildlife Carers

Parks and Wildlife manages a list of local carers for all types of wildlife in the Pilbara Region. This list can be accessed by contacting the Pilbara Parks and Wildlife Duty Officer 9182 2088. For direct access to the records of all wildlife carers registered with Parks and Wildlife, contact the Community Involvement Branch Manager on 9334 0468.

### 4.3 Veterinarians

There are a number of veterinarians operating within Pilbara region who may be prepared to assist with an OWR and may have sufficient experience in wildlife emergency management to provide the knowledge required to advise for a first strike response and possibly further.

In the event of an oiled wildlife incident, professional veterinarian advice may be provided by a local veterinarian with experience in wildlife emergencies in cooperation with a regional wildlife officer (Parks and Wildlife or industry) until specialist wildlife veterinarian support can be provided if necessary.

Identified local veterinarians with an interest in assisting with OWR should be encouraged to be involved in any OSR or OWR exercises held in the Pilbara Region. Available veterinarians are included in the Specialist Personnel Resource List in Appendix F, with basic contact details as well as a summary of experience, and willingness to participate in exercises or a response.

In the event that a Pilbara veterinarian cannot be contacted, staff should seek assistance from the Duty Veterinarian at the Perth Zoo on 0439 953 026.

#### 4.4 External Agencies and Emergency Volunteer Groups

Various local government agencies are routinely involved in emergency response scenarios in the Pilbara Region and may be required to assist in an OWR. These agencies and their contact numbers are listed below.

*Table 5: Pilbara Local Government Agencies*

Agency	Location	Contact Number
Police	Exmouth	9947 8700
	Onslow	9159 9100
	Karratha	9143 7200
	Port Hedland	9173 8100
Fisheries	Exmouth	9949 2755
	Karratha	9144 4337
Shire	Exmouth	9948 3000
	Ashburton, Tom Price	9188 4444
	Roebourne	9186 8555
	Port Hedland	9158 9300
State Emergency Service (SES)	WA – 24hrs	132 500
	Exmouth	9949 1488
	Karratha	9144 1844
	Port Hedland	0419 909 744
Volunteer Marine Rescue (VMR)	Exmouth	0418 183 416
	Onslow	0429 688 714
	West Pilbara, Dampier	9183 1327
	Port Walcott	0439 870 995
	Port Hedland	9173 3055
DFES	Exmouth	9949 1664
	Ashburton, Tom Price	9189 6111
	Roebourne	9183 0593
	Port Hedland	9173 1118

## 5. OILED WILDLIFE FACILITY LOCATIONS AND CONTACTS

### 5.1 Land Based Oiled Wildlife Facility

There are no dedicated oiled wildlife washing or rehabilitation centres in Western Australia. Therefore existing facilities (i.e. sports clubs, showground's, ovals and warehouses) that are suitable for provision of a supporting role in OWR need to be identified prior to an incident and permissions sought for their use in the event of an incident. Washing and rehabilitation centres are usually combined or located adjacent to each other and collectively known as Oiled Wildlife Facilities.

OWR Containers are available to be transported and set up as washing facilities at suitable locations forming the nucleus of a larger Oiled Wildlife Facility. They have air conditioning and ability to soften and temperature control washing water. They require a water source, electricity source and suitable storage / drainage system for waste water. These OWR Containers were used during the Rena incident in New Zealand in 2011. For location and quantity of these OWR Containers please see the WAOWRP Section 7, p 41 (State Wide Resources and Arrangements).

A critical requirement for OWR facilities in the Pilbara is provisioning of air-conditioning to provide cooling and with sufficient power to allow for sufficient fresh air exchange.

Karratha and Port Hedland are the major coastal service centres for the Pilbara. Exmouth and Dampier are medium sized centres and there are a number of smaller centres (each with less than 1000 people) such as Coral Bay, Onslow and Port Sampson. Parks and Wildlife has large operation bases in Exmouth and Karratha and smaller work centres at Coral Bay, Cape Range National Park and Barrow Island Nature Reserve (BINR).

It is recommended that an array of potential facilities are identified for a range of situations including small response (1-5 birds per day and up to 20 birds), medium response (5-10 birds per day and up to 20-200 birds), and large or complex response (more than 10 birds per day, more than 200 total, and or terrestrial mammals, marine turtles or other mega-fauna).

#### 5.1.1 Exmouth

Exmouth District has identified a number of facilities that, with some modification, could be used in the event of OWR. These site facilities along with their characteristics are outlined in table 6 below. Water softening appliances would be required when using town water supply from Exmouth. Water softeners use sodium to help replace or reduce the concentration of calcium and magnesium ions which make water 'hard' and difficult to dissolve detergents in. Water from the Naval Communication Station Harold E Holt NAVCOMMSTA is desalinated and may be much softer.

For a small response the existing Exmouth Parks and Wildlife office and yard complex could be used.

- The marine shed area at the Parks and Wildlife complex could be fitted with air conditioning and be adapted to have water softening devices and other processing modifications for wildlife washing. Most other requirements such as security, power, water and facilities are in place. The washed wildlife could be housed at a nearby suitable facility or with wildlife carers.

For a medium or large response a summary of facility options is provided below;

- The NAVCOMMSTA (Navy Communications Station, located north of town has a large and a small pool. A large building and smaller offices, covered areas, change rooms, decommissioned ducted air conditioners, power to all buildings, can produce 200 tons of freshwater per day, and has sewer and oily waste disposal systems, toilets.
- The Navy Pier area is a secure NAVCOMMSTA area adjacent to the large naval pier and small craft landing that includes sheds, lay down, electricity, power, seawater fire hydrants and toilets.
- The old (decommissioned) Exmouth Power Station is a large area only 100m from the Exmouth District Office. There are a number of existing low bundings which could take pool liners. There is a large generator shed 800m<sup>2</sup> in area which would require some clearing of debris and reconnecting of power. There is a work shed with power, water, air conditioning and ventilation. There is an open outside concrete area of 2000m<sup>2</sup> with drainage. There is an old machinery/vehicle cleaning bay with power water and drainage approximately 50m<sup>2</sup> this is a potential washing module area that is close to the other facilities. There is an accommodation donga on site that can sleep up to 8 people or be converted to other uses. The power station site is already a contaminated site from diesel and traces of benzene. It is proposed to remediate the site but there is currently no proposed timeframe for these works.

Table 6: Identified Oiled Wildlife Response Facilities in Exmouth

EXMOUTH																	
Location	Contact	Phone	Power	Water	Hot water	Ventilation	Air conditioning	Wash down area	Toilets	Change rooms	Office space	Lay down area	Security	Waste disposal	Size	Marine Access	Comments
Harold Holt Communications base	Eric Herbst - Snr support operations officer. NAVCOMMST A Harold E Holt.	(08) 9949 3340	x	x	x	x	x		x	x	x	x	s	x	L		Larger building approximately 50m x 15m has 2 large rooms and a number of smaller offices. Has power, water and toilets. Smaller long building approximately 20m x 6m has a number of large offices at southern end. Northern end has a roof, but no walls. Changing rooms in building on northern side of pool has power, water and sewage. Hot water systems are unlikely to work because they have not been used for many years. Has large 25m pool, currently empty.
Navy pier	Michael Sexton, NAVCOMMST A Harold E Holt.	(08) 9949 3337	x	x					x			x			S		3 possible lay-down areas. 1. Area next to shed near pier. Approximately 60m x 30m area available to set up facilities. AMOSC would likely use the pier for oil spill response and may use some of the car park area as a staging area before deployment to vessels. 2. Southern car park - Area approximately 40m x 20m. No power, no water. Close to beach and good access to sea for off-loading/transport of animals depending on sea state. 3. Northern car park Area approximately 20m x 20m. No power, no water. Car park is on top of tall dune and has very poor access to beach.
Old Exmouth power station (Huston St Exmouth)	Dave Shelton, Horizon Power	408917466	x	x	service needed		x			x	x	x	x	x	M		Horizon Regional Manager – Mark Bruce. ERA is Horizon Powers contractor – contactable in Exmouth at 99491219. It is contaminated site with soil contaminated by diesel and traces of benzene detected. The site has been planned to be bulldozed and the contaminated soil removed, but this appears unlikely to happen in the near future. Location: Suitable – very close to Exmouth DEC office (200m), Exmouth Marina and other services.

### 5.1.2 Onslow

One facility has been identified in Onslow that may be used as a holding/triage/rehabilitation facility, the characteristics of this facility are outlined in Table 7 below. Due to water availability constraints, a full rehabilitation facility could not be established here. Onslow is a 3.5 hour drive to Karratha/Dampier along a major sealed road. Wildlife could be stabilised at this facility prior to being transported to the Dampier Oiled Wildlife Facility for further treatment.



*Table 7: Identified Oiled Wildlife Response Facility in Onslow*

ONSLow																	
Location	Contact	Phone	Power	Water	Hot water	Ventilation	Air conditioning	Wash down area	Toilets	Change rooms	Office space	Lay down area	Security	Waste disposal	Size	Marine access	Comments
Onslow sports ground	Bruce Straham	91849042	x	x		x	x		x	x		x			Holding/stabilisation only		

### 5.1.3 Dampier / Karratha

Karratha District has identified several facilities that, with some modification, could be used in the event of OWR. These site facilities along with their characteristics are outlined in Table 8 below. Water softening appliances may be required when using town water supply depending on water source at the time (i.e. Millstream aquifer vs Harding Dam supply).

For a small response the existing Karratha Parks and Wildlife office and yard complex could be used.

There are two large sheds that could be fitted with air conditioning and be adapted to have water softening devices and other processing modifications for wildlife washing. Most other requirements such as security, power, water and facilities are in place. The washed wildlife could be housed on site with appropriate enclosures or at a nearby suitable facility or with wildlife carers.

For a medium or large response a summary of facility options is provided below;

- The first option for a large response effort would be the Dampier Sports Club located adjacent to the Dampier public boat ramp on The Esplanade. This facility contains good access for both road transport and vessels, has a large undercover area, netted cricket pitches, large grassed area, cooking facilities' water' power' showers and toilets. The Sports Club also has a large indoor function room with excellent lighting.
- Second option is Bulgarra Oval and sport centre in Karratha, Hunt Way. This facility has adequate access for vehicles, adequate undercover area, tens/basketball/netball courts, cooking facilities, large grassed area, showers and change rooms, an indoor function room, water and power access and excellent lighting over grassed areas. Does not have good access to the water except through the back beach boat ramp which is only accessible at high tide.

Table 8: Identified Oiled Wildlife Facilities in Dampier/Karratha

DAMPIER AND KARRATHA																	
Location	Contact	Phone	Power	Water	Hot water	Ventilation	Air conditioning	Wash down area	Toilets	Change rooms	Office space	Lay down area	Security	Waste disposal	Size	Marine access	Comments
Dampier Sharks Foot ball club	Sports club Mark Saunders	418937221	x	x	x	x	x	x	x	x	x	x	x	x	L	x	<div>Good local access for all types of vehicles with a locked gate capability if required. Proximity to boat ramp. A level grassed site.</div> <div>- Good access to taps and fire hydrants as well as fire truck filling facility.</div> <div>- Outside access to power.</div> <div>- Ability to establish OWR facility Outside the bounds of the main oval</div> <div>- Good sized shade trees</div> <div>- Outside toilet and shower facilities</div> <div>- Outside undercover cooking facilities and eating area with tables and chairs.</div> <div>- Air conditioning and inside space for office establishment.</div> <div>- adjacent to major boat ramp – this would allow easy transfer of wildlife from the spill area to the rehabilitation facility and return.</div> <div>- adjacent the harbour –this would allow quick transfer of saltwater if required.</div> <div>- Good sized carpark and maneuvering area adjacent to grassed area therefore providing easy access for waste disposal vehicles without having to enter the gates.</div> <div>- Excellent night lighting for the oval.</div> <div>- Potential to establish temporary camping if required.</div>
Bulgarra oval, Buchannan centre	Karratha community house	901856605	x	x	x	x	x		x	x	x	x			M		<div>Good local access for all types of vehicles with a locked gate capability if required.</div> <div>- A level grassed site.</div> <div>- Good access to taps and fire hydrants .</div> <div>- Outside access to power.</div> <div>- Ability to establish OWR facility outside the bounds of the main oval</div> <div>- Outside toilet and shower facilities</div> <div>- Outside undercover cooking facilities and eating area with tables and chairs.</div> <div>- Air conditioning and inside space for office establishment.</div> <div>- Good sized carpark and maneuvering area adjacent to grassed area therefore providing easy access for waste disposal vehicles without having to enter the gates.</div> <div>- Excellent night lighting for the oval.</div> <div>- Potential to establish temporary camping if required.</div>
Karratha Parks and Wildlife Office Cnr Anderson and Mardie Roads	Regional Duty officer	91822088	x	x	x	x	x	x	x	x	x	x	x		S		<div>• Good access to power and water</div> <div>• OK access for trucks and vehicles</div> <div>• Two large shed spaces for undercover use, can establish air conditioning units within.</div> <div>• Lockable bait room which can be used to secure drugs.</div> <div>• Large outside gravel area.</div> <div>• Entire back of lot can be locked with gates.</div> <div>• Incident management Ops room located inside the office building.</div>

### 5.1.4 Barrow Island

Quarantine risks to wildlife populations mean that animals taken off Barrow Island cannot be returned to the island for release. However pelagic species such as seabirds, shorebirds and turtles could be removed from the island and released in other locations after rehabilitation. This constraint is an important consideration for determining capture, cleaning, and rehabilitation strategies for OWR operations.

Parks and Wildlife and Chevron both have some field equipment located on Barrow Island. The Parks and Wildlife OWR equipment is listed in Appendix I. Generally all facilities, infrastructure and buildings are the property and under control of Chevron Australia. Being a Nature Reserve, cleared land is limited and is only approved for oil and gas facility construction and operation.

### 5.1.5 Port Hedland

Two potential facilities have been identified in Port Hedland that may be used as holding/triage/rehabilitation facilities. These site facilities along with their characteristics are outlined in Table 9 below.

- The Port Hedland Yacht Club facility has an enclosed restaurant area and change rooms. A small OWR could be established here. The facility also has some access to the water for small vessels.
- The second potential facility is the Port Hedland racecourse turf club which has substantial outdoor space to setup marquees and outdoor pool rehabilitation facilities.

As the yacht club and race course facility (turf club) are in close proximity within Port Hedland, the yacht club may be used to triage and stabilise the oiled wildlife prior to transport to the turf club for rehabilitation. Neither facility has water a softener or extensive waste disposal facilities.

*Table 9: Identified Oiled Wildlife Response Facilities in Port Hedland*

PORT HEDLAND																	
Location	Contact	Phone	Power	Water	Hot water	Ventilation	Air conditioning	Wash down area	Toilets	Change rooms	Office space	Lay down area	Security	Waste disposal	Size	Marine Access	Comments
Port Hedland Yacht Club		9173 1198	x	x	x	x	x		x	x	x	x			S	x	Marine access and catering facilities available. Small footprint area, may not be able to facilitate a large OWR. Temporary fencing will be required for security.
Port Hedland Race Course		9173 1042	x	x	x	x	x		x	x	x	x			L		Temporary fencing would be needed for security. Large open areas to establish outdoor facilities, not a lot of indoor areas for the rehabilitation for oiled fauna if required. Due to the large amount of open space, a large OWR could be facilitated if sufficient equipment was brought in and waste management facilities.

## 5.2 On-Water Oiled Wildlife Triage/Stabilisation

In scenarios where a treatment or holding/stabilisation facility cannot be located close enough to the site of collection to be acceptable in terms of wildlife welfare, an “on-water” facility may be established to enable stabilisation of oiled wildlife prior to transport to a treatment facility.

Examples would include spills in the Montebello Islands, Great Sandy Islands, and Exmouth Gulf areas.

In these circumstances, it is recommended that companies, who operate in these areas, consider resourcing vessels or barges that could fulfil these requirements.

### Vessels

An ideal on-water wildlife triage/stabilisation vessel would:

- Accommodate a minimum of 5 oiled wildlife responders
- Have suitable deck space to house at least one OWR Container and air-conditioned holding containers.
- Have an ability to safely load/unload wildlife to/from adjacent vessels (i.e. through rescue hatch or hiab).
- Facilitate some wash-down of animals and have the ability to store oily waste, or have an oily water separator and holding tanks for waste oil)

See table 10 and figure 2 for indicative specifications and examples of on-water holding/stabilisation vessels.

*Table 10: Indicative Specifications for On-Water Holding/Stabilisation Vessels*

Vessel Specifications	
Length overall	38 metres
Beam	10.6 metres
Machinery	2 engines
Operating speed	10knots
Hull	Bow ramp configured to accomodate toll-on-roll-off loading of 20ft shipping containers
Deck Area	200 m <sup>2</sup>
Water	120,000 Litres
Accomodation	5 + crew Airconditioned
Pollution control	Oily water seperator or oily waste holding tanks



*Figure 2: Indicative Vessel for On-Water Holding/Stabilisation*

## APPENDICES

### APPENDIX A - PILBARA REGION OPERATIONAL SECTORS

OWR may be a localised, contained operation, or it may extend to hundreds of islands or kilometres of coastline. The Pilbara coastline and island groups have been divided into predetermined sectors, each with a proposed staging/coastal access point. The sectors have been determined in consideration of available, central staging points and of the distances that vessels or vehicles could travel to, engage in operations and return within one operational day (in good to moderate conditions). The sectors are indicative only and should be adapted as conditions require.

*Table A1: Sector Geographical Locations*

Sector		Location	Latitude and Longitude Coordinates
1	From	Red Bluff	23° 7'16.19"S, 113°45'42.40"E
	To	Point Cloates	22°32'59.92"S, 113°39'55.83"E
2		Point Cloates	22°32'59.92"S, 113°39'55.83"E
		NW Cape	21°47'8.12"S, 114° 9'51.75"E
3		NW Cape to (including Muiron Islands)	21°47'8.12"S, 114° 9'51.75"E
		Sandalwood Peninsula	22°26'10.49"S, 114°18'29.34"E
4		Sandalwood Peninsula	22°26'10.49"S, 114°18'29.34"E
		Locker Point	21°47'57.92"S, 114°43'18.56"E
5		Locker Point	21°47'57.92"S, 114°43'18.56"E
		Beadon Point	21°37'41.98"S, 115° 6'27.90"E
6		Beadon point (including Thevenard)	21°37'41.98"S, 115° 6'27.90"E
		Robe River mouth	21°18'23.06"S, 115°41'21.52"E
7		Robe River mouth	21°18'23.06"S, 115°41'21.52"E
		Fortescue River mouth	21° 0'6.27"S, 116° 6'10.37"E
8		Fortescue River mouth	21° 0'6.27"S, 116° 6'10.37"E
		Devil Creek	20°49'41.00"S, 116°26'40.32"E
9		Devil Creek	20°49'41.00"S, 116°26'40.32"E
		Cape Lambert	20°35'51.57"S, 117°10'51.24"E
10		Barrow Island Group	20°48'24.49"S, 115°23'39.75"E
11		Lowendal Island Group	20°38'28.60"S, 115°34'18.19"E
12		Montebello Island Complex	20°26'46.68"S, 115°31'57.44"E
13		Cape Lambert	20°35'51.57"S, 117°10'51.24"E
		Cape Thoin	20°20'6.68"S, 118°11'4.40"E
14		Cape Thoin	20°20'6.68"S, 118°11'4.40"E
		Larney Point	19°56'56.92"S, 119° 5'48.69"E
15		Poissonnier Point	19°56'58.41"S, 119°10'26.82"E
		Shoonta Well	19°50'57.22"S, 120°24'18.87"E

*Table A2: Land Tenure Legend for Environmental Value Tables*

<b>Land Tenure Type</b>	<b>Land Tenure Type Abbreviation</b>
Marine Park	MP
Marine Management Area	MMA
Nature Reserve - Class A	NR - A
Nature Reserve - Class B	NR - B
Nature Reserve – Class C	NR - C
Conservation Reserve	C
Unallocated Crown Land	UCL



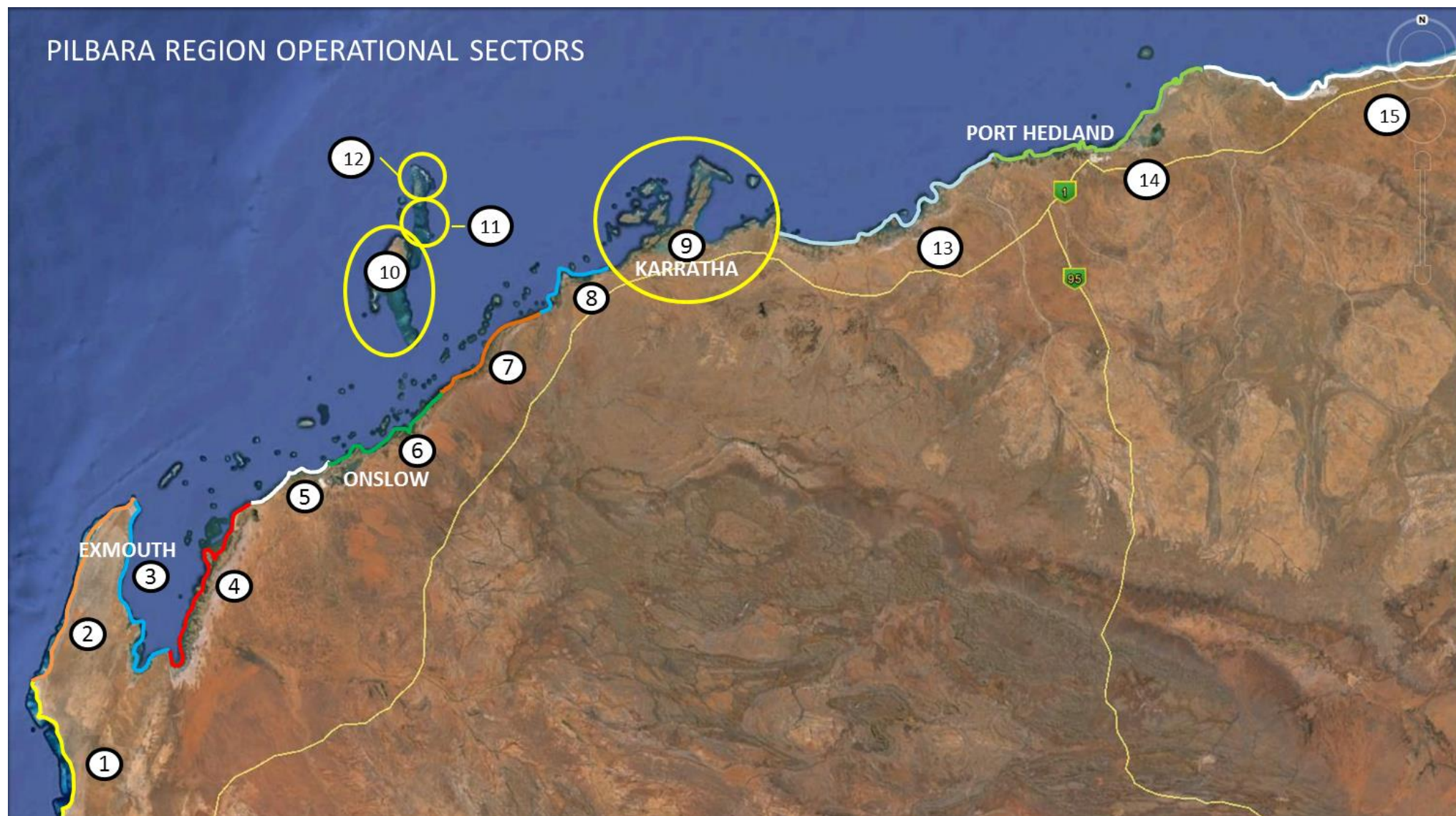
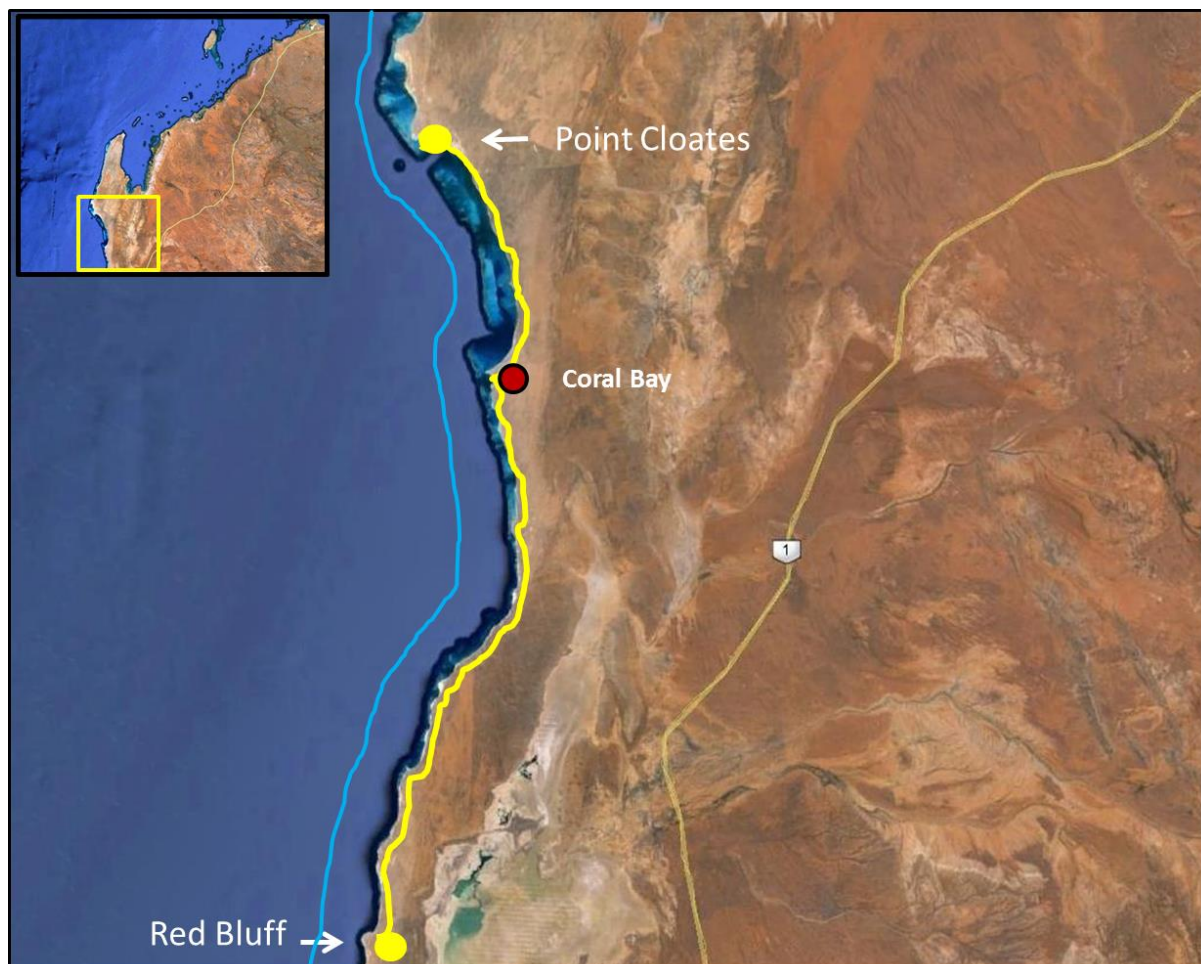


Figure A1: Map of Pilbara Region Showing Operational Sectors

## SECTOR 1: Red Bluff to Point Cloates

Shown as yellow sector 1 in figure A1

(23° 7'16.19"S, 113°45'42.40"E to 22°32'59.92"S, 113°39'55.83"E)



*Figure A2: Map of Sector 1*

### A.1.1 Terrestrial Overview

Area varies from high cliffs at Red Bluff to long stretches of beaches with irregular smaller headlands. Pastoral leases adjoin to within 40m of the high water mark.

### A.1.2 Marine Area

Ningaloo reef is found close to shore but is heavily fragmented from Red Bluff to Cape Farquhar and becomes less fragmented from here northwards. The part of Ningaloo reef in this sector is significantly affected by southerly swell in winter and spring and South West trade winds dominate from October to January. In late summer and autumn subtropical conditions influence the area. Tidal ranges vary from 0.5m neaps to 1.5m springs tides. Turtles nest along beaches. The lagoon north of Coral Bay increases in width from several hundreds of metres in southern section to up to 5km north of Coral Bay. Mostly shallow inside lagoon with scattered deep sandy pools and extensive coral gardens around Coral Bay.



This area of the coastline is important to breeding Loggerhead Turtles which are listed as Endangered on the International Union for the Conservation of Nature (IUCN) red list. Green and Hawksbill turtles are also known to breed in this area, but their distribution is more scattered within it with no identified defined rookeries at present.

### A.1.3 Environmental Values

*Table A3: Environmental Values of Sector 1*

Coastal Area unit	Tenure	Species susceptible to oiling	Priority
Red Bluff	MP	<b>Turtles:</b> Sparse Loggerhead Turtle rookery.	Significant
Gnaraloo Bay	MP	<b>Turtles:</b> Significant Loggerhead Turtle rookery, 402 nests recorded during the 2011/2012 season.	Significant
Cape Farquhar Sanctuary Zone	MP	<b>Turtles:</b> Three Loggerhead Turtle rookeries discovered during the 2011/2012 season as part of the Gnaraloo turtle monitoring program. Two of these are considered relevant and could have hundreds of nests being dug in a season and are important areas for conservation focus.	Significant
Coral Bay (Bills Bay)	MP	<b>Birds:</b> 550 seabirds (mostly Silver Gull and Pied Cormorant in Skelly Bay) and 58 shorebirds (mostly Sanderling) observed October 2012. Caspian, Crested and Lesser Crested Terns are regularly observed. Roseate terns are observed occasionally, <b>Coral:</b> Extensive coral gardens. Anoxic conditions in the water column have occurred here on several occasions.	Significant
Bateman Bay	MP	<b>Birds:</b> Up to 5000 terns have been recorded roosting between Bateman Bay and north of old Maud's landing. The majority of these birds are Common Terns. Other terns include Roseate, Lesser Crested, Caspian and Crested Terns. 675 terns and cormorants observed roosting at Point Maud in October 2012, >200 terns frequently observed roosting at this location. <b>Dugongs:</b> common. <b>Turtles:</b> Relatively small numbers of mainly Loggerhead Turtles breed in Bateman Bay.	High
Bruboodjoo and Stanley pools	MP	<b>Dugongs:</b> common	Significant
14 mile	MP	<b>Dugongs:</b> common	Medium
Janes Bay	MP	<b>Turtles:</b> Nesting beach for Green turtles.	Significant

### A.1.4 Recommended Response Strategies

#### A.1.4.1 Prevention

Pre-emptive capture of turtles (particularly juvenile life stages) should be considered on a case-by-case basis. Auditory hazing techniques may also be useful for moving large flocks of shorebirds out of at risk areas.

#### A.1.4.2 Personnel Deployment

Field teams in this area will be deployed from Exmouth or Coral Bay by 4wd to their assigned shoreline segment. Exmouth has a commercial airport and personnel can fly in from Karratha via Norwest Airworks on request. Personnel can fly in from Perth via standard commercial passenger airlines.

#### A.1.4.3 Wildlife Reconnaissance and Wildlife Recovery

Field reconnaissance and wildlife recovery in this operational area will typically be conducted on foot in rocky areas, by 4wd and All-Terrain Vehicles (ATV) in sandy areas and by vessel access. Initial aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat. This is a very remote stretch of coast, with few coastal access points, mainly through pastoral leases, making reconnaissance and recovery challenging.

#### A.1.4.4 Logistics Options for Facility Establishment

Staging sites will be opportunistically established at multiple existing beach access points along the Ningaloo coast (multiple access points are available). To minimise the impact on economic activities in the area, staging sites should be established away from National Park camping grounds unless the Cape Range National Park is closed to the public due to oiled beaches. Parks and Wildlife will be the lead agency for these decisions.

Once collected, wildlife may be transported by road (4wd vehicles) to a temporary holding centre at Coral Bay for field stabilisation before being transported to the Oiled Wildlife Facility in Exmouth.

