



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 7312/2
<b>Permit Holder:</b>	Pardoo Beef Corporation Pty Ltd
<b>Duration of Permit:</b>	15 July 2017 – 15 July 2022

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

### PART I – CLEARING AUTHORISED

**1. Purpose for which clearing may be done**

Clearing for the purpose of intensive agriculture and associated activities.

**2. Land on which clearing is to be done**

Lot 1556 on Deposited Plan 70856, Pardoo

**3. Area of Clearing**

The Permit Holder must not clear more than 400 hectares of native vegetation within the area cross hatched yellow on attached Plan 7312/2.

**4. Application**

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

### PART II – MANAGEMENT CONDITIONS

**5. Avoid, minimise etc clearing**

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

**6. Fauna management**

- Immediately prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna specialist* to undertake clearance surveys, based on any known recorded evidence and suitable habitats, within the area cross hatched yellow on attached Plan 7312/2 and of surrounding areas for the fauna species listed below:
  - greater bilby (*Macrotis lagotis*); and
  - mulgara (*Dasymercus* sp.).
- Immediately prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna specialist* to relocate any fauna found under condition 6(a) of this Permit, in accordance with a fauna licence pursuant to Regulation 15 of the *Wildlife Conservation Regulations 1970*.

- (c) Where fauna are identified and relocated under condition 6(a) and 6(b) of this Permit, the Permit Holder shall include the following in a report submitted to the Department of Water and Environmental Regulation:
- (i) the scientific name and gender of each fauna captured under condition 6(a);
  - (ii) the location of any fauna species, as listed in condition 6(a), captured using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  - (iii) the date, time, vegetation type and weather conditions at each location where a fauna species is captured under condition 6(c)(ii);
  - (iv) the scientific name and gender of each fauna relocated under condition 6(b);
  - (v) the location of any fauna species, as listed in condition 6(b), relocated using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  - (vi) the date, time, vegetation type and weather conditions at each location where a fauna species is relocated under condition 6(c)(v);
  - (vii) the name of the fauna specialist that relocated fauna under condition 6(b); and
  - (viii) a copy of the fauna licence authorising the relocation of fauna under condition 6(b).

### **PART III - RECORD KEEPING AND REPORTING**

#### **7. Records must be kept**

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
- (i) the species composition, structure and density of the cleared area;
  - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (iii) the date that the area was cleared; and
  - (iv) the size of the area cleared (in hectares).

#### **8. Reporting**

- (a) The Permit Holder must provide to the CEO on or before 1 July of each year, a written report:
- (i) of records required under condition 6 and 7 of this Permit; and
  - (ii) concerning activities done by the Permit Holder under this Permit between 1 July to 30 June of the preceding financial year.
- (b) If no clearing authorised under this Permit was undertaken between 1 July to 30 June of the preceding financial year, a written report confirming that no clearing under this Permit has been carried out, must be provided to the CEO on or before 1 July of each year.
- (c) Prior to 15 April 2022, the Permit Holder must provide to the CEO a written report of records required under condition 6 and 7 of this Permit where these records have not already been provided under condition 8(a) of this Permit.

### **DEFINITIONS**

The following meanings are given to terms used in this Permit:

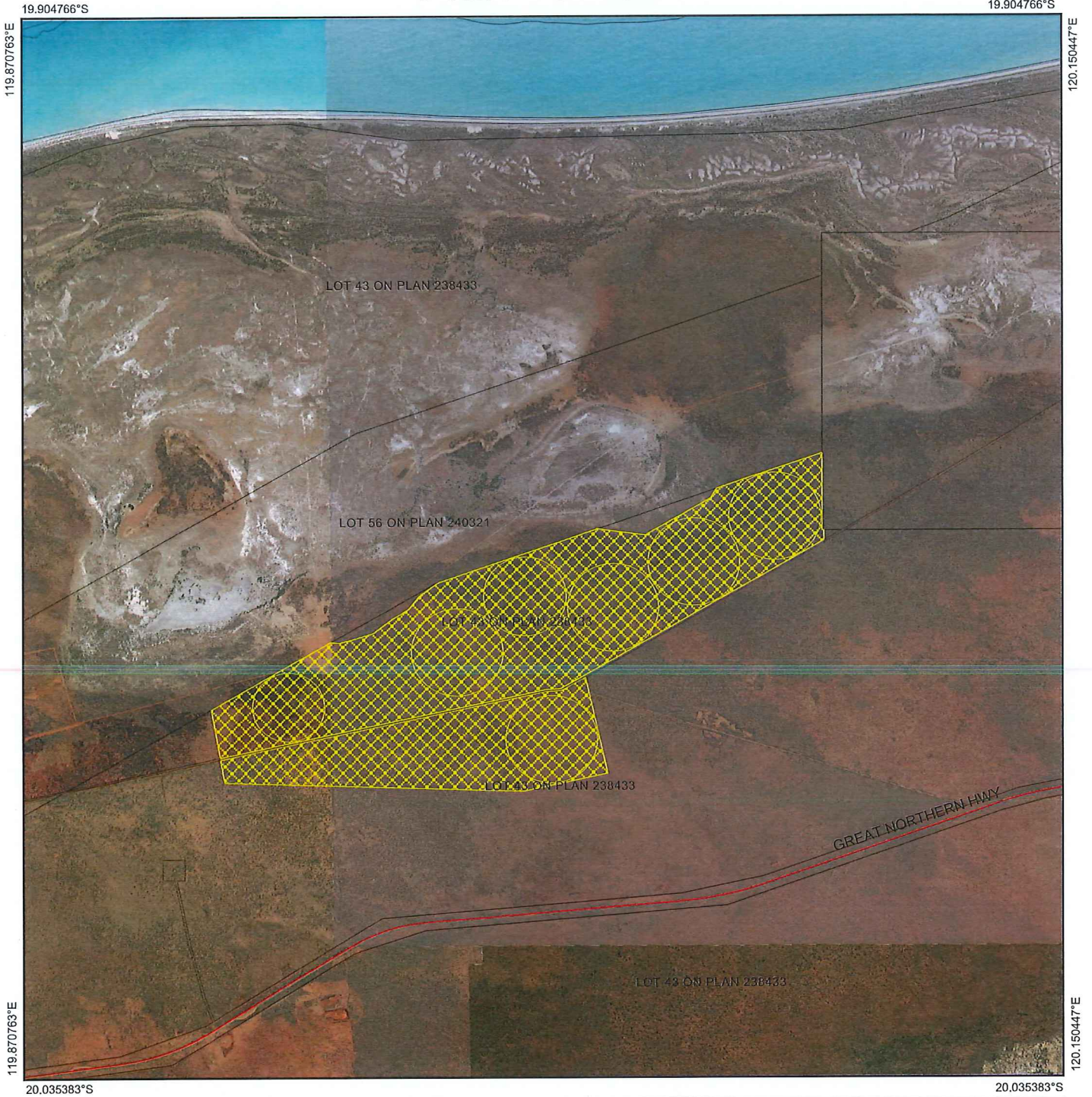
**fauna specialist:** means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*.





