GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 8963/1
File Number: DWERVT6045
Duration of Permit: From 2 October 2020 to 2 October 2030

PERMIT HOLDER

Pilbara Ports Authority

LAND ON WHICH CLEARING IS TO BE DONE

Lot 569 on Deposited Plan 71345, Talandji

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 26.23 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8963/1.

CONDITIONS

1. **Avoid, minimise and reduce the impacts and extent of 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:
   (a) avoid the clearing of native vegetation;
   (b) minimise the amount of native vegetation to be cleared; and
   (c) reduce the impact of clearing on any environmental value.

2. **Staged clearing**
   The Permit Holder shall not clear native vegetation unless construction occurs within two months of the clearing being undertaken.

3. **Weed control**
   When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
   (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
   (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
   (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

4. **Fauna management - direction of clearing**
   The Permit Holder shall conduct clearing in a slow progressive manner from one direction to the other (e.g. west to east) to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

5. Records to be kept

The Permit Holder must maintain the following records in relation to the clearing of native vegetation authorised under this Permit:

(a) 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 or decimal degrees;
(b) the date(s) that the area was cleared;
(c) the size of the area cleared (in hectares);
(d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 1 of this Permit;
(e) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 3 of this Permit; and
(f) actions taken in accordance with condition 4 of this Permit.

6. Reporting

The Permit Holder must produce the records required under condition 5 of this Permit when required by the *CEO*.

Definitions

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

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant –

(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
(b) published in a Department of Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

Jessica Burton
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

2 September 2020

Plan 8963/1

Map Layers

- CPS areas approved to clear
- Land TenureLGATE - 226
- Local Government Authorities

N

0 100 200 300 m

1:10868

MGA Zone 50
Geocentric Datum of Australia 1994

Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

1. Application details and outcome

1.1. Permit application details

Permit number:	CPS 8963/1
Permit type:	Area permit
Applicant name:	Pilbara Ports Authority
Application received:	3 July 2020
Application area:	26.23 hectares (ha) of native vegetation
Purpose of clearing:	Port of Ashburton expansion
Method of clearing:	Mechanical
Property:	Lot 569 on Deposited Plan 71345
Location (LGA area/s):	Shire of Ashburton
Localities (suburb/s):	Talandji

1.2. Description of clearing activities

The vegetation applied to be cleared includes vegetation that had been approved to be cleared under Clearing Permit CPS 6669/1 (13.954 ha) for laydown and storage area, and an extension of this area to the north and east of Pilbara Port Authority's (PPA's) Eastern Port Precinct (EPP) amounting to an additional 12.276 ha. The proposed clearing is approximately 26.23 ha in total (see Figure 1, Section 1.5). The reason for the extension of clearing is to allow for the construction of rock revetments along the northern boundary, to protect Port lands and associated infrastructure from coastal erosion and impacts associated with storm waves and climate change (VLA, 2020).

1.3. Decision on application and key considerations

Decision:	Granted
Decision date:	2 September 2020
Decision area:	26.23 hectares (ha) of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Water and Environmental Regulation (DWER) on 3 July 2020. DWER advertised the application for public comment and no submissions were received.

In undertaking their assessment, and in accordance with section 51O of the EP Act, the Delegated Officer has given consideration to the Clearing Principles in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments, and any other pertinent matters they deemed relevant to the assessment (see Section 3).

In particular, the Delegated Officer has determined that:

- the clearing is not likely to have a significant impact on conservation status of Priority 3 flora, *Abutilon* sp. Pritzelianum (S. van Leeuwen 5095) (see Section 3.2.1);
- the implementation of a suitable weed management condition is appropriate to mitigate the impact of spreading weeds into adjacent vegetation (see Section 3.2.1);
- the clearing is not likely to have a significant impact on threatened and migratory bird species, and *Lerista planiventralis maryani* (Maryan's keeled slider) (see Section 3.2.2); and

- the implementation of a slow, progressive or directional clearing will assist in minimising impact to individual fauna (see Section 3.2.2).

The Delegated Officer also took into consideration the primary purpose of the clearing is to protect Port lands and associated infrastructure from coastal erosion and impacts associated with storm waves and climate change.