*Table A4: Staging Sites for Sector 1*

Site Purpose	Location	Contact
Staging Sites	Ningaloo coastal access sites (14 Mile, Warroora, Gnarloo, 3 Mile)	Parks and Wildlife Regional Duty Officer 9182 2088
	Coral Bay	Parks and Wildlife Regional Duty Officer 9182 2088
	Ningaloo Homstead	Parks and Wildlife Regional Duty Officer 9182 2088
Temporary Holding Centre	Ningaloo Homstead	Parks and Wildlife Regional Duty Officer 9182 2088
	Coral Bay	Parks and Wildlife Regional Duty Officer 9182 2088
Oiled Wildlife Facility	Exmouth	See Oiled Wildlife Facilities in Section 5

#### A.1.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Exmouth. The second closest and more extensive kit is located in Karratha.

## SECTOR 2: Point Cloates to North West Cape

Shown as orange sector 2 in figure A1

(22°32'59.92"S, 113°39'55.83"E to 21°47'8.12"S, 114° 9'51.75"E)

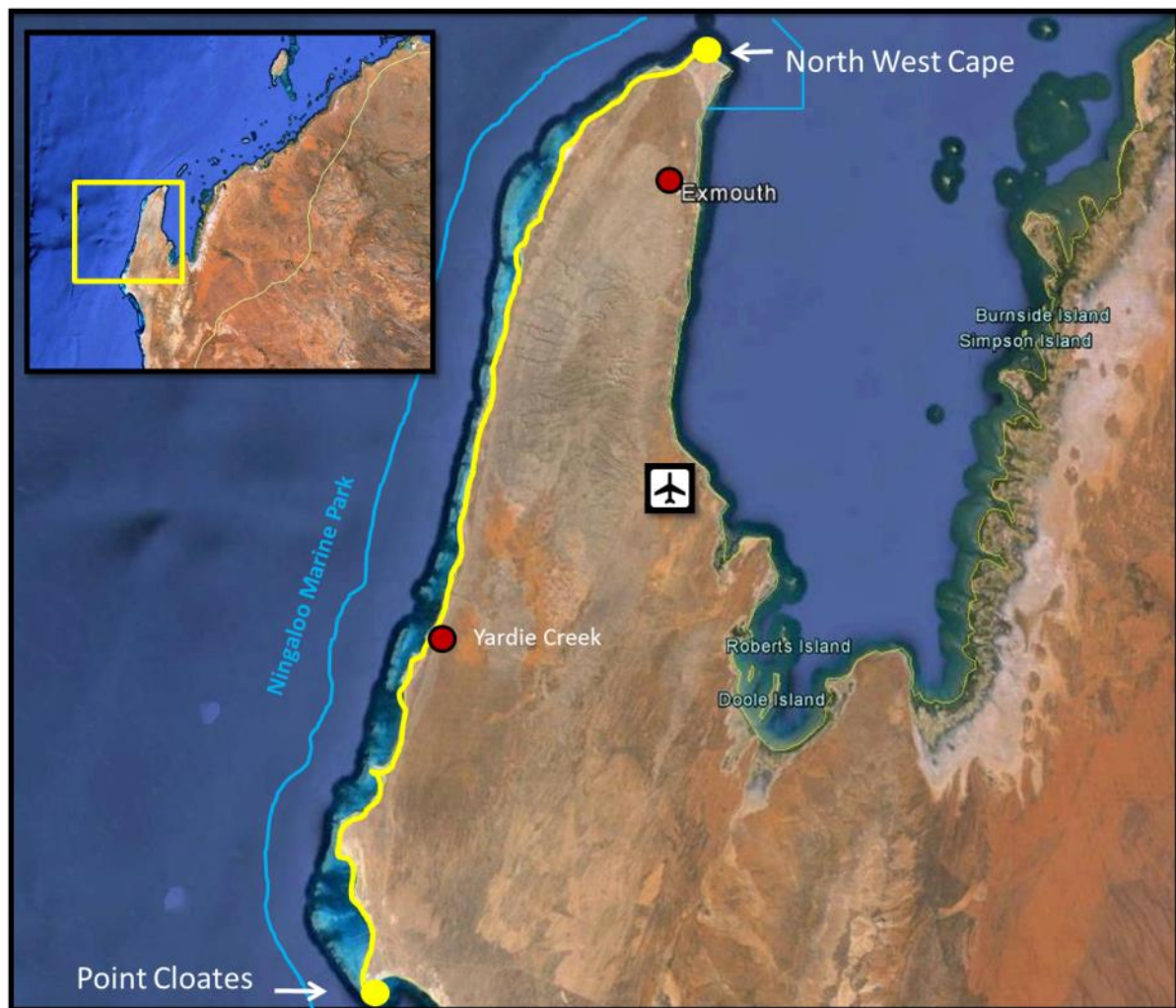


Figure A3: Map of Sector 2

### A.2.1 Terrestrial Overview

Pastoral leases adjoin to within 40m of the high water mark north and south of the township of Coral Bay. Sandy beaches from Point Cloates to Winderabandi, then mixture of rocky platforms and sandy beaches. Cape Range National Park from Yardie Creek to south of Tantabiddi. Jurabi Coastal Reserve jointly managed by Exmouth Shire and Parks and Wildlife. Sandy beaches with low rocky platforms and rocky headlands.

### A.2.2 Marine Overview

Lagoon from Yardie Creek to Jurabi Point with extensive coral. Patchy reef from Jurabi Point to North West Cape. Lagoon is broad (up to 5km) from Point Cloates to Point Edgar, then narrows to approximately 2km north to Yardie Creek. Extensive algal beds in the middle of the lagoon with coral

towards the back reef. This area of the coastline is predominantly important to breeding Loggerhead Turtles which are listed as Endangered on the IUCN red list. Green and Hawksbill turtles are also known to breed in this area, but their distribution is more scattered within it with no identified defined rookeries at present.

### A.2.3 Environmental Values

*Table A5: Environmental Values for Sector 2*

Coastal unit	Area	Tenure	Species susceptible to oiling	Priority rating
Winderabandi Point		MP	Data deficient. Likely seabird and tern roosting area.	Very High
Bundera		MP	<b>Turtles:</b> Loggerhead and Green Turtles nest in along the beach at Bundera.	Very High
Yardie Creek		MP	<b>Birds:</b> Eastern Reef Egret, Pied Oystercatcher, migratory waders, other waterbirds.	Very High
Sandy Point		MP	<b>Birds:</b> Common Tern, Roseate Tern, Lesser Crested Tern, Caspian Tern and Crested Tern, Pied Oystercatcher. Small numbers of shorebirds and terns in lake behind Sandy Point (>50 shorebirds, mostly Red-necked Stint and >30 terns observed Oct 2012)	Very High
Bungulup - Old rangers house beach		MP	<b>Turtles:</b> Most significant Loggerhead Turtle rookery adjacent to Cape Range National Park. Approximately 250 dug nests per season, this does fluctuate.	Very High
Mangrove Bay		MP	<b>Birds:</b> >900 terns (mostly Common, Fairy Terns, Caspian, Crested and Lesser Crested), >300 shorebirds (mostly Red-necked Stint, Red-capped Plover and Black-winged Stilt), waterbirds (including Pelicans and Herons) observed in October 2012. <b>Mangroves:</b> Extensive	Very High
Graveyards and Five Mile Beaches		MP	<b>Turtles:</b> Main mating aggregation area for Green turtles and an important nesting beach, 1235 nests recorded in 2010/11 season.	Very High
Wobiri and Janz		MP	<b>Turtles:</b> 1107 nests recorded 2010/11.	Very High
Jurabi		MP	<b>Turtles:</b> Green turtle nesting beach, 354 nests 2010/11.	Very High
Lighthouse Bay		MP	<b>Birds:</b> Active Osprey nest. <b>Dugong:</b> Occasional <b>Cetaceans:</b> Humpback Whale and Indo-Pacific Humpback Dolphins commonly observed. <b>Turtles:</b> Some turtle nesting. <b>Manta Rays:</b> Common	Very High
NW Cape		MP	<b>Birds:</b> Common Tern, Roseate Tern, Lesser Crested Tern, Caspian Tern, Crested Tern, Silver Gull, Eastern Reef Egret, migratory waders, Pied Oystercatcher. Large flocks of Wedge-tailed Shearwaters feed offshore.	Very High

## A.2.4 Recommended Response Strategies

### A.2.4.1 Prevention

Pre-emptive capture of turtles (particularly juvenile life stages) should be considered on a case-by-case basis. Various hazing techniques may also be useful for moving wildlife out of at risk areas.

### A.2.4.2 Personnel Deployment

Field teams in this area will be deployed from Exmouth or Coral Bay by 4wd to their assigned shoreline segment. Exmouth has a commercial airport and personnel can fly in from Karratha via Norwest Airworks on request. Personnel can fly in from Perth via standard commercial passenger airlines.

### A.2.4.3 Wildlife Reconnaissance and Wildlife Recovery

Field reconnaissance and wildlife recovery in this operational area will typically be conducted on foot in rocky areas, by 4wd and ATV in sandy areas and by boat. Initial aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat. Vehicle access to this part of the coast is typically restricted, an exemption may be granted by Parks and Wildlife during emergency response. This is a very remote stretch of coast, with few coastal access points, mainly through pastoral leases, making reconnaissance and recovery challenging. 6

### A.2.4.4 Logistics Options for Facility Establishment

Staging sites will be opportunistically established at existing beach access points along the Ningaloo coast (multiple access points are available). To minimise the impact on economic activities in the area, staging sites should be established away from National Park camping grounds unless the Cape Range National Park is closed to the public due to oiled beaches. Parks and Wildlife will be the lead agency for these decisions.

North Ningaloo (Yardie Creek and locations further north): wildlife will be transported by road (4wd vehicles) directly from staging sites to the designated Oiled Wildlife Facility in Exmouth.

*Table A6: Staging Sites for Sector 2*

Site Purpose	Location	Contact
Staging Sites	Yardie Homestead	Parks and Wildlife Regional Duty Officer 9182 2088
	Ningaloo Homestead	Parks and Wildlife Regional Duty Officer 9182 2088
	Milyering Visitor Centre	Parks and Wildlife Regional Duty Officer 9182 2088
	Ningaloo access points (Mangrove Bay, Turquoise Bay, Oyster Stacks, Kurrajon, Pilgramunna)	Parks and Wildlife Regional Duty Officer 9182 2088
Temporary Holding Centre	Yardie Homestead	Parks and Wildlife Regional Duty Officer 9182 2088
	Ningaloo Homestead	Parks and Wildlife Regional Duty Officer 9182 2088
Oiled Wildlife Facility	Exmouth	See Oiled Wildlife Facilities in Section 5

#### A.2.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Exmouth. The second closest and more extensive kit is located in Karratha. For further detail see Section 3 and Table 3 for equipment locations and Appendices G to K for kit contents and suppliers.



## SECTOR 3: NW Cape to (including Muiron Islands) to Sandalwood Peninsula

Shown as blue sector 3 in figure A1

(21°47'8.12"S, 114° 9'51.75"E to 22°26'10.49"S, 114°18'29.34"E)

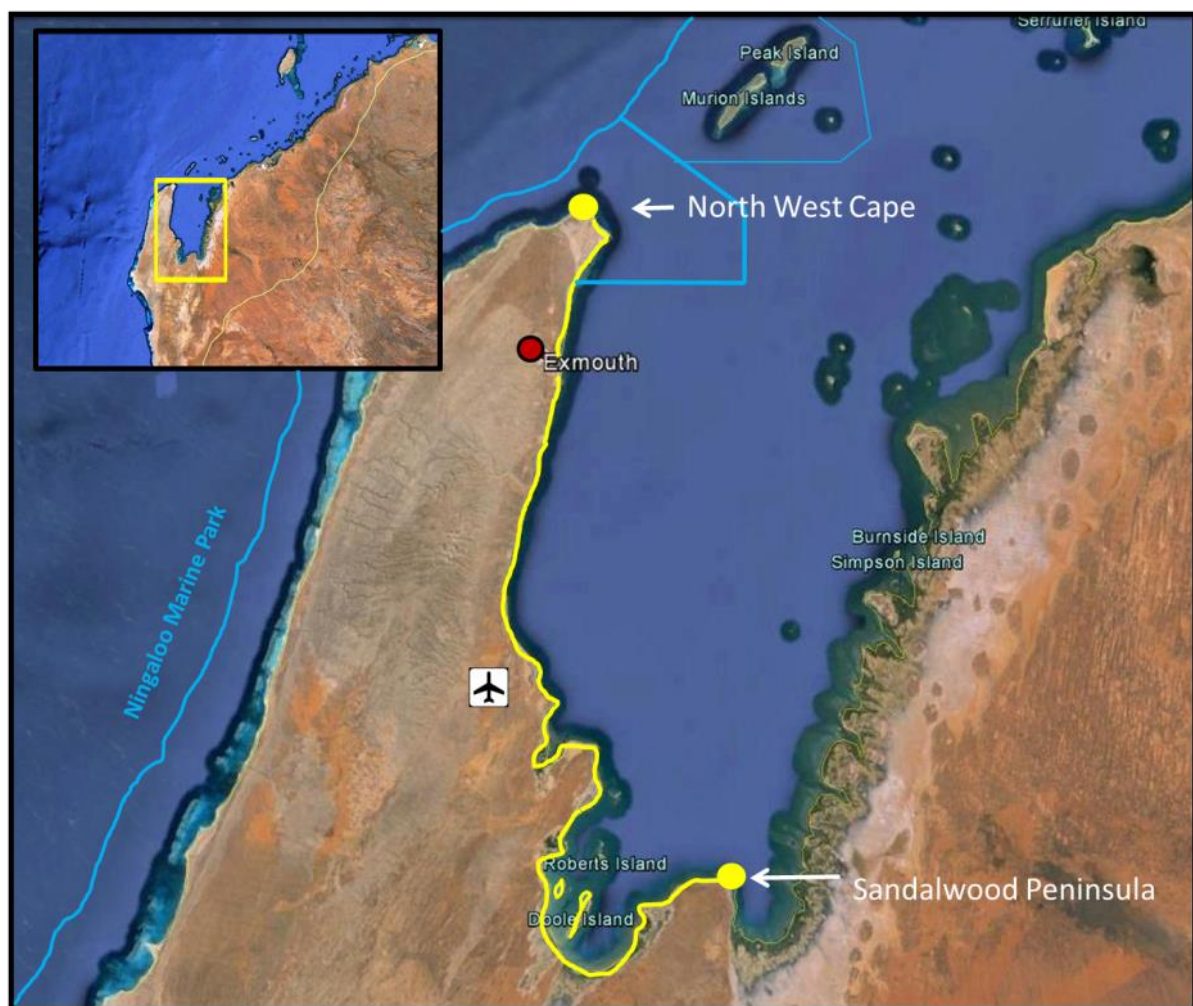


Figure A4: Map of Sector 3

### A.3.1 Terrestrial Overview

UCL and pastoral lease, mostly spinifex *Triodia Spp.* and *Acacia Spp.* shrub land. Exmouth town, Naval Base/NAVCOMMSTA and Learmonth Airport are all located in this sector.

### A.3.2 Marine Overview

Sandy beaches, creek systems lined with mangroves. Turtles, resident shorebirds, migratory waders, Dugong and Indo-Pacific Humpback Dolphin frequent this area. Humpback Whales are present during their southern migration.

### A.3.3 Environmental Values

Table A7: Environmental Values for Sector 3

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Muiron Island South	NR-C & Muiron Islands MMA	<b>Birds:</b> Wedge-tailed shearwater nesting colony (100,000 pairs on Muiron's and Serrurier Island) – birds forage at sea in large aggregations during the day. Crested tern nesting colony (>1500 birds in Oct 2012). Marine raptors nesting. <b>Dugong:</b> regularly observed. <b>Turtles:</b> Large Green and Loggerhead Turtle rookery.	Medium
Muiron Island North	NR & Muiron Islands MMA	<b>Birds:</b> Wedge-tailed shearwater nesting colony (100,000 pairs on Muiron's and Serrurier Island) – birds forage at sea in large aggregations during the day. Marine raptors nesting. <b>Dugong:</b> regularly observed. <b>Turtles:</b> Large Green and Loggerhead Turtle rookery. Large breeding aggregations located in 'Turtle Bay' on the NE end of North Muiron Island	Medium
Sunday Island	Muiron Islands MMA	<b>Birds:</b> Nesting colony of 2000 pairs of Roseate Terns (well over 1% of the world population) in April 1997. Sunday Island is a recognised BirdLife International Important Bird Area. <b>Dugong:</b> Regularly observed.	Medium
Fly Island	UCL	<b>Birds:</b> Wedge-tailed shearwater nesting colony. <b>Turtles:</b> Rookery (species unconfirmed). <b>Dugong:</b> Likely.	Medium
Observation Island	UCL	<b>Birds:</b> Seabird nesting colony (species unconfirmed) <b>Turtles:</b> Rookery (species unconfirmed) <b>Dugong:</b> Likely.	Medium
Peak Island	UCL	<b>Birds:</b> Bridled Tern nesting colony (requires confirmation). <b>Turtles:</b> Nest on southern end (species unconfirmed). <b>Dugong:</b> Likely.	Medium
North West Cape to Bay of Rest	UCL	<b>Birds:</b> Fairy Terns nest sporadically in dunes between Navy Pier and old Bundegi jetty. >150 shorebirds (mostly Grey-tailed Tattler and Red-capped Plover) and >100 seabirds (mostly Crested Tern, Silver Gull, Lesser Crested Tern and Pied Cormorants) observed at Bundegi in Oct 2012. >1800 shorebirds observed in Bay of Rest in Oct 2012 (mostly Bar-tailed Godwit, Red-necked Stint, Greater Sand Plover, Grey-tailed Tattler, Eastern Curlew, Whimbrel, Sanderling, Pied Oystercatcher, Grey Plover, Oriental Plover, Common Greenshank, Ruddy Turnstone, Lesser Sand Plover). Also Silver Gull, Gull-billed Tern, Caspian Tern, Pied Cormorant, Eastern Reef Egret. <b>Sharks:</b> Reef shark breeding aggregations (pregnant females observed) in Bundegi Sanctuary Zone. <b>Manta Rays:</b> Surface-feed in shallows between Bundegi SZ and Exmouth Marina. <b>Mangroves:</b> Extensive in Bay of Rest. <b>Dugong:</b> Common - 11 individuals where observed about 500m south of two rocks in 2011 (5 cows, 5 calves, 1 singleton).	High



Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Bay of Rest to Sandalwood Peninsula	UCL	<p><b>Birds:</b> &gt;2000 shorebirds (mostly Bar-tailed Godwit, Grey-tailed Tattler, Red-capped Plover, Greater Sand Plover, Great Knot, Common Greenshank, Red-necked Stint, Pied Oystercatcher) and &gt;500 seabirds (mostly Caspian Tern, Silver Gull, Gull-billed Tern, Whiskered Tern, Crested Tern) observed in Oct 2012. Largest shorebird roost occurs on Sandalwood Peninsula, includes Beach Stone-curlew. 85 Pelicans and 67 Pied Cormorants observed on Spit Sand Island north of Sandalwood Peninsula.</p> <p><b>Turtles:</b> Green turtles frequently observed resting and feeding in mangroves at high tide.</p> <p><b>Dugong:</b> Commonly observed.</p> <p><b>Mangroves:</b> Extensive fringing mangroves from Bay of Rest to Sandalwood Peninsula, including five prominent creek systems.</p>	High
Doole Island	NR-C	<p><b>Birds:</b> &gt;3300 shorebirds (mostly Bar-tailed Godwit, Great Knot, Greater Sand Plover, Grey-tailed Tattler, Red-necked Stint and Ruddy Turnstone) Osprey (with active nest) and White-bellied Sea-Eagle observed in Oct 2012. Pied and Sooty Oystercatcher and Beach Stone-curlew nesting.</p> <p><b>Mammals:</b> Golden Bandicoots translocated from Barrow Island.</p> <p><b>Dugong:</b> Observed in 2011.</p> <p><b>Cetaceans:</b> Indo-Pacific Humpback Dolphins observed in 2011.</p>	Significant
Robert's Island	NR-C	<p><b>Birds:</b> &gt;500 shorebirds (mostly Greater Sand Plover, Grey-tailed Tattler and Ruddy Turnstone) and Osprey (with nest and fledged young) observed in Oct 2012. Pied and Sooty Oystercatcher and Beach Stone-curlew nesting.</p> <p><b>Dugong:</b> Likely.</p> <p><b>Cetaceans:</b> Indo-Pacific Humpback Dolphins observed in 2011.</p>	Significant
Little Robert's Island	NR-C	<p><b>Birds:</b> Approximately 20 pairs of Caspian Tern and 100 pairs of Crested Tern nested in July 2011. Australian Pelican roost in small numbers. &gt;500 shorebirds (mostly Greater Sand Plover, Grey-tailed Tattler, Red-necked Stint, Ruddy Turnstone and Pied Oystercatcher) and small numbers of terns and cormorants observed in Oct 2012.</p> <p><b>Cetaceans:</b> Indo-Pacific Humpback Dolphin observed in 2011.</p>	Significant
Shag Rock	TBC	<p><b>Birds:</b> 250 Pelicans, &gt;400 shorebirds and &gt;180 terns and cormorants observed in October 2012.</p>	Significant
Whitmore Island	NR-C	<p><b>Birds:</b> &gt;250 shorebirds (mostly Lesser Sand Plover, Bar-tailed Godwit, Great Knot and Pied Oystercatchers), &gt;90 seabirds (mostly Crested Tern, Lesser Crested Tern, Common Tern, Pied Cormorant) and 12 Pelicans observed Oct 2012.</p>	Medium

## A.3.4 Recommended Response Strategies

### A.3.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages) and sea snakes should be considered on a case-by-case basis. Various hazing techniques may also be useful for moving wildlife out of at risk areas.
- Deterrence by way of physical barrier (star pickets, and mesh fencing) should be considered for heavily impacted coastal areas in an attempt to preclude foxes, dingos and monitor lizards for entering oiled areas.

### A.3.4.2 Personnel Deployment

Field teams in this area will be deployed from Exmouth by 4wd to their assigned shoreline segment. Exmouth has a commercial airport and personnel can fly in from Karratha via Norwest Airworks on request. Personnel can fly in from Perth via standard commercial passenger airlines.

### A.3.4.3 Wildlife Reconnaissance and Wildlife Recovery

Field reconnaissance and wildlife recovery in this operational area will typically be conducted on foot in rocky areas, by 4wd and ATV in sandy areas. Field reconnaissance by boat for coastal areas and access to the Islands can be initiated from Exmouth Marina. Initial aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat. This is a very remote stretch of coast, with few coastal access points, mainly through pastoral leases, making reconnaissance and recovery challenging.

### A.3.4.4 Logistics Options for Facility Establishment

Staging sites will be opportunistically establish at existing beach access points along the gulf coast (multiple access points are available). Once collected, wildlife may be transported by road (4wd vehicles) to a temporary holding centre at Coral Bay for field stabilisation before being transported to the Oiled Wildlife Facility in Exmouth.

*Table A8: Staging Sites for Sector 3*

Site Purpose	Location	Ref
Staging Sites	Bundegi Beach car park	Parks and Wildlife Regional Duty Officer 9182 2088
	Learmonth RAAF base	Parks and Wildlife Regional Duty Officer 9182 2088
	Various access points along the gulf coastline	Parks and Wildlife Regional Duty Officer 9182 2088
Temporary Holding Centre	Not required	
Oiled Wildlife Facility	Exmouth	See Oiled Wildlife Facilities in Section 5

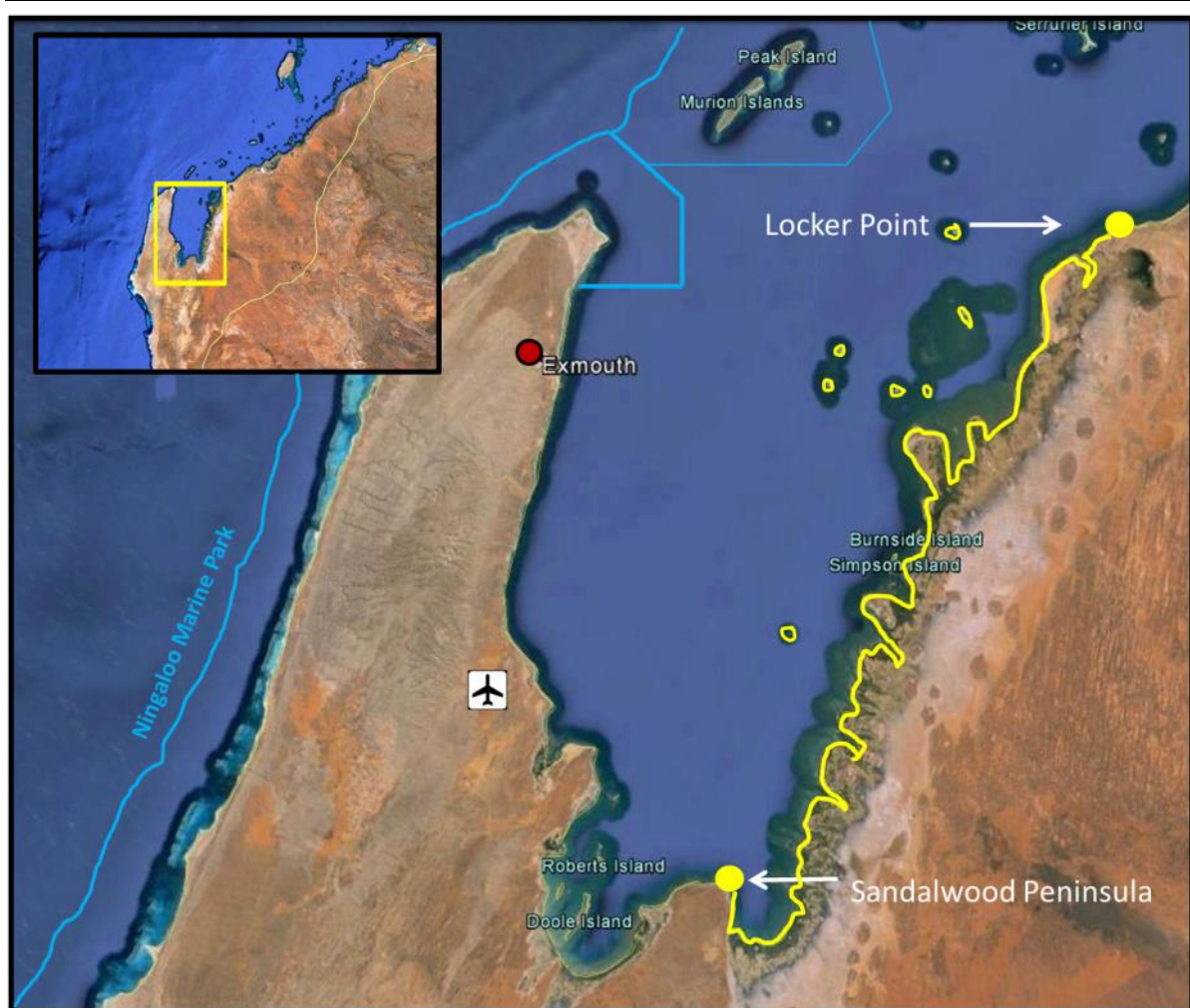
#### A.3.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Exmouth. The second closest and more extensive kit is located in Karratha.

## SECTOR 4: Sandalwood Peninsula to Locker Point

Shown as red sector 4 in figure A1

(22°26'10.49"S, 114°18'29.34"E to 21°47'57.92"S, 114°43'18.56"E)



FigureA5: Map of Sector 4

### A.4.1 Terrestrial Overview

Area comprises UCL and pastoral lease, low flats with typically spinifex *Triodia* spp. and *Acacia* shrub land. Access to the ocean is occasional and difficult, being near impossible after rain.

### A.4.2 Marine Overview

Dense mangrove-dominated shoreline with intricate system of creeks along its entire length. Vast intertidal sand and mudflats that are used by an array of wildlife from turtles, fish, resident and migratory shorebirds. Tropical Cyclone Vance was believed to have significantly impacted Dugong in this area. Herds of over 20 Dugong have been observed in the area in 2006/07 and are likely to visit this area and associated islands. **This whole area is identified as an oiled wildlife sensitive site.**

### A.4.3 Environmental Values

Table A9: Environmental Values for Sector 4

Coastal Area unit	Tenure	Species susceptible to oiling	Priority Rating
Exmouth Gulf East Coast (general)	UCL and Pastoral Lease	<p><b>Birds:</b> Large numbers of waterbirds (including Striated Heron) and shorebirds use the mangroves and mud/salt flats for feeding and roosting. The mangroves along the east of Exmouth Gulf have supported &gt;1% of the global populations of Grey-tailed Tattler (up to 3184) and Pied Oystercatcher (up to 196). The east coast of the Exmouth Gulf is a recognised BirdLife Australia Important Bird Area.</p> <p><b>Mangroves:</b> High density mangrove thickets, extending up to several kilometres inland. Comprised of six species: mostly <i>Avicennia marina</i>, then <i>Rhizophora stylosa</i>, small stands of <i>Bruguiera exaristata</i>, <i>Ceriops tagal</i>, <i>Aegialitis annulata</i>, <i>Aegiceras corniculatum</i>.</p> <p><b>Mudflats and Salt Flats:</b> Extensive areas behind the mangroves, important for coastal birds. Inundated on very high tides. Important and extensive areas of algal mats.</p> <p><b>Sea Snakes:</b> Mangrove Mud Snake (<i>Ephalophis grayae</i>) and Banded Mangrove Snake (<i>Hydrelaps darwiniensis</i>).</p> <p><b>Invertebrates:</b> Includes Flame Fiddler Crabs (<i>Uca flammula</i>) and Ghost Crab (<i>Ocypode</i> sp.) and a variety of sediment infauna (important food resource for shorebirds).</p>	High
Whalebone Island	NR-C	<p><b>Birds:</b> &gt;200 seabirds (mostly Pied Cormorant and Crested Tern) observed in Oct 2012.</p> <p><b>Dugongs:</b> Likely.</p>	Medium
Islam Islets	Rock stacks	<p><b>Birds:</b> These rock stacks do not contain any resident populations of birds. Seabirds will roost on them (e.g. 10 Pied Cormorants in Oct 2012).</p>	Medium
Burnside Island	NR-C	<p><b>Birds:</b> &gt;200 shorebirds (mostly Bar-tailed Godwit and Great Knot) observed in Oct 2012.</p> <p><b>Turtles:</b> Green turtles frequent the intertidal flats and feed within the mangrove-lined creeks during winter months.</p> <p><b>Dugong:</b> Present.</p>	Medium
Simpson Island	NR-C	<p><b>Birds:</b> &gt;300 shorebirds (mostly Bar-tailed Godwit, Ruddy Turnstone) and &gt;40 seabirds (mostly Crested Tern and Caspian Tern) observed in Oct 2012. Caspian Tern nesting colony.</p> <p><b>Turtles:</b> Green turtles frequent the intertidal flats and feed within the mangrove lined creeks during winter.</p> <p><b>Dugong:</b> Present.</p>	Medium
Tent Island	NR-C	<p><b>Birds:</b> &gt;1500 shorebirds (mostly Greater Sand Plover, Bar-tailed Godwit, Red-necked stint, Ruddy Turnstone, Great Knot), &gt;200 seabirds (mostly Crested Tern and Common Tern) observed in Oct 2012.</p> <p><b>Turtles:</b> The creek system on the eastern shore of Tent Island would have considerable numbers of green turtles during the winter months.</p> <p><b>Dugong:</b> Present.</p>	Medium
Somerville	UCL	<p><b>Birds:</b> &gt;60 shorebirds (mostly Greater Sand Plover and Ruddy</p>	Medium

Coastal Area unit	Tenure	Species susceptible to oiling	Priority Rating
Island		Turnstone) observed in Oct 2012. <b>Dugong:</b> Likely.	
Eva Island	UCL	<b>Birds:</b> >150 seabirds (mostly Crested Tern) observed in Oct 2012. Likely Crested Tern nesting colony, many fledglings present (reports of up to 1000 pairs). White-bellied Sea-eagle has nested here. <b>Turtles:</b> Turtle rookery. (Spp and extent unknown?) <b>Dugong:</b> Likely.	Medium
Y Island	NR-C	<b>Birds:</b> >50 seabirds and shorebirds (mostly Greater Sand Plover, Ruddy Turnstone) observed in Oct 2012. 300-500 pairs of Silver Gull (date unknown), White-bellied Sea-eagle nest (status unknown). <b>Dugong:</b> Common.	Medium
Victor Island	UCL	No data	
Gnandar-oo Island	NR-A	<b>Birds:</b> >200 seabirds (mostly Pied Cormorant – including old nest stacks, and Bridled Tern), >50 shorebirds (mostly Ruddy Turnstone) and 29 Pelicans in Oct 2012. Anecdotal reports of Pelican breeding. <b>Dugong:</b> Likely.	Medium

#### A.4.4 Recommended Response Strategies

##### A.4.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages) and sea snakes should be considered on a case-by-case basis.
- Various hazing techniques may also be useful for moving wildlife out of at risk areas.
- Herding techniques may be useful in moving dugongs away from discrete areas of impact.