Dr Anne Mathews  
SENIOR MANAGER  
CLEARING REGULATION

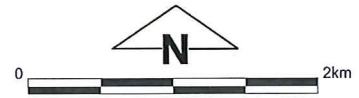
*Officer delegated under Section 20  
of the Environmental Protection Act 1986*

# Plan 7312/2



## Legend

-  Imagery
-  Clearing Instruments Activities



1:50,000  
(Approximate when reproduced at A4)  
GDA 94 (Lat/Long)  
Geocentric Datum of Australia 1994

*Anne Matthews* Date *13/7/2017*

A Mathews

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986



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## 1. Application details

### 1.1. Permit application details

Permit application No.: 7312/2  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Pardoo Beef Corporation Pty Ltd

### 1.3. Property details

Property: Lot 1556 on Deposited Plan 70856  
Local Government Area: Shire of East Pilbara

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
400		Mechanical Removal	Irrigated cattle fodder and associated activities

### 1.5. Decision on application

Decision on Permit Application: Grant – Ministerial Amendment  
Decision Date: 13 July 2017

Reasons for Decision: This clearing permit amendment gives effect to the determination of the Minister for Environment (Minister) to partly allow appeals C002 to C003 of 2017 to the extent that the Minister has requested the Department of Water and Environmental Regulation to amend Clearing Permit CPS 7312/1 in respect to pre-clearance surveys and relocation of the greater bilby and mulgara.

The precise wording of the amendment was determined by the Delegated Officer with consideration given to the applicant's greater bilby and mulgara management plan.

The clearing impact assessment for this clearing permit amendment is consistent with the assessment undertaken for clearing permit application CPS 7312/1.

## 2. Site Information

### 2.1. Existing environment and information

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

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>The application area is mapped as the following Beard vegetation associations:</p> <ul style="list-style-type: none"> <li>32: Shrublands, pindan; acacia shrubland with scattered low trees over <i>Triodia</i> spp.; and</li> <li>73: Grasslands, short bunch grass savanna, grass; salt water grassland (<i>Sporobolus virginicus</i>) (Shepherd et al., 2001).</li> </ul> <p>According to a flora survey the floristic composition within the application area also resembles Beard vegetation association 117 (EnviroWorks, 2016a):</p> <ul style="list-style-type: none"> <li>117: Hummock grasslands, grass steppe; soft spinifex (Shepherd et al., 2001).</li> </ul>	<p>The applicant proposes to clear up to 400 hectares of native vegetation on Lot 1556 on Deposited Plan 70856 for the purpose of pivot irrigation for cattle fodder and associated activities.</p>	<p>Degraded; Structure severely disturbed; regeneration to good condition requires intensive management</p> <p>To</p> <p>Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).</p>	<p>The condition of the vegetation is based on eighty two percent of the Nita Land System having been mapped in a very good condition (DAFWA, 2004) and a vegetation survey (EnviroWorks, 2016a).</p>

The application area is located within the Nita Land System and is interpreted to be the sandplain land unit abutting the Mannerie and Anna land systems to the north. The Nita land system comprises red deep soils that generally support shrubby hard and soft spinifex that in places has been replaced by buffel grass (CSLC, 2016).

Six native vegetation community types were identified during a survey of the application area;

- Acacia Shrubland A (Pindan) occupying 471.1 hectares in the eastern study area, consisting of open low woodland over an *Acacia* sp. scrub/low scrub over grassland;

- Acacia Shrubland B (Pindan) occupying 393.7 hectares in the western study area, consisting of low open woodland over *Acacia* sp. scrub/low scrub over grassland;
- Mixed Species Shrubland A (Pindan) occupying 68.4 hectares on flats and plains higher in the landscape, consisting of low open woodland over low mixed-species shrubland;
- Mixed Species Shrubland B (Pindan) occupying 6,164 hectares on rises and ridges higher in the landscape, consisting of low open woodland over low mixed-species shrubland;
- Melaleuca-Acacia Shrubland A occupying 65.1 hectares on brown sands in the eastern study area, consisting of low mixed-species shrubland; and
- Melaleuca-Acacia Shrubland B occupying 65.1 hectares on brown sands and white clays in the western study area, consisting of low open woodland over a low mixed-species shrubland (EnviroWorks, 2016a).

### 3. Assessment of application against Clearing Principles

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

##### Comments Proposed clearing may be at variance to this Principle

The application is to clear up to 400 hectares of native vegetation on Lot 1556 on Deposited Plan 70856 for the purpose of irrigated cattle fodder production and associated activities on Pardoo Station. The application area comprises a 790 hectare envelope, within which it is proposed to construct seven irrigated pivots. Five irrigation pivots of approximately 55 hectares each in size, one irrigation pivot of approximately 45 hectares in size and one irrigation pivot of approximately 35 hectares in size (total 355 hectares for pivots). An additional 45 hectares is proposed for tracks, fence lines, firebreaks, and associated activities elsewhere within the 790 hectare envelope.