In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

1.5. Site map

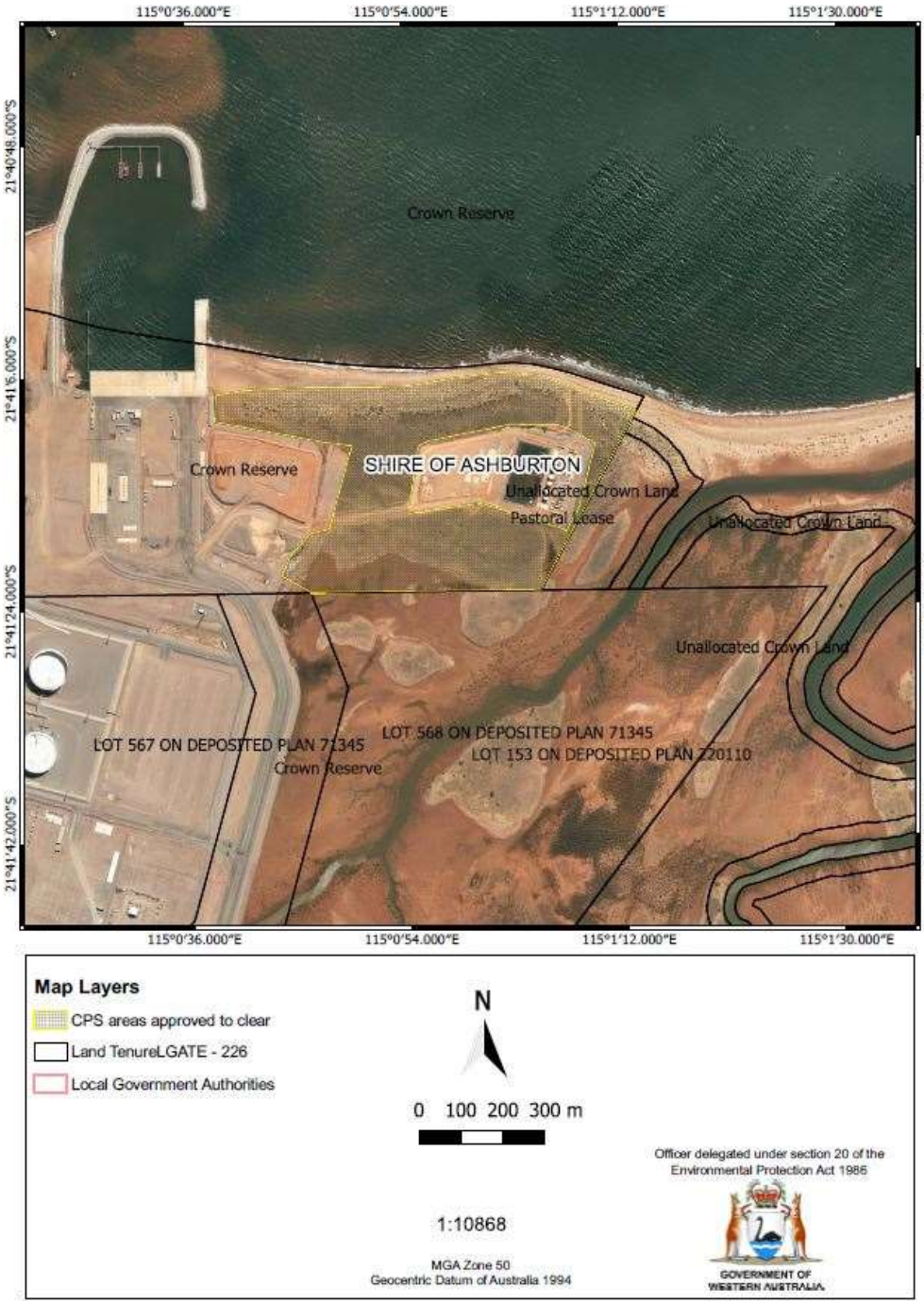


Figure 1. Map of the application area

The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2. Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act, the Delegated Officer also had regard to the objects and principles under section 4A of the EP Act, particularly:

1. the precautionary principle;
2. the principle of intergenerational equity; and
3. the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant, demonstrating that several options were considered for future development of the Port. The proposed clearing provided the most suitable, long-term viable option in stabilising the land around the existing landform (PPA, 2020).