##### A.4.4.2 Personnel Deployment

Field teams in this area will be deployed from Exmouth by 4wd to their assigned shoreline segment or by boat. Exmouth has a commercial airport and personnel can fly in from Karratha via Norwest Airworks on request. Personnel can fly in from Perth via standard commercial passenger airlines.

##### A.4.4.3 Wildlife Reconnaissance and Wildlife Recovery

Boat-based assessment and collection will be required throughout this operational area due to the predominance of mangroves. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat. This is a very remote stretch of coast, with few coastal access points, mainly through pastoral leases, making reconnaissance and recovery challenging.

#### A.4.4.4 Logistics Options for Facility Establishment

Two levels of staging will be required in this operational area, boat based and shore-based.

Boat-based staging will consist of either:

1. The small vessels used for field assessment and collection can also be used as staging sites and each can return periodically to a shore-based staging site;
2. A stationary barge (or similar vessel) can act as a staging site to service a number of vessel based field teams, with oiled wildlife being periodically returned to the shore-based staging areas.

The shore-based staging site will be located at the boat ramp / wharf facility from which all vessels are operating. From here wildlife can be transported by vehicle to the Oiled Wildlife Facility in Exmouth. Alternatively, it may be more appropriate and timely for animals to be transported to a temporary holding centre at Onslow. This will depend on operation strategies response deployed and extent of oiling in the region affecting where the primary oiled wildlife facility is established (i.e. Onslow or Exmouth).

*Table A10: Staging Sites for Sector 4*

Site Purpose	Location	Contact
Staging Sites	Giralia Homestead	Parks and Wildlife Regional Duty Officer 9182 2088
	Onslow boat launching area	Parks and Wildlife Regional Duty Officer 9182 2088
	Rocky Point	Parks and Wildlife Regional Duty Officer 9182 2088
Temporary Holding Centre	Onslow	See Oiled Wildlife Facilities in Section 5
Oiled Wildlife Facility	Exmouth	See Oiled Wildlife Facilities in Section 5

#### A.4.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Exmouth. The second closest and more extensive kit is located in Karratha.



## SECTOR 5: Locker Point to Beadon Point

Shown as white sector 5 in figure A1

(21°47'57.92"S, 114°43'18.56"E to 21°37'41.98"S, 115° 6'27.90"E)



Figure A6: Map of Sector 5

### A.5.1 Terrestrial Overview

UCL, nature reserve and station country, typical Spinifex, and Acacia shrub-land and coastal mangroves. Wheatstone Gas Plant, Macedon Gas Plant and Urala Homestead are located in this sector. The islands in this sector are commonly referred to as the Mackerel Islands. This area is characterised by Sandy beaches, mangrove creeks and the Ashburton River mouth, algae beds, Dugong foraging areas, seabird nesting and marine turtle nesting.

### A.5.2 Marine Overview

Sandy beaches, mangrove creeks and Ashburton River mouth. Characterised by Algae beds, Dugong foraging areas, seabird nesting and marine turtle nesting.



## A.5.3 Environmental Values

Table A11: Environmental Values for Sector 5

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
NW Twin Island	UCL	Birds: Sea eagle nests. Turtles: Medium density turtle nesting eastern side.	Significant
SW Twin Island	UCL	Low density turtle nesting eastern side.	Significant
Airlie Island	NR-C	<b>Birds:</b> Wedge-tailed shearwater rookery* (2000 burrows in 1984), Pied Cormorant, Eastern Reef Egret, White-faced Heron, Osprey, White-bellied Sea-eagle*, Pied Oystercatcher, Sooty Oystercatcher, Pacific Golden Plover, Lesser Sand Plover, Red-capped Plover, Ruddy Turnstone, Whimbrel, Grey-tailed tattler, Common Sandpiper, Terek Sandpiper, Common Greenshank, Bar-tailed Godwit, Red-necked Stint, Sanderling, Silver Gull*, Caspian Tern, Common Tern, Roseate tern, Fairy Tern, Crested Tern*, Lesser Crested Tern, Common Noddy, (* denotes breeding) <b>Turtles:</b> Green Turtle, <b>Reptiles:</b> Gilberts water dragon,	High
Direction Island	UCL	<b>Turtles:</b> Low density turtle nesting eastern side – greens.	Medium
Thevenard Island	NR-C	<b>Birds:</b> Pelicans, terns, White-bellied Sea Eagles on Western Point <b>Turtles:</b> Green turtles. Flatback turtles on Southern coast. <b>Dugong:</b> Common <b>Mammals:</b> <i>Leggadina lakedownensis</i> <b>Reptiles:</b> <i>Spiny-tailed monitor (Varanus acanthurus)</i>	Significant
Ashburton Island		<b>Birds:</b> Many terns roosting and feeding offshore and nesting White-bellied Sea-eagle observed in Oct 2012 and 2013. <b>Turtles:</b> Green turtles. Flatback turtles on Southern coast.	Significant
Ashburton Delta	UCL	<b>Turtles:</b> Flatback turtle nesting. Protected Green Sawfish. Mangrove system	Significant
Tortoise Island	UCL	<b>Birds:</b> Caspian Tern, White-bellied Sea Eagle. <b>Turtles:</b> Low density turtle nesting on East side of the island.	Medium
Bessieres Island	NR-A	<b>Birds:</b> >40 terns, >20 Pied Cormorants and marine raptors observed in Oct 2012. Osprey, Wedge-tailed shearwater. <b>Turtles:</b> Green, Hawksbill and Flatback Turtle tracks observed in Oct 2012.	Medium
Locker Island	NR-A	<b>Birds:</b> One sea eagle nest has been observed. <b>Turtles:</b> High density Flatback nesting on SW side. Medium density Flatback Turtle nesting on the western side. Low density Flatback nesting on the NE and E side of the island.	Significant
Serrurier Island	NR-C	<b>Birds:</b> Wedge-tailed shearwater nesting colony (100,000 pairs on Muiron Islands and Serrurier Island) – birds forage at sea in large aggregations during the day. Several hundred terns (mostly Common Tern), >100 Silver Gull, small numbers of shorebirds (Including Beach Stone-curlew) and egrets. Marine raptor nesting. <b>Turtles:</b> Significant Green Turtle nesting. <b>Mammals:</b> <i>Leggadina lakedownensis</i> translocated to Serrurier Island from Thevenard Island in Oct 1996.	High

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Table Island	UCL	<b>Birds:</b> 130 nesting Pied Cormorants, gulls, terns and Osprey observed in Oct 2012.	Medium
Flat Island	UCL	<b>Birds:</b> Small numbers, including 20 Fairy Tern. <b>Turtles:</b> One green turtle track observed Oct 2012. Low density green turtle nesting along west side. Medium density green and Flatback turtle nesting along east side. Most Green Turtle nesting located SE sand spit and adjacent beaches. 7 nests observed in one night in Jan 2008	Medium
Round Island	C Class nature reserve	<b>Birds:</b> Crested Tern, Wedge-Tailed Shearwater, Eastern Egret. <b>Turtles:</b> Possible Flatback nesting.	Medium

## A.5.4 Recommended Response Strategies

### A.5.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages) and sea snakes should be considered on a case-by-case basis.
- Various hazing techniques may also be useful for moving wildlife out of at risk areas.

### A.5.4.2 Personnel Deployment

Field teams in this area will be deployed from Onslow by 4wd to their assigned shoreline segment or by boat. Personnel may need to drive in from Exmouth or Karratha or fly. Onslow has a small airport that predominantly caters for the resource sector, flights can be chartered from Karratha, Exmouth and Perth.

### A.5.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover will be conducted by ATV or 4WD. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required. Boat-based assessment and collection will be required for islands and mangrove areas. Boat access is possible from the wharf at Beadon Creek or selected locations on the Ashburton River. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat. This is a very remote stretch of coast, with few coastal access points, mainly through pastoral leases, making reconnaissance and recovery challenging. Aerial reconnaissance can be based at Onslow Aerodrome.

#### A.5.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close the shoreline.

Once collected wildlife may be transported from staging sites to a temporary holding facility in Onslow before being transported to the designated Oiled Wildlife Facility in either Exmouth or Dampier. It may be possible to establish in Oiled Wildlife Facility in Onslow, depending on the number of casualties expected. Logistical constraints will be minimised by locating the Oiled Wildlife Facilities as centrally as possible to the broader spill response activities. The information presented below may assist in determining which location may be most appropriate if Onslow is not an option:

1. Option 1: Dampier Oiled Wildlife Facility  
Distance from Onslow to Dampier = 314km, drive time 4 hours  
Transport options for oiled wildlife: road, air or sea
2. Option 2: Exmouth Oiled Wildlife Facility  
Distance from Onslow to Exmouth = 403km, Drive time 5 hours  
Transport options for oiled wildlife: road, air, sea

*Table A12: Staging Sites for Sector 5*

Site Purpose	Location	Contact
Staging Sites	Onslow	WA DoT Onslow 0467 811 543
	Urala Station	Parks and Wildlife Regional Duty Officer 9182 2088
	Whittakers Well	Parks and Wildlife Regional Duty Officer 9182 2088
Temporary Holding Centre	Onslow	See Oiled Wildlife Facilities in Section 5
Oiled Wildlife Facility	Exmouth	See Oiled Wildlife Facilities in Section 5
	Onslow (small scale only)	See Oiled Wildlife Facilities in Section 5
	Dampier	See Oiled Wildlife Facilities in Section 5

#### A.5.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth.

## SECTOR 6: Beadon point (including Thevenard) to Robe River Mouth

Shown as dark green sector 6 in figure A1

(21°37'41.98"S, 115° 6'27.90"E to 21°18'23.06"S, 115°41'21.52"E)



Figure A7: Map of Sector 6

### A.6.1 Terrestrial Overview

Predominantly spinifex country and low shrubs on pastoral lease and UCL. Islands off the Onslow coast are low lying Islands characterised by spinifex and shrubs, extensive mangroves, surrounded by sand beaches.

### A.6.2 Marine Overview

Macroalgae/coral reef environments, extensive mangroves particularly on north Mangrove Island and Weld Island. Turtle nesting, seabird nesting and dugong foraging.

## A.6.3 Environmental Values

Table A13: Environmental Values for Sector 6

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Mangrove South Island	UCL	<b>Birds:</b> Osprey, Australian Kestrel, Pelican, Eastern Reef Egret, White-faced Heron, Egret Sooty Oystercatcher, Pied Oystercatcher, Beach Stone Curlew, Greenshank, Silver Gull , Caspian Tern , <b>Mangroves:</b> Mangroves around entire island.	Significant
Mangrove Middle Island	UCL	<b>Birds:</b> Osprey, Australian Kestrel, Pelican , Eastern Reef Egret, White-faced Heron, Egret Sooty Oystercatcher, Pied Oystercatcher, Beach Stone Curlew, Greenshank, Silver Gull , Caspian Tern. Nesting birds observed include terns and osprey. <b>Mangroves:</b> Extensive mangroves edging northern fringe.	Significant
Mangrove North Island	UCL	<b>Bird:</b> Brahminy Kite, Australian Kestrel, Australian Pelican, Silver Gull, Eastern Reef Egret, Little Egret, Pied Oystercatcher, Sooty Oystercatcher, Caspian Tern, Osprey, 2 unused Osprey nests. Grey-tailed Tattler, Ruddy Turnstone. <b>Turtles:</b> Unknown species activity on western side. <b>Mangroves:</b> Extensive mangroves edging south and eastern sides.	Significant
Little Rocky Island	NR-A	<b>Birds:</b> Crested Tern, Silver Gull, Pelican, Pied Cormorant, Pied Oystercatcher, Ruddy Turnstone, and Osprey. Evidence of tern and cormorant nesting; many juveniles. Hawksbill turtle tracks and nesting attempts.	Medium
False Island	UCL	<b>Description:</b> Huge intertidal area 100's of meters to the north, east and south of the island. Rocky limestone intertidal, oyster stacks. Mangrove trees growing on intertidal, some over 100m off the island. Low 1-2m rocky cliffs around the southern edge of the island. Sandy on top of cliffs. Fossil corals in rocks. Sand spit lying in a westerly direction from the northern point of the island. Small sandy beach at the base of the sand spit extending eastward around the island. Sand medium grain, shell rubble. Slight elevation towards the centre of the island. <b>Birds:</b> Beach Stone Curlew, Pied Oystercatcher, Silver Gull, Crested Tern (including juveniles), Eastern Reef Egret, White-bellied Sea Eagle, Striated Heron. Unused sea eagle nest.	Medium
West Island	UCL	<b>Description:</b> Very large intertidal region to the east. Narrow sandy beach on east coast, wider sandy edge on west coast. Sand spits on north and south ends, Very dark colour sand. Medium grain sand on east coast, coarse sand on west coast. <b>Birds:</b> White-bellied Sea Eagle, Silver Gull, Pied Oystercatcher, and Sooty Oystercatcher Crested Tern. Unused sea eagle nest.	Medium
Weld Island	UCL	<b>Description:</b> Primarily low rocky cliffs and ledges. Two sand beaches on north western cost, very small area. Second beach along narrow extension of the southern point, some vegetation. Sand o this point very fine and firmly packed.	Medium

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
		<p>Mobile sand spit of the end of this point.</p> <p><b>Birds:</b> Ruddy Turnstone, Beach Stone Curlew, Pied Oystercatcher, Silver Gull, Pelican, Eastern Reef Egret, Mongolian Plover, Wedge-tailed Eagle, Little Tern. Nesting birds: 12 fairy terns. Unused osprey nest.</p> <p><b>Intertidal:</b> Widest on west side, rocky and silt covered. Mobile sand spit off south point, lying eastward. Narrow high profile rocky intertidal off east coast.</p> <p><b>Mangroves:</b> edging most of the west, north and eastern island perimeter.</p>	
Large Island	NR-B	<p><b>Birds:</b> Pied Oystercatcher, Sooty Oystercatcher, Silver Gull, Whimbrel, Eastern Reef Egret, Pied Cormorant</p> <p><b>Intertidal:</b> Broad rocky intertidal on west and east sides of island. Narrow rocky intertidal on south coast. Terraced rocky ledges in a band along the north east beach.</p>	Medium
Mary Anne Island	UCL	<p><b>Birds:</b> Osprey, Pied Cormorant, Pelican, Silver Gull, Crested Tern (including juveniles). Unused osprey nest in centre. Active Wedge-tailed Shearwater burrows</p> <p><b>Intertidal:</b> Large sand area appears to be mobile. Island not much more than a large sand dune with a slightly shallower depression in the middle.</p>	Medium
Middle Mary Anne Island	UCL	<p><b>Description:</b> Entire island is bounded by low rocky cliffs and ledges. Sand spit off eastern point, lying east north east (0.15nm long= 278 m). Very deep water off end of sand spit. Coral rubble on sand spit and thrown up onto rocks.</p> <p><b>Birds:</b> Pied Cormorant, Pied Oystercatcher, Silver Gull, Pelican, Osprey, Caspian Tern, Eastern Reef Egret, unused Sea Eagle nest, with remains of at least 3 cormorants, cormorant nesting</p> <p><b>Turtles:</b> No evidence of turtle nesting or activity. No sand available for nesting except very small area at base of the sand spit.</p>	Medium
East Island	NR-B	<p><b>Birds:</b> Silver Gull, Crested Tern, Sooty Oystercatcher, Pied Oystercatcher, Caspian Tern, Fairy Tern, Eastern Reef Egret, Australian Kestrel, White-bellied Sea Eagle, Ruddy Turnstone. Nesting birds, Fairy Terns, disused eagle nest. Active wedge-tailed shearwater burrows.</p> <p><b>Turtles:</b> No evidence of sea turtle activity. Very limited nesting beaches available.</p>	Medium
Beadon Creek	UCL	The protected Green Sawfish is known to inhabit this system.	Medium

## A.6.4 Recommended Response Strategies

### A.6.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages)
- Various hazing techniques may also be useful for moving wildlife out of at risk areas on the mainland.

### A.6.4.2 Personnel Deployment

Field teams in this area will be deployed from Onslow or Karratha by 4wd to their assigned shoreline segment or by boat or aircraft to Islands. Personnel may need to drive in from Exmouth, Carnarvon or Karratha or fly. Onslow has a small airport that predominantly caters for the resource sector; flights can be chartered from Carnarvon, Karratha, Exmouth and Perth.

### A.6.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover will be conducted by ATV or 4WD. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required. Boat-based assessment and collection will be required for islands and mangrove areas. Boat access is possible from the wharf at Beadon Creek. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat. This is a very remote stretch of coast, with few coastal access points, mainly through pastoral leases, making reconnaissance and recovery challenging.

### A.6.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close to the shoreline. In this stretch of coastline, it will be very difficult to access the coastline to the northern area, the majority of operations will therefore need to be conducted by boat and staging sites will need to be located closer to Onslow. Once collected wildlife may be transported from staging sites to a temporary holding facility in Onslow before being transported to the designated Oiled Wildlife Facility in either Exmouth or Dampier. It may be possible to establish in Oiled Wildlife Facility in Onslow, depending on the number of casualties expected. Logistical constraints will be minimised by locating the Oiled Wildlife Facilities as centrally as possible to the broader spill response activities. The information presented below may assist in determining which location may be most appropriate if Onslow is not an option:

#### Option3: Dampier Oiled Wildlife Facility

Distance from Onslow to Dampier = 314km, drive time 4 hours

Transport options for oiled wildlife: road, air or sea

#### Option 4: Exmouth Oiled Wildlife Facility

Distance from Onslow to Exmouth = 403km, Drive time 5 hours

Transport options for oiled wildlife: road, air, sea



*Table A14: Staging Sites for Sector 6*

Site Purpose	Location	Contact
Staging Sites	Onslow	WA DoT Onslow 0467 811 543
Temporary Holding Centre	Onslow or on water	See Oiled Wildlife Facilities in Section 5
Oiled Wildlife Facility	Exmouth	See Oiled Wildlife Facilities in Section 5
	Onslow (small scale only)	See Oiled Wildlife Facilities in Section 5
	Dampier	See Oiled Wildlife Facilities in Section 5

#### A.6.4.5 Equipment

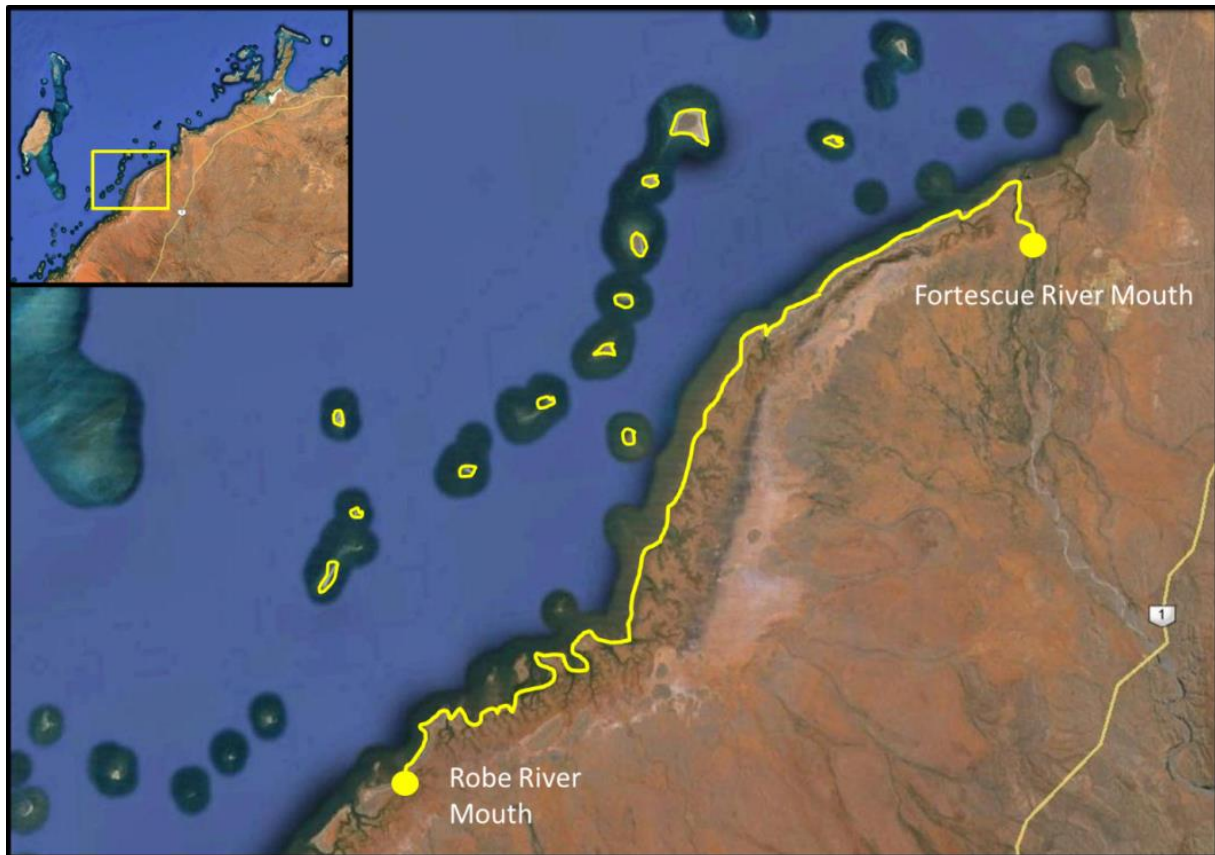
The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth.



## SECTOR 7: Robe River Mouth to Fortescue River Mouth

Shown as orange sector 7 in figure A1

(21°18'23.06"S, 115°41'21.52"E to 21° 0'6.27"S, 116° 6'10.37"E)



*Figure A8: Map of Sector 7*

### A.7.1 Terrestrial Overview

UCL, nature reserve and station country, typical Spinifex, and Acacia shrub-land. Islands surrounded by sand beaches.

### A.7.2 Marine Overview

Characterised by macroalgae beds, Dugong and sea turtle foraging areas, seabird nesting and marine turtle nesting.

## A.7.3 Environmental Values

Table A15: Environmental Values for Sector 7

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Great Sandy (Beagle) Island	NR-B	<b>Birds:</b> White-breasted Wood swallow, Osprey, Sooty Oystercatcher, Crested Tern, Caspian Tern, Pied Oystercatcher, Fairy Tern, White-bellied Sea Eagle, Beach Stone-curlew, Eastern Reef Egret, Ruddy Turnstone, Mongolian Plover. Nesting birds: Caspian Tern, Crested Terns. Osprey nest on top of lighthouse, 3 Osprey nests on southern end, inactive Wedge-tailed Shearwater burrows. <b>Turtles:</b> Hawksbill and Flatback nesting.	Medium
Pup Island	NR-B	<b>Bird species:</b> White-bellied Sea Eagle, Pied Oystercatcher, Sooty Oystercatcher, Silver Gull, Pied Cormorant, Crested Tern, Fairy Tern, Grey-tailed Tattler, Mongolian Plover, Osprey, Caspian Tern, Yellow white-eye. Nesting Birds: Fair terns, active wedge tailed shearwater burrows.	Medium
North Sandy Island	NR-B	<b>Birds:</b> Silver Gull, Pied Oystercatcher, Sooty Oystercatcher, Crested Tern, Caspian Tern, Fairy Tern, White-breasted Sea-eagle. Unused sea eagle nest. <b>Turtles:</b> Hawksbills medium density, Flatback low nesting density. Good nesting habitats for turtles.	Medium
South Passage Island	NR-B	<b>Birds:</b> Silver Gull, Mongolian Plover, Grey-tailed Tattler, Eastern Reef Egret, Roseate Tern, Ruddy Turnstone, White-faced Heron, White-bellied Sea Eagle. Eagle nest at the top of steep foredune. <b>Turtles:</b> Hawksbill nesting noted.	Medium
Passage Island	NR-B	<b>Island perimeter:</b> Primarily low rocky cliffs ledges sloping towards the sea and backed by storm deposited rocky slabs. Small sandy beach on eastern end and a short sand spit. <b>Birds:</b> Pied Oystercatcher, Sooty Oystercatcher, Silver Gull, Caspian Tern, Crested Tern, Roseate Tern, Eastern Reef Egret, and White-bellied Sea Eagle. <b>Turtles:</b> Flatback and hawksbill craters observed.	Medium
Solitary Island	NR-B	<b>Birds:</b> White-bellied Sea Eagle, Pied Oystercatcher, Eastern Reef Egret, Caspian Tern, Silver Gull, Ruddy Turnstone, Mongolian Plover, Grey-tailed Tattler, Whimbrel, Sacred? Kingfisher, Crested Tern, Beach stone-curlew. Active shearwater burrows, unused sea eagle nest. <b>Turtles:</b> No evidence of turtle activity. <b>Mangroves:</b> Fringing around most of the island coastline.	Significant
Angie Island	NR-B	<b>Birds:</b> Pied Cormorant, Silver Gull, Osprey, Beach Stone-curlew, Caspian Tern, White-bellied Sea Eagle, Crested Tern, Pied Oystercatcher, Sooty Oystercatcher, Grey-tailed Tattler, Ruddy Turnstone, Lesser Sand Plover. Nesting bird: Caspian Tern. <b>Turtles:</b> Flatback and Hawksbill tracks have been observed	Medium
Middle Island	NR-B	<b>Island perimeter:</b> Northern half sandy, medium to coarse grain size. Storm deposited rock slabs along base of vegetation line on south coast, above the rocky ledge Very deep water off eastern sand spit. <b>Birds:</b> Silver Gull, Roseate Tern, Pelican, Osprey, Ruddy Turnstone, Sooty Oystercatcher, Pied Oystercatcher, White-bellied Sea Eagle, Caspian Tern, Mongolian Plover, White-faced Heron, Eastern Reef	Significant

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
		Egret, Crested Tern. <b>Turtles:</b> High numbers of hawksbill tracks and craters. Regionally important hawksbill rookery. Some evidence of Green Turtle nesting.	
Long Island	NR-B	<b>Birds:</b> Ruddy Turnstone, Grey-tailed Tattler, Silver Gull, Eastern Reef Egret, White-bellied Sea Eagle, White-breasted Wood swallow, Pied Oystercatcher, Sooty Oystercatcher, Mongolian Plover, Beach Stone curlew, Spinifex-bird. Osprey nest south of Crater, unused osprey nest in crater. <b>Turtles:</b> Some Hawksbills and Green turtle nesting	Medium
Round Island	NR-B	<b>Birds:</b> White-bellied Sea Eagle, Silver Gull, Pelican, Pied Cormorant, Caspian Tern, Crested Tern, Sooty Oystercatcher, Beach Stone Curlew, Ruddy Turnstone, Pied Oystercatcher, Nesting Birds: Crested Terns, shearwaters, White-bellied Sea-eagle. <b>Turtles:</b> Low density turtle nesting NE side of unknown species	Medium
Scholl Island		<b>Birds:</b> Osprey, Crested Tern, Pied Oystercatcher, White-bellied Sea Eagle, Australian Kestrel, Spotted? Harrier, Spinifex-bird, Silver Gull, Whimbrel, Eastern Reef Egret, Sooty Oystercatcher, Beach Stone Curlew, Grey-tailed Tattler. Nesting birds: Eastern reef egret. <b>Turtles:</b> Regionally significant Hawksbill nesting island. Possibly also important for Flatback turtles.	Significant

## A.7.4 Recommended Response Strategies

### A.7.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages)
- Various hazing techniques may also be useful for moving wildlife out of at risk areas on the mainland.

### A.7.4.2 Personnel Deployment

Field teams in this area will be deployed from Onslow or Dampier by 4wd to their assigned shoreline segment or by boat or aircraft to Islands. Personnel may need to drive in from Exmouth or Karratha or fly. Onslow has a small airport that predominantly caters for the resource sector; flights can be chartered from Karratha, Exmouth and Perth. Mardie Station also has an air strip that may be utilised.

### A.7.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover will be conducted by ATV or 4WD. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required. Boat-based assessment and collection will be required for islands and mangrove areas. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat. This is a very remote stretch of coast, with few coastal access points, mainly through pastoral leases, making reconnaissance and recovery challenging.

#### A.7.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close to the shoreline. In this stretch of coastline, it will be very difficult to access the coastline to the northern area, the majority of operations will therefore need to be conducted by boat and staging sites will need to be located closer to Onslow. Once collected wildlife may be transported from staging sites to a temporary holding facility in Onslow before being transported to the designated Oiled Wildlife Facility in either Exmouth or Dampier. It may be possible to establish in Oiled Wildlife Facility in Onslow, depending on the number of casualties expected. Logistical constraints will be minimised by locating the Oiled Wildlife Facilities as centrally as possible to the broader spill response activities. The information presented below may assist in determining which location may be most appropriate if Onslow is not an option:

3. Option 1: Dampier Oiled Wildlife Facility  
Distance from Onslow to Dampier = 314km, drive time 4 hours  
Transport options for oiled wildlife: road, air or sea
4. Option 2: Exmouth Oiled Wildlife Facility  
Distance from Onslow to Exmouth = 403km, Drive time 5 hours  
Transport options for oiled wildlife: road, air, sea

*Table A16: Staging Sites for Sector 7*

Site Purpose	Location	Contact
Staging Sites	Mardie Homestead (managed by Citic Pacific)	Parks and Wildlife Regional Duty Officer 9182 2088
	Cape Preston Port	
Temporary Holding Centre	Cape Preston	
	Onslow	See Oiled Wildlife Facilities in Section 5
Oiled Wildlife Facility	Exmouth	See Oiled Wildlife Facilities in Section 5
	Onslow (small scale only)	See Oiled Wildlife Facilities in Section 5
	Dampier	See Oiled Wildlife Facilities in Section 5

#### A.7.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth.

## SECTOR 8: Fortescue River Mouth to Devil Creek

Shown as blue sector 8 in figure A1

(21° 0'6.27"S, 116° 6'10.37"E to 20°49'41.00"S, 116°26'40.32"E)

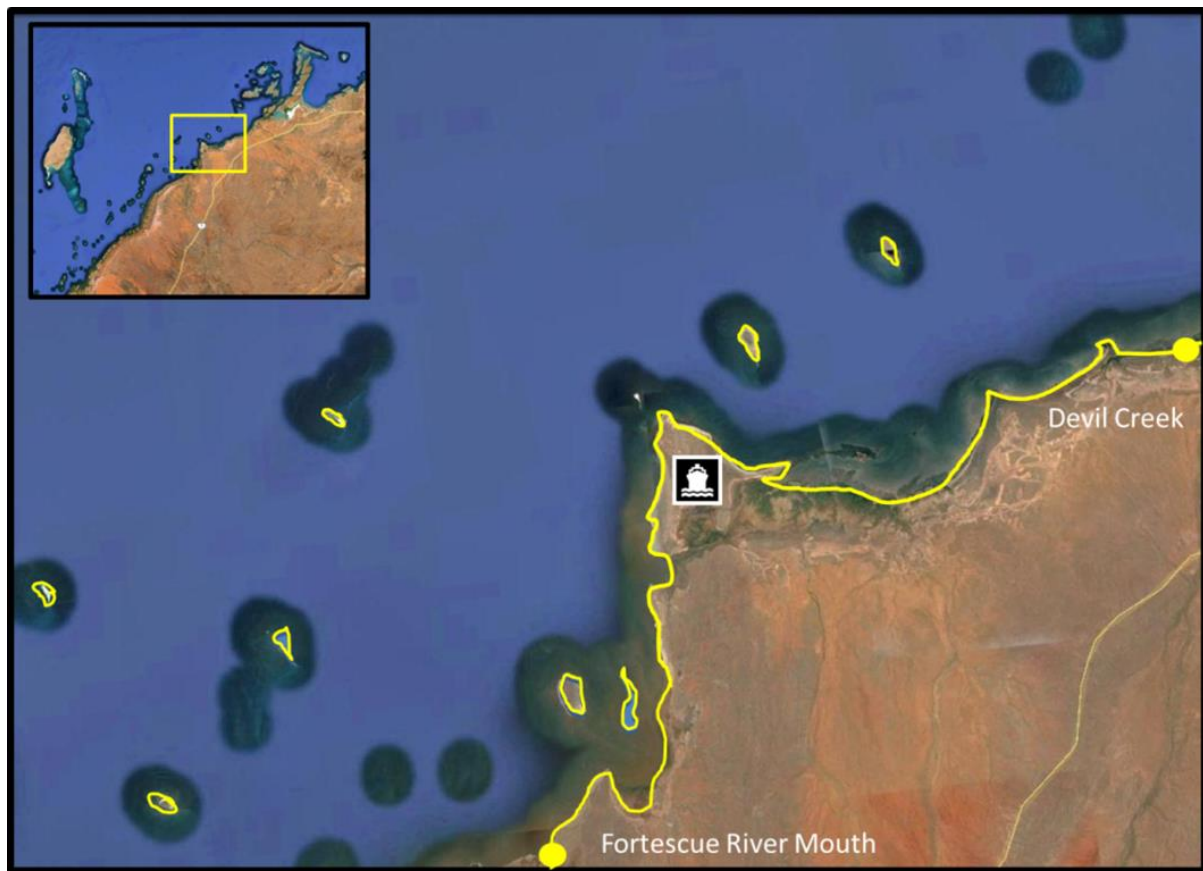


Figure A9: Map of Sector 8

### A.8.1 Terrestrial overview

UCL, nature reserve and station country, typical Spinifex, and Acacia shrub-land. Islands surrounded by sand beaches.