The application area is located within the Nita Land System and is interpreted to be the sandplain land unit abutting the Mannerie and Anna land systems to the north (CSLC, 2016). Eighty two percent of the Nita Land System has been mapped in very good condition (DAFWA, 2004).

The application area is located within the Dampierland Interim Biogeographic Regionalisation of Australia (IBRA) region, which is characterised by *Acacia* spp. thickets with scattered trees, grasslands, and savannahs over extensive plains, ranges and gorges (Bastin and ACRIIS Management Committee, 2008), and retains approximately 99 per cent of its pre-European extent of native vegetation cover. The application area is mapped as Beard vegetation associations 32 and 73, which are well-represented within the IBRA region (Government of Western Australia, 2013). A flora survey of the application area found that the composition of native species within the application area is consistent with Beard vegetation associations 32 and 117, and that the vegetation within the application area is in degraded to very good (Keighery, 1994) condition (EnviroWorks, 2016a). The local area (defined by a 20 kilometre radius around the application area) is well-vegetated.

Three priority (P) flora species (all P3) have been recorded within the local area (Western Australian Herbarium, 1998-). Priority 3 taxa are defined as taxa that are known from collections from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. A targeted flora survey identified two P3 flora species within the application area. The former Department of Parks and Wildlife (Parks and Wildlife) advised "It is considered unlikely that the direct loss and indirect risks to these species and the available habitat from this proposal would pose a significant ongoing risk to the continued existence and persistence of these species over the long term, however there is currently insufficient available information to confirm this" (Parks and Wildlife, 2016).

The application area is located adjacent to the mapped boundary of the Eighty Mile Beach Ramsar site. This Ramsar site was listed on 7 June 1990, is made up of Eighty Mile Beach and Mandora Salt Marsh, and covers approximately 175,487 hectares along 220 kilometres of coastline and adjacent intertidal mudflats (DotEE, 2016). The continuous intertidal mudflat of the Eighty Mile Beach and the group of wetlands and peat mound springs of the Mandora Salt Marsh are considered to be both bioregionally rare and outstanding examples of this wetland type in Western Australia (DotEE, 2016). The Ramsar site supports a number of fauna species of conservation significance, is considered to regularly support in excess of 500,000 birds, and is recognised as important refugia for biological diversity in arid Australia and one of the most important sites in Australia for migratory shorebirds listed under international agreements (DotEE, 2016).

Parks and Wildlife's *Proposed Eighty Mile Beach Marine Park Indicative Management Plan* states that on 17 June 2011 the State Government committed to establish four A-class marine parks in the State's north-west, including at Eighty Mile Beach (DEC, 2009). The major activities in the surrounding area that may impact on the ecological character of the Ramsar site are agriculture, mining, and climate change (DEC, 2009).

Supporting information provided by the applicant in the *Pardoo Irrigation Project Ramsar Wetland Impact Assessment and Management Plan* (EnviroWorks, 2016b) (Ramsar Wetland Management Plan) proposes a 100 metre buffer between the proposed clearing and the nearby Ramsar wetland. The applicant's Ramsar Wetland Management Plan identifies inconsistencies between the written and mapped boundary of the nearby Ramsar wetland. Parks and Wildlife advised "It is accepted that the boundary definition and summary description in the [*Information Sheet for Eighty Mile Beach Ramsar Site* (DEC, 2009) (Ramsar Information Sheet)] may require review to improve alignment, however the ecological character description for the site ... indicates that some areas of coastal flood plain immediately inland of the frontal sand dune are included in the Ramsar site ... Noting this, the precise location of the Ramsar site boundary in this area is not regarded by Parks and Wildlife as a critical issue in regard to the environmental impacts associated with clearing and development at this location, as the primary source of potential adverse impacts on the core values of the Ramsar site in this locality appears likely to be associated with groundwater abstraction and use, which may lead to changes in the local groundwater regime (groundwater quality and quantity)" (Parks and Wildlife, 2016).

The former Department of Water (DoW) advised "DoW has not identified any water course or wetland within the clearing footprint and has not identified that the clearing will impact on groundwater-dependent vegetation ... There is no evidence that the shallow Broome sandstone aquifer is hydraulically connected to the artesian Wallal aquifer, which provides Pardoo's licensed water supply" (DoW, 2016).

A number of fauna species of conservation significance (including threatened fauna, and migratory birds listed under international agreements) have been recorded within the local area. The application area includes suitable habitat for the greater bilby (*Macrotis lagotis*), listed as 'Vulnerable' under the *Wildlife Conservation Act 1950* and *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*, and there are 43 recent (2000 or later) records of the greater bilby within 15 kilometres of the application area. A fauna survey of the application area did not find any evidence of greater bilby activity within the application area, however one potential mulgara (*Dasyercus* sp.; P4) burrow was found (Bamford, 2016). A total of 28 conservation-significant avian species are known from the local area (Parks and Wildlife, 2007-), which may utilise the vegetation within the application area. Parks and Wildlife advised "Noting the presence of suitable bilby habitat within the clearing footprint and recent confirmation of a bilby population in similar areas directly to the north, it is recommended that the scope of the current Mulgara management plan is broadened to incorporate avoiding or mitigating impacts to local bilby populations" (Parks and Wildlife, 2016).

Noting the presence of habitat for conservation-significant fauna, findings of the flora survey which identified the presence of priority flora it is considered that the application area may comprise a high level of biological diversity.

The proposed clearing may be at variance to this Principle, however the clearing of the native vegetation will not lead to unacceptable risk to the environment.