The flora survey (VLA, 2020) of the western portion of the application area stated that the applicant does not intend to clear or disturb all of the coastal dune topography, however if coastal dune re-profiling is required, the applicant will monitor natural revegetation of the area and will undertake any necessary revegetation if required.

This demonstrates that reasonable efforts had been taken to avoid and minimise potential impacts of the clearing on environmental values.

3.2. Assessment of environmental impacts

In assessing the application in accordance with section 51O of the EP Act, the Delegated Officer has examined the application and site characteristics (Appendix A) and considered whether the clearing poses a risk to environmental values. The assessment against the Clearing Principles is contained in Appendix B.

This assessment identified that the clearing may pose a risk to the environmental and biological values of the vegetation proposed to be cleared, and that these required further consideration. The detailed consideration and assessment of the clearing impacts against the specific environmental values is provided below. Where the assessment found that the clearing presents an unacceptable risk to environmental values, conditions aimed at controlling and/or ameliorating the impacts have been imposed under sections 51H and 51I of the EP Act. These are also identified below.

3.2.1. Environmental value: biological values (flora) – Clearing Principles (a) to (d)

Assessment: A flora survey was conducted by Biota Environmental Services (Biota, 2010) over the area that had been approved under Clearing Permit CPS 6669/1. No conservation significant flora was recorded from the survey. An additional flora and vegetation survey conducted by VLA over the northern section of the application area recorded Priority 3 flora species *Abutilon* sp. Pritzelanium (S. van Leeuwen 5095) (VLA, 2020). Ten of the 12 individuals recorded occurred on imported red-brown silts, the remaining were found on undisturbed hind dune and in semi-disturbed vegetation on the border of PPA's developed lands within the Eastern Port Precinct (EPP).

The occurrence of *Abutilon* sp. Pritzelanium (S. van Leeuwen 5095) is relatively common along the coastline in the Onslow vicinity, and has been recorded in coastal hind dune areas immediately adjacent to Onslow, between Onslow and Sunset Beach and on hind dunes on Urala Station (VLA, 2020). This species was previously listed as Priority 1 by the Department of Biodiversity, Conservation and Attractions (DBCA), but has now been changed to Priority 3. The proposed clearing may require the removal of 12 *Abutilon* sp. Pritzelanium (S. van Leeuwen 5095) plants,

however, due to its relatively common and widespread occurrence, the proposed clearing is not likely to have a significant impact to the population or conservation status of the species.

A review of the available databases indicates four other conservation significant flora species with previous records in the local area (20 km), that may occur within the application area based on habitat preferences:

- *Eleocharis papillosa* (Priority 3) is an annual herb that occurs on red clay over granite, open clay flats and claypans (Western Australian Herbarium, 1998-). This species is known from nine records from the Ashburton, East Pilbara, Greater Geraldton, Kalgoorlie-Boulder, Laverton, Menzies and Murchison areas;
- *Eremophila forrestii* subsp. *viridis* (Priority 3) is a perennial much-branched shrub that occurs on red sand dune habitats (Western Australian Herbarium, 1998-). This species is known from five records from the Ashburton and East Pilbara areas;
- *Stackhousia clementii* (Priority 3) is a perennial dense broom-like herb that occurs on skeletal soils and sandstone hills. This species has also been recorded on coastal plain (Western Australian Herbarium, 1998-). This species is known from 21 records from the Ashburton, Carnarvon, East Pilbara, Karratha, Murchison, Ngaanyatjarraku and Wiluna areas; and
- *Triumfetta echinata* (Priority 3) is a perennial low growing shrub that occurs on red sandy soils and sand dune habitats (Western Australian Herbarium, 1998-). This species is known from seven records from the Ashburton area.

Considering the absence of the above species during surveys conducted within the application area, that the vegetation types within the application area are well represented in and around Onslow, and the broad distribution of *E. papillosa* and *S. clementii,* the proposed clearing is not likely to have a significant impact on these species at a local or regional scale.

Introduced species *Cenchrus ciliaris* (Buffel grass) was recorded during the survey (VLA, 2020). This is typical for Carnarvon and Pilbara coastal areas. No *Prosopis pallida* (Mesquite), the Declared Pest and Weeds of National Significance species which has become abundant around the adjacent Wheatstone Project area in the past 10 years, was found within the application area (VLA, 2020).