### A.8.2 Marine Overview

The Islands here are primarily sand cays characterised by Sandy beaches, and mangrove creeks on the mainland. Characterised by macroalgae beds, Dugong foraging areas, seabird nesting and marine turtle nesting. The Islands are recognised as providing an important link between Ningaloo Reef and the Dampier Archipelago.

## A.8.3 Environmental Values

Table A17: Environmental Values for Sector 8

Coastal unit	Area	Tenure	Species susceptible to oiling	Priority rating
Mardie Island		NR-B	<b>Birds:</b> Pied Cormorant, Sooty Oystercatcher, Pied Oystercatcher, Eastern Reef Egret, White-bellied Sea Eagle, Caspian Tern, Osprey, Beach Stone-Curlew, Pelican, Crested Tern, Grey-tailed Tattler, Ruddy Turnstone, Red-capped Plover. Nesting birds: White bellied sea eagle nest in middle of the island. Active shearwater burrows. <b>Turtles:</b> Hawksbill tracks have been observed.	Significant
Stewart Island		NR-B	<b>Birds:</b> Caspian Tern, Silver Gull, Pied Cormorant, Little Black Cormorant, Bridled Tern, Eastern Reef Egret, White-bellied Sea Eagle, and Nesting Birds: WBSE, unused sea eagle nest. <b>Turtles:</b> Hawksbill tracks observed, low density nesting.	Medium
Steamboat Island		NR-B	<b>Birds:</b> Crested Tern, Lesser Crested Tern, Silver Gull, Osprey, Pelican, Eastern Reef Egret, Grey-tailed Tattler, Ruddy Turnstone, White-bellied Sea Eagle, Caspian Tern, Pied Oystercatcher, Bar-tailed Godwit. Nesting Birds: Tern colony, active shearwater burrows.	Significant
Fortescue Island		NR-B	<b>Birds:</b> Grey-tailed Tattler, Silver Gull, Pied Oystercatcher, Lesser Crested Tern, Mongolian Plover, Eastern Reef Egret, Ruddy Turnstone, Osprey, Sooty Oystercatcher, Brahminy Kite, Pelican, Beach Stone Curlew, Crested Tern, White-bellied Sea Eagle. Nesting birds: WBSE. Bird roosting area on east coast <b>Turtles:</b> Low numbers of Hawksbill nesting. Medium density of other unknown turtle nesting species.	Significant
Potter Island		NR-B	<b>Birds:</b> Pied Cormorant, Crested Tern, Fairy Tern, Roseate Tern, Silver Gull, Sooty Oystercatcher, Pied Oystercatcher, Darter, Whimbrel, Red-capped Plover, Beach Stone-curlew, Eastern Reef Egret <b>Turtles:</b> Flatback and Hawksbill nesting on southern spit. <b>Mangroves:</b> located on west coast	Significant
Carey Island			<b>Turtles:</b> No known nesting. <b>Mangroves:</b> line the east and west shorelines south of the narrow neck separating the two land masses.	Medium
S W Regnard Island		UCL	No data	
N E Regnard Island		UCL	No data	

## A.8.4 Recommended Response Strategies

### A.8.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages)
- Various hazing techniques may also be useful for moving wildlife out of at risk areas on the mainland.



#### A.8.4.2 Personnel Deployment

Field teams in this area will be deployed from Onslow or Dampier by 4wd to their assigned shoreline segment or by boat or aircraft to Islands. Personnel may need to drive in from Exmouth or Karratha or fly. Karratha airport is a commercial domestic airport catering for flights from Perth, Brisbane, Melbourne, Sydney, Port Hedland, Broome and Darwin. Onslow has a small airport that predominantly caters for the resource sector; flights can be chartered from Karratha, Exmouth and Perth. Mardie Station also has an air strip that may be utilised.

#### A.8.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover will be conducted by ATV or 4WD. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required. Boat-based assessment and collection will be required for islands and mangrove areas. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat.

#### A.8.4.4 Logistics Options for Facility Establishment

Tagging sites will be established as necessary at opportunistic locations on or close to the shoreline as well as Islands if required. A staging site can also be established at Cape Preston.

Once collected wildlife may be transported from staging sites to a temporary holding facility at Cape Preston before being transported to the designated Oiled Wildlife Facility in Dampier.

*Table A18: Staging Sites for Sector 8*

Site Purpose	Location	Ref
Staging Sites	Mardie Homestead (managed by Citic Pacific)	Parks and Wildlife Regional Duty Officer 9182 2088
	Cape Preston Port	Parks and Wildlife Regional Duty Officer 9182 2088
Temporary Holding Centre	Cape Preston	Parks and Wildlife Regional Duty Officer 9182 2088
Oiled Wildlife Facility	Dampier	See Oiled Wildlife Facilities in Section 5

#### A.8.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth.

## SECTOR 9: Devil Creek to Cape Lambert

Shown as yellow sector 9 in figure A1

(20°49'41.00"S, 116°26'40.32"E to 20°35'51.57"S, 117°10'51.24"E)

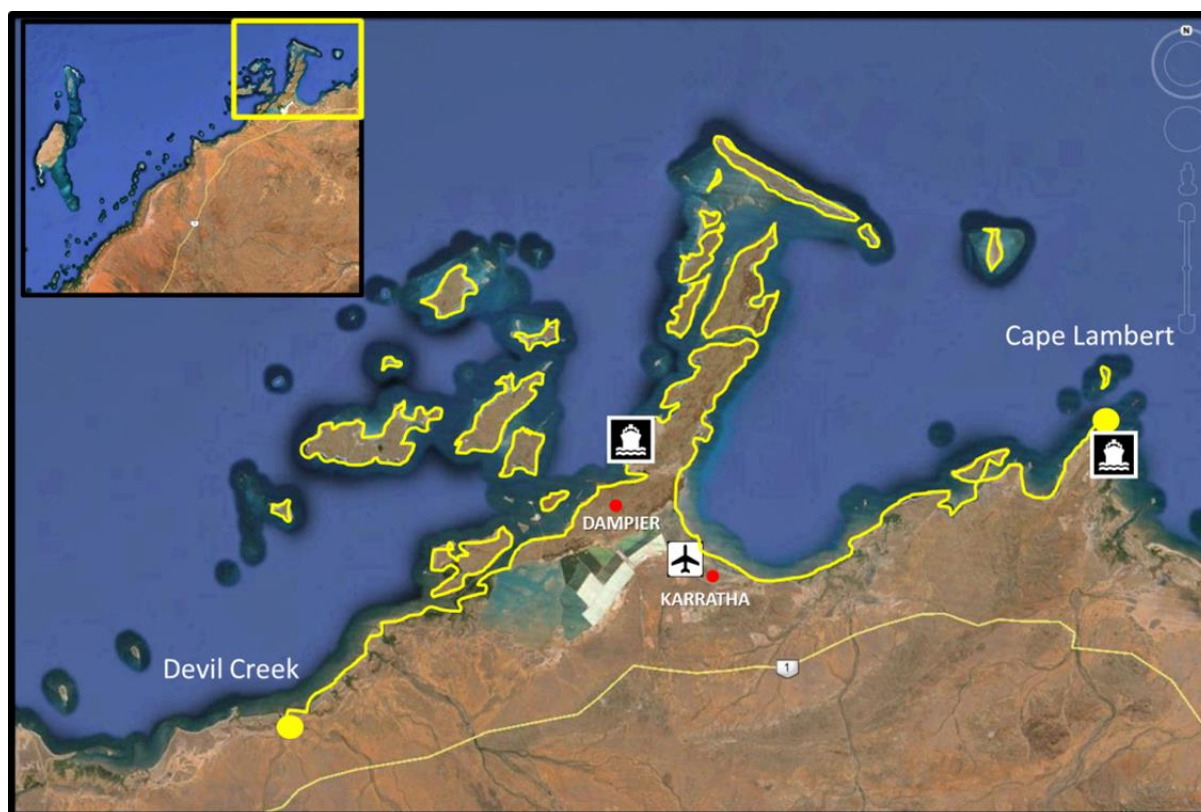


Figure A10: Map of Sector 9

### A.9.1 Terrestrial overview

There are 42 islands, islets and rocks off the coast of Dampier, ranging in size from less than 2ha to 3290ha. The area displays rich and diverse terrestrial and marine communities and habitats. It provides important refuge for threatened and specially protected species such as the Pilbara olive python (*Morelia olivacea barroni*) and supports several species and communities of conservation significance. The area includes significant breeding grounds and refuge sites for a variety of bird species. Specifically, the islands provide breeding sites for at least 14 species of sea and shore bird and some of the numerous land bird species known in the planning area also use the islands to nest. Some Islands are internationally important as feeding and resting sites for migratory birds.

### A.9.2 Marine Overview

The bioregion is characterised by intertidal mud and sand flats associated with fringing mangroves in bays and lagoons, a large tidal range, highly turbid water and the occurrence of fringing coral reefs around some of the islands. The marine biota of the region consists primarily of tropical species as well as many endemic species, with a particularly high diversity of in-fauna associated with the soft sediment habitats and a unique faunal assemblage associated with the coral reef habitats.



Of the six species of marine turtle occurring in WA, five are recorded in area: the green (*Chelonia mydas*), loggerhead (*Caretta caretta*), Flatback (*Natator depressus*), leatherback (*Dermochelys coriacea*) and Hawksbill turtles (*Eretmochelys imbricata*).

### A.9.3 Environmental Values

Table A19: Environmental Values for Sector 9

Coastal unit	Area	Tenure	Species susceptible to oiling	Priority rating
Egret Island		NR	<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds which is why it is zoned as 'Special Conservation Zone – no access at any time'.	Significant
Eaglehawk Island		NR	<b>Turtles:</b> 3x beaches have medium density Flatback Turtle nesting	Significant
Kendrew Island		NR	<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'.	Significant
Roly Rock			<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'.	Significant
Bare Rock		NR	<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'.	Significant
Enderby Island		NR	<b>Turtles:</b> (nesting): Beaches on southern side of island have medium density Flatback Turtle nesting and one beach on the northern side of the island has low density nesting (species unknown). Juvenile green turtles inhabit the extensive mangal creek system on the southern side of the island. Nesting unknown <b>Mangroves:</b> Extensive mangrove systems in north and south of island. Mangrove creek on southern side is high priority for protection.	High
Goodwyn Island		NR	<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds zoned as 'Special Conservation Zone – no access at any time'.	High
Rosemary Island		NR-A	<b>Birds:</b> (nesting): There are many active and inactive osprey nests around the island. There are silver gull nests in the dunes behind 'Beach 6' (and possibly other beaches on the north-western side of the island). Nankeen kites have been known to nest in caves at the northern end of Chookie Bay. There is shearwater nesting inland between 'Beach 7' and Hungerford Bay. <b>Turtles-nesting:</b> Almost all sandy beaches (and some beaches of coral rubble) have high density turtle nesting. The northernmost beaches around Point O'Keefe (mainly coral rubble) have high density hawksbill turtle nesting. Beaches within Chookie Bay and Chookie Bay South have high density Hawksbill, Green and Flatback turtle nesting. Beaches west of Norbill Bay towards Tish Point have high density Flatback and low density Hawksbill Turtle nesting. The southernmost beach	Very High

Coastal unit	Area	Tenure	Species susceptible to oiling	Priority rating
			<p>of Hungerford Bay (near Tish Point) has high density Hawksbill Turtle nesting. All beaches on the north-western side of the island have high density Hawksbill, Green and Flatback turtle nesting.</p> <p><b>Turtles-breeding aggregations:</b> The waters from Gordon Point to the eastern end of 'Beach 7' have high density green turtle breeding aggregations. The majority of the waters on the north-western side of the island (between the island and Sailfish Reef) have high density hawksbill turtle breeding aggregations. This area is also an important interesting area for hawksbill turtles.</p>	
Brigadier Island		NR	<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'.	Significant
Lady Nora Island		NR	<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'.	Significant
Quartermaine Island		NR	<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'. There is at least one osprey nest on island, near Elphick's Nob.	Significant
Malus Islands		NR	<b>Turtles:</b> (nesting): Beaches on the northern side of the island have low density (Hawksbill and Flatback) turtle nesting.	Significant
Mawby Island		NR	<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'.	Medium
Boiler Rock			No data	
Whittaker Island			No data	
West Lewis Island		NR	<b>Birds:</b> Beach stone curlew, Brahminy Kite, Osprey. <b>Turtles:</b> Green Turtle nesting numbers / importance unknown.	Medium
East Lewis Island		NR	No data	
Haycock Island			<b>Birds:</b> Bridled Terns observed	Medium
Intercourse Island			<b>Birds:</b> Bridled Terns observed	Medium
Mistaken Island			No data, likely to be similar to neighbouring islands.	Medium
Low Island			No data, likely to be similar to neighbouring islands.	Medium
Sandy Island			No data, likely to be similar to neighbouring islands.	Medium
West intercourse Island			<b>Turtles:</b> Very small juvenile green turtles have been observed to inhabit Shoal Bay	Medium
West Mid Intercourse Island		UCL	No data, likely to be similar to neighbouring islands.	Medium
East Mid Intercourse		UCL	No data, likely to be similar to neighbouring islands.	Medium

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Island			
East Intercourse Island	UCL	No data, likely to be similar to neighbouring islands.	Medium
Holden Beach		<b>Turtles:</b> Holden Beach on the western side of the Burrup Peninsula has low density Flatback Turtle nesting.	Medium
Conzinc Island	NR	<b>Birds:</b> (nesting): Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'.	Medium
Angel Island	NR	<b>Turtles:</b> Beaches on the western side of the island have low density Flatback Turtle nesting.	Medium
Gidley Island	NR	<b>Turtles:</b> Beaches on the south western side of the island have low density Flatback Turtle nesting.	Medium
North Gidley Island	NR	<b>Turtles:</b> Beaches on the western side of the island have medium density Flatback Turtle nesting.	Medium
Keast Island	NR	<b>Turtles:</b> (nesting): Beaches on the western side of the island have medium density hawksbill and Flatback Turtle nesting. <b>Birds:</b> 'Australian Pelican, Caspian tern, Osprey, White breasted Sea eagle, Silver Gull , zoned as 'Special Conservation Zone – no access at any time'.	High
Cohen Island	NR	<b>Birds:</b> Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'.	Medium
Collier Rocks	NR	No data	
Dolphin Island	NR	<b>Birds:</b> There are several osprey nests on the eastern side of the island. <b>Turtles:</b> Beaches on the eastern side of the island have very low density Flatback Turtle nesting. Medium numbers of juvenile Green Turtles inhabit the mangal systems on the western side of the island and the large bay on the south eastern side of the island.	Medium
Legendre Island	UCL	<b>Turtles:</b> Beaches on the north eastern and eastern sides of the island have high density Hawksbill, Green and Flatback Turtle nesting.	High
Hauy Island	NR	<b>Birds:</b> Important breeding/nesting area for shorebirds, zoned as 'Special Conservation Zone – no access at any time'. <b>Turtles:</b> Beaches on the western side of the island have medium density Hawksbill and Flatback Turtle nesting.	Medium
Searipple Passage		<b>Turtles:</b> Juvenile green turtles inhabit the mangal systems in Sea-ripple Passage.	Medium
Nickol Bay waters (general)		<b>Turtles:</b> Flatback and Hawksbill turtles have been observed in Nichol Bay waters	Medium
Nickol River and Cleaverville Creek		<b>Turtles:</b> High numbers of juvenile green turtles inhabit the mangal creek systems in and between the Nickol River and Cleaverville Creek.	Medium

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Cleaverville		<b>Turtles:</b> Beaches at Cleaverville have medium density Hawksbill and Flatback Turtle nesting.	Medium
Delambre Island	NR	<b>Turtles:</b> Beaches on the eastern and western sides of the island have high density Hawksbill and Flatback Turtle nesting and medium density Green Turtle nesting. High numbers of juvenile hawksbill turtles inhabit the reef system on the eastern side of the island. The waters adjacent to the nesting beaches have high density turtle breeding aggregations.	Very High
Southern Wickham back beach		<b>Turtles;</b> Low numbers of juvenile Hawksbill and Green turtles inhabit pools in the reef and mangal systems.	Medium
Wickham back beaches		<b>Turtles:</b> Beaches to the south of the Port Walcott Yacht Club have low density Flatback Turtle nesting and the occasional Hawksbill and Green turtle nest.	Medium
Dixon Island		<b>Turtles:</b> Beaches on the North-eastern side of the island have medium density Hawksbill and Flatback turtle nesting. Low numbers of juvenile Hawksbill and Green Turtles inhabit pools in the reef and mangal systems on the North-western side of the island. High numbers of juvenile Green Turtles inhabit the intertidal and mangal systems between the island and the mainland. Medium numbers of juvenile Hawksbill Turtles inhabit the reef system between the island and Anketell Point. A resident adult Loggerhead Turtle also inhabits this area.	High
Bells Beach		<b>Turtles:</b> Bells Beach has medium density Flatback Turtle nesting.	High
Cooling Water Beach		<b>Turtles:</b> Cooling Water Beach (within the Cape Lambert site) has low density Flatback Turtle nesting. Note: Historically, Cooling Water Beach had high density Hawksbill, Green and Flatback Turtle nesting – this was prior to Cape Lambert’s development. There were also high numbers of juvenile Hawksbill Turtles in pools in the reef system opposite Cooling Water Beach. It is unknown if this is still the case.	High
Bezout Island		<b>Birds:</b> Wedge tailed shearwater (up to 100), Silver Gull (up to 500), Osprey. <b>Turtles:</b> Turtles (nesting): Beaches on the southern side of the island (the sand spit) have low density Hawksbill and Flatback Turtle nesting.	Medium
Dampier Saltworks		<b>Birds:</b> Supports more than 1% of the global populations of Red-necked Stint (up to 10594 in Nov 2005) and Red-capped Plover (up to 3845 in Nov 2005) and has irregularly supported more than 1% of Sharp-tailed Sandpiper (9920 in Nov 2004) and Oriental Plover (473 in Nov 2005) populations. Over 22,000 coastal birds observed in November 2005. Recognised as a Bird Life International Important Bird Area.	Medium

## A.9.4 Recommended Response Strategies

### A.9.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages) and fair terns should be considered.
- Various hazing techniques may also be useful for moving wildlife out of at risk areas on the mainland and Islands.

### A.9.4.2 Personnel Deployment

Field teams in this area will be deployed from Dampier by 4wd to their assigned shoreline segment or by boat or aircraft to Islands. Karratha airport is a commercial domestic airport catering for flights from Perth, Brisbane, Melbourne, Sydney, Port Hedland, Broome and Darwin. Flights can be chartered from Karratha and Exmouth for Aerial surveillance.

### A.9.4.3 Wildlife Reconnaissance and Wildlife Recovery

Reconnaissance and recovery in this area will be conducted by ATV, 4WD, boat and aircraft. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required (e.g. mangrove areas). Boat-based assessment and collection will be required for islands and mangrove areas. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat.

### A.9.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close to the shoreline as well as Islands if required.

Once collected, wildlife may be transported to a temporary holding area in Dampier or Karratha before being transported to the designated Oiled Wildlife Facility in Dampier.

*Table A20: Staging Sites for Sector 9*

Site Purpose	Location	Contact
Staging Sites	Dampier Port Authority	08 9159 6565
	Dampier Peninsular Palms	9183 1888
Temporary Holding Centre	Dampier Port Authority	08 9159 6565
Oiled Wildlife Facility	Dampier Sports Ground	See Oiled Wildlife Facilities in Section 5
	Dampier Port Authority	See Oiled Wildlife Facilities in Section 5
	Bulgarra sports Grounds	See Oiled Wildlife Facilities in Section 5

#### A.9.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth. Further stockpiles are located in Fremantle.

## SECTOR 10: Barrow Island Group

Shown as yellow sector 10 in figure A1

(20°48'24.49"S, 115°23'39.75"E)



*Figure A11: Map of Sector 10*

### A.10.1 Terrestrial overview

Barrow Island Nature Reserve is located 56km west of the mainland between Onslow and Dampier and covers approximately 23,000 hectares. Barrow Island terrain is highest in the centre west becoming dissected in parts to the west and becoming lower and undulating to the east. The western coast is centrally dominated by cliffs up to 20m with smaller areas of beach in between. Beaches begin dominating the southern and northern ends of the island. Access to the western coast by vehicle is difficult and intermittent. The western and northern coast beaches of Barrow, Middle, and Boodie islands are deep sands and hence support significant Green Turtle rookeries. The eastern coast of Barrow Island is dominated by shallow sandy beaches punctuated by rocky headlands. It is significant for nesting Flatback Turtles in terms of the number of turtles nesting, with these beaches being at the south western extent of the nesting range for this species.

## A.10.2 Marine Overview

A variety of oceanographic and physical conditions (water depth, substrate type, turbidity, tidal regime and energetics) create a large variety of marine benthic habitats and associated assemblages of flora and fauna. The main sub tidal habitats include coral reefs, seagrass and macroalgae meadows, invertebrate filter feeder assemblages on pavement, deeper high profile reefs and soft sediments.

## A.10.3 Environmental Values

*Table A21: Environmental Values for Sector 10*

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Barrow Island	NR, MP, MMA, Port	<p><b>Birds:</b> &gt;20,000 coastal birds (mostly Red-necked stint, Grey-tailed Tattler, Ruddy Turnstone, Greater Sand Plover, Bar-tailed Godwit, Lesser Sand Plover) were observed across Barrow Island in Sept 2004, most abundant roosting is along the south and south-east coasts in the vicinity of Bandicoot Bay where they feed on the intertidal habitat low tide. Shorebirds are most abundant in summer (Sept to Mar) but a proportion (mostly juveniles) remains on Barrow throughout winter. &gt;90 Pied Oystercatcher observed in a flock and pair nesting of Pied and Sooty Oystercatchers and Beach Stone-curlew across the island between Aug and Jan. Up to 900 Pied Cormorants observed roosting at Shark Point and regularly foraging along the east coast waters. Marine raptors are abundant (11 active nests in July/Sept 2009). Large tern flocks (mostly Common Tern and Fairy Tern) sporadically utilise the north, west and south coasts and forage in both inshore and offshore waters. Barrow Island is a recognised BirdLife International Important Bird Area for supporting over 1% of the world population of Red-necked Stint, Grey-tailed Tattler, Pied Oystercatcher and vulnerable Fairy Tern.</p> <p><b>Turtles:</b> Green Turtles are the most abundant species and nest predominantly on the north and west coasts (population estimate &gt;100,000). They mate in aggregations off the west coast in spring and summer (from Surf Point around to South end in peak year 2011/12) and feed in the waters around Barrow year-round. The highest mean level of nesting activity in 2011/12 was recorded on John Wayne Beach (121 ± 9.5 tracks per night). Population estimate assumptions: 12 day internesting period, 5 year remigration period, 3 nests per season, 80% of seasonal nesting animals present. Flatback Turtles nest on the east coast beaches (population estimate 10,000, with an estimated annual population size range of 1908 in 2007/08 to 1512 in 2011/12). Population estimate assumptions: 16 day internesting, 3 year remigrations, 3 nests per season,</p>	Very High



Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
		<p>80-% of the seasonal nesting animals present. Hawksbill Turtles nest intermittently across the island, with 32 emergence tracks recorded on 10/13 surveyed beaches during the 2011/12 Oct track census.</p> <p><b>Mammals:</b> Extremely high densities of native mammals, including threatened and range-restricted species. Golden Bandicoots regularly predate turtle nests and hatchlings on beaches and Water Rats occur across the island inhabiting rocky shores and beaches including the nearshore in-water marine environment - both are at greatest risk of oiling. Spectacled Hare-wallabies, Euros, Northern Brushtail Possums and Burrowing Bettong frequent beaches and have a lower risk of oiling.</p> <p><b>Reptiles:</b> Perentie regularly predate turtle nests and hatchlings therefore may be at risk of oiling.</p> <p><b>Mangroves:</b> Narrow fringing strips of <i>Avicennia marina</i> at Mattress Point, sparsely along the south east coast including Junction Beach, Stokes Point and near Pelican Island in Bandicoot Bay.</p> <p><b>Coral:</b> Most significant coral reefs are Biggada Reef off the west coast, Dugong and Batman reefs off the south-east coast, and along the edge of the Lowendal Shelf on the east side of Barrow Island.</p> <p><b>Intertidal sand/mudflat communities:</b> Extensive areas along the eastern and southern shores, important for infauna and foraging habitat for other invertebrates, shorebirds and rays and sharks.</p>	
Bandicoot Bay	NR	Shorebird roost (max count 7000) extensive intertidal flats, shorebird feeding area. Seabirds, dugong, green turtle and dolphin feeding ground.	Very High
Boodie Island	NR, MMA	<p><b>Birds:</b> Wedge-tailed Shearwater nesting colony.</p> <p><b>Turtles:</b> Green Turtle mating aggregations and nesting beaches on west side.</p> <p><b>Mammals:</b> Burrowing Bettong access the beach.</p>	Significant
Middle Island	NR, MMA	<p><b>Turtles:</b> Green Turtle mating aggregations and nesting beaches on west side.</p> <p><b>Mammals:</b> Golden Bandicoots present and likely predate turtle eggs and hatchlings on beaches.</p>	Significant
Pascoe Island	UCL	<b>Birds:</b> Cormorant nesting (2012) and roost (max 20 pairs), White-bellied Sea-eagle nest.	Significant
Double Islands	NR, Port	<b>Birds:</b> Wedge-tailed Shearwater and Bridled Tern nesting colony. Large cormorant roost on Mushroom Rock (north of Double Islands).	Significant

## A.10.4 Recommended Response Strategies

### A.10.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages) may not be operationally feasible and so hazing would be the preferred option given resources and access constraints.
- Various hazing techniques may also be useful for moving wildlife out of at risk areas.

### A.10.4.2 Personnel Deployment

Field teams in this area will be deployed from Barrow Island by 4wd to their assigned shoreline segment or by boat to Islands. Teams may also be deployed straight from the mainland. Personnel can fly onto Barrow Island from Karratha or Perth. Karratha airport is a commercial domestic airport catering for flights from Perth, Brisbane, Melbourne Sydney, Port Hedland, Broome and Darwin. Please note that personnel will need to meet strict quarantine management procedures including that all personnel will need to ensure they do not carry any non-native material onto the island (plant seeds, fruit, etc.). All personnel arriving on Barrow Island (by boat or aircraft) will be inspected by Quarantine Inspectors. Personnel are inspected prior to boarding flights in Perth and Karratha and personnel arriving by vessel are inspected at point of arrival by Quarantine Inspectors. All personnel travelling to Barrow Island will have had to complete an online induction prior to arrival and must be granted approval to travel in order to do so. Persons completing an on-line visitor's induction only will be required to be escorted/supervised by fully inducted personnel on Barrow Island.

### A.10.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover will be conducted by ATV or 4wd. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required (cliff areas). Please note that all coastal access by vehicles on Barrow Island is forbidden unless approval granted by Parks and Wildlife. Vessel-based assessment and collection will be required for Boodie, Middle and Double Islands. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat.

### A.10.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close to the shoreline as well as Islands if required. Barrow Island has many tracks that access the coastline.

If collected wildlife may be transported from staging sites on the island to the designated Oiled Wildlife Facility in Dampier, Exmouth or Perth. Staging areas and/or holding facilities may need to be established on floating barges due to logistical limitations on Barrow Island.

*Table A22: Staging Sites for Sector 10*

<b>Site Purpose</b>	<b>Location</b>	<b>contact</b>
Staging Sites	Coastal access points	Parks and Wildlife Regional Duty Officer 9182 2088
	Parks and Wildlife office, Barrow Island	94122639 / 94122637
Temporary Holding Centre	Barrow Island Camp	94122639 / 94122637
	On Water station	
Oiled Wildlife Facility	Dampier	See Oiled Wildlife Facilities in Section 5
	Perth Zoo	0439 953 026.

#### **A.10.4.5 Equipment**

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth. Further stockpiles are located in Fremantle. Please note that all equipment must be sent as freight (air and sea) to Barrow Island to comply with re-border inspection processes.

## SECTOR 11: Lowendal Island Group

Shown as yellow sector 11 in figure A1

(20°38'28.60"S, 115°34'18.19"E)

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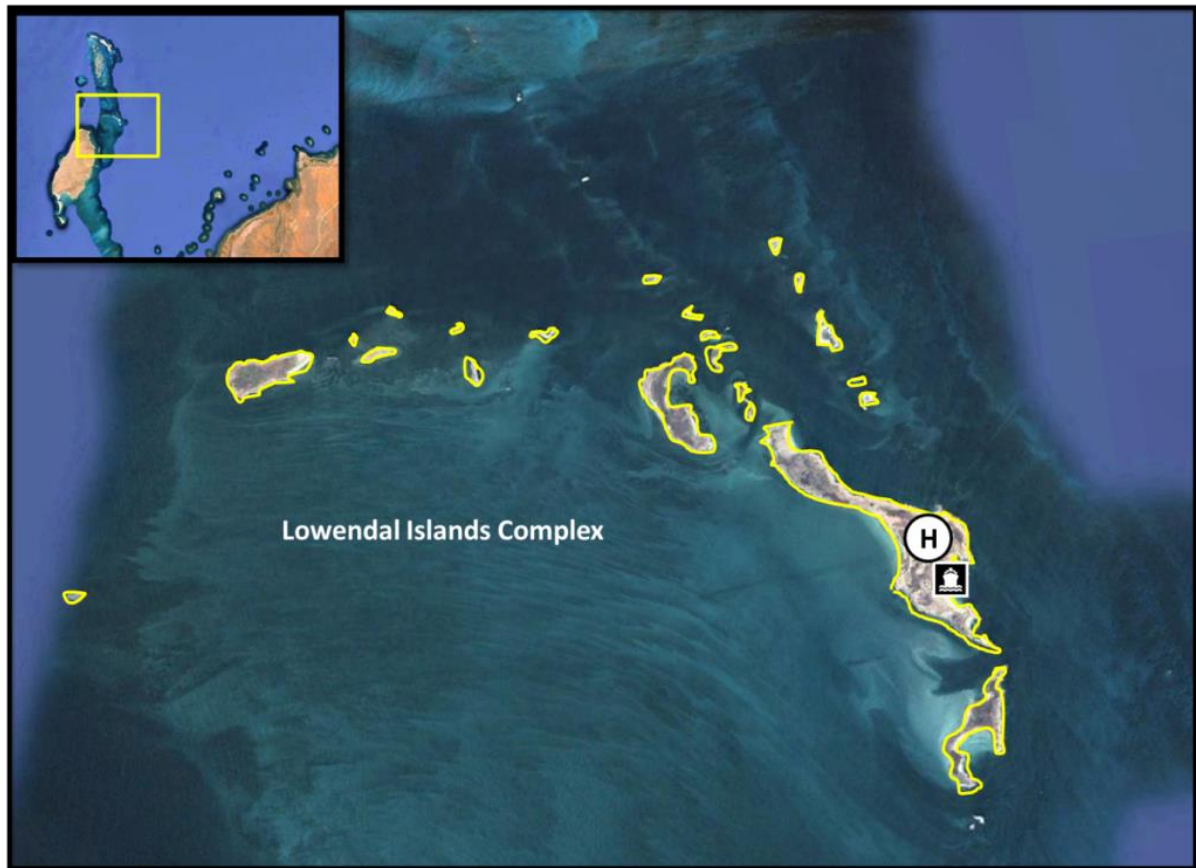


Figure A12: Map of Sector 11

### A.11.1 Terrestrial overview

The Lowendal Islands are located close to Barrow and Montebello Islands. They are rocky with some sandy beaches and are significant as a Hawksbill nesting site and for seabird nesting. Varanus Island is the largest and houses an oil production and storage facility. From Varanus Island there are chains of smaller islands and rocks which stretch in a line from the NW to SE.