#### Methodology

##### References:

Bamford (2016)  
Bastin and ACRIS Management Committee (2008)  
CSLC (2016)  
DAFWA (2004)  
Parks and Wildlife (2007-)  
DEC (2009)  
DotEE (2016)  
DoW (2016)  
EnviroWorks (2016a)  
EnviroWorks (2016b)  
Government of Western Australia (2013)  
Keighery (1994)  
Parks and Wildlife (2016)  
Western Australian Herbarium (1998-)

##### GIS Datasets:

- SAC BioDatasets - accessed December 2016

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

#### Comments

##### **Proposed clearing may be at variance to this Principle**

A vegetation survey of the application area identified six vegetation community types within the application area. These communities range from degraded to very good (Keighery, 1994) condition (EnviroWorks, 2016a).

As outlined under principle (a) the application area is located adjacent to the mapped boundary of the Eighty Mile Beach Ramsar site which supports a number of fauna species of conservation significance, is considered to regularly support in excess of 500,000 birds, and is recognised as important refugia for biological diversity in arid Australia and one of the most important sites in Australia for migratory shorebirds listed under international agreements (DotEE, 2016).

The applicant's *Pardoo Station Irrigation Management Plan* (Advanced Fertigation Systems, 2015) (Irrigation Management Plan) states that the boundary of the Ramsar site was mapped on a regional scale and is approximate only, that the proposed extension is located approximately 30-50 metres from the Ramsar site, that the coastal plain in the vicinity of the project does not include any wetland areas, and that the environment is highly disturbed with understorey dominated by buffel grass (*Cenchrus ciliaris*) (Advanced Fertigation Systems, 2015). As discussed under Principle (a), Parks and Wildlife considered that the precise location of the Ramsar site boundary in this location is not a critical issue in regard to the environmental impacts of the proposed clearing and development as the primary impacts to the Ramsar site are likely to be associated with groundwater abstraction and use (Parks and Wildlife, 2016).

A number of fauna species of conservation significance (including threatened fauna, and migratory birds listed under international agreements) have been recorded within the local area (20 kilometre radius). A fauna survey found that the application area includes suitable habitat for the threatened fauna greater bilby although no evidence of the greater bilby activity was found within the clearing footprint, and found evidence of the priority 4 fauna brush-tailed mulgara within the application area (Bamford, 2016).

Parks and Wildlife advised that "The bilby is identified in the literature and in the survey report as being nomadic, occurring in very low numbers and occupying large areas, with numbers varying throughout suitable habitat and fluctuating seasonally and spatially in response to bushfire events, rainfall and food resources ... Noting the presence of suitable bilby habitat within the clearing footprint and recent confirmation of a bilby population in similar areas directly to the north, it is recommended that the scope of the current Mulgara management plan is broadened to incorporate avoiding and mitigating impacts to local bilby populations. This should include determining if the species is present immediately prior to site disturbance and best practice protocols to ensure that potential impacts on resident and/or local bilbies are avoided or managed to an appropriate standard. If bilbies are confirmed in the area it may also be appropriate to consider management measures such as relocation, retention of native vegetation corridors, and/or mitigation of threatening processes, such as control of foxes and cats" (Parks and Wildlife, 2016).

Noting the above, the proposed clearing may cause direct mortality to individuals of the greater bilby and brush-tailed mulgara. Relocation of individuals of the greater bilby and brush-tailed mulgara will assist in mitigating impacts to these species during clearing activities.

Based on the size of the application area and the presence of habitat for conservation-significant fauna, the application area may be necessary for the maintenance of significant habitat for indigenous fauna.

Habitat fragmentation on a local scale may result from the proposed clearing, thereby affecting fauna movement through the landscape, particularly for species with small home ranges or low dispersal ability.

Given the above, the proposed clearing may be at variance to this Principle, however subject to fauna management conditions including surveys and relocation of fauna immediately prior and during clearing activities, the clearing will not lead to an unacceptable risk to the environment.

**Methodology**    References:  
Advanced Fertigation Systems (2015)  
Bamford (2016)  
DEC (2009)  
DotEE (2016)  
DoW (2016)  
EnviroWorks (2016a)  
Keighery (1994)  
Parks and Wildlife (2016)

GIS Datasets:  
- SAC BioDatasets - accessed December 2016

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

**Comments**    **Proposed clearing is not likely to be at variance to this Principle**  
According to available databases, no rare flora species have been recorded within the local area (20 kilometre radius).

Floristic surveys undertaken within the application area in July and August 2016, and conducted in accordance with Environmental Protection Authority (EPA) former Guidance Statement No. 51 (EPA, 2004), did not identify any rare flora within the application area (EnviroWorks, 2016a).

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

**Methodology**    References:  
EPA (2004)  
EnviroWorks (2016a)

GIS Databases:  
 - SAC Biodatasets - accessed December 2016

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

**Comments Proposed clearing is not likely to be at variance to this Principle**  
 According to available databases, no threatened ecological communities have been recorded within the local area (20 kilometre radius).  
 Floristic surveys undertaken within the application area in July and August 2016, which mapped the vegetation at a community level based on floristics and land systems in accordance with EPA former Guidance Statement No. 51 (EPA, 2004), did not identify any threatened or priority ecological communities (EnviroWorks, 2016a).  
 Given the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** References:  
 EPA (2004)  
 EnviroWorks (2016a)  
 GIS Databases:  
 - SAC BioDatasets - accessed December 2016