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered unlikely to have a significant impact to this environmental value.

Conditions: A weed management condition will be implemented to manage potential impacts to adjacent vegetation as a result of the proposed clearing.

3.2.2. Environmental value: biological values (fauna) – Clearing Principle (b)

Assessment: A review of the available databases indicates a total of 62 conservation significant fauna species with records in the local area (20 km radius). These species were listed under the state *Biodiversity Conservation Act 2016* (BC Act) and/or Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), Priority species by DBCA, or under International Agreements (IA). Thirteen of these species are known to be marine fauna and were therefore removed from the assessment.

Of the conservation significant fauna species recorded within the local area, the following have the potential to be found within the application area based on habitat preferences:

- Eight Threatened bird species:

  - *Calidris tenuirostris* (Great knot) (Critically Endangered under EPBC Act and Vulnerable under BC Act) inhabit intertidal mudflats and sandflats in sheltered coasts, including bays and estuaries. They forage on the moist mud, and often roost on beaches or in nearby low vegetation, such as mangroves or dune vegetation;

  - *Limosa lapponica* (Bar-tailed godwit (northern Siberian)) (Critically Endangered under EPBC Act and Vulnerable under BC Act) inhabit estuarine mudflats, beaches and mangroves;

  - *Calidris ferruginea* (Curlew sandpiper) (Critically Endangered under EPBC Act and Vulnerable under BC Act) is found on intertidal mudflats of estuaries, lagoons, mangroves, as well as beaches, rocky shores and around lakes, dams and floodwaters;

- *Numenius madagascariensis* (Eastern Curlew) (Critically Endangered under EPBC Act and Vulnerable under BC Act) is found on intertidal mudflats and sandflats, often with beds of seagrass, on sheltered coasts, especially estuaries, mangrove swamps, bays, harbours and lagoons;

- *Pezoporus occidentalis* (Night Parrot) (Endangered under EPBC Act and Critically Endangered under BC Act) usually inhabit arid or semi-arid grasslands that are dominated by spinifex, though they have also been recorded in shrublands dominated by samphire, bluebush and saltbush;

- *Calidris canutus* (Red knot) (Endangered under EPBC Act and Vulnerable under BC Act) is known to occur in sandy estuaries with tidal mudflats;

- *Charadrius mongolus* (Lesser Sand Plover) (Endangered under EPBC Act and BC Act) usually occurs in coastal littoral and mudflats in estuaries or beaches. At inland sites, they have been recorded foraging in muddy areas around lakes, soaks and bores; and

- *Charadrius leschenaultia* (Greater sand plover) (Vulnerable under EPBC Act and BC Act) inhabit littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks.

- Thirty-two bird species protected under International Agreements:

  While clay pan, hummock grassland and dune vegetation within the application area may provide habitat for threatened or migratory bird species, an extensive amount of available habitat occurs outside the application area and the proposed clearing is not likely to comprise significant habitat for these species Habitat value within the application area is considered low due to the clearing and development that has occurred surrounding the application area.

- One Priority 1 reptile species, *Lerista planiventralis maryani* (Maryan's keeled slider) may occur in areas where loose sandy substrates and leaf litter are present. There is little documented about the habitat and ecology of the Maryan's keeled slider. The vegetation types within the application area are well represented within Onslow and the local area retains approximately 94 per cent of its remnant vegetation. Considering this, the vegetation within the application area is unlikely to represent significant habitat for this species.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered unlikely to have a significant impact to fauna habitat.

Conditions:

The following condition will be added to the permit to assist in minimising impact to individual fauna that may occur within the application area:

- Slow, progressive one directional clearing (e.g. west to east) to allow fauna to move into adjacent habitat ahead of clearing activity.

3.2.3. Land and water resources – Clearing Principle (g)

Assessment: The main land degradation risks associated with the soil types mapped across the application area are from wind and water erosion, which sandplains and coastal dunes are susceptible to. Given the size of the proposed clearing and the location on the coast, appreciable soil erosion may occur.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing may lead to appreciable land degradation, however, impacts can be managed with a staged clearing.

Conditions:

The following condition will be added to the permit to assist in minimising appreciable land degradation:

- Staged clearing.