### A.11.2 Marine Overview

The Barrow Island and Montebello Island marine reserves surround the Port of Varanus Island. The marine area is very shallow to the west and deeper to the east.

### A.11.3 Environmental Values

Table A23: Environmental Values for Sector 11

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Varanus Island	NR-C	<b>Birds:</b> Wedge-tailed Shearwater nesting colony (1682 pairs). The Lowendal Islands Archipelago regularly supports more than 1% of the global population of Crested Tern (4000 – 9097 breeding pairs) and Bridled Tern (3000 – 5000 breeding pairs). The Lowendal Islands are recognised as a BirdLife International Important Bird Area. <b>Turtles:</b> Large Hawksbill Turtle nesting area	High
Parakeelya Island		<b>Birds:</b> Wedge-tailed Shearwater nesting colony (278 pairs) and Bridled Tern nesting.	Significant
Bridled Island		<b>Birds:</b> Wedge-tailed Shearwater nesting colony (1716 pairs). <b>Turtles:</b> Large Hawksbill Turtle nesting area	Significant
Abution Island		<b>Birds:</b> Wedge-tailed Shearwater nesting colony (780 pairs).	Significant
Beacon Islands		<b>Birds:</b> Crested Tern (4500) Lesser Crested Tern (700) (date unknown) <b>Turtles:</b> Large Hawksbill Turtle nesting area	Significant
Numerous unnamed islets		Information not available on all of these but similar species susceptible to oiling as outlined on nearby islands may be present	

### A.11.4 Recommended Response Strategies

#### A.11.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages)
- Various hazing techniques may also be useful for moving wildlife out of at risk areas.

#### A.11.4.2 Personnel Deployment

Field teams in this area will be deployed from Dampier, Karratha and Barrow Island by aircraft or vessel to Varanus Island from which they will be deployed to their segment by boat to the surrounding Islands. Personnel can fly into Varanus from Karratha via Helicopter to Barrow Island. Karratha airport is a commercial domestic airport catering for flights from Perth, Brisbane, Melbourne, Sydney, Port Hedland, Broome and Darwin.

#### A.11.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover will be conducted by ATV or 4WD. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required. Boat-based assessment and collection will be required for islands. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat.

#### A.11.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close to the shoreline as well as Islands if required.

Once collected wildlife may be transported from staging sites to a temporary holding facility at Barrow Island Camp before being transported to the designated Oiled Wildlife Facility in Dampier, Exmouth or Perth. Staging areas and/or holding facilities may need to be established on floating barges due to logistical limitations on Barrow Island. Quarantine restrictions will need to be considered for all options.

*Table A24: Staging Sites for Sector 11*

Site Purpose	Location	Contact
Staging Sites	On water	
	Barrow Island	Parks and Wildlife Barrow Isalnd 94122639 / 94122637
Temporary Holding Centre	On Water station	
Oiled Wildlife Facility	Dampier	See Oiled Wildlife Facilities in Section 5
	Perth Zoo	0439 953 026

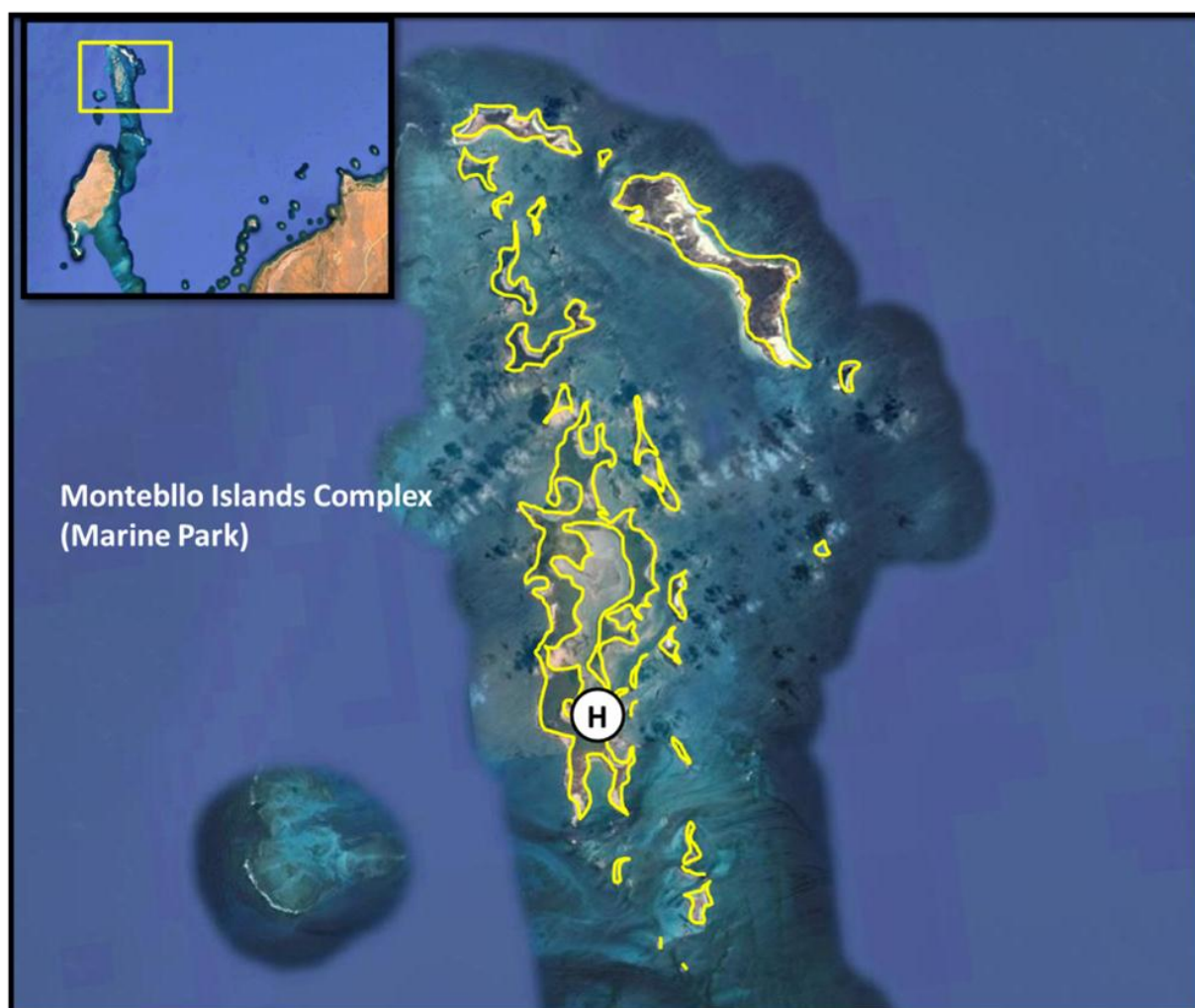
#### A.11.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth. Further stockpiles are located in Fremantle.

## SECTOR 12: Montebello Island Complex

Shown as yellow sector 12 in figure A1

(20°26'46.68"S, 115°31'57.44"E)



*Figure A13: Map of Sector 12*

### A.12.1 Terrestrial overview

The complex consists of more than 250 distinct low lying islands and islets composed of limestone and cross-bedded sandstones. Islands can be capped with sand dune up to 40m high but many consist of bare rocky terrain. The islands are irregular with a mixture of lagoons, sandy beaches, channels, intertidal sand/mudflats and shallow limestone platforms. The area has a tropical arid climate with an average annual rainfall of approximately 320mm with no known fresh water springs. Vegetation includes 6 species of mangroves, grasses, sedges and spinifex with low shrubs, predominately *Acacia* sp., scattered throughout.

### A.12.2 Marine Overview

The Montebello Marine Park is located 120km west of Dampier and 20 km north of Barrow Island. It incorporates the Montebello Island complex (see above) and protects 58000 hectares of ocean



habitat. Coral reefs, rocky islets, islands and sandbanks provide a diverse range of habitats for marine plants and animals. Seagrass flats provide feeding grounds for dugongs, macroalgae and mangrove systems are important primary production areas supporting habitats for invertebrates and feeding grounds for turtles, fish and marine mammals, protected waters between the islands and reefs provide resting grounds for migrating whales, mating aggregations of Green and Hawksbill turtles and support resident populations of dolphins.

### A.12.3 Environmental Values

*Table A25: Environmental Values for Sector 12*

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Montebello Islands marine and conservation parks	MP, CR	<p><b>Birds:</b> Supports more than 1% of the world population of the vulnerable Fairy Tern (100 – 315 breeding pairs), Roseate Tern (2000 - 4000 breeding pairs) and Sooty Oystercatcher (50 – 100 breeding pairs).</p> <p>Seabirds/shorebirds found across the Islands include the White Bellied Sea Eagle <i>Haliaeetus leucogaster</i>, Osprey <i>Pandion haliaetus</i>, Brown Booby <i>Sula leucogaster</i>, Australian Pelican <i>Pelicanus conspicillatus</i>, Common Noddy <i>Anous stolidus</i>, Nankeen Kestrel <i>Falco cenchroides</i>, Bar-Tailed Godwit <i>Limosa lapponica</i> (common), Whimbrel <i>Numenius phaeopus</i>, Greenshank <i>Tringa nebularia</i>, Eastern Curlew <i>Numenius madagascariensis</i> (rare), Common Sandpiper <i>Actitis hypoleucos</i>, Grey-tailed Tattler <i>Heteroscelus brevipes</i>, Ruddy Turnstone <i>Arenaria interpres</i>, Red Knot <i>Calidris canutus</i> (uncommon), Sharp-Tailed Sandpiper <i>Calidris acuminata</i> (uncommon), Red-Necked Stint <i>Calidris ruficollis</i>, Curlew Sandpiper <i>Calidris ferruginea</i> (uncommon), Grey Plover <i>Pluvialis squatarola</i> (uncommon), Red-Capped Plover <i>Charadrius ruficapillus</i>, Greater Sand Plover <i>Charadrius leschenaultia</i> (uncommon). The Montebello islands are recognised as a BirdLife International Important Bird Area.</p> <p><b>Turtles:</b> The marine park has significant breeding populations of the Green <i>Chelonia mydas</i>, Hawksbill <i>Eretmochelys imbricate</i> and Flatback <i>Natator depressus</i> turtles. Green mating aggregations occur along the western reef and in the southern bay at Northwest Island, Hawksbill mating aggregations are known to occur on the eastern side of Trimouille Island. Loggerhead <i>Caretta</i> turtles rarely nest on these beaches but feed within the marine park.</p> <p><b>Dugong:</b> feeding area in southern area of marine park. Sightings have occurred throughout marine park.</p> <p><b>Cetaceans:</b> 10 whale species have been recorded for the Montebello/Barrow Islands region. These include Short finned pilot whale, false killer whale, killer whale, Minke Whale, Bryde's whale, Sei whale, pygmy blue whale, fin</p>	High



Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
		<p>whale, melon headed whale, sperm whale, blue whale and the Humpback whale. Of these the humpback whale is only regular visitor due to its northern migration in June/July. A female and calf resting area has been identified on the south western side of Trimouille Island. Bottlenose and Indo-pacific dolphins have resident populations in the Montebello Marine Park and are regularly sighted throughout the year.</p> <p><b>Intertidal sand/mudflat communities:</b> beaches and rocky platforms support a range of invertebrate species which provides a valuable food source for shorebirds and at high tide provide foraging habitat for marine wildlife such as rays and sharks.</p> <p><b>Reptiles:</b> <i>Varanus gouldii</i> can swim and are capable of moving from island to island therefore they may be present on other islands as well as those noted below. They are known to scavenge for turtle eggs and hatchlings hence are found on beaches.</p>	
Hermite Island	CR-A	<p><b>Birds:</b> Migratory shorebirds utilise the intertidal areas of the shallow lagoons (300 birds in Oct 2012)</p> <p><b>Mammals:</b> Terrestrial Wildlife: Golden Bandicoot <i>Isoodon auratus</i> access beaches when foraging.</p> <p><b>Turtles:</b> Turtles nesting particularly western beaches.</p> <p><b>Reptiles:</b> <i>Varanus gouldii</i> known to scavenge for turtle eggs and hatchlings. <i>Varanus acanthurus</i> common around mangrove and coastal areas. Gilberts Dragon common around sandy beaches with rocky cover nearby and around mangroves. <i>Lerista bipes</i> common in sandy areas, beach dunes and coastal sandplains. Hermite Island Worm-Lizard <i>Aprasia rostrata</i> found in sand dunes near termite mounds.</p> <p><b>Mangroves:</b> Many fringing mangroves and lagoon mangrove systems situated on all aspects about the island.</p>	Significant
Trimouille Island	CR-A	<p><b>Birds:</b> Beach Stone-curlew <i>Esacus neglectus</i> nesting (August). Caspian Tern <i>Sterna caspia</i> nesting (April-August).</p> <p><b>Turtles:</b> High density Green Turtle nesting area, moderate to large Hawksbill nesting area. Turtles nest along most beaches significant rookery on south-eastern beach and beach North of Pitt Point.</p> <p><b>Mammals:</b> Spectacled Hare-Wallaby <i>Lagorchestes conspicillatus</i> traverses beaches.</p> <p><b>Reptiles:</b> <i>Varanus gouldii</i> known to scavenge for turtle eggs and hatchlings. <i>Lerista bipes</i> common in sandy areas, beach dunes and coastal sandplains. Hermite Island Worm-Lizard <i>Aprasia rostrata</i> found in sand dunes</p> <p><b>Mangroves:</b> Lagoon mangrove system.</p>	Very High

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
NW Island	CR-A	<p><b>Turtles:</b> High density Green Turtle nesting island. Moderate to large Hawksbill Turtle nesting. Turtles nest along most beaches. Terrestrial Wildlife: Shark Bay Mouse accesses beaches when foraging.</p> <p><b>Reptiles:</b> <i>Varanus gouldii</i> known to scavenge for turtle eggs and hatchlings. <i>Lerista bipes</i> common in sandy areas, beach dunes and coastal sandplains.</p>	High
Carnation	CR-A	<p><b>Birds:</b> Pied Cormorant <i>Phalacrocorax varius</i> nesting. Crested Tern <i>Sterna bergii</i> nesting. Silver Gull <i>Larus Novaehollandiae</i> nesting.</p> <p><b>Mangroves:</b> Fringing and lagoon mangrove systems.</p>	Significant
Gardenia	CR-A	<p><b>Birds:</b> Wedge-tailed Shearwater <i>Puffinus pacificus</i> nesting (300-500 burrows. Burrow maintenance begins in July). Silver Gull <i>Larus Novaehollandiae</i> nesting (late Summer-Autumn). Caspian Tern <i>Sterna caspia</i> nesting (April-August). Nankeen Night Heron <i>Nycticorax caledonicus</i> (mangroves).</p>	High
Crocus Island	CR-A	<p><b>Birds:</b> Brahminy Kite <i>Haliastur Indus</i> (breeding in mangroves).</p> <p><b>Reptiles:</b> <i>Lerista bipes</i> common in sandy areas, beach dunes and coastal sandplains.</p> <p><b>Mangroves:</b> Fringing mangrove systems primarily on the eastern and southern beaches.</p>	Significant
Brooke Island	CR-A	<p><b>Birds:</b> Wedge-tailed Shearwater <i>Puffinus pacificus</i> nesting (200 burrows. Burrow maintenance occurs in July). Silver Gull <i>Larus Novaehollandiae</i> nesting (late Summer-Autumn).</p> <p><b>Reptiles:</b> <i>Lerista bipes</i> common in sandy areas, beach dunes and coastal sandplains.</p>	Significant
Kingcup Island	CR-A	<p><b>Birds:</b> Wedge-tailed Shearwater <i>Puffinus pacificus</i> nesting (50-100 burrows. Burrow maintenance begins in July).</p>	Significant
Alpha Island	CR-A	<p><b>Birds:</b> Wedge-tailed Shearwater <i>Puffinus pacificus</i> nesting (10 burrows. Burrow maintenance begins in July). Pied Oystercatcher <i>Haematopus longirostris</i> nesting (non-flying young, May). Caspian Tern <i>Sterna caspia</i> nesting (April-August).</p> <p><b>Terrestrial Wildlife:</b> Boodie <i>Bettongia lesueur</i> accesses beaches when foraging.</p> <p><b>Reptiles:</b> <i>Varanus gouldii</i> known to scavenge for turtle eggs and hatchlings. <i>Lerista bipes</i> common in sandy areas, beach dunes and coastal sandplains.</p> <p><b>Mangroves:</b> Fringing and lagoon mangrove systems.</p>	Medium

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Bluebell Island	CR-A	<b>Birds:</b> Sooty Oystercatcher <i>Haematopus fuliginous</i> nesting (August). Caspian Tern <i>Sterna caspia</i> and Crested Tern nesting (est. 2000, April-August). <b>Reptiles:</b> <i>Varanus gouldii</i> known to scavenge for turtle eggs and hatchlings. <i>Lerista bipes</i> common in sandy areas, beach dunes and coastal sandplains. <b>Turtles:</b> nest along some beaches. <b>Mangroves:</b> Fringing and lagoon mangrove systems.	Significant
Primrose Island	CR-A	<b>Birds:</b> Caspian Tern <i>Sterna caspia</i> nesting (April-August). <b>Reptiles:</b> <i>Varanus gouldii</i> known to scavenge for turtle eggs and hatchlings. <b>Mangroves:</b> Fringing mangrove systems.	Medium
Marigold Island	CR-A	No Data	Medium
Campbell Island	CR-A	<b>Reptiles:</b> <i>Varanus gouldii</i> known to scavenge for turtle eggs and hatchlings.	Medium
Delta Island	CR-A	<b>Reptiles:</b> <i>Varanus gouldii</i> known to scavenge for turtle eggs and hatchlings. <i>Lerista bipes</i> common in sandy areas, beach dunes and coastal sandplains	Medium
Ivy Island	CR-A	<b>Birds:</b> Caspian Tern <i>Sterna caspia</i> nesting (April-August).	Medium
South East Island	CR-A	<b>Turtles:</b> Significant Hawksbill Turtle Rookery	High
Karangi Island		No Data	
Dahlia	CR-A	<b>Birds:</b> Roseate Tern <i>Sterna dougallii</i> nesting (Autumn-Winter). Bridled Tern <i>Sterna anaethetus</i> nesting (assumed Summer breeder, evidence found in winter).	Medium
Dandelion	CR-A	<b>Birds:</b> Caspian Tern <i>Sterna caspia</i> nesting (April-August). Roseate Tern <i>Sterna dougallii</i> nesting (Autumn-Winter).	Medium
Daisy	CR-A	<b>Birds:</b> Lesser Crested Tern <i>Sterna bengalensis</i> nesting (late summer-Autumn). Crested Tern <i>Sterna bergii</i> nesting (5000-6000 Pairs, Summer-Autumn).	Medium
Epsilon Island	CR-A	<b>Birds:</b> Lesser Crested Tern <i>Sterna bengalensis</i> nesting (late summer-Autumn). Crested Tern <i>Sterna bergii</i> nesting (3500 Pairs, Summer-Autumn).	Medium
Flag Island	CR-A	<b>Birds:</b> Wedge-tailed Shearwater <i>Puffinus pacificus</i> nesting (200-300 burrows. Burrow maintenance begins in July). Sooty Oystercatcher <i>Haematopus fuliginosus</i> nesting (2 eggs, August). Caspian Tern <i>Sterna caspia</i> nesting (April-August). Crested Tern <i>Sterna bergii</i> nesting (est. 1500 Pairs, Summer-Autumn).	Medium
Karri Islands	CR-A	<b>Birds:</b> Pied Cormorant <i>Phalacrocorax varius</i> nesting (10-20 nests, June).	Medium
Gossypium Island	CR-A	<b>Birds:</b> Wedge-tailed Shearwater <i>Puffinus pacificus</i> nesting (100-150 burrows. Burrow maintenance begins in July). Bridled Tern <i>Sterna anaethetus</i> nesting (assumed Summer breeder, evidence found in winter).	High

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Ah Chong Island	CR-A	<b>Birds:</b> Wedge-tailed Shearwater <i>Puffinus pacificus</i> nesting (1000 burrows. Burrow maintenance begins in July). Caspian Tern <i>Sterna caspia</i> nesting (April-August). <b>Terrestrial Wildlife:</b> Gilberts Dragon common on sandy beaches with rocky cover nearby. <i>Lerista bipes</i> common in sandy areas, beach dunes and coastal sandplains. <b>Turtles:</b> Significant Hawksbill nesting numbers.	High
Numerous unnamed islets	CR-A	<b>Birds:</b> Islet N/W of Bluebell Island Crested Tern <i>Sterna bergii</i> nesting (30 Pairs, Summer-Autumn). Islets south of Hermite Bridled Tern <i>Sterna anaethetus</i> nesting (assumed Summer breeder, evidence found in winter).	Medium

## A.12.4 Recommended Response Strategies

### A.12.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages)
- Various hazing techniques may also be useful for moving wildlife out of at risk areas.

### A.12.4.2 Personnel Deployment

Field teams in this area will be deployed from Dampier, Karratha and Barrow Island by aircraft or vessel from which they will be deployed to their segment by boat to the surrounding Islands. Personnel can fly to Hermite Islands via helicopter from Karratha or Barrow Island. Karratha airport is a commercial domestic airport catering for flights from Perth, Brisbane, Melbourne, Sydney, Port Hedland, Broome and Darwin.

### A.12.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover may be conducted by ATV, however, the majority of recovery will be conducted on foot or by vessel. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat.

### A.12.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close to the shoreline as well as Islands if required. The Parks and Wildlife research hut and lay down area will be the most opportunistic site which can serve as a staging area and temporary holding and assessment facility prior to transport.

Once collected wildlife may be transported from staging sites or temporary holding facilities to Dampier via helicopter or vessel. Given the distance to Dampier is approximately 65 nautical miles, it would be much more efficient to utilise helicopters for transport of wildlife where possible.

*Table A26: Staging Sites for Sector 12*

<b>Site Purpose</b>	<b>Location</b>	<b>Contact</b>
Staging Sites	Parks and Wildlife research hut and laydown area, Hermite Island.	Parks and Wildlife Regional Duty Officer 9182 2088
	Barrow Island	Parks and Wildlife Barrow Island 94122639 / 94122637
Temporary Holding Centre	Parks and Wildlife research hut and laydown area, Hermite Island.	Parks and Wildlife Regional Duty Officer 9182 2088
	On Water station	
Oiled Wildlife Facility	Dampier	See Oiled Wildlife Facilities in Section 5
	Perth Zoo	0439 953 026

#### **A.12.4.5 Equipment**

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth. Further stockpiles are located in Fremantle.

## SECTOR 13: Cape Lambert to Cape Thoin

Shown as light blue sector 13 in figure A1

(20°35'51.57"S, 117°10'51.24"E to) 20°20'6.68"S, 118°11'4.40"E)

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*Figure A14: Map of Sector 13*

### A.13.1 Terrestrial overview

UCL, pastoral lease station country, typical Spinifex, and Acacia shrub-land. Islands surrounded by sand beaches.

### A.13.2 Marine Overview

Sandy beaches, rocky shore intertidal areas and dense mangrove creek systems. Characterised by macroalgae beds, Dugong foraging areas, seabird nesting and marine turtle nesting.

### A.13.3 Environmental Values

Table A27: Environmental Values for Sector 13

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Jarman Island		No data	
Pelican Rocks		<b>Turtles:</b> Low numbers of adult hawksbill turtles have been observed to inhabit the waters around Pelican Rocks (see map).	Significant
Picard Island		No data	
West Moore Island		No data	
Depuch Island		No data	
Sable Island		<b>Turtles:</b> Beaches on the island have low density turtle nesting (species unknown).	Medium
Ronsard Island		<b>Turtles:</b> Beaches on the island have low density turtle nesting (species unknown).	Medium
Reef Island		<b>Turtles:</b> Beaches on the island have low density turtle nesting (species unknown).	Medium
Mundabullangana Station		<b>Turtles:</b> Victory and Cowrie Beaches have high density Flatback Turtle nesting. High numbers of juvenile Green Turtles have been observed to forage on the reef flat off Victory and Cowrie Beaches at high tide. Mundabullangana Beach has low density flatback turtle nesting.	High

### A.13.4 Recommended Response Strategies

#### A.13.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages)
- Various hazing techniques may also be useful for moving wildlife out of at risk areas.

#### A.13.4.2 Personnel Deployment

Field teams in this area will be deployed from Karratha and Port Hedland by 4x4, aircraft or vessel to staging areas. Karratha and Port Hedland airports are commercial domestic airports catering for flights from Perth, Brisbane, Melbourne, Sydney, Port Hedland, Broome and Darwin (for Karratha) and Perth, Brisbane and Melbourne (for Port Hedland). Mundabullangana station has an airstrip, and flights may be chartered direct from Karratha, Port Hedland and Exmouth.

#### A.13.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover will be conducted by ATV or 4WD. There is a good access to the coastline on Mundabullangana station. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required. Boat-based assessment and collection will be required for islands and mangrove sections of the coastline. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat.

#### A.13.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close to the shoreline as well as Islands if required.

Once collected wildlife may be transported from staging sites to a temporary holding facility at Mundabullangana Homestead, Port Hedland or Karratha.

*Table A28: Staging Sites for Sector 13*

Site Purpose	Location	Contact
Staging Sites	Mundabullangana Station Homestead	9176 4934
	Port Hedland Port	9173 9000
Temporary Holding Centre	Mundabullangana Station Homestead	9176 4934
Oiled Wildlife Facility	Dampier	See Oiled Wildlife Facilities in Section 5
	Port Hedland	See Oiled Wildlife Facilities in Section 5

#### A.13.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth. Further stockpiles are located in Fremantle.



## SECTOR 14: Cape Thoin to Larney Point

Shown as light green sector 14 in figure A1

(20°20'6.68"S, 118°11'4.40"E to 19°56'56.92"S, 119° 5'48.69"E)



*Figure A15: Map of Sector 14*

### A.14.1 Terrestrial overview

UCL, pastoral lease station country, typical Spinifex, and Acacia shrub-land. Islands surrounded by sand beaches.

### A.14.2 Marine Overview

Sandy beaches, rocky shore intertidal areas and dense mangrove creek systems. Characterised by macroalgae beds, Dugong foraging areas, seabird nesting and marine turtle nesting.

### A.14.3 Environmental Values

Table A29: Environmental Values for Sector 14

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Downes Island		<b>Turtles:</b> Beaches on the island have low density turtle nesting (species unknown).	Medium
Little Turtle Island		No data	
North turtle Islet		No data	
Bedout Island		<b>Birds:</b> Supports one of the world's largest populations of Brown Booby (1000 – 10700 breeding pairs) and more than 1% of the world breeding population of Lesser Frigatebird (900-2289 breeding pairs) as observed in 1982 and 1984. Masked Booby ( <i>bedoutii</i> subsp) (up to 500), Crested Tern (up to 2000). Recognised as a BirdLife International Important Bird Area. <b>Turtles:</b> Suspected low density Flatback Turtle breeding island	High
Port Hedland Saltworks		<b>Birds:</b> Supports more than 1% of the global populations of Red-necked Stint (up to 10000) and Sharp-tailed Sandpiper (up to 2625). Over 11,000 coastal birds observed in February 1985 and November 2005. Recognised as a BirdLife International Important Bird Area.	High

### A.14.4 Recommended Response Strategies

#### A.14.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages)
- Various hazing techniques may also be useful for moving wildlife out of at risk areas.

#### A.14.4.2 Personnel Deployment

Field teams in this area will be deployed from Karratha and Port Hedland by 4x4, aircraft or vessel to staging areas. Karratha and Port Hedland airports are commercial domestic airports catering for flights from Perth, Brisbane, Melbourne, Sydney, Port Hedland, Broome and Darwin (for Karratha) and Perth, Brisbane and Melbourne (for Port Hedland).

#### A.14.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover will be conducted by ATV or 4WD. There is a good access to the coastline on Mundabullangana station as well as various coastal tracks to the north of Port Hedland. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required. Boat-based assessment and collection will be required for islands and mangrove sections of the coastline. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat.

#### A.14.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close to the shoreline as well as Islands if required.

Once collected wildlife may be transported from staging sites to a temporary holding facility in Port Hedland before transport to the Oiled Wildlife Facility in Port Hedland or Dampier.

*Table A30: Staging Sites for Sector 14*

Site Purpose	Location	Contact
Staging Sites	Mundabullangana Station Homestead	9176 4934
	Port Hedland Port	9173 9000
Temporary Holding Centre	Mundabullangana Station Homestead	9176 4934
	Port Hedland Port	9173 9000
Oiled Wildlife Facility	Dampier	See Oiled Wildlife Facilities in Section 5
	Port Hedland	See Oiled Wildlife Facilities in Section 5

#### A.14.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth. Further stockpiles are located in Fremantle.

## SECTOR 15: Poissonnier Point to Shoonta Well

Shown as white sector 15 in figure A1

(19°56'58.41"S, 119°10'26.82"E to 19°50'57.22"S, 120°24'18.87"E)



Figure A16: Map of Sector 15

### A.15.1 Terrestrial overview

UCL, pastoral lease station country, typical Spinifex, and Acacia shrub-land. Islands surrounded by sand beaches.

### A.15.2 Marine Overview

The coastal zone is characterised by intertidal mudflats backed by extensive lengths of sandy shore with macroalgae beds. There are no offshore islands associated with this length of coast. Eighty mile beach is a recognised RAMSAR site and important bird area. This site is considered globally important for the following:

### A.15.3 Environmental Values

Table A31: Environmental Values for Sector 15

Coastal Area unit	Tenure	Species susceptible to oiling	Priority rating
Cape Keraudren		<b>Birds:</b> Cape Keraudren is at the southern end of Eighty Mile Beach. This area was surveyed in December 2008. A total of over 323,000 coastal birds were observed across the entire length of Eighty Mile Beach in December 2008. Pied oyster catcher, red-capped plover, greater sandy plover, oriental plover, bar tailed godwit, far eastern curlew, terek sandpiper, grey-tailed tattler, great knot, red knot, red-necked stint, oriental pratincole, dusky gergone.	High
Solitary Island		No data, likely to be similar to Cape Keraudren	High

### A.15.4 Recommended Response Strategies

#### A.15.4.1 Prevention

- Pre-emptive capture of turtles (particularly juvenile life stages)
- Various hazing techniques may also be useful for moving wildlife out of at risk areas.

#### A.15.4.2 Personnel Deployment

Field teams in this area will be deployed from Port Hedland or Karratha by 4x4 to staging areas. Karratha and Port Hedland airports are commercial domestic airports catering for flights from Perth, Brisbane, Melbourne, Sydney, Port Hedland, Broome and Darwin (for Karratha) and Perth, Brisbane and Melbourne (for Port Hedland). There is an airstrip located on Pardoo Station and may be used for small aircraft.

#### A.15.4.3 Wildlife Reconnaissance and Wildlife Recovery

For stretches of sandy beach, reconnaissance and recover will be conducted by ATV or 4WD. There is a good access to the coastline through Pardoo station as well as various coastal tracks. In areas where beach access is not possible via vehicle, reconnaissance and collection by foot will be required. Boat-based assessment and collection will be required for mangrove sections of the coastline. Aerial reconnaissance will be highly beneficial to identify concentrations of wildlife that can then be targeted by foot or boat.

#### A.15.4.4 Logistics Options for Facility Establishment

Staging sites will be established as necessary at opportunistic locations on or close to the shoreline as well as Islands if required.