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

**Comments Proposed clearing is not at variance to this Principle**  
 The application area is located within the Dampierland IBRA bioregion, which retains approximately 99 per cent of its pre-European vegetation extent of native vegetation cover (Government of Western Australia, 2015).  
 The application area is mapped as Beard vegetation associations 32 and 73, which retain approximately 99 per cent of their pre-European extents respectively within the Dampierland IBRA bioregion (Government of Western Australia, 2015). According to a flora survey the floristic composition within the application area also resembles Beard vegetation association 117 (EnviroWorks, 2016a), which retains approximately 76 per cent of its pre-European extent within the Dampierland IBRA bioregion (Government of Western Australia, 2015).  
 The application area is located within the Shire of East Pilbara, within which there is approximately 99 per cent pre-European vegetation extent remaining (Government of Western Australia, 2015).  
 The local area (20 kilometre radius) retains approximately 99 per cent native vegetation cover.  
 The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). On the basis that the native vegetation present within the application area, the local area, the Shire and the IBRA region retains more than 30 per cent representation, the application area is unlikely to be significant as a remnant.  
 Given the above, the proposed clearing is not at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
<b>IBRA Bioregion*</b>				
Dampierland	8,343,938	8,319,873	99	1.4
<b>Local government*</b>				
Shire of East Pilbara	37,183,060	37,155,264	99	4.5
<b>Beard Vegetation Association in Bioregion*</b>				
32	244,296	244,265	99	0
73	240,283	239,716	99	10.9
117 (EnviroWorks, 2016a)	28,894	22,074	76	26.8

**Methodology** References:  
 Commonwealth of Australia (2001)  
 EnviroWorks (2016a)  
 \*Government of Western Australia (2015)  
 GIS Database:  
 - IBRA WA (Regions - Sub Regions)  
 - Pre-European Vegetation



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

**Comments Proposed clearing is not likely to be at variance to this Principle**

According to available databases, no watercourses are mapped within the application area.

A vegetation survey identified six vegetation communities within the application area;

- Acacia Shrubland A (Pindan) occupying 471.1 hectares in the eastern study area, consisting of open low woodland over an *Acacia* sp. scrub/low scrub over grassland;
- Acacia Shrubland B (Pindan) occupying 393.7 hectares in the western study area, consisting low open woodland over *Acacia* sp. scrub/low scrub over grassland;
- Mixed Species Shrubland A (Pindan) occupying 68.4 hectares on flats and plains higher in the landscape, consisting of low open woodland over low mixed-species shrubland;
- Mixed Species Shrubland B (Pindan) occupying 6164 hectares on rises and ridges higher in the landscape, consisting of low open woodland over low mixed-species shrubland;
- Melaleuca-Acacia Shrubland A occupying 65.1 hectares on brown sands in the eastern study area, consisting of low mixed-species shrubland; and
- Melaleuca-Acacia Shrubland B occupying 65.1 hectares on brown sands and white clays in the western study area, consisting of low open woodland over a low mixed-species shrubland (EnviroWorks, 2016a).

The application area is located adjacent to the mapped boundary of the Eighty Mile Beach Ramsar site. The applicant's Irrigation Management Plan states that the boundary of the Ramsar site was mapped on a regional scale and is approximate only, that the proposed extension is located approximately 30-50 metres from the Ramsar site, and that the coastal plain in the vicinity of the project does not include any wetland areas (Advanced Fertigation Systems, 2015).

As discussed under Principle (a), Parks and Wildlife accepted that the Ramsar site boundary definition and summary description may require review, that the ecological character description for the Ramsar site indicates that some areas of coastal flood plain immediately inland of the frontal sand dune are included in the Ramsar site, and that the primary source of impacts to the Ramsar site is likely to be associated with groundwater abstraction and use (Parks and Wildlife, 2016).

DoW advised "DoW has not identified any water course or wetland within the clearing footprint and has not identified that the clearing will impact on groundwater-dependent vegetation ... There is no evidence that the shallow Broome sandstone aquifer is hydraulically connected to the artesian Wallal aquifer, which provides Pardoo's licensed water supply" (DoW, 2016). DoW advised that it "will require groundwater monitoring in both aquifers as a condition of licence approval. This will help to confirm the understanding about the connection between the water course (Wallal artesian aquifer) and the Broome aquifer and to assure the protection of the coastal wetlands" (DoW, 2016). It is considered that this will assist in identifying any impacts to the Ramsar site and guide mitigation measures.

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

**Methodology** References:  
Advanced Fertigation Systems (2015)  
DEC (2009)  
DoW (2016)  
Parks and Wildlife (2016)

GIS Datasets:  
- Hydrography linear  
- Topographic contours statewide

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

**Comments Proposed clearing may be at variance to this Principle**

The application area is located within the Nita land system described as 'sand plains that support shrubby soft spinifex grassland with occasional trees. The soils are typically red deep sands that have low salinity level and reasonably low cation exchange capabilities, are well drained and probably have moderate water holding ability' (CSLC, 2011).

DoW advised "DoW has not identified any water issues that might contribute to land degradation through the clearing of vegetation" (DoW, 2016).

The Commissioner of Soil and Land Conservation (CSLC) previously advised that the sandy soils of the application area are prone to wind erosion once the protective vegetative cover is removed by clearing, and that the slope across the site may be in the 0.25-0.5 per cent range indicating a high risk of water erosion occurring should the bared soils be exposed to high intensity rainfall typically experienced in the area (CSLC, 2016).

Based on the size of the application area and the potential for wind and water erosion between clearing and pasture establishment, it is considered that the proposed clearing may cause land degradation.

The applicant has provided an Irrigation Management Plan (IMP) which outlines the maintenance of at least 90 per cent perennial pasture cover to prevent soil erosion and weed invasion, the application of nutrients in a manner that reduces the risk of nutrient leaching and run-off and a build-up of salts in the soil, and the incorporation of conservation earthworks to manage sheet surface flows to prevent soil erosion (Advanced Fertigation Systems, 2015). While clearing may cause land degradation it is accepted that this environmental risk can be appropriately managed through establishment of pasture.

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

**Methodology**      References:  
Advanced Fertigation Systems (2015)  
CSLC (2011)  
CSLC (2016)  
DoW (2016)

GIS Datasets:  
- Hydrography linear  
- Topographic contours

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

**Comments      Proposed clearing may be at variance to this Principle**

According to available databases, no conservation areas are mapped within the application area.