3.3. Relevant planning instruments and other matters

The Shire of Ashburton advised DWER that local government approvals are not required, and that the clearing is consistent with the Shire's Local Planning Scheme (Shire of Ashburton, 2020). The Shire did not have any objections to the clearing.

It is noted that the application area is part of Ministerial Approval 873 for Chevron's Wheatstone development, and that the clearing of native vegetation is approved under the Ministerial. However, due to the difference in purpose of clearing, PPA applied for a clearing permit under Part V of the EP Act.

The application area includes vegetation that had been approved to be cleared under Clearing Permit CPS 6669/1. Clearing Permit CPS 6669/1 expires in November 2020, vegetation approved to be cleared under this permit will now be included under CPS 8963/1. An application to surrender Clearing Permit CPS 6669/1 by PPA was received by DWER on 18 August 2020. No clearing has occurred under Clearing Permit CPS 6669/1 since it was issued on 14 November 2015 (PPA, 2020).

It is the applicants' responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Appendix A – Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix B.

1. Site characteristics

Site characteristic	Details
Local context	The proposed clearing area is adjacent to areas of developed Port land that were originally cleared and developed as part of the Wheatstone Project. Spatial data indicates the local area (20 km radius of the proposed clearing area) retains approximately 94% of the original native vegetation cover.
Vegetation description	A vegetation survey (VLA, 2020) indicates the vegetation within the proposed clearing area to the north consists of vegetation that has been subject to previous disturbance. In the north-western portion of the application area, vegetation has been cleared and regrowth modified by imported red-brown silts. The survey noted that vegetation within the area is naturally disturbed by strong coastal winds and extreme weather events such as tropical cyclones (VLA, 2020). Seven vegetation associations were identified from the survey. The vegetation approved to be cleared under Clearing Permit CPS 6669/1 comprised of three vegetation associations (Biota, 2010). Representative photos, the full survey descriptions and mapping are available in Appendix D. This is consistent with the mapped vegetation types: • Beard Vegetation Association (BVA) 676, which is described as *Tecticornia* spp. communities in saline areas; • BVA 117, which is described as hummock grassland *Triodia* spp.; and • BVA 127, which is described as tidal mud flat (Shepherd et al, 2001).
Vegetation condition	A vegetation survey (VLA, 2020) indicate the vegetation within the proposed clearing area is in Very Good to Poor condition (Trudgen, 1991) condition, described as: • **Very Good -** Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks. • **Good -** More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds. • **Poor -** Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds. The full Trudgen condition rating scale is provided in Appendix C, below. Representative photos, the full survey descriptions and mapping are available in Appendix D.
Soil description	The soil is mapped as: • Onslow System 201On, described as undulating sandplains, dunes and level clay plains supporting soft spinifex grasslands and minor tussock grasslands; and • Littoral System 201Li, described as bare coastal mudflats (unvegetated), samphire flats, sandy islands, coastal dunes and beaches, supporting samphire low shrublands, sparse acacia shrublands and mangrove forests.
Land degradation risk	Soils associated with sandplains and coastal dunes are susceptible to wind and water erosion.

Site characteristic	Details
Waterbodies	The desktop assessment and aerial imagery indicated that there is an estuary located approximately 180 metres east of the application. The application area also includes a clay pan associated with a tidal flat.
Conservation areas	The nearest conservation area is Cane River Conservation Park, located approximately 74 km south-east of the application area.
Climate and landform	The application area is located within the Cape Range sub-region, described as rugged tertiary limestone ranges and extensive areas of red aeolian dunefields, quarternary coastal dunes and mud flats (Kendrick and Mau, 2002). The area records annual mean minimum and maximum temperatures of 30.8°C and 33.9°C (1940-2020) respectively and mean annual rainfall of 308.4 mm (1940-2020) (BOM, 2020).

2. Flora, fauna and ecosystem analysis

With consideration for the site characteristics set out above, relevant datasets (see Appendix E), and biological survey information, the following conservation significant flora and fauna species will, or may be impacted by the clearing.