Once collected wildlife may be transported from staging sites to a temporary holding facility in Port Hedland before transport to the Oiled Wildlife Facility in Port Hedland or Dampier.

*Table A32: Staging Sites for Sector 15*

Site Purpose	Location	Contact
Staging Sites	Pardoo Station Homestead	9176 4930
	Port Hedland Port	9173 9000
Temporary Holding Centre	Pardoo Station Homestead / caravan park	9176 4930
	Port Hedland Port	9173 9000
Oiled Wildlife Facility	Dampier	See Oiled Wildlife Facilities in Section 5
	Port Hedland	See Oiled Wildlife Facilities in Section 5

#### A.15.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Karratha. The second closest is located in Exmouth. Further stockpiles are located in Fremantle.

## APPENDIX B - ESTIMATED TRAVEL TIMES BETWEEN CRITICAL PORTS AND SERVICE CENTRES

	Port Hedland					Port Sampson				Dampier/Karratha				Barrow Island			Onslow					Exmouth/Learmonth					Carnarvon																															
	Distance		Time (hrs)			Distance		Time (hrs)		Distance		Time (hrs)		Distance	Time (hrs)		Distance		Time (hrs)			Distance		Time (hrs)			Distance		Time (hrs)																													
	Km	NM	Drive	Fly	Barge	Km	NM	Drive	Barge	Km	NM	Drive	Fly	Barge	NM	Fly	Barge	Km	NM	Drive	Fly	Barge	Km	NM	Drive	Fly	Barge	Km	NM	Drive	Fly	Barge																										
Perth	1638	1000	17	2:05 (QF)	200	1583	900	16	180	1573	900	16	1:55 (QF)	180	800	2:10 (CHTR)	160	1389	750	14	-	150	1263	700	14	2:25 (QF)	140	904	500	9	3:00 (QF)	100																										
Carnarvon	879	550	9	2.7 (CHTR)	110	700	450	7	90	640	450	6	1:50 (CHTR)	90	350	CHTR -	-	500		5	CHTR	-	377		4	CHTR	-																															
Exmouth / Learmonth	940	300	100	1.7 (CHTR)	60	600	250	6.5	50	550	200	6	1:10 (CHTR)	40	110	0.8 (CHTR)	-	407	55	5	0.5 (CHTR)	11																																				
Onslow	534	260	6	1.4 (CHTR)	50	355	200	4	40	310	150	3	0.9 (CHTR)	30	60	0.7 (CHTR)	-																																									
Barrow Island	n/a	200	n/a	1.30 (CHTR)	60	n/a	120	n/a	24	n/a	70	n/a	1.00 (CHTR)	14																																												
Dampier / Karratha	240	140	2.5	0:40 (CHTR)	30	58	-	0.45	-																																																	
Port Sampson	220	95	2.5	-	20																																																					
Charter Vessel	Travels at 15 knots																																																									
Barge	Travels at 5 knots																																																									
Car	Travels at 100kmh																																																									
Plane	QF (Qantas), CHTR (small charter aircraft) travels at 150kn																																																									



## APPENDIX C – PILBARA AVIATION RESOURCE GUIDE



# AVIATION RESOURCE GUIDE



# PILBARA REGION

Revision D – October 2010

## Introduction

The aviation resources in the Pilbara region are typically contracted to service the oil, gas and minerals industries. These contractual commitments place limitations on the availability of aircraft for use by third parties.

While section 69 of the *Emergency Management Act 2005* empowers authorised officers to take control of or make use of any place, vehicle or thing **during a declared emergency situation**, it is preferable, when possible, that access to resources is gained through predetermined arrangements.

This guide details the arrangements agreed with industry for FESA to access aviation resources for emergency response purposes. Information has been compiled by locality and includes the aircraft currently in the region, the capability of those aircraft and key contacts for obtaining release from contractual arrangements.

Requests for aircraft should be made to the aircraft company in the first instance and if unavailable the key contact for release should be called.

All aircraft ranges quoted in this guide are indicative only. The aircraft charterer must be consulted at ascertain actual achievable aircraft range which can vary considerably due to aircraft configuration, payload and weather. Range data was sourced from <http://www.airliners.net/aircraft-data/>

## EXMOUTH

Operator	Aircraft	Capability	Availability	Key Contact for Release
<b>BRISTOW</b> (Learmonth) Ph.: 9949 4806	Super Puma (subject to change but similar capacity aircraft maintained at base)  S76 C double plus  S76 A+  1 x 332  1 x EC 225	18 pax  Cruise speed 240 kph  Approx. Range 610 km  12 pax  10 pax  18pax	Varies – daily scheduled of off shore transfers.	<b>BHP Billiton</b>  Bernard Houston  Ph.: 0437 886 979 or  Jamie Van Kampen (alt)  0418 335 603  <b>Woodside</b>  See details under Karratha Listing.
<b>NORTH WEST AIR WORK</b>  Ph.: 9949 2888  Fax: 9949 1888  A/H  Wayne 0419 190 357  Eric 0427 492 880	3 x Cessna 337  Good High Visibility    Cessna 206	5 pax (twin engine)  Cruise speed 275 kph  Approx. Range 2200 km    5 pax (single engine)  Cruise speed 220 kph  Approx. Range 1300 km	Good availability	North West Air

Operator	Aircraft	Capability	Availability	Key Contact for Release
	Bonanza	4 pax (single engine) Cruise speed 200 kph		
	3 x Cessna 172	3 pax (single engine) Cruise speed 185 kph Approx. Range 1000 km		
	2 x Cessna 150	1 pax Cruise speed 170kph Approx. range 900km		

## KARRATHA

Operator	Aircraft	Capability	Availability	Key Contact for Release
<b>BRISTOW</b> Ph.: 0419 769 210 or 9185 0555  A/H Emergency Only: 1200 – 0400 hrs: 0419 769 208  0400 – 1200 hrs: 0419 769 215  Fax: 9185 5111	5 x Super Pumas	18 pax, daylight winching capability. Cruise speed 240 kph Approx. Range 600km	Varies – daily scheduled off shore transfers.	<b>Woodside</b> Woodside Communications Centre 1300 833 333 ask for Duty Aviation Rep
	3 x Sikorsky S76	8 pax Cruise speed 220 Kph Approx. Range 700 km		
<b>HELICOPTERS AUST.</b> Helicopters Australia Ph.: 08 9143 1836  Contact person: Craig Powell 24hr contact: Mobile: 0417959073  Shane Farrow Senior Base Engineer 0419 852 620	2 x EC 145	9 pax Cruise speed 230 kph Approx. Range 550 km	Varies	<b>Pilbara Iron</b> Marine Department Ben Doig 9143 5901 0417 983 407
	2 x EC145	9 pax Cruise speed: 120 KIAS Approx. range: 200 nm, Depending upon configuration and reserve fuel requirements.	Varies daily	<b>Rio Tinto</b> Geoff Shingleton Marine Superintendent 04 1792 2237

Operator	Aircraft	Capability	Availability	Key Contact for Release
<b>KARRATHA FLYING SERVICES</b> Ph.: 9144 2444 (24hrs) Fax: 9144 1172	1 x Beechcraft 1900c	16 – 19pax Cruise speed 240knots	Varies	Directly with Karratha Flying Services
	2 x Navajo	5-6 pax Cruise speed 330 kph Approx. Range 2100 km		
	1 x Chieftain	6 pax Cruise speed 330 kph Approx. Range 1700 km		
	1 x Twin Otter	14 pax Cruise speed 240 Kph Approx. Range 1200 km		
	1 x King Air	8 pax Cruise speed 425 kph Approx. Range 3200 km		
	1 x Cessna 172	2 pax (NB: single engine) Cruise speed 185 Kph Approx. Range 1000 km		
	1 x King Air 200	10 pax Cruise speed 480 kph Approx. range 2100km		

Operator	Aircraft	Capability	Availability	Key Contact for Release
<b>WA POLICE AIR WING</b> Pilbara District Office Ph.: 9182 2222	Pilatus PC12	8 pax (turbo prop) Cruise Speed 500 kph Approx. Range 1800 km	Varies dependent on duties	John Ballantyne 0429 652 908

### **NEWMAN**

Operator	Aircraft	Capability	Availability	Key Contact for Release
<b>HELI WEST</b> Ph.: 9499 7700 Fax: 9414 1080  Rochelle 0408 063 361 Based in Perth	1 x Bell Long Ranger L3  3 x AS350 SD2 Squirrel (Bell & Squirrel alternate between Newman and Karratha)  B2 Squirrel	3 pax Cruise speed 165 kph Approx. Range 600 km  5 pax  5 pax Cruise speed 200 kph Approx. Range 600 km	Varies	Directly through HeliWest.  Contract in place with FESA Air Operations For country work



## **PORT HEDLAND**

<b>Operator</b>	<b>Aircraft</b>	<b>Capability</b>	<b>Availability</b>	<b>Key Contact for Release</b>
<b>JAYROW</b> Ph./Fax: 9173 3460  <b>Duty Pilot</b> Mb: 0419 969 845	Bell 206 Jet Ranger	3 pax Cruise Speed 165kph Approx. Range 690km	Varies	<b>Port Hedland Port Auth.</b> Harbour Master Lindsay Copeman Ph.: 9173 0000 Mob: 0417 967 808  Port Authority Tower 9173 0030 (24hr)
	Euro Copter EC 120	3 pax Similar cap's as JetRanger Fitted with Floatation Gear		
<b>GOLDEN EAGLE AIRLINES</b> Ph.: 9140 1181 Fax: 9140 2341 Operations 24hr Mb 0439 931 403 Derby Office 9191 1132	Navajo	6 - 7 pax (twin engine) Cruise speed 330 Kph Approx. Range 2100 km	Tues/Wed not good due to aircraft configuration, mail runs. Can mobilise additional aircraft ex Broome and Derby with 3hr lead time.	Directly with Golden Eagle Operations
<b>POLAR AVIATION</b> Ph.: 0419 955 210 (24 hrs) Fax: 91402475	3 x Barron B58	5 pax Cruise speed 330 Kph Approx. Range 600 km	Generally good	Directly with Polar Aviation
	Cessna 208	12 pax Cruise speed 290 Kph Approx. Range 1600 km		
	Cessna 206	5 pax Cruise speed 260 Kph Approx. Range 1300 km		

Operator	Aircraft	Capability	Availability	Key Contact for Release
	Cessna 210	5 pax Cruise speed 280 Kph Approx. Range 1400 km		
	Cessna 172	4 pax Good for air observations		
	Barron E55	5 pax Cruise speed 330 Kph Approx. Range 1000 km		

**NOTE: Quoted range is indicative only. Actual range can vary considerably due to aircraft configuration, payload and weather conditions. Aircraft Charterers must be consulted to determine actual achievable range.**

## APPENDIX D – PILBARA AIRCRAFT LANDING STRIPS

AIRFIELD NAME	LENGTH IN FEET.	LATITUDE SOUTH		LONGITUDE EAST	
		DEGS.	DEC. MINS	DEGS.	DEC. MINS
Ashburton Downs	3280	23	23.05	117	1.78
Auski R' House	3625	22	22	118	41
Balfour Downs	4920	22	48	120	52
Barrow Island	Unknown	20	78	115	42
Bocrabee	4590	22	15	121	22
Bonney Downs	2300	22	9.93	119	55.31
Camp Nifty	5577	21	40.3	121	35.2
Coolawanyah	3950	21	50	117	48
Coongan	2620	20	41	119	40
CORAL BAY	4082	23	8	113	46
Corunna Downs	6234	21	28	119	51
Corunna Downs 2	5676	21	26	119	48
Cotten Creek	3990	22	52	122	51
Cowra	3500	22	23	118	59
Ethel Creek	3280	22	54	120	10
EXMOUTH	4200	22	2	114	6
Fortesque River Road	3270	21	18	116	8
Giralia Station	2950	22	41	114	22
Harbutt Range	5249	22	57	122	51
Hillside	3281	21	45	119	25
Hooley	2620	21	53	118	13
Indee Station	3117	20	47	118	35.5
Jiggalong Missions	4530	23	20	120	48
Kangan	Unknown	21	6	118	31
Karijini National Park	3610	22	29	118	28
KARRATHA	6070	20	42.37	116	46.4
Karratha Station	2790	20	43	116	40
LEARMONTH	10000	22	14.01	114	5.3
Limestone 2	Unknown	21	11	119	50
MARBLE BAR	3810	21	9.8	119	50
Mardie Station	4590	21	12	115	58
Meentheena	3610	21	16	120	27

AIRFIELD NAME	LENGTH IN FEET.	LATITUDE SOUTH		LONGITUDE EAST	
		DEGS.	DEC. MINS	DEGS.	DEC. MINS
Millstream	3937	21	37	117	4
Minderoo	3610	21	59.43	115	2.34
Mount Divide	4590	22	27	120	49
Mount Edgar	2790	21	20	120	-4
Mount Tom Price	Unknown	22	44.62	117	40.02
Muccan	3610	20	39.52	120	3.93
Mulga Downs	2950	22	6	118	28
Mulyie Station	3610	20	26.88	119	30.03
Munjina	4330	22	22	118	41
Nanutarra	4920	22	32	115	30
NEWMAN	6800	23	25.07	119	48.17
Noreena Downs	4590	22	17.3	120	10.3
NULLAGINE	4000	21	54.8	120	11.9
Nyang Station	3937	23	1.15	115	3.02
ONSLOW	5249	21	40.1	115	6.8
Pack Saddle	3940	22	54.32	118	41.73
PANNAWONICA	4298	21	38	116	18.97
PARABURDOO	7000	23	10.27	117	44.72
Pardoo	3280	20	7.3	119	35
Peedamulla	1640	21	51	115	38
Pilgangoora	4920	21	2	118	53
POINT SAMSON	Unknown	20	38	117	11
PORT HEDLAND	8200	20	22.67	118	37.58
Punmu	3840	23	36.22	120	46.49
Pyramid	2620	21	3	117	27
Red Hill	2620	21	59	116	4
Rhodes Ridge	5910	23	6.2	119	22
Rocklea Station	3530	22	51.72	117	25.22
ROEBOURNE	5270	20	46	117	9
Roy Hill	4921	22	39	119	57
Rudall River	4270	22	33	122	7
Sedco 708	Unknown	21	32	114	12
Shay Gap	5939	20	29	120	11
Sherlock	3609	20	54	117	39
South Sahara	2300	21	41	123	8
Strelley	3120	20	27	119	0.01

AIRFIELD NAME	LENGTH IN FEET.	LATITUDE SOUTH		LONGITUDE EAST	
		DEGS.	DEC. MINS	DEGS.	DEC. MINS
Tabba	Unknown	20	50	118	53
Telfer	6560	21	42.9	122	13.72
The Range	4000	22	16	115	24
Thevenard Island	3580	Unknown	Unknown	Unknown	Unknown
Tracy Field	3610	22	19	122	4
Turee Creek Station	3940	23	37.37	118	39.03
Varanus Island	Unknown	Unknown	Unknown	Unknown	Unknown
Wallareenya Station	3280	20	45.49	118	49.29
Warambie	1640	20	57	117	22
Warrawagine	6560	20	50.65	120	42.1
Well 33	3890	22	23.17	124	49.14
WICKHAM	3870	20	42	117	7
Winning Pool Station	2950	23	9.35	114	32.18
WHITTENOOM	7200	22	13.47	118	20.92
Wodgina	2950	20	9	118	42
Woodie	4003	21	39.71	121	13.94
Woodstock Mission	4760	21	37	118	56
Woodstock	Unknown	21	28	118	57
Wyloo Station	4170	22	41.65	116	13.88

## APPENDIX E – PILBARA LAUNCH RAMPS AND NATURAL LAUNCH POINTS

Level of Launch Site	Site Name	General Location GPS Co-ordinates	Vessel Size Estimates	Tidal Range	Description of Launch Area and Comments
<b>KARRATHA DISTRICT</b>					
<b>Major launch sites</b>	Hampton Harbour Yacht Club	Dampier, West facing 20 39'46.73S 116 42'08.62" E	Up to approx. 8 metres length	Approx. 4.0m	Requires membership swipe card to access launching facility. Concrete ramp, with pontoons.
	Dampier Public Boat Ramp	Dampier, West facing 30 39'22.55"S 116 42'26.14"E	Any trailerable sized vessel	Approx. 4.0m	4 ramps available, concrete with pontoon and 2 finger jetty walkways.
	Dampier Port Authority Barge ramp	Burrup Peninsula North-West facing 20 36'56.46"S 116 44'57.38" E	Any trailerable sized vessel	Approx. 4.0m	Steep concrete ramp, would require a high tide for smooth entry. Subject to wave action.
	Port Hedland Town Boat Ramp	Port Hedland, North East side of port entrance channel - 'The Esplanade' Port Hedland 20° 18.572'S, 118° 34.670'E	Any trailerable sized vessel	Approx. 4.0m	2 ramps available, concrete with pontoon and finger jetty walkway.
<b>Secondary launch sites</b>	Back Beach Boat Ramp	Bulgarra, Karratha East side, faces North 20 43'16.81"S 116 53'27.04" E	Up to approx. 6 metres length	Approx. 4.0m	One concrete ramp with jetty protect by rock wall, only useable at high tide.
	Fortescue River	Mouth of Fortescue River	Most trailerable sized vessel up to 7m	Approx. 3.5m	Creek / River crossings required. Must have 4wd and support vehicle if high tide / rain inundation has been experienced
	Finucane Island Boat Ramp	Finucaine Island (past BHP ore stockpiles) 20° 18.450'S 118° 32.107'E	Most trailerable sized vessel up to 7m - depends on tide for draft	Approx. 4.5m	Creek Launch but has partial laid concrete ramp - recommend 4wd
<b>Minor launch sites</b>	Whitnell Bay sand ramp	Burrup Peninsula West Facing 20 35'02.58"S 116 47'22.54" E	Up to approx. 5 metres length	Approx. 4.0m	Access is 4x4 track, sand boat ramp area, no jetties or pontoons.

Level of Launch Site	Site Name	General Location GPS Co-ordinates	Vessel Size Estimates	Tidal Range	Description of Launch Area and Comments
	Bulla Bulla sand ramp (Whim Creek)	Creek facing NNE 20° 40.477'S 117° 46.996'E	Up to approx. 6 metres length	Approx. 4.25m	Access is 4x4 track, sand boat ramp area, no jetties or pontoons.
<b>EXMOUTH DISTRICT</b>					
<b>Major launch sites</b>	Exmouth Marina - boat ramp	Madaffari Drive, Exmouth 21 57.350 South 114 08.361 East	Any trailerable sized vessel	approx. 3.0 metres	Two lane; concrete based ramp with two finger jetties Ramp should be useable on most tides
	Bundegi - boat ramp	Bundegi Beach - approx. 12km north of Exmouth town-site 21 49.870 114 10.434	Any trailerable sized vessel	approx. 2.5 metres	Single lane; concrete based ramp with one finger jetty Depth restrictions for launch / retrieve depending on vessel draft and tide;
	Tantabiddi - boat ramp	Yardie Creek Road - approx. 40 km from Exmouth town-site 21 54.746 113 58.686	Any trailerable sized vessel	approx. 2.0 metres	Two lane; concrete based ramp with two finger jetties Depth restrictions for launch / retrieve depending on vessel draft and tide
	Coral Bay - boat launching facility	approx. 1.5km south of Coral Bay town-site 23 09.309 113 45.986	Any trailerable sized vessel	approx. 2.0 metres	Two lane; concrete based ramp with two finger jetties, and a commercial jetty platform Ramp should be useable on most tides
<b>Secondary launch sites</b>	Pilgramunna camp	Cape Range National Park 22 11.613 113 51.352	Up to approx. 6.5 metres length?	approx. 2.0 metres	Natural rock groyne, bedrock exposed at low tide. Best at high tide, however vehicles may be reversed out over rock at low tide. Best on tides of 1.1m or greater.
	Bruboodjoo camp	approx. 20km north of Coral Bay 22 58.576 113 49.270	Up to approx. 6.5 metres length?	approx. 2.0 metres	Firm beach, best at high tide. Long dirt road from Coral Bay, corrugated with some gates
	Gnaraloo Bay	Gnaraloo Station 23 45.973 113 32.584	Up to approx. 6.5 metres length?	approx. 2.0 metres	Beach launching. Good hard sand. Not tide dependent. May need grates/sand tracks to drive on sand
<b>Minor launch sites</b>	Cape Farquhar shack	Cape Farquhar, Gnaraloo Station. No public access	4m max	approx. 2.0 metres	Steep sloping beach, very soft sand. No public access to this



Level of Launch Site	Site Name	General Location GPS Co-ordinates	Vessel Size Estimates	Tidal Range	Description of Launch Area and Comments
		23 37.372 113 37.956			stretch of coast.
	3 Mile beach / lagoon	3 mile camp, Gnoraloo Station 23 52.334 113 29.869	4m max	approx. 2.0 metres	Steep sloping beach, very soft sand. Use rope to assist recovery. Consult with station manager before use.
	Jansz beach	Near Vlamingh Head lighthouse, Yardie Creek Road 21 49.672 114 04.357	4m max	approx. 2.0 metres	Steep sloping beach, very soft sand. Use rope to assist recovery.
	Neds camp	Near Milyering VC, Cape Range NP 22 00.014 113 55.962	4m max	approx. 2.0 metres	Steep sloping beach, very soft sand. Use rope to assist recovery.
	Mesa camp	Near Milyering VC, Cape Range NP 22 00.284 113 55.643	4m max	approx. 2.0 metres	Wide sandy area, very boggy. Underwater on some high tides. Use rope to assist recovery.
	Lakeside camp	Near Milyering VC, Cape Range NP 22 02.032 113 54.864	4m max	approx. 2.0 metres	Wide sandy area, very boggy. Underwater on some high tides. Use rope to assist recovery.
	Turquoise Bay	Cape Range NP 22 06.012 113 53.177	4m max	approx. 2.0 metres	Narrow sloping beach, rubbly. Not particularly boggy, however care should be taken. No shorebreak. Emergency access gate at drift carpark leads to launch area. Constant lookout required for snorkelers.
	Osprey Bay camp	Cape Range NP 22 14.260 113 50.355	4m max	approx. 2.0 metres	Steep sloping beach, very soft sand. No shorebreak. Recommend trailer disconnection for retrieval or drag boat up with vehicle.
	Yardie Creek	Cape Range NP 22 19.449 113 48.702	4m max	approx. 2.0 metres	Wide sandy area. Very boggy. Creek open to ocean at times. Extreme care should be taken at all times. No shorebreak. Many vehicles have been

Level of Launch Site	Site Name	General Location GPS Co-ordinates	Vessel Size Estimates	Tidal Range	Description of Launch Area and Comments
					bogged and badly damaged here. Use caution.
	Boat Harbour	Cape Range NP 22 21.811 113 47.135	4m max	approx. 2.0 metres	Steep sloping beach, very soft sand. No shorebreak Recommend trailer disconnection for retrieval or drag boat up with vehicle.
	In front of H. Holt naval base	6kn north of Exmouth 21 53.422 114 08.749	4m max	approx. 2.0 metres	Firm beach, rocky intertidal zone. Need high tide Many big rock pools and ledges
	Winderaban di Point	Ningaloo Station 22 29.775 113 42.520	4m max	approx. 2.0 metres	Soft beach launching, no shorebreak Long boggy sand track leads to launch area. Key required from Ningaloo Station for gate access
	North Lefroy Bay	Ningaloo Station 22 31.122 113 42.778	4-5m max	approx. 2.0 metres	Key required for gate access.
	Point Billie	Ningaloo Station			Seek advice from station manager re launch site description, suitability, etc.
	South Lefroy Bay	Ningaloo Station 22 32.944 113 39.870	4-5m max	approx. 2.0 metres	Reasonably easy beach launching, soft in parts. Not tide dependant. No shorebreak. Key required for gate access.
	14 Mile camp	Warroora Station 23 17.129 113 47.567	4-5m max	approx. 2.0 metres	Reasonably easy beach launching, soft in parts. Not tide dependant. No shorebreak. Busy beach camp. Caretaker on site.
	Sandy Point camp	Warroora Station 23 19.383 113 47.415	4-5m max	approx. 2.0 metres	Reasonably easy beach launching, soft in parts. Not tide dependant. No shorebreak. Busy beach camp. Caretaker on site. Long sandy track leads to launch area.

Level of Launch Site	Site Name	General Location GPS Co-ordinates	Vessel Size Estimates	Tidal Range	Description of Launch Area and Comments
	Maggies camp	Warroora Station 23 24.973 113 47.017	4-5m max	approx. 2.0 metres	Reasonably easy beach launching, soft in parts. Best at high tide. No shorebreak. Rubbly.
	Lagoon camp	Warroora Station 23 32.436 113 44.299	4m max	approx. 2.0 metres	Steep soft beach. Heavy shorebreak. Extreme care required Many dinghies have been swamped here. Watch sets and time launch and retrieval between sets. Use vehicle to pull boat up the beach with rope.
	Warroora southern boundary camp	Warroora Station 22 33.523 113 42.912	4m max	approx. 2.0 metres	Steep soft beach. Heavy shorebreak. Extreme care required Many dinghies have been swamped here. Watch sets and time launch and retrieval between sets. Use vehicle to pull boat up the beach with rope.
	Warroora north of the lagoon	Warroora Station 23 29.972 113 46.063	4m max	approx. 2.0 metres	Soft beach. Fringing reef gives some protection from swell but still some surge. Good option when swell too big for the lagoon or southern boundary. Gap in reef can be tricky when swell running. Use caution.
	Bay of Rest	Learmonth 22 18.857 114 07.487	4m max	approx. 3.0 metres	Mangrove area. Long track in. Very muddy and best at high tide. Exmouth Gulf Station land
	Pebble Beach	15km south of Exmouth 22 02.468 114 06.909	4-5m max	approx. 3.0 metres	Firm beach covered in loose stones. Best at high tide. Reefs to navigate through just off the beach
	Red Bluff	Quobba Station 24 01.832 113 26.991	4m max	approx. 2.0 metres	Wide sandy beach. Heavy shorebreak. Not too boggy. Best on low swell Many dinghies have been swamped here. Watch sets and time

Level of Launch Site	Site Name	General Location GPS Co-ordinates	Vessel Size Estimates	Tidal Range	Description of Launch Area and Comments
					launch and retrieval between sets. Use vehicle to pull boat up the beach with rope.
	Learmonth jetty	Opposite Learmonth airport / solar observatory 22 13.026 114 06.285	up to 6.5m	approx. 3.0 metres	beach launch - in front of creek mouth (drive south along beach from jetty) mid to high tides best
	Bullara creek	Bullara station - bottom of Exmouth gulf. Opposite Bullara homestead. Turn off point on main road: 22 40.576, 114 02.746 22 31.184, 114 08.048	4m max	approx. 3.0 metres	4WD access. Muddy, steep, tricky launch site. Best to launch/retrieve high tide but not super high (maybe 1.5 to 2.2m). Creek and creek mouth also hazardous for navigation - requires caution - high tides best.
	Blowholes camp	Quobba Station - south of "King Waves Kill" sign 24 29.452 113 24.920	up to around 4m	approx. 2.0 metres	Soft beach launch - can be very tricky. Good access to beach but then there is a drop off to negotiate when launching - may require long tow rope / two vehicles, etc. Entry and exit navigation through "lagoon" also potentially very hazardous - requires caution / and low swell?
	Giralia / Sandalwood peninsula	Giralia Station 22 27.615 114 14.532	up to 4m	approx. 3.0 metres	Inside mangrove creek mouth. The entrance and gulf side of creek mouth is shallowest point of access to gulf. Higher tides best (approx. 1.5hrs either side of high tide) turn off Burkett Rd to Giralia Homestead at 22 42.531 / 114 20.325. Get directions from station manager (Denver). Allow approx. 1hr to get to launch from Burkett Rd. Drive toward fish farm then take left fork at 22 26.634 / 114 18.841. Then head west and take

Level of Launch Site	Site Name	General Location GPS Co-ordinates	Vessel Size Estimates	Tidal Range	Description of Launch Area and Comments
					right fork at 22 27.124 / 114 15.530 - head to creek mouth. Alternative launch site could be just north of fish farm - need gate key from Denver - 4m boats only, rocky and uneven ground, mid to high tides only.
	Giralia / Sandalwood peninsula	Giralia Station	up to 4m	approx. 3.0 metres	East side of peninsula facing eastern gulf mangroves mid to high tide best. Turn off Burkett Rd to Giralia Homestead at 22 42.531 / 114 20.325. Get directions from station manager (Denver). Allow approx. 1hr to get to launch from Burkett Rd. Drive toward fish farm, launch site is a small track to east just north of fish farm - need gate key from Denver - 4m boats only, rocky and uneven ground, mid to high tides only.