The application area is located adjacent to the mapped boundary of the Eighty Mile Beach Ramsar site. This Ramsar site was listed on 7 June 1990, is made up of Eighty Mile Beach and Mandora Salt Marsh, and covers approximately 175,487 hectares along 220 kilometres of coastline and adjacent intertidal mudflats (DotEE, 2016). The continuous intertidal mudflat of the Eighty Mile Beach and the group of wetlands and peat mound springs of the Mandora Salt Marsh are considered to be both bioregionally rare and outstanding examples of this wetland type in Western Australia (DotEE, 2016). The Ramsar site supports a number of fauna species of conservation significance, is considered to regularly support in excess of 500,000 birds, and is recognised as important refugia for biological diversity in arid Australia and one of the most important sites in Australia for migratory shorebirds listed under international agreements (DotEE, 2016). Parks and Wildlife's *Proposed Eighty Mile Beach Marine Park Indicative Management Plan* states that on 17 June 2011 the State Government committed to establish four A-class marine parks in the State's north-west, including at Eighty Mile Beach (DEC, 2009). The major activities in the surrounding area that may impact on the ecological character of the Ramsar site are agriculture, mining, and climate change (DEC, 2009).

The applicant's Ramsar Wetland Management Plan proposes the retention of a 100 metre buffer between the proposed clearing and the nearby Ramsar wetland. The applicant's Ramsar Wetland Management Plan also identifies inconsistencies between the written and mapped boundary of the nearby Ramsar wetland.

As discussed under Principle (a), Parks and Wildlife accepted that the Ramsar site boundary definition and summary description may require review, that the ecological character description for the Ramsar site indicates that some areas of coastal flood plain immediately inland of the frontal sand dune are included in the Ramsar site, and that the primary source of impacts to the Ramsar site is likely to be associated with groundwater abstraction and use (Parks and Wildlife, 2016).

DoW advised that clearing is not likely to impact on groundwater-dependent vegetation and that there is no evidence that the shallow Broome sandstone aquifer is hydraulically connected to the artesian Wallal aquifer, which provides the applicant's licensed water supply (DoW, 2016).

The CSLC advised that the sandy soils of the application area are prone to wind erosion once the protective vegetative cover is removed by clearing, and that the slope across the site may be in the 0.25-0.5 per cent range indicating a high risk of water erosion occurring should the bared soils be exposed to high intensity rainfall typically experienced in the area (CSLC, 2016).

The applicant's Irrigation Management Plan states that the boundary of the Ramsar site was mapped on a regional scale and is approximate only, that the proposed extension is located approximately 30-50 metres from the Ramsar site, that the coastal plain in the vicinity of the project does not include any wetland areas, and that the environment is highly disturbed with understorey dominated by buffel grass (*Cenchrus ciliaris*) (Advanced Fertigation Systems, 2015).

Based on the size of the application area, the potential for wind and water erosion between clearing and pasture establishment and the proximity of the application area to nearby Ramsar wetland the proposed clearing may impact on the environmental values of a nearby conservation area, although the clearing itself is unlikely to lead to an unacceptable risk to the environment.

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

The CSLC advised that the risk of land degradation can be managed by carefully timing development operations, irrigation and crop establishment, and through the retention of stubble for at least 50 per cent ground cover to avoid erosion after baling or grazing (CSLC, 2016). The applicant's Irrigation Management Plan proposes the maintenance of at least 90 per cent perennial pasture cover to prevent soil erosion and weed invasion, the application of nutrients in a manner that reduces the risk of nutrient leaching and run-off and a build-up of salts in the soil, and the incorporation of conservation earthworks to manage sheet surface flows to prevent soil erosion (Advanced Fertigation Systems, 2015).

Management of weeds will assist in mitigating the risk of weed spread into conservation areas. The former Department of Lands (DoL) advised that a weed management condition will be placed on the applicant's Pastoral Diversification Permit to manage the potential spread of weeds outside of the irrigated pivot areas. In addition DoL has removed a number of species from the applicants list to minimise the potential for high risk weeds to spread from the proposed pivots (DoL, 2016).

DoW advised that it "will require groundwater monitoring in both the Broome and Wallal aquifers as a condition of licence approval. This will help to confirm the understanding about the connection between the water course (Wallal artesian aquifer) and the Broome aquifer and to assure the protection of the coastal wetlands" (DoW, 2016). It is considered that this will assist in identifying any impacts to the Ramsar site and guide mitigation measures.

#### Methodology

##### References:

Advanced Fertigation Systems (2015)  
CSLC (2016)  
DEC (2009)  
DoL (2016)  
DotEE (2016)  
DoW (2016)  
EnviroWorks (2016b)  
Parks and Wildlife (2016)

##### GIS Datasets:

- DEC Tenure  
- SAC BioDatasets - accessed April 2016

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

#### Comments

##### **Proposed clearing is not likely to be at variance to this Principle**

According to available databases, no watercourses are mapped within the application area.

The application area is located adjacent to the mapped boundary of the Eighty Mile Beach Ramsar site. The applicant's Irrigation Management Plan states that the boundary of the Ramsar site was mapped on a regional scale and is approximate only, that the proposed extension is located approximately 30-50 metres from the Ramsar site, and that the coastal plain in the vicinity of the project does not include any wetland areas (Advanced Fertigation Systems, 2015).

As discussed under Principle (a), Parks and Wildlife accepted that the Ramsar site boundary definition and summary description may require review, that the ecological character description for the Ramsar site indicates that some areas of coastal flood plain immediately inland of the frontal sand dune are included in the Ramsar site, and that the primary source of impacts to the Ramsar site is likely to be associated with groundwater abstraction and use (Parks and Wildlife, 2016).