## APPENDIX F – SPECIALIST PERSONNEL RESOURCE LIST

CATEGORY	BUSINESS NAME	CONTACT	OWR Availability
Veterinarian Karratha	Karratha Vet Hospital	08 91851600	yes
Karratha mobile Veterinarian	Yvette Turner	0429151838	yes
Karratha mobile Veterinarian	Lisa Pearce	0488928028	yes
Port Hedland Veterinarian	South Hedland Vet	08 91721608	unknown
Exmouth Veterinarian	Cape Vets	08 99411155	yes
Carnarvon Veterinarian	Coral coast vets	08 99412444	unknown
Carnarvon Veterinarian	Gascoyne vet clinic	08 99411886	unknown
Carnarvon Veterinarian	Coral Coast Vet	08 99411155	unknown
Broome Veterinarian	Broome Vet Hospital	08 91921319	yes
Broome Veterinarian	All Creatures Vet Clinic	08 91928081	yes
Chelonia Broome	Wildlife rehabilitation	04 07945660	yes
Pilbara Wildlife Carers	Rose Best	04 38924842	yes
Murdoch Vet Hospital Perth	Murdoch Vet Hospital	1300625494	yes
Kimberley wildlife rehabilitation	Kimberley Vet Centre and Wildlife Rescue Kununurra	08 9169 1229	yes

## APPENDIX G – SPECIALIST OWR EQUIPMENT SUPPLIERS

Specialist OWR products				
Product	Purpose	Company	Location	Phone
Knotless netting	Bird transport	Diamond (custom) networks	O'Connor WA	08 93143113
Knotless netting	Bird transport	Haverford	Mornington Vic	(02)97715288
Knotless netting	Bird transport / Containment	Crop Nets	Carnarvon WA	08 9941 8601
Knotless netting	Bird transport / Containment	Commercial Netmakers	O'Connor WA	08 9314 3003
Transport boxes plastic and cardboard	Bird transport	Service containters (AMCOR agent)	Perth	(08)94343482
Transport boxes plastic and cardboard	Bird transport	Lyppard (vet supplies)	Balcatta	(08)92401910
Capture nets Telescopic	fauna capture	Bluewater tackle	Exmouth	
Fauna capture nets	fauna capture	Karratha adventure sports	Karratha	(08)91444312
Fauna capture nets	fauna capture	Tackle time	Karratha	(08)91442288
Fauna capture nets	fauna capture	Port Hedland harbour tackle	Port Hedland	(08)91732683
Fauna photography devices	Fauna surveillance	Faunatech Austbat	Bairnsdale victoria	0411116392 (03)51579001
Fauna tracking specialist devices	Fauna tracking for success assessment	Sirtrack	International	1800427247
Specialist capture gear whale and dolphin pontoons, turtle immobilising transport stretchers, shark and stingray containment, kangaroo and bird nets	All fauna capture and transport	Animal Rescue Kits	Wimbleton NSW	0407591123
Turtle immobilising transport stretchers	Turtle transport	Advance Marine Upholstery	Coomera QLD	0412763282 (07)56657886
Medical needles	general	Surgical house	Leederville WA	(08)93814199
Medical syringes	feeding and general	Surgical house	Leederville WA	(08)93814199
Medical KY	lubrication	Any Chemist		
Medical (bird feeding tubes)	Feeding adn rehydration	Surgical house	Leederville WA	(08)93814199
Medical Spark electrolyte	Rehydration	City Farmers and most pet suppliers	Numerous outlets in Perth	
Medical general supplies: saline, sterile water, thermometers	washing	Most local chemists		
Medical PPE, centrifuges, instruments, ect	All fauna treatment and lab needs	Perth scientific	Malaga	(08)92093955
Medical veterinarian supplies	Veterinarian equipment	Lyppard (vet supplies)	Balcatta	(08)92401910
Pools / Wading Pools	OWLR Rehabilitation / Holding	Clark Rubber	Various (Aust Wide)	13 80 90
Pools / Wading Pools	OWLR Rehabilitation / Holding	KMART	Karratha	(08) 9159 1600
Pools / Wading Pools	OWLR Rehabilitation / Holding	KMART	South Hedland	(08) 9172 9900



## APPENDIX H – OWR KIT CONTENTS (PARKS AND WILDLIFE KARRATHA KIT)

Located at the Karratha Parks and Wildlife office

Karratha Oiled Wildlife and Stranding Kit	
(as of July 2014)	
ITEM	QUANTITY
<b>Not in boxes</b>	
Dolphin Sling	1
Turtle Sling	1
Floodlights - Halogen Twin 500w on tripod	1
Heater - Oscillating heat fan	2
Catch Nets - large knotless	12
Catch Nets - large knotless with short handles	3
Square Catch nets - fine knotless netting	3
Long Telescopic Poles for catch nets	6
Medium length poles for catch nets	7
Medium length telescopic poles for square fine mesh catch nets	3
Pet Packs	N/A
Large Plastic Crates	3

<b>Stranding Kit</b>	
Wildlife guides	1
Volunteer record sheets	N/A
Data sheets	N/A
Flat bed sheet	1
Nitrile gloves	6
Mosquito head nets	2
dish clothes	3
caution tape	1
Red LED lights	2
Large sample jars	2
Small sample jars	6
150m tape measure	1
safety glasses	2
hand sponge	1
Aluminium foil roll	1
reflective arm band	1

<b>Nally Bin 1</b>	
Hessian sacks	50
Synthetic woven sacks	29

<b>Nally Bin 2</b>	
Toilet Tissue	28 rolls

<b>Nally Bin 3</b>	
Pillow Case	10
Mattress Protector	2
Sheets	11

<b>Nally Bin 4</b>	
Sheets	5
Mattress Protector	2
Pillow Case	53

<b>Nally Bin 6</b>	
Poultry Brooder Lamp (ceramic bulb, connection and lamp shade)	6

<b>Nally Bin 7</b>	
Small Washing Tubs	3
500ml Bowls	30
Kidney Dishes	10
Scissors (large)	25
Scissors (small)	20
Scalpels	29
Tweezers (large)	21
Tweezers (small)	16
Tube Extensions	2
Feeding Tubes	17
Mixing cannula	18
Gauze	A lot
Cotton Wool	1 x roll
Non-Adhesive Dressing (box of 50)	1
Small Cloths	5
Syringes (60ml)	12
Plastic Sheets	12
Rectangular Trays	2
Triangle Bandage	1

<b>Nally Bin 9</b>	
Latex examination gloves (size 6.9)	40
Latex examination gloves (size 8)	40
Vytrate (Scour treatment sacehts 64g)	24
Lectade (oral hydration therapy sachets 64g)	24
Activated Charcoal Powder (500g tub)	1
Garbage Bags (extra large)	20
Garbage Bags (medium)	40
Sodium Chloride Irrigation Solution 0.9% (30ml)	90
Nitrile gloves (small)	100
Nirtile Gloves (medium)	100
Nitrile Gloves (Large)	100
IV Catheter 24GA x 0.75" 25ml/min	50
IV Catheter 22GA x 1" 35ml/min	50
IV Catheter 20GA x 1.1" 65ml/min	50

<b>Nally Bin 10</b>	
Surgical strip skin closures	6
Plastic sheets	27
EosSpec	1
Feeding Tube (FG6)	2
Nelation Catheter (FG10)	2
Phthalate Free Tube	3
Kidney Dish	13
Gauze (various sizes)	15
Swabs	34
Povidone-Iodine Solution (100ml)	1
Sample Bottle	49
Eye Pad	2
Blood Infusion Set	1
Tracheal Tube	3
Suture Removal Pack	2
Surgical Scissors	6
Tweezers	6
Sterile Tubes	3
Wire Fingernail Swabs	20
Small Cloths	5
Rectangular Dish	4
Round Dish	4
Round Dish (small)	3
50ml Syringe (Catheter Tip)	4
Cotton wool (small roll)	1

<b>Nally Bin 11</b>	
Scourban (2lt)	2
Microshield (5lt)	2
Hexawash (5lt)	2
Distilled Water (10lt)	1
Bisolve Cleaning Agent (2lt)	1

<b>Nally Bin 12</b>	
50 ml Catheter tip Syringe	40
1ml Syringe	100
10ml Syringe	100
20ml Syringe	100

<b>Nally Bin 14</b>	
Sodium Lactate (Hartman's solution)	9
Flexible Feed Tubes	50
Flexible Drip Feed Tubes	200

<b>Nally Bin 15</b>	
toilet rolls	8
elastoplast 2.5cm x 2.5m	10
unisorb packs	8
60ml Syringes	4
cotton gauze swabs 10 x 10cm	50
20 ml syringes	4
Capillary tube packs	2
elastic gauze bandages 7.5cm x 12m	24
Solosite wound gel	1
Filla-Bac antibacterial cream	1
Kidney trays	3
surgical scissors	3
Stanely knife	1
activated charcoal	2 boxes
Combur test	2 boxes
KY gel tubes	16
Glass slides	50
surgical blades (10)	200
Surgical blades (22)	100
Surgical tray kit and swabs	1

Blue Box 5: General animal management equipment	
Hanging scales (10kg)	1
Hanging scales (5kg)	1
Hanging scales (Salter 1kg)	4
Calico bags (small)	48
Calico bags (medium; 490x300mm)	10
Towels	3
Measuring jug 1.4l	3
Liquid detergent (Palmolive)	8
Dawn Liquid Detergent	2
Cloth nappies	12
Flexible plastic funnels	2
A4 writing pad	1
Clip boards	1
Field Manual - Rescue and Rehab of Oiled Birds (Erna Walraven)	
Oil spill manual - DEC state-wide	1
Oiled Wildlife Response training manual (compiled by M Short)	1
Waterproof Dolphin torches	1
Record sheets (Patient record; Rehabilitation data; Necropsy form)	100 each
Emergency treatment protocol (laminated)	
AIIMS paper forms (master copies)	2 sets
AIIMS electronic forms on memory stick	1
Procedure for Sporonox (laminated)	2
Tins barrier cream	1
Gardening gloves	10 Pairs
PVC Gloves (arm length)	12 pairs
Safety Goggles	2
Safety Spectacles	6
Disposable Overalls	14
Alluminium foil roll	2
Large Tarp	1
Numbered flat spiral bands Size 9 (blue)	25
Numbered Flat Spiral Bands Size 6 (white)	25
Numbered flat spiral bands size 12 (yellow)	25
Stethoscope	2
Head torches	4
HD extension cord	1
Specimen container	20
Permanent marker	2
Pens	12
Retractable safety knives	4

Blue Box 6: Veterinary equipment	
Ansell Surgical gloves size 6.5	40
Ansell Surgical gloves size 8	40
Powder free Nitrile single use examination gloves -small	100
Powder free Nitrile single use examination gloves -medium	100
Cotton wool 375 g	4
Needles 25G x 1"	100
Needles 21G x 1"	100
Winged infusion set 25G x 0.75"	100
IV catheter 24GA x 0.75" 25ml/min	50
IV catheter 22GA x 1" 35ml/min	50
IV catheter 20GA x 1.1" 65ml/min	50
Sodium chloride injection BP 0.9% (20ml ampule)	90
1ml syringe - latex free	200
2.5ml syringe - latex free	100
5ml syringe - latex free	100
10ml syringe - latex free	100
Vytrate (scour treatment) sachets (64g)	24
Lectade - oral rehydration therapy sachets (64g)	24
Lectade liquid concentrate (250ml)	20
Charcoal Activated powder (500g tub)	1
Melolin (10cm x 10cm) pieces	40
Leukoplast elastic (2.5cm x 2.5m)	2
Cohesive flexible bandage (7.5cm x 4.5m)	4
Veterinary Elastoplast (7.5cm x approx 4.5m)	4
Self adherent wrap (5cm x 4.5m)	8
Softban Synthetic orthopaedic padding (7.5cm x 2.7m)	8
Culture swap transport system	35
Wooden tongue depressors	100
Thermometers (analogue; 35-42C)	4
Digital thermometer	3
Scalpel handles	3
Scalpel blades (size 22)	100
Flourets (sterile ophthalmic strips)	~80 + 1 box 100
Unisorb silica gel desiccant (to absorb moisture from kit box)	5
Transwab	35
Hartman's Solution (1lt)	1
Water for injection	2
Isopto tears	10
fluorets	2

## APPENDIX I – LOCAL OILED WILDLIFE RESPONSE EQUIPMENT (PARKS AND WILDLIFE)

Fauna capture and transport (EXMOUTH)				
Item	Description	Purpose	Location	Contact
Dart (tranquiliser) Gun	Telinject	Immobilisation of large/dangerous animals	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Turtle harness large x 2	canvass harnesses with large velcro flaps	immobilisation and transport of turtles	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Dolphin stretcher	plastic fabric with water vent in middle	dolphin/ small whale capable	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Snake capture kit x 2	grabber tongs crook and snake bag	capture all snakes	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Capture net small			Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Capture net medium	Med net, 2.5m handle	birds small/med animals	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Capture net large	mesh	large wildlife	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Fauna traps x 50	50 x cage traps	small medium mammals	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Fauna traps x 10	large wire	medium to large	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Tags	Flipper Tags and pliers	Tagging Turtles	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Transport boxes x 2	small	transport of mammals	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Transport boxes x 2	plastic pet packs with cage doors	air transport of mammals	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Transport boxes x 4	medium (wooden)	transport of mammals	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Transport boxes x 2	Large wooden crates	transport of mammals	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
HD cloth fauna bags	fauna bags for transport	transport of mammals	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Hessian roll	hessian	temporary fencing	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000

Field equipment (EXMOUTH)				
Item	Description	Purpose	Location	Contact
Vehicle	dual cab with tradie canopy on tray	NR management	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Floodlights	Mounted on a tri pod	Illumination at night	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Binoculars x 2	For spotting wildlife	observation and fauna spotting	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000

Field equipment (EXMOUTH)				
Spotting scope	60 x Not good quality	observation and fauna spotting	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Sat phone	hand held units with external aerial	communications	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
UHF CB radios x 2 Hand helds	simple hand held units	communications	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Satellite comms unit	DPaW Exmouth BGAN comms unit	communications	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Camera x 1	Lumix non waterproof with 12x optical zoom	recording data	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
GPS units x 2	Garmin	Navigation	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Generator		Field ops and power shut downs	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Tools	an array of general purpose hand tools		Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Compressor (tyre)		inflate tyres	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000

Fauna treatment equipment (EXMOUTH)				
Item	Description	Purpose	Location	Contact
Towels x 80	80 x 2nd hand but used towell	fauna care (ESS BINR dispose of these every week)	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Syringes	a couple	fauna care	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Electrolyte	approx 200ml of concentrate for rehydration	fauna care	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
platform scales	electronic	fauna care	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Anaesthetic drugs	small amounts of Zoletil	fauna care	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Oil Spill Kit	detergents, etc.	cleaning oiled wildlife	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000
Shade cloth		Provide shade for injured stranded wildlife	Parks and Wildlife Exmouth	Parks and Wildlife (08) 9947 8000



Fauna capture and transport (BARROW ISLAND)				
Item	Description	Purpose	Location	Contact
Capture net general	Med net, 2.5m handle	birds small/med animals	Parks and Wildlife Barrow Hilux	Parks and Wildlife Barrow Island (08) 9412 2637
Dolphin stretcher	plastic fabric with water vent in middle	dolphin/ small whale capable	Parks and Wildlife Barrow Hilux	Parks and Wildlife Barrow Island (08) 9412 2637
Turtle stretcher	plastic water permable, 6 handles	all turtles but non immobilising	Parks and Wildlife Barrow Hilux	Parks and Wildlife Barrow Island (08) 9412 2637
Snake capture kit	grabber tongs crook and snake bag	capture all snakes	Parks and Wildlife Barrow Hilux	Parks and Wildlife Barrow Island (08) 9412 2637
Dolphin stretcher	plastic fabric with water vent in middle	dolphin/ small whale capable	Parks and Wildlife Barrow Land cruiser	Parks and Wildlife Barrow Island (08) 9412 2637
Turtle stretcher	plastic water permable, 6 handles	all turtles but non immobilising	Parks and Wildlife Barrow Land cruiser	Parks and Wildlife Barrow Island (08) 9412 2637
Turtle harness small	canvass harnesses with large velcro flaps	immobilisatio and transport of turtles	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Turtle harness med	canvass harnesses with large velcro flaps	immobilisatio and transport of turtles	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Turtle harness large	canvass harnesses with large velcro flaps	immobilisatio and transport of turtles	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Turtle capture net	lge turtle capture net and 1.5m handle	in water capture of turtles	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
capture net general	med capture bag net with short handle	birds small/med animals	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Fauna traps x 50	50 x sheffield type cage traps	small medium mammals	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island/Translocation team (08) 9412 2637
transport body pack x 2	2 x trap transport packs	setting and moving trap lines	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island/Translocation team (08) 9412 2637
Pit tag & DNA kits x 2	kits to pit tag and take DNA samples from fauna	as previous	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island/Translocation team (08) 9412 2637
Pet packs med/small	plastic pet packs with cage doors	air transport of mammals	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island/Translocation team (08) 9412 2637

Fauna capture and transport (BARROW ISLAND)				
Item	Description	Purpose	Location	Contact
HD cloth fauna bags	black heavy material fauna bags for transport	transport of mammals	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island/Translocation team (08) 9412 2637
Bird holding cartons sm	50x box ctns 10x20x30cm with holes punched	holding and transport of very small birds	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island/Translocation team (08) 9412 2637

Field equipment (BARROW ISLAND)				
Item	Description	Purpose	Location	Contact
Vehicle	Hilux dual cab with tradie canopy on tray	NR management	Parks and Wildlife Barrow Hilux	Parks and Wildlife Barrow Island (08) 9412 2637
Vehicle	Landcruiser trayback	NR management	Parks and Wildlife Barrow Landcruiser	Parks and Wildlife Barrow Island (08) 9412 2637
Leica binoculars x 2	high quality binoculars for fauna spotting	observation and fauna spotting	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
Spotting scopes x 2	One high quality and one cheapie up to 40x mag	observation and fauna spotting	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
Remote cameras x 10	Reconyx 950 remote cameras	fauna observation	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
Marine operation PFD's	Anti static Mae West type with strobe and EPIRB	For all oil and gas filed marine operations	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
Waders x 3	3 x sets of waders size 8,12,14	PPE	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Sat phones x 2 portables	two hand held units (cannot be used on BINR)	communcations	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
UHF CB radios x 2 Hand helds	simple hand held units	communcations	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
VHF radios x 3 Hand helds	Chevron radio network VHF repeater hand helds	communcations	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
Satelite comms unit	DEC BGAN comms unit	communcations	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
Cameras x 3	Lumix waterproof short zoom	recording data	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
Camera x 1	Lumix non waterpoof with 24x optical zoom	recording data	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
GPS units	Garmin 78s with ground and marine maps	Navigation	Parks and Wildlife Barrow office	Parks and Wildlife Barrow Island (08) 9412 2637
Generator diesel	4KVA gen set.	Field ops and power shut downs		
Tools	an array of general purpose hand tools			
Ancillary equipment	an array of general purpose equip, PPE			

Fauna treatment equipment (BARROW ISLAND)				
Item	Description	Purpose	Location	Contact
Towells x 80	80 x 2nd hand but used towells	fauna care (ESS BINR dispose of these every week)	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Gavage tubes	approx 20 various sizes	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Syringes	a couple	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Fauna food	vet diet approx 10 100g cans	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Electrolyte	approx 200ml of concentrate for rehydration	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Spring scales	from 100g to 20kg spreads - manual	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
platform scales	electronic	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Digital thermometer	electronic	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Sharps disposal units	x 5 small biohazard containers	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Euthenasion poisins	small amounts of Lethabarb and Phenobarbitol	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Anaesthetic drugs	small amounts of Zoletil	fauna care	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
PPE	masks, nitrile gloves, eye protection.	general	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637
Laboratory	large SS bench, sink and fume hood, large freezer.	work operations	Parks and Wildlife Barrow container	Parks and Wildlife Barrow Island (08) 9412 2637

## APPENDIX J – OILED WILDLIFE RESPONSE KIT CONTENTS (AMOSC EXMOUTH KIT)

Aluminium Container:                      AMOSC ID No:                      G330-02  
    Length:                      1500 mm  
    Width:                      1200 mm  
    Height:                      1100 mm  
    Weight:                      320 kg

Location:    **Exmouth, WA**

Consumables contents AMOSC ID no: G-330-01

Case Number	Item	Supplier Code
2	Veterinary Supplies: <ol style="list-style-type: none"> <li>1. Stethoscope x 4</li> <li>2. Clinical thermometer (stubby bulb) x 12</li> <li>3. Scissors x 3</li> <li>4. Surgical blade handles x 2</li> <li>5. Surgical blades sterile x 1 (100 per pack)</li> <li>6. Tweezers 6" x 5</li> <li>7. Bone cutter pliers x 1</li> <li>8. Mediglass cover slips x 2 packs (40 x 22mm x 100 pcs)</li> <li>9. Insect repellent 4 x 75g tubes</li> <li>10. Unsterilised surgical gloves various sizes x 80</li> <li>11. Sun hats – wide brim x 6</li> <li>12. Masking tape 48mm x 2</li> <li>13. Insulation tape (black) x 10</li> </ol>	B
3	Veterinary Supplies: <ol style="list-style-type: none"> <li>1. Syringe 2.5 ml x 100</li> <li>2. Syringe 2.5 ml x 100 without needles</li> </ol>	B
4	Veterinary Supplies: <ol style="list-style-type: none"> <li>1. Syringe 5ml x 200</li> <li>2. Needles 19g x 100</li> <li>3. Needles 21g x 100</li> <li>4. Needles 23g x 100</li> <li>5. Needles 25g x 100</li> </ol>	B
5	Veterinary Supplies: <ol style="list-style-type: none"> <li>Needles 10 ml x 300</li> </ol>	B
6	Veterinary Supplies: <ol style="list-style-type: none"> <li>Syringe 30ml x 100</li> </ol>	B
7	Veterinary Supplies: <ol style="list-style-type: none"> <li>Syringe 50ml x 100</li> </ol>	B
8	Veterinary Supplies: <ol style="list-style-type: none"> <li>1. Microscope slides 2 x 50 per pack</li> <li>2. Gauze swabs 10 x 100 (10cm x 10cm x 8 ply)</li> <li>3. Refractometer x 1</li> <li>4. Microscope slide boxes with 50 compartments x 2</li> </ol>	B

Case Number	Item	Supplier Code
9	Veterinary Supplies: 1. Sample jars x 160 2. Garbage bags stand up style x 32 (3 x 4 pack) (3 X 5 pack)	B/ D
10	Veterinary Supplies: Sample jars x 180	B
11	Veterinary Supplies: 1. Feeding tubes 10fg x 50 2. Feeding tubes 8fg x 50 3. Feeding tubes 5fg x 50 4. Stomach tubes (horse) 1.9 mtr x 5 5. Nose/stomach tube 2.1 mtr x 5	B
12A	Veterinary Supplies: Combine A-B-C totalling 1,000 units)  Fecalyzer kits	A
12B	Fecalyzer kits	A
12C	Fecalyzer kits	A
13	1. Waterproof torch x 2 2. D size batteries (Duracell) x 8 3. Fluorescent lanterns with 12v car adaptors x 2 4. D size rechargeable batteries x 6 5. Battery charger x 1	C
14	Readcrit centrifuge x 1	B
15	1. Leather riggers gloves x 24 2. Dawn liquid soap x 12 (435ml bottles) 3. 1 litre plastic bottles x 9 4. Barrier cream – Dermex x 1 500g 5. Cable ties 300 mm x 100 6. Cable ties 200 mm x 200	C/D
16	1. Hessian bags x 50 2. Disposable overalls (large x 4, medium x 4, small x 3)	C
17	1. Compound sodium lactage 1,000 mls x 5 2. Neutral buffered formalin 10% x 4 litres. 3. Sealed top plastic bags (A5 x 100, A4 x 100, A3 x 100) 4. Garbage bags (draw string type) x 2 (90cm x 62cm x 20)	C/D
18	1. Wet weather jacket & pants x 6 2. Masking tape 24 mm x 4 3. Paper towel x 6 rolls 4. Rope 4 mm x 27 mtr roll 5. Packing tape 50 mm x 1	C/D
19	1. Liquid soap (Amway organic concentrate) x 1 litre bottles x 10 2. Safety goggles x 6 3. Safety glasses x 4 4. Pencils 2b x 20 5. Texta x 3 (red, blue, green)	C/D/E

Case Number	Item	Supplier Code
	6. Texta permanent (black) x 4 7. Pencil sharpener x 2	
20	1. Sterile gloves (size 6 ½) x 40 2. Sterile gloves (size 7 ½) x 40 3. Sterile gloves (size 8 ½) x 40 4. Non sterile gloves (size 7 ½) OK for non-sterile use only	B
21	1. Wildlife response c/d x 1 2. Sampling procedures for wildlife booklets x 4 3. Wildlife instruct manuals x 4 4. Rescue and rehabilitation manuals x 4 5. Rescue and rehabilitation handouts x 4 6. Tent assembly instructions x 4 7. Fauna kit contents list (1237) combination	
Loose	1. Animal boxes (laminated) x 20 2. Animal boxes (cardboard) x 50 3. Plastic buckets x 6 4. Plastic carry/tidy trays x 7 5. Bird netting 5m x 5m x2 6. Bird catching nets 5 ft long stick x 4 7. Heavy duty tarpaulin 365cm x 487cm x4 8. Gumboots size 8 x 3 9. Gumboots size 9 x 3 10. Gumboots size 10 x 3 11. Waders size 9 x3 12. Tent/canvas/family tent – 305cm x 240cm plus canopy	B/C

#### SUPPLIERS

A	Zoological Parks and Gardens Board PO Box 74, Parkville, Victoria, 3052	Phone 03 9285 9305 Fax: 03 9285 9370
B	Cenvet Unit B6, 2 Healy Rd Dandenong, Vic	Phone : (03) 9794 0422 Fax (03) 9794 0726
C	Camping / Safety Supplies Store	
D	Supermarket	
E	Stationery Supplier	

APPENDIX K – CONTRACTORS AND GENERAL SUPPLIES LISTS

Pilbara Oiled Wildlife - Suppliers and Contractors List								
Karratha Area								
Service	Name	Contact	Phone	Address	Trading Hours	Products & Services	Web	Email
Accommodation	Comfort Inn & Suites Karratha		9144 0777	2-4 Matebore Street Karratha		Accommodation - units and rooms		
	Karratha International Hotel		9187 3333	Dampier Hwy Karratha		Accommodation - rooms		
	Best Western Karratha Central Appts.		9143 9888	Warambie & Searipple Road Karratha		Accommodation - appartments and rooms		
	Karratha Appartments		9143 9222	Galbraith & Blinco Roads Karratha		Accommodation - appartments		
	All Seasons		9159 1000	Lot 1079 Searipple Road Karratha		Accommodation - rooms		h1904-re01@accor.com
Air Conditioning	Burke Air		9144 1011			Air Con & Refrigeration Services	www.burkeair.com.au	
	Haden		9185 5938	50 Orkney Road Karratha		Air Con & Refrigeration Services	www.haden.com.au	
	QAL Refridgeration		9144 2488	Unit 2 / 2491 Pemberton Way Karratha LIA	24 hour (on-call)	Air Con & Refrigeration Services		
	Air Dynamics		9185 6969	Crane Circle Karratha		Air Con & Refrigeration Services		
	Karratha Contracting		9144 4705	Lot 1003 Orkney Rd / Lot 1504 Anderson Rd Karratha LIA		Air Con & Refrigeration Services (plus others as listed)	www.kcpl.net.au	
	Pilbara Breeze		9185 1991	Anderson & Lambert Roads Karratha LIA		Air Con & Refrigeration Services (listed as Ice Machine suppliers)		
	Sine Wave		9185 6531	Lot 1488 Lambert Road Karratha LIA		Air Con & Refrigeration Services (plus others as listed)		admin.kta@sinewaveelec.com.au
	Fridglec Services		0488 273 676			Air Con & Refrigeration Services		frigler@gmail.com
	MacGregor Air Conditioning		0488 442 164			Air Con & Refrigeration Services	www.macgregorairconditioning.com.au	sales@macgregorairconditioning.com.au
	Aggreko		9144 4686		24 hour (on-call)	Air Con & Refrigeration Services		
Aircraft / Air Carriers / Air Freight	Karratha Flying Services (KFS)		9144 2444	Lot 7 Norman Road Karratha Airport	24 hour (on-call)	Fixed Wing Aircraft - Charter, Freight and Medivac	www.karrathaflyingservices.com	
	Karratha Air Logistics	Colin	0439 984 331	Lot 6 Norman Road Karratha Airport		Air Freight / Logistic Consultant (no own aircraft)	www.ktaair.com.au	kal@ktaair.com.au
	Kitson Airways		9185 2727			Fixed Wing Aircraft - Charter, Freight and Medivac	www.kitsongroup.com.au/air-transport	aviation@kitsongroup.com.au
	AAE (Australian Air Express)		9185 4009	Lot 7 Norman Road Karratha Airport	8 - 5 M to F	Qantas Air Freight / Star Track Express	www.aae.com.au	
Boat Covers / Trimmers / Shade	All Range Trimming (ART)	Stuart Thorne	0439 903 653			Shade Sails, Tarps & Covers, Canvas Works, Marine Trimming		allrangetrimming@westnet.com.au
	Pilbara Shade Sails	Steve Trevurza	0410 867 102			Shade Sails / Covers		trevsails@bigpond.com
Boat Charters / Vessels	Discovery Sailing Adventures	Brad Beaumont	0408 801 040	32 DeGrey Cresent Dampier		Charter vessel operator - 14m vessel	www.discoverysailingadventures.com.au	beaumont2@westnet.com.au
	Aqualand Charters		9183 1885 / 0403 249 808			Charter vessel operator	www.aqualand.com.au	aqualandcharters@bigpond.com
	AMS (Aust Marine Services)	Graham / Michelle	0418 951 720 / 0418 937 226	Lot 1499 Anderson Road Karratha LIA	A/h 9144 2110	Charter vessel operator - landing barges	www.austmarine.net.au	austmarinesvs@bigpond.com
	Global Marine & Engineering		9187 1756 / 0439 099 533	Lot 6-8 Johns Creek Boat Harbour Pt Samson		Charter vessel operator - landing barges	www.globalmarine.com.au	globalmarine@bigpond.com
	Mermaid Marine Aust. P/L		9183 6600	Mermaid Supply Base - Mermaid Rd Dampier		Charter vessel operator - landing barges		
	Westug Management		9187 0148	10 Bill Miller Drive Pt Samson		Charter vessel operator	www.westugmanagement.com.au	admin@westugmanagement.com.au
Building (construction & maintenance)	Calibre Constructions Pty Ltd		9185 6600			Builder / Devlopers	www.calibreconstructions.com.au	admin@calibreconstructions.com.au
	Karratrha Building		9185 3522	Lot 996 Coolawanyah Road Karratha LIA		Cabinet Makers / Carpenters (plus others as listed)		karrathabuilding@kisser.net.au
	Karratha Contracting		9144 4705	Lot 1003 Orkney Rd / Lot 1504 Anderson Rd Karratha LIA		Building Services (plus others as listed)	www.kcpl.net.au	
	Seabreeze Contracting	Michael Venables	0409 447 017			Building Construction & Maintenance		michaelvenables@hotmail.com
	BMK Building & Maintenance	Shane	0419 946 498		All hour contact 0439 450 729	Building & Maintenance Services		donwcau@bigfoot.com
	GS Weston	Graham Weston	9185 5827			Builder		grawest@bigpond.net.au
	KenTara Carpenters	Ken & Tara Jones	9183 8573	26 Marsh Way Karratha		Carpenters		kentara@wn.com.au
	PBS - Pilbara Building Services	Nathan / Luke	0419 860 528 / 0408 927 755			Builders		pbs_ktha@bigpond.net.au
Cabinet Makers / Carpenters	Karratha Building		9185 3522	Lot 996 Coolawanyah Road Karratha LIA		Cabinet Makers / Carpenters (plus others as listed)		karrathabuilding@kisser.net.au
	GBSC Pilbara		9182 1557	Pt Sampson & Hall Road Roebourne		Cabinet Makers / Carpenters	www.gbsc.net.au	
	A Rettie	Andrew Rettie	0417 190 580			Carpenter, Joiner & Builder		arettecarpenters@bigpond.com.au
Catering								
Cleaning Services	ARB General Services	Alex	9185 4035 / 0438 945 347			Industrial & Domestic Cleaning Services	www.arbgeneralservices.blogspot.com	arbgeneralservices@yahoo.com
	Shelf Cleaning Services	Steve & Kerry	9185 3383 / 0417 993 031			Industrial & Domestic Cleaning Services		admin@shelfcleaningservices.com.au
	Karratha Cleaning		0427 090 909			Industrial & Domestic Cleaning Services	www.karrathacleaning.com.au	clean@karrathacleaning.com.au
Containers	Just Containers	Geoff Carr	018 923 847 / 1800 093 402			20 and 40ft Containers Sales and Hire		justcontainers@arach.net.au
Electrical (contractors)	Karratha Contracting		9144 4705	Lot 1003 Orkney Rd / Lot 1504 Anderson Rd Karratha LIA		Electrical Services (plus others as listed)	www.kcpl.net.au	
	Karratha Electrical & Instrumentation		9144 4851	Lot 1105 Lambden Road Karratha LIA		Electrical Engineering Contractors		kei@bigpond.net.au
	Mangrove Electrical		0410 605 455 / 9144 4775			Electrical Contractors		mangroveelectrical@bigpond.com
	Nickol River Electrical		9185 2397			Electrical Contractors		manager@nre.net.au
	O'Donnell Griffin		9185 4011			Electrical Contractors - Emergency Power Supplies	www.odg.com.au	wa@odg.com.au
	Sine Wave		9185 6531	Lot 1488 Lambert Road Karratha LIA		Electrical Contractors		admin.kta@sinewaveelec.com.au
	Steele Electrical		0408 097 761		24 hour breakdown service	Electrical Contractors		steelelectrical@bigpond.com
Electrical Distributers / wholesalers	AusLec		9185 1922 / 0419 534 387	6 Crane Circle Karratha WA 6714		Electrical Suppliers of Equipment		auskarratha@hagemeyer.au.com
	MM Electrical Merchandising		9185 4111		A/h 0417 463 169	Electrical Suppliers of Equipment	www.mmem.com.au	karrath.mgr@mmem.com.au
	NHP		9185 2601 / 0448 345 801			Electrical Suppliers of Equipment	www.nhp.com.au	ksquibb@nhp.com.au
Engineering Services	BEZ Engineering	Gary	9144 1889	2530 Augustus Drive Karratha LIA		Engineering services		gary@bezengineering.com.au
	Boily's & Co		9185 3940	Coolawanyah & Mooligan Roads Karratha LIA	A/h Mick: 0417 564 606	Engineering services	www.boilys.com.au	boilys@westnet.com.au
	Pearlpalm Engineering P/L		0419 911 037 / 9182 1670	1 Hall Street Roebourne		Engineering services		pearlpalm@bigpond.com
	Rene Engineering		9144 1795	101 Coolawanyah Road Karratha LIA		Engineering services	www.renekarratha.com.au	admin@renekarratha.com.au
	Savannah Engineers		9185 2188 / 0438 194 221	Lot 2889 Pemberton Way Karratha LIA		Engineering services	www.savannahengineers.com.au	ricardo.atmar@bigpond.com



<b>Pilbara Oiled Wildlife - Suppliers and Contractors List</b>								
<b>Karratha Area</b>								
<b>Service</b>	<b>Name</b>	<b>Contact</b>	<b>Phone</b>	<b>Address</b>	<b>Trading Hours</b>	<b>Products &amp; Services</b>	<b>Web</b>	<b>Email</b>
<b>Fencing (temporary)</b>	Hire Access		9144 1280	Lot 2513 McKay St Karratha		Temporary fencing hire	<a href="http://www.iformscaff.com">www.iformscaff.com</a>	
	GCS		9143 7500	Lot 1103 Lambden Road Karratha LIA		Temporary fencing hire	<a href="http://www.gcs-group.com.au">www.gcs-group.com.au</a>	<a href="mailto:northwest@gcs-group.com.au">northwest@gcs-group.com.au</a>
<b>Food Services / Wholesalers</b>	Sealanes		9185 1422	Lot 1045 Anderson Road Karratha LIA		Food Service, Seafood Distributors and Ship Suppliers		<a href="mailto:orders@ka.sealanes.com.au">orders@ka.sealanes.com.au</a>
	Parry's Merchants		9185 3033	Lot 1965 Anderson Road Karratha LIA		Food Distributors		<a href="mailto:parrysmERCHANTS@parrys.net.au">parrysmERCHANTS@parrys.net.au</a>
	Pilbara Distributors		9185 1639	Lot 1101 Cowle Road Karratha LIA		Food Distributors		<a href="mailto:pildist@bigpond.com.au">pildist@bigpond.com.au</a>
<b>Gas Supplies</b>	BOC Gas & Gear		9185 2933	987 Croydon Road Karratha LIA		Gas and gas equipment - oxygen, LPG etc		<a href="mailto:gas&amp;gear.karratha@boc.com">gas&amp;gear.karratha@boc.com</a>
	Kleenheat Gas (Pilbara Water & Gas)		9185 1639	1101 Cowle Road Karratha LIA		LPG		
	Air Liquide (dist: Versatile Building Prod)		1800 801 266 / 0411 528 955	Lot 1024 Lambert Road Karratha LIA	M-F 0700-1630, Sat 0700-1200	Gas and gas equipment - oxygen etc	<a href="http://www.airliquide.com.au">www.airliquide.com.au</a>	<a href="mailto:alwacst@airliquide.com">alwacst@airliquide.com</a>
<b>Generators</b>	Aggreko		9144 4686		24 / 7 Service			
<b>Hardware</b>	Home Hardware Karratha		9144 4727	Unit 8 / 3813 Balmoral Road Karratha	M-F 0830-1700, Sat 0800-1400	Assorted basic hardware suplies including timber and plumbing		
	Mitre 10 (Farinosi's) Hardware Karratha		9185 1066	Lot 1107 Mooligunn Road Karratha LIA		Assorted building hardware suplies including timber and plumbing		
	Thrifty Link Hardware Karratha		9185 5862	Lot 1024 Lambert Road Karratha LIA	M-F 0700-1630, Sat 0700-1200	Assorted building hardware suplies including timber and plumbing		
	Atom Supplies		9144 0800			Industrial Supplies		
<b>High Pressure Cleaning</b>	Tidal Solutions		9187 1112 / 409 301 395			High Pressure Cleaning / Marine Maintenance		<a href="mailto:admin@tidalsolutions.com.au">admin@tidalsolutions.com.au</a>
<b>Hire Eiquiment Providers</b>	Onsite Rental Group		9185 2313	2542 Coolawanyah Road Karratha LIA		Generators, Lighting Towers, Elec. Equip, Porta Buildings / Toilets	<a href="http://www.onsite.com.au">www.onsite.com.au</a>	
	Tru-Blu Hire		9143 1633 / 1300 4878 258	Lot 2 Anderson Road Karratha LIA	24 hr emergency service avail.	Generators, Lighting Towers, Elec. Equip, Pumps, Trailers	<a href="http://www.trublugroup.com">www.trublugroup.com</a>	
	Aggreko		9144 4686 / 1800 808 109		24 / 7 Service	Power and Temperature Systems	<a href="http://www.aggreko.com.au">www.aggreko.com.au</a>	
	Coates Hire		9185 1573 / 13 15 52	977 Cherratta Road Karratha LIA		Generators, Lighting Towers, Elec. Equip, Pumps, Trailers	<a href="http://www.coateshire.com.au">www.coateshire.com.au</a>	
	Hitch & Hire Trailers		9144 1795	101 Coolawanyah Road Karratha LIA		Trailer Hire	<a href="http://www.hitchnhire.com">www.hitchnhire.com</a>	
	Lion Hire		9144 2207 / 0417 936 935	Lot 978 Croyden Road Karratha LIA	24 hour services available	Generators, Lighting Towers, Elec. Equip, Porta Buildings / Toilets	<a href="http://www.lionhire.com.au">www.lionhire.com.au</a>	
	SWEH (Statewide Equip. Hire)		9143 1533 / 13 79 34	Lot 121 Mooligunn Road Karratha LIA		Generators, Lighting Towers, Elec. Equip, Porta Buildings / Toilets	<a href="http://www.sweh.com.au">www.sweh.com.au</a>	<a href="mailto:karratha@sweh.com.au">karratha@sweh.com.au</a>
	Pilbara Plant Hire		9143 1828	Lot 2501 Coolawanyah Road Karratha LIA		Fencing, Generators, Lighting Towers, Elec. Equip, Pumps, Trailers		
	United Party Hire	Gary / Trish	0418 905 404 / 9144 1761			Hire Marquee's, Mobile Coolrooms, Fencing, Chairs / Tables	<a href="http://www.unitedpartyhire.com.au">www.unitedpartyhire.com.au</a>	<a href="mailto:hire@unitedpartyhire.com.au">hire@unitedpartyhire.com.au</a>
	Karratha Party Hire		9185 4666			Hire Marquee's, Mobile Coolrooms, Fencing, Chairs / Tables	<a href="http://www.karrathapartyhire.com.au">www.karrathapartyhire.com.au</a>	
	<b>Ice Machines / Water Chillers</b>		0458 176 440			Ice makers, Water Chillers and coolers - Hire Available		<a href="mailto:pilbaraice@bigpond.com">pilbaraice@bigpond.com</a>
<b>Liquid Waste</b>	Lyons & Peirce		9185 3422 / 9185 2722			Liquid Waste Disposal, Waste water tank hire & Treatment equip.	<a href="http://www.lpk.com.au">www.lpk.com.au</a>	<a href="mailto:admin@lpk.com.au">admin@lpk.com.au</a>
<b>Plumbing Supplies / Plumbers</b>	Dampier Plumbing & Gas		9144 4555	Lot 61 Coolawanyah Road Karratha LIA		Plumbers / Plumbing Services		<a href="mailto:damplumb@bigond.net.au">damplumb@bigond.net.au</a>
	Karratha Contracting		9144 4705	Lot 1003 Orkney Rd / Lot 1504 Anderson Rd Karratha LIA		Plumbing Services (plus others as listed)	<a href="http://www.kcpl.net.au">www.kcpl.net.au</a>	
	Lyons & Peirce		9185 3422			Liquid Waste Disposal, Waste water tank hire & Treatment equip.	<a href="http://www.lpk.com.au">www.lpk.com.au</a>	<a href="mailto:admin@lpk.com.au">admin@lpk.com.au</a>
	Allround Plaumbing Services P/L		9143 1098 / 0417 917 284			Plumbers / Plumbing Services	<a href="http://www.pilbaraplumber.com.au">www.pilbaraplumber.com.au</a>	
	Atomic Plumbing	Roman / Anne	9185 6268 / 0419 937 998			Plumbers / Plumbing Services		
	Awesome Plumbing		0418 937 982			Plumbers / Plumbing Services		<a href="mailto:awesomeplumbing@bigpond.com">awesomeplumbing@bigpond.com</a>
	Tradelink		9185 5088	Lot 1010 Coolawanyah Road Karratha LIA		Plumbing Supplies		<a href="mailto:andrew.murray@tradelink.com.au">andrew.murray@tradelink.com.au</a>
	Galvins		9185 5877	Lot 33 Mooligunn Rd Karratha LIA	Delivery Available	Plumbing Supplies		
<b>Pumps</b>	ITT	James Barratt	9183 8246 / 0488 010 885	Lot 4605 Croyden Rd Karratha LIA		Pumps - sales and rental / wastewater systems etc		<a href="mailto:james.barratt@itt.com">james.barratt@itt.com</a>
<b>Security Services</b>	Wilson Security		9183 1858 / 0412 357 565			Security Services - Guards, mobile patrols	<a href="http://www.wilsonsecurity.com">www.wilsonsecurity.com</a>	<a href="mailto:wilsonsecurity.pilbara@wilsongroupau.com">wilsonsecurity.pilbara@wilsongroupau.com</a>
<b>Steel Supplies</b>	Midalia Steel		9144 1944	Lot 982 Woodbrook Road Karratha LIA		Steel Suppliers	<a href="http://www.midaliasteel.com">www.midaliasteel.com</a>	<a href="mailto:karratha@midaliasteel.com">karratha@midaliasteel.com</a>
	One Steel		9144 0111	Cowle & Coolawanyah Roads Karratha LIA	M-F 0700-1630	Steel Suppliers		<a href="mailto:karrathasales@onesteel.com">karrathasales@onesteel.com</a>
	Portacomm		9143 7824	Lot 2543 Coolawanyah Road Karratha LIA	M-F 0700-1700, Sat 0700-1300	Steel Suppliers (mainly sheeting and frames)	<a href="http://www.portacomm.com.au">www.portacomm.com.au</a>	<a href="mailto:steel@portacomm.com.au">steel@portacomm.com.au</a>
<b>Taxi Services</b>	Kanga Van		9183 1305			Taxi Shuttle Services	<a href="http://www.kangavan.com">www.kangavan.com</a>	<a href="mailto:sales@kangavan.com">sales@kangavan.com</a>
	Karratha Dampier Taxi Service		13 13 30			Taxi Service		<a href="http://taxi@kisser.net.au">taxi@kisser.net.au</a>
	Premier Taxis		131 008			Taxi Service		<a href="mailto:premiertaxis@bigpond.com">premiertaxis@bigpond.com</a>
<b>Transport Services</b>	Centurion Transport		9185 1988	Lot 2494 Coolawanyah Rd Karratha LIA		Transport Logistics	<a href="http://www.centurion.net.au">www.centurion.net.au</a>	
	DTMT		9434 4268	Karratha		Transport Logistics	<a href="http://www.dtmt.com.au">www.dtmt.com.au</a>	<a href="mailto:logistics@dtmt.com.au">logistics@dtmt.com.au</a>
	Kitson Logistics		9185 2727	Karratha		Transport Logistics	<a href="http://www.kitsongoup.com.au">www.kitsongoup.com.au</a>	<a href="mailto:logistics@kitsongroup.com.au">logistics@kitsongroup.com.au</a>
	Liftmec		9144 1884 / 0418 938 069	Lot 1515 Lambert Road Karratha LIA		Transport Logistics		<a href="mailto:info@liftmec.com.au">info@liftmec.com.au</a>
	Nexus		9143 1741 / 0407 085 788	1045 Anderson Rd Karratha LIA		Transport Logistics	<a href="http://www.nexusfreight.com">www.nexusfreight.com</a>	<a href="mailto:karratha@nexusfreight.com">karratha@nexusfreight.com</a>
	Ontraq		9185 5500			Transport Logistics	<a href="http://www.ontraqaulage.com.au">www.ontraqaulage.com.au</a>	<a href="mailto:Teramore@bigpond.com">Teramore@bigpond.com</a>
	Regal Transport		9144 1151 / 0417 988 712	Lot 1102 Mooligunn Rd Karratha LIA		Transport Logistics	<a href="http://www.regaltransortgroup.com.au">www.regaltransortgroup.com.au</a>	<a href="mailto:karratha@regaltransportgroup.com.au">karratha@regaltransportgroup.com.au</a>
	Star Freightlines		9185 6382 / 0427 777 517	Pemberton Way Karratha LIA		Transport Logistics		
<b>Portable Buildings</b>	Onsite Rental Group		9185 2313	2542 Coolawanyah Rd Karratha LIA		Toilets Blocks / Porta Leo's, Buildings	<a href="http://www.onsite.com.au">www.onsite.com.au</a>	
<b>Veterinarians</b>	Karratha Veterinary Hospital		9185 1600 (a/h pager 9480 5973)	Warambie & Sharpe Ave Karratha	M-F 0800-1800, Sat 0800-1200	Veterinary Services		<a href="mailto:karrathavethospital@westnet.com.au">karrathavethospital@westnet.com.au</a>
<b>Waste Disposal</b>	Transpacific		9185 6111			Waste Management Solutions - oily waste, rubbish	<a href="http://www.transpacific.com.au">www.transpacific.com.au</a>	
	Toxfree		9185 5333 / 0419 553 444	Lot 126 Tom Price Road Karratha		Waste Management Solutions - oily waste, rubbish	<a href="http://www.toxfree.com.au">www.toxfree.com.au</a>	
<b>Water</b>	Waterchoice		0419 964 225			Drinking Water Machines (reverse osmosis)	<a href="http://www.waterchoice.com.au">www.waterchoice.com.au</a>	<a href="mailto:wchoice@westnet.com.au">wchoice@westnet.com.au</a>
	Water2Water		1300 88 0303			Drinking Water Machines (reverse osmosis)	<a href="http://www.water2water.com.au">www.water2water.com.au</a>	<a href="http://purify@water2water.com.au">purify@water2water.com.au</a>
	Neverfail		13 30 37			Bottled Springwater	<a href="http://www.neverfail.com.au">www.neverfail.com.au</a>	
<b>Water Trucks</b>	Pilbara Water Trucks P/L	Leigh-Ann	9183 8328 / 0429 907 512			Water Truck for Hire		

Pilbara Oiled Wildlife - Suppliers and Contractors List								
Exmouth Area								
Service	Name	Contact	Phone	Address	Trading Hours	Products & Services	Web	Email
Accommodation	Exmouth Cape Holiday park	Linda and Greg Yard	08 9949 1101	3 Truscott Crescent, Exmouth	7am - 6pm	Accommodation - Cabins, Chalets, Caravan sites, Backpackers	<a href="http://www.aspenparks.com.au/">http://www.aspenparks.com.au/</a>	<a href="mailto:exmouth@aspenparks.com.au">exmouth@aspenparks.com.au</a>
	Exmouth Holiday Homes	Danielle Beckwith	08 9756 7866	P.O Box 888, Exmouth	9am - 4pm	Accommodation - Holiday homes	<a href="http://www.exhh.com.au/">http://www.exhh.com.au/</a>	<a href="mailto:exmouth@dhh.com.au">exmouth@dhh.com.au</a>
	Exmouth Ningaloo Caravan and Holiday Resort	Ray Beven	08 9949 2377	1112 Murat Road, Exmouth	7.30am - 6pm	Accommodation - Cabins, Caravan sites, Camping sites	<a href="http://www.exmouthresort.com">www.exmouthresort.com</a>	<a href="mailto:reception@exmouthresort.com">reception@exmouthresort.com</a>
	Ningaloo Bed and Breakfast	John and Sheila Beer	08 9949 2293	29 Preston St, Exmouth	Any time	Accommodation - Bed and Breakfast	<a href="http://www.ningaloobedandbreakfast.com.au/">http://www.ningaloobedandbreakfast.com.au/</a>	<a href="mailto:ningaloobedandbreakfast@netspace.net.au">ningaloobedandbreakfast@netspace.net.au</a>
	Ningaloo Reef Holidays	Helen Turner	0400 933 338	13 Griffiths Way, Exmouth	8am - 7pm	Accommodation - Holiday homes - short and long term	<a href="http://www.ningaloo.net/">http://www.ningaloo.net/</a>	<a href="mailto:info@ningaloo.net">info@ningaloo.net</a>
	Novotel Ningaloo Resort	Darren Cossill	08 9949 0000	Lot 900 Madaffari Drive, Exmouth	6.30am - late	Accommodation - Resort/Apartments	<a href="http://www.novotelningaloo.com.au/">http://www.novotelningaloo.com.au/</a>	<a href="mailto:reservations@novotelningaloo.com.au">reservations@novotelningaloo.com.au</a>
	Ningaloo Lodge		08 9949 4949	Lot 1 Lefroy St, Exmouth		Accommodation - Apartments	<a href="http://www.ningaloolodge.com.au/index.asp">http://www.ningaloolodge.com.au/index.asp</a>	<a href="mailto:ningaloo.lodge@ningaloolodge.com.au">ningaloo.lodge@ningaloolodge.com.au</a>
	Exmouth Escape Resort		08 9949 4800	27 Murat Road, Exmouth		Accommodation - Apartments	<a href="http://www.exmouthescaperesort.com.au/index.html">http://www.exmouthescaperesort.com.au/index.html</a>	<a href="mailto:stay@exmouthescaperesort.com.au">stay@exmouthescaperesort.com.au</a>
	Potshot Hotel Resort		08 9949 1200	1 Murat Road, Exmouth	7am - 9pm	Accommodation - Hotel, Resort, Backpacker	<a href="http://www.potshotresort.com/view/home">http://www.potshotresort.com/view/home</a>	<a href="mailto:potshotresort@bigpond.com">potshotresort@bigpond.com</a>
	Ningaloo Lighthouse Caravan Park	Tash and Darren	08 9949 1478	P.O Box 504, Exmouth		Accommodation - Cabins, Chalets, Caravan sites, Backpackers	<a href="http://ningaloolighthouse.com/index.html">http://ningaloolighthouse.com/index.html</a>	<a href="mailto:lighthouse@nwc.net.au">lighthouse@nwc.net.au</a>
Air Conditioning	Dualco Contracting		08 9949 4179	Unit 1, 4 Pellew Street, Exmouth		Electrical and refridgeration		<a href="mailto:dualco@westnet.com.au">dualco@westnet.com.au</a>
	ERA Contractors	Jason and Cheryl Daglish	08 9949 1219	37 Koolinda Way, Exmouth	7am - 4pm	Electrical and refridgeration and air conditioning	<a href="http://www.eracontractors.com.au/">http://www.eracontractors.com.au/</a>	<a href="mailto:admin@eracontractors.com.au">admin@eracontractors.com.au</a>
	Jetspark Pty Ltd Electrical and Air Conditioning	Steven and Peta Burns	0408 092 320	8 Farley Street, Exmouth	8am - 5pm	Electrical and refridgeration and air conditioning		<a href="mailto:steven@jetspark.com.au">steven@jetspark.com.au</a>
	Network Power Solutions Pty Ltd	Steven Moore	08 9949 4561	Unit 1/ 14 Koolinda Way	7.30am - 5pm	Electrical and refridgeration and air conditioning	<a href="http://www.npsolutions.com.au/">http://www.npsolutions.com.au/</a>	<a href="mailto:nps@npsolutions.com.au">nps@npsolutions.com.au</a>
Aircraft / Air Carriers / Air Freight	Norwest Air Works	Roland	(08) 9949-2888	729 Maidstone Crescent Exmouth		Air services - scenic aerial tours, passenger freight, freight charter.	<a href="http://www.norwestairwork.com.au/">http://www.norwestairwork.com.au/</a>	<a href="mailto:info@norwestairwork.com.au">info@norwestairwork.com.au</a>
	Bristow Helicopters		08) 9949 2869	Learmonth Airport		Air services - scenic aerial tours, passenger freight, freight charter.		
	Ningaloo Reef Air	Steve Powell	08 9942 5824	Shop 8, Coral Bay Arcade		Air services - scenic aerial tours, passenger freight, freight charter.	<a href="http://www.ningalooreefdive.com/scenic.html">http://www.ningalooreefdive.com/scenic.html</a>	<a href="mailto:info@ningalooreefdive.com">info@ningalooreefdive.com</a>
	TNT overnightrters	Kerry	0429 491 790			Air freight		
Boat Covers / Trimmers / Shade	Ningaloo Shade and Canvas Work		(08) 9949 1270	9 A Griffith Way Exmouth		Shade sails and canvas work		
Boat Charters / Vessels	On strike Charters	Josh Bruynzeel	0458 136 848			Fishing charters - 30 foot and 40 foot vessels	<a href="http://www.onstrike.com.au/">http://www.onstrike.com.au/</a>	<a href="mailto:info@onstrike.com.au">info@onstrike.com.au</a>
	Exmouth Deep Sea Fishing	Delysia	0407 281 851			Fishing charters - 48 foot vessel	<a href="http://exmouthdeepseafishing.com/index.html">http://exmouthdeepseafishing.com/index.html</a>	
	Blue Horizon Charters		0417 940 930			Fishing charters	<a href="http://www.bluehorizoncharters.com.au/index.html">http://www.bluehorizoncharters.com.au/index.html</a>	<a href="mailto:bluehorizoncharters@bigpond.com">bluehorizoncharters@bigpond.com</a>
	Apache Charters		08 9339 2432		9am - 5pm	Boat Charters - 70 foot	<a href="http://www.apachecharters.com.au/index.php">http://www.apachecharters.com.au/index.php</a>	<a href="mailto:matt@apachecharters.com">matt@apachecharters.com</a>
	Top Gun Charters		0418 925 131			Boat Charters - 21 metre	<a href="http://www.topguncharters.com.au/home.html">http://www.topguncharters.com.au/home.html</a>	<a href="mailto:mail@topguncharters.com.au">mail@topguncharters.com.au</a>
	Gun Marine Services		08 9949 4646	Lot 592 Welch St, Exmouth	8am - 5pm	Offshore company - Variety of vessels		
	Allied Marine Services		<link rel="stylesheet" type="text/css" href="http://www.alliedmarine.com.au/css/alliedmarine.css">	Lot 1380 Preston St, Exmouth		Offshore company - Variety of vessels		
			(08) 9949 2994					
	Broadsword Marine Contractors		0427 617 198	22 Maley St, Exmouth		Offshore company - Variety of vessels	<a href="http://www.broadswordmarine.com.au/home">http://www.broadswordmarine.com.au/home</a>	<a href="mailto:exmouth@broadswordmarine.com.au">exmouth@broadswordmarine.com.au</a>
	Bhagwan Marine		08 9965 9700	Fisherman Wharf, Gerladton		Offshore company - Variety of vessels	<a href="http://www.bhagwanmarine.com.au/Homepage.aspx">http://www.bhagwanmarine.com.au/Homepage.aspx</a>	<a href="mailto:admin@bhagwanmarine.com.au">admin@bhagwanmarine.com.au</a>
Building (construction & maintenance)	Bruce Truner Creations	Bruce Turner	0417 902 829	P.O Box 1153, Exmouth	7am - 4pm	Builder	<a href="http://www.bruceturnercreations.com/">http://www.bruceturnercreations.com/</a>	<a href="mailto:bruceturnercreation@bigpond.com">bruceturnercreation@bigpond.com</a>
	Cape Building Pty Ltd	Stuart McNaughton	08 9949 1122	17 Patterson Way, Exmouth		Builder	<a href="http://www.capebuilding.com.au/">http://www.capebuilding.com.au/</a>	<a href="mailto:enquiries@capebuilding.com.au">enquiries@capebuilding.com.au</a>
	CJ Lord Building	Clayton Lord	08 9949 4256	25 Maley St, Exmouth		Builder	<a href="http://www.cjlordbuilding.com.au/">http://www.cjlordbuilding.com.au/</a>	<a href="mailto:cjlordbuildings@bigpond.com">cjlordbuildings@bigpond.com</a>
	Exmouth Building Company	Mark Manual and Gary O'Brien	0404 189 109	12 Nimitz St, Exmouth		Builder	<a href="http://www.exmouthbuildingcompany.com.au/">http://www.exmouthbuildingcompany.com.au/</a>	<a href="mailto:mark@exmouthbuildingcompany.com.au">mark@exmouthbuildingcompany.com.au</a>
	Boranup Build	Scott and Taaryn Thomson	08 9949 2462			Builder		
	Macca's Building and Renovations		08 9949 1005	17 Grenadier St, Exmouth		Builder		<a href="mailto:maccasam25@bigpond.com">maccasam25@bigpond.com</a>
	Pebble Beach Constructions		08 9949 1372	Lot 312 Cape Wilderness Estate, Pebble Beach		Builder		<a href="mailto:pebblebeachconstructions@bigpond.com">pebblebeachconstructions@bigpond.com</a>
	Temar Building Co		08 9949 1569	Lot 1133 Koolinda Way, Exmouth		Builder		
Cabinet Makers / Carpenters	M&P Carpentry		08 9949 2380	19 Pellew St, Exmouth		Carpenter		<a href="mailto:gonzo195@iinet.net.au">gonzo195@iinet.net.au</a>
	Oz-one Carpentry Service		08 9949 2216	8 Fletcher Street, Exmouth		Carpenter		<a href="mailto:ryanstvs@westnet.com.au">ryanstvs@westnet.com.au</a>
	Micks Carpentry Service		0417 956 680			Carpenter		
Catering	Ningaloo Health Foods		08 9949 1400			Café		<a href="mailto:ningaloohealth@bigpond.com">ningaloohealth@bigpond.com</a>
	Brumby's Bakery		0438 993 896	Ross Street Mall		Bakery		<a href="mailto:jmi04224@bigpond.net.au">jmi04224@bigpond.net.au</a>
				Shop A/388 Maidstone Cresent, Exmouth				
	The Continental Café		08 9949 4111	Exmouth		Café		<a href="mailto:lumuthilan@westnet.com.au">lumuthilan@westnet.com.au</a>
	Whalers Restaurant		08 9949 2416	5 Kennedy St, Exmouth		Café		<a href="mailto:whalersrestaurant@westnet.com.au">whalersrestaurant@westnet.com.au</a>
Cleaning Services	B&H Cleaning Service		08 9949 1570	318 Pellew Street, Exmouth		Cleaning Services		<a href="mailto:bhcleangarden@westnet.com.au">bhcleangarden@westnet.com.au</a>
	Exmouth All Surface Cleaning		08 9949 2794	11 Welch St, Exmouth		Cleaning Services		<a href="mailto:thales4@bigpond.com.au">thales4@bigpond.com.au</a>
Containers								
Electrical (contractors)	Dualco Contracting		08 9949 4179	Unit 1, 4 Pellew Street, Exmouth		Electrical and refridgeration		<a href="mailto:dualco@westnet.com.au">dualco@westnet.com.au</a>
	ERA Contractors	Jason and Cheryl Daglish	08 9949 1219	37 Koolinda Way, Exmouth	7am - 4pm	Electrical and refridgeration and air conditioning	<a href="http://www.eracontractors.com.au/">http://www.eracontractors.com.au/</a>	<a href="mailto:admin@eracontractors.com.au">admin@eracontractors.com.au</a>
	Jetspark Pty Ltd Electrical and Air Conditioning	Steven and Peta Burns	0408 092 320	8 Farley Street, Exmouth	8am - 5pm	Electrical and refridgeration and air conditioning		<a href="mailto:steven@jetspark.com.au">steven@jetspark.com.au</a>
	Network Power Solutions Pty Ltd	Steven Moore	08 9949 4561	Unit 1/ 14 Koolinda Way	7.30am - 5pm	Electrical and refridgeration and air conditioning	<a href="http://www.npsolutions.com.au/">http://www.npsolutions.com.au/</a>	<a href="mailto:nps@npsolutions.com.au">nps@npsolutions.com.au</a>
	Cottesloe Electrical and Air Conditioning	Reno Morausutti	0417 955 236	5 Pellew St, Exmouth		Electrical and Air Conditioning		
Electrical Distributers / wholesalers								
Engineering Services	Exmouth Light Engineering	Brian Reading	08 9949 1145	21 Maley St, Exmouth		Engineering		<a href="mailto:exmouthlie@westnet.com.au">exmouthlie@westnet.com.au</a>
	Gulf Metalworks		08 9949 2028	4 Pellas Street, Exmouth		Engineering		
	Exmouth Industrial Parts and Labour		08 9949 4643	26 Ingram St, Exmouth		Industrial parts	<a href="http://ww.exmouthindustrial.com.au">ww.exmouthindustrial.com.au</a>	<a href="mailto:jeffweld@bigpond.com">jeffweld@bigpond.com</a>
Fencing (temporary)								
Food Services / Wholesalers	Exmouth Wholesalers		08 9949 2666	Lot 24 Maley St, Exmouth		Food wholesalers		<a href="mailto:exmouthwholesalers@bigpond.com">exmouthwholesalers@bigpond.com</a>
Gas Supplies	Exmouth Light Engineering	Brian Reading	08 9949 1145	21 Maley St, Exmouth		Engineering - Local BOC agent		<a href="mailto:exmouthlie@westnet.com.au">exmouthlie@westnet.com.au</a>
	Exmouth Hardware and Building Supplies		08 9949 1837	Lot 949 Griffiths Way, Exmouth		Hardware - LPG.		<a href="mailto:homeex@westnet.com.au">homeex@westnet.com.au</a>

<b>Pilbara Oiled Wildlife - Suppliers and Contractors List</b>								
<b>Exmouth Area</b>								
<b>Service</b>	<b>Name</b>	<b>Contact</b>	<b>Phone</b>	<b>Address</b>	<b>Trading Hours</b>	<b>Products &amp; Services</b>	<b>Web</b>	<b>Email</b>
Generators								
Hardware	Exmouth Hardware and Building Supplies		08 9949 1837	Lot 949 Griffiths Way, Exmouth		Hardware - LPG.		<a href="mailto:homeex@westnet.com.au">homeex@westnet.com.au</a>
High Pressure Cleaning	X- Factor		0458 176 233			Cleaning - High pressure, wet sand blasting etc.		
Hire Equipment Providers	Norcape Handy Hire	Joe	9949 4555	6 Huston St, Exmouth		Party and Machinery Hire		
Ice Machines / Water Chillers	Ningaloo Nector		08 9949 4701	20 Pellew St, Exmouth		Water and Ice		<a href="mailto:nectar2@bigpond.net.au">nectar2@bigpond.net.au</a>
Liquid Waste	Exmouth Waste Removal Specialists		08 9949 2080	41 Koolinda Way, Exmouth		crane hire and waste removal		<a href="mailto:info@norwestcranehire.com.au">info@norwestcranehire.com.au</a>
Plumbing Supplies / Plumbers	Century Plumbing and Gas		0427 083 055			Plumbing and Gas		
	GJ Channing		08 9949 1350	4 Eurayle St, Exmouth		Plumbing		
	Jacksons Plumbing Contractors Pty Ltd		08 9949 2655	1139 Welch St, Exmouth		Plumbing		<a href="mailto:jacksonplumbing@westnet.com.au">jacksonplumbing@westnet.com.au</a>
Pumps								
Security Services								
Steel Supplies	Exmouth Light Engineering	Brian Reading	08 9949 1145	21 Maley St, Exmouth		Engineering		<a href="mailto:exmouthle@westnet.com.au">exmouthle@westnet.com.au</a>
	Gulf Metalworks		08 9949 2028	4 Pelias Street, Exmouth		Engineering		
	Exmouth Industrial Parts and Labour		08 9949 4643	26 Ingram St, Exmouth		Industrial parts	<a href="http://www.exmouthindustrial.com.au">www.exmouthindustrial.com.au</a>	<a href="mailto:jeffweld@bigpond.com">jeffweld@bigpond.com</a>
Taxi Services	Cape Taxi Hire		0409 994 933	P.O Box 113		Taxi services		<a href="mailto:capetaxi@bigpond.com">capetaxi@bigpond.com</a>
Transport Services	Exmouth Freight Services	Shane Coote	08 9949 2168	104 Ingram St, Exmouth	7am - 4pm	Freight services	<a href="http://www.exmouthfreight.com.au/">http://www.exmouthfreight.com.au/</a>	<a href="mailto:exmouthfreight@westnet.com.au">exmouthfreight@westnet.com.au</a>
	Jakhaul Haulage Contractors Pty Ltd		08 9949 4286	102 Ingram St, Exmouth		Freight services		<a href="mailto:whitehottrucking@bigpond.com">whitehottrucking@bigpond.com</a>
	Exmouth Haulage		0415 535 372	Unit 2/18 Maley Street, Exmouth		Freight services		<a href="mailto:exmouthhaulage@bigpond.com">exmouthhaulage@bigpond.com</a>
Portable Buildings								
Veterinarians	Exmouth Vet Clinic		08 9949 2499	5 Krait St, Exmouth	9am - 4pm	Veterinarian	<a href="http://www.petsandvetswa.com.au/">http://www.petsandvetswa.com.au/</a>	<a href="mailto:exmouth@petsandvetswa.com.au">exmouth@petsandvetswa.com.au</a>
Waste Disposal	Exmouth Waste Removal Specialists		08 9949 2080	41 Koolinda Way, Exmouth		crane hire and waste removal		<a href="mailto:info@norwestcranehire.com.au">info@norwestcranehire.com.au</a>
Water	Ningaloo Nector		08 9949 4701	20 Pellew St, Exmouth		Water and Ice		<a href="mailto:nectar2@bigpond.net.au">nectar2@bigpond.net.au</a>
Water Trucks								