DoW advised, "DoW has not identified any water issues that might contribute to land degradation through the clearing of vegetation ... DoW does not anticipate that the proposed clearing will impact on the quality of groundwater in the unconfined aquifer. There are no significant surface water pathways (creeks or streams) within the proposed clearing footprint ... There is no evidence that the shallow Broome sandstone aquifer is hydraulically connected to the artesian Wallal aquifer, which provides Pardoo's licensed water supply" (DoW, 2016). DoW will require groundwater monitoring in the Wallal and Broome aquifers as a condition of licence approval, to assist in understanding hydrological interactions (DoW, 2016).

The application area is located within the Nita land system described as 'sand plains that support shrubby soft spinifex grassland with occasional trees. The soils are typically red deep sands that have low salinity level and reasonably low cation exchange capabilities, are well drained and probably have moderate water holding ability' (CSLC, 2011). The CSLC previously advised that clearing and development of broad drainage depressions within the 'pindan' soils of the Nita land system should be avoided as shallow groundwater tables are likely to develop under prolonged irrigation (CSLC, 2016).

Based on the absence of significant surface water pathways within the application area and taking into consideration the disconnected nature of local aquifers, it is unlikely that the proposed clearing will cause deterioration in the quality of surface or underground water, leading to an unacceptable risk to the environment.

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

**Methodology**   References:  
Advanced Fertigation Systems (2015)  
CSLC (2011)  
CSLC (2016)  
DEC (2009)  
DoW (2016)  
Parks and Wildlife (2016)

GIS Databases:  
- Groundwater Salinity Statewide  
- Topographic Contours, Statewide

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

**Comments      Proposed clearing is not likely to be at variance to this Principle**

The applicant's Irrigation Management Plan states that annual rainfall has a very high variability from year to year influenced by cyclonic weather, however is generally between 200-500 millimetres per annum, that drainage on the pindan sandplain is poorly defined and generally falls towards the coast, with wide-spaced ephemeral drainage depressions holding water only after heavy rainfall, and that as the application area is located on a gently-domed pindan peninsula, locally developed runoff is only likely to occur during very heavy rainfall events and for a short duration (Advanced Fertigation Systems, 2015).

DoW advised, "Flooding – the sandy soils and absence of visible drainage pathways demonstrates that major rainfall will result in local ponding and direct infiltration to groundwater, and the proposed clearing is not expected to change local flooding conditions. Clearing will result in increased rainwater infiltration to the soils, however the intended land use of controlled irrigation of fodder crops will remove any risk of waterlogging" (DoW, 2016).

The CSLC previously advised that the slope across the site may be in the 0.25-0.5 per cent range, indicating a high risk of water erosion occurring should the bared soils be exposed to high intensity rainfall typically experienced in the area (CSLC, 2016). In respect to a previous application within the local area (10 kilometre radius) (CPS 6112/1), the CSLC advised that any overland flow of water seeps into the water table or, during heavy rainfall events, drains out to the ocean (CSLC, 2014).

Based on the size of the application area and the potential for wind and water erosion between clearing and pasture establishment, the proposed clearing may cause land degradation, however noting that the risk of standing water and water erosion is associated with high rainfall events and that local runoff is likely to be for short durations, it is considered that the proposed clearing is unlikely to cause or exacerbate the incidence or intensity of flooding.

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

**Methodology**   References:  
Advanced Fertigation Systems (2015)  
CSLC (2014)  
CSLC (2016)  
DoW (2016)

GIS Datasets:  
- Hydrography linear

## Planning instruments and other relevant matters.

### Comments Ministerial Amendment

This amendment is to give effect to the Minister for Environments determination to partially allow appeal C002 to C003 of 2017 to the extent that the permit be amended in respect to pre-clearance surveys and relocations of the greater bilby and mulgara.

#### Background

The former lease holder was granted a permit to clear 90 hectares for two irrigated pivots (CPS 4207/1), located approximately 1.5 kilometres north-west of the current application. The authorised clearing retained a minimum 100 metre buffer to the adjacent Ramsar site. In May 2014 it was identified through aerial imagery that two pivots had been cleared but not in accordance with Clearing Permit CPS 4207/1 – one pivot partially overlapped the area authorised under Clearing Permit CPS 4207/1, and the second pivot had been established outside the area authorised under Clearing Permit CPS 4207/1 approximately 300 metres south of the first.

On 14 May 2014, the former lease holder applied to clear 180 hectares for four irrigated pivots (CPS 6112/1) adjacent to the two existing pivots. An Irrigation Management Plan and an increased buffer to the Ramsar Site (from 30 metres) were requested. Application CPS 6112/1 was withdrawn on 26 March 2015 as the applicant no longer held the pastoral lease. On 5 May 2015 the current lease holder applied to clear 180 hectares for four irrigated pivots (CPS 6552/1) in the same location as for withdrawn application CPS 6112/1. The application included a finalised Irrigation Management Plan (Advanced Fertigation Systems, 2015) and an increased buffer to the Ramsar Site (of 50 metres). This application was granted on 23 July 2015.

On 21 January 2016, the applicant applied for a permit to clear 450 hectares for seven pivots (CPS 6917/1). The assessment of the application identified a number of environmental impacts and the application was refused on 30 June 2016. The applicant was advised that a copy of the assessment would be kept on file should they wish to re-apply once necessary information had been obtained.

On 6 October 2016, the applicant applied for a permit to clear 400 hectares for seven pivots (this application) in the same location as for the previous application CPS 6917/1. Information submitted by the applicant including the Pardoo Irrigation Project Management Plan, Mulgara Management plan, flora and fauna surveys and information obtained from other sources in respect to the previous application CPS 6917/1, has been taken into consideration in the assessment of this application.

On 31 October 2016, the application was advertised in *The West Australian* newspaper for a period of 21 days. No public submissions were received.

#### Planning matters and end land use

The application area is located adjacent to the mapped boundary of the Eighty Mile Beach Ramsar site. As discussed under Principle (a), Parks and Wildlife accepted that the Ramsar site boundary definition and summary description may require review, that the ecological character description for the Ramsar site indicates that some areas of coastal flood plain immediately inland of the frontal sand dune are included in the Ramsar site, and that the primary source of impacts to the Ramsar site is likely to be associated with groundwater abstraction and use (Parks and Wildlife, 2016).

The Commonwealth Department of the Environment and Energy has responsibility for administration of the environmental assessment process that may have significant impacts on matters of national environmental significance, including to Ramsar sites and species listed under the *Environment Protection and Biodiversity Conservation Act 1999*. The applicant should discuss potential impacts of the proposed development with the Department of the Environment and Energy.

The application area occurs within the Canning-Kimberley Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The applicant proposes to abstract water from the underlying Wallal aquifer (Advanced Fertigation Systems, 2015). DoW advised that it is currently assessing a new water licence application to support the expanded irrigation project, and will liaise directly with the applicant regarding licensing requirements (DoW, 2016). DoW advised "DoW does not anticipate that the proposed clearing will impact on the quality of groundwater in the unconfined aquifer. There are no significant surface water pathways (creeks or streams) within the proposed clearing footprint ... There is no evidence that the shallow Broome sandstone aquifer is hydraulically connected to the artesian Wallal aquifer, which provides Pardoo's licensed water supply" (DoW, 2016). DoW will require groundwater monitoring in the Wallal and Broome aquifers as a condition of licence approval, to assist in understanding hydrological interactions (DoW, 2016).

DoL granted a Pastoral Diversification Permit under the *Land Administration Act 1997* for the area cleared under Clearing Permit CPS 6552/1. The applicant has applied for an amendment to the Pastoral Diversification Permit to include the application area. DoL advised that a weed management condition will likely be placed on the applicant's Pastoral Diversification Permit to manage the potential spread of weeds outside of the irrigated pivot areas. In addition DoL has removed a number of species from the applicants list to minimise the potential for high risk weeds to spread from the proposed pivots (DoL, 2016).

The CSLC previously advised that species such as pearl millet (*Cenchrus americanus*), leucaena (*Leucaena leucocephala*), green panic/Guinea grass (*Megathyrsus maximus*) and blue panic/buffalo grass (*Panicum coloratum*) are very likely to be invasive and are not recommended for planting in the Pilbara region (CSLC, 2016). The CSLC advised that the risk of land degradation can be managed by carefully timing development operations, irrigation and crop establishment, through the retention of stubble for at least 50 per cent ground cover to avoid erosion after baling or grazing, and avoiding broad drainage depressions (CSLC, 2016).

The applicant's Irrigation Management Plan states that the boundary of the Ramsar site was mapped on a regional scale and is approximate only, that the proposed extension is located approximately 30-50 metres from the Ramsar site, and that the coastal plain in the vicinity of the project does not include any wetland areas (Advanced Fertigation Systems, 2015). The applicant's Irrigation Management Plan proposes the maintenance of at least 90 per cent perennial pasture cover to prevent soil erosion and weed invasion, the application of nutrients in a manner that reduces the risk of nutrient leaching and run-off and a build-up of salts in the soil, and the incorporation of conservation earthworks to manage sheet surface flows to prevent soil erosion (Advanced Fertigation Systems, 2015).

#### Native Title

Native title has been determined over the application area (Ngarla and Ngarla 2 (Area A); WAD6185/1998 and WC1999/026), and an Indigenous Land Use Agreement (Ngarla Pastoral ILUA; WI2006/002) has been entered into between a number of parties including the former lease holder and the Wanparta Aboriginal Corporation (on behalf of the Ngarla People). According to available databases, no Aboriginal sites of significance are mapped within the application area.

Native title issues were resolved under CPS 6917/1:

- On 2 June 2015, MacLean Legal acting for the Wanparta Aboriginal Corporation (on behalf of the Ngarla People) provided comment on application CPS 6552/1 (MacLean Legal, 2015). MacLean Legal noted that the lease holder stated in the Ngarla Pastoral ILUA is represented by individuals, and that Pardoo Beef Corporation Pty Ltd as an applicant therefore does not have consent from the Ngarla People (Maclean Legal, 2015).
- On 18 May 2016, a Delegated Officer of the Department of Environment Regulation (DER) wrote to the Wanparta Aboriginal Corporation (on behalf of the Ngarla People) (DER ref. A1100886), providing notice as required by section 24GB s9 of the *Native Title Act 1993*, and providing an opportunity to comment on the application. On 15 June 2016 MacLean Legal advised that there are no native title or Aboriginal heritage impediments restricting the grant of the permit (MacLean Legal, 2016).

On 28 October 2016, a Delegated Officer of DER wrote to the Wanparta Aboriginal Corporation (on behalf of the Ngarla People (DER ref. A1188544), providing notice as required by section 24GB s9 of the *Native Title Act 1993*, and providing an opportunity to comment on the application. No response was received.

**Methodology**    References:  
Advanced Fertigation Systems (2015)  
CSLC (2016)  
DEC (2009)  
DoW (2016)  
DoL (2016)  
MacLean Legal (2015)  
MacLean Legal (2016)  
Parks and Wildlife (2016)

#### 4. References

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- Commissioner of Soil and Land Conservation (2011) Advice received in relation to clearing permit application CPS 4207/1. Received 23 March 2011. (DER ref: A378908).
- Commissioner of Soil and Land Conservation (2014) Advice received in relation to clearing permit application CPS 6112/1. Received 24 July 2014, (DER ref: A785484).
- Commissioner of Soil and Land Conservation (2016) Advice received in relation to clearing permit application CPS 6917/1. Received 8 April 2016, (DER ref: A1079239).
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- MacLean Legal (2016) Advice received in relation to clearing permit application CPS 6917/1. MacLean Legal on behalf of Wanparta Aboriginal Corporation. Received 15 June 2016, (DER ref: A1116804).
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