Species	Conservation status	Distance of closest record to application area (kilometres)	Suitable soil type? (flora, ecological community)	Suitable habitat features (fauna)	Are surveys adequate to identify? (Y, N, N/A)
Flora					
Abutilon sp. Pritzelianum (S. van Leeuwen 5095)	P3	12	Y	N/A	Y - found
Eleocharis papillosa	P3	6.4	Y	N/A	Y
Eremophila forrestii subsp. *viridis*	P3	10.1	Y	N/A	Y
Stackhousia clementii	P3	9.9	Y	N/A	Y
Triumfetta echinata	P3	11.8	Y	N/A	Y
Fauna					
Calidris tenuirostris (Great knot)	CR	3.3	N/A	Y	N/A
Limosa lapponica (Bar-tailed godwit (northern Siberian))	CR	3.6	N/A	Y	N/A
Calidris ferruginea (Curlew sandpiper)	CR	7.2	N/A	Y	N/A
Numenius madagascariensis (Eastern Curlew)	CR	3.6	N/A	Y	N/A
Pezoporus occidentalis (Night Parrot)	CR	11.6	N/A	Y	N/A
Calidris canutus (Red knot)	EN	8.2	N/A	Y	N/A
Charadrius mongolus (Lesser Sand Plover)	EN	3.3	N/A	Y	N/A

Species	Conservation status	Distance of closest record to application area (kilometres)	Suitable soil type? (flora, ecological community)	Suitable habitat features (fauna)	Are surveys adequate to identify? (Y, N, N/A)
Charadrius leschenaultia (Greater sand plover)	VU	3.3	N/A	Y	N/A
Lerista planiventralis maryani (Maryan's keeled slider)	P1	11.1	N/A	Y	N/A
Migratory waterbirds	IA	0 - 20	N/A	Y	N/A

3. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	% remaining	Current extent in all DBCA managed land (ha)	% current extent in all DBCA managed land (proportion of pre-European extent)
IBRA bioregion					
Carnarvon	8,382,890.35	8,360,801.46	99.74	1,020,434.08	12.17
Vegetation complex within Carnarvon IBRA bioregion					
BVA 117	12,424.35	10,907.99	87.80	2,997.21	24.12
BVA 127	102,780.91	101,489.55	98.74	1,996.31	1.94
BVA 676	51,983.51	51,232.57	98.56	15,035.55	28.92

Appendix B – Assessment against the Clearing Principles

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The proposed clearing area contains Priority 3 flora species and suitable habitat for conservation significant fauna.	Not likely to be at variance	Yes Refer to Section 3.2.1 above.
Principle (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."* Assessment: The proposed clearing area contains suitable habitat for conservation significant fauna, and there are mapped records within the local area (DBCA, 2007-).	Not likely to be at variance	Yes Refer to Section 3.2.2 above.

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The proposed clearing area is unlikely to contain habitat for flora species listed under the BC Act.	Not likely to be at variance	No
Principle (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."* Assessment: The proposed clearing area does not contain vegetation representative of any known threatened ecological community (TEC), as listed as under the BC Act.	Not likely to be at variance	No
Environmental values: significant remnant vegetation and conservation areas		
Principle (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."* Assessment: The extent of the mapped vegetation type and the native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia (EPA, 2008; Government of Western Australia, 2019; Commonwealth of Australia, 2001). Vegetation in the proposed clearing area is not considered to be part of a significant ecological linkage in the local area.	Not likely to be at variance	No
Principle (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."* Assessment: Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No
Environmental values: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: The application area includes native vegetation partially within a clay pan associated with a tidal flat and there is an estuary located approximately 180 metres east of the application area, however, the clearing is unlikely to impact on- or off-site hydrology and water quality.	Is at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The application area includes soils associated with sandplains and coastal dunes, which are susceptible to wind and water erosion. Given the size of the proposed clearing and the location on the coast, appreciable soil erosion may occur.	May be at variance	Yes Refer to Section 3.2.3 above.

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Principle (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."* Assessment: The proposed clearing will partially occur within a clay pan associated with a tidal flat, which may increase short term sedimentation washed downstream and into the adjacent estuary located approximately 180 metres east of the application area. However, given the presence of surrounding cleared areas, the natural level of sedimentation likely to occur within the estuary and that the cleared area will be managed, the proposed clearing is not likely to significantly impact the quality of surface or underground water.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Noting the purpose of clearing is to manage the coastal dune system and protect the Port from climate change impacts, and that the land will be developed to include stormwater drains, the proposed clearing is not likely to contribute to increased incidence or intensity of flooding.	Not likely to be at variance	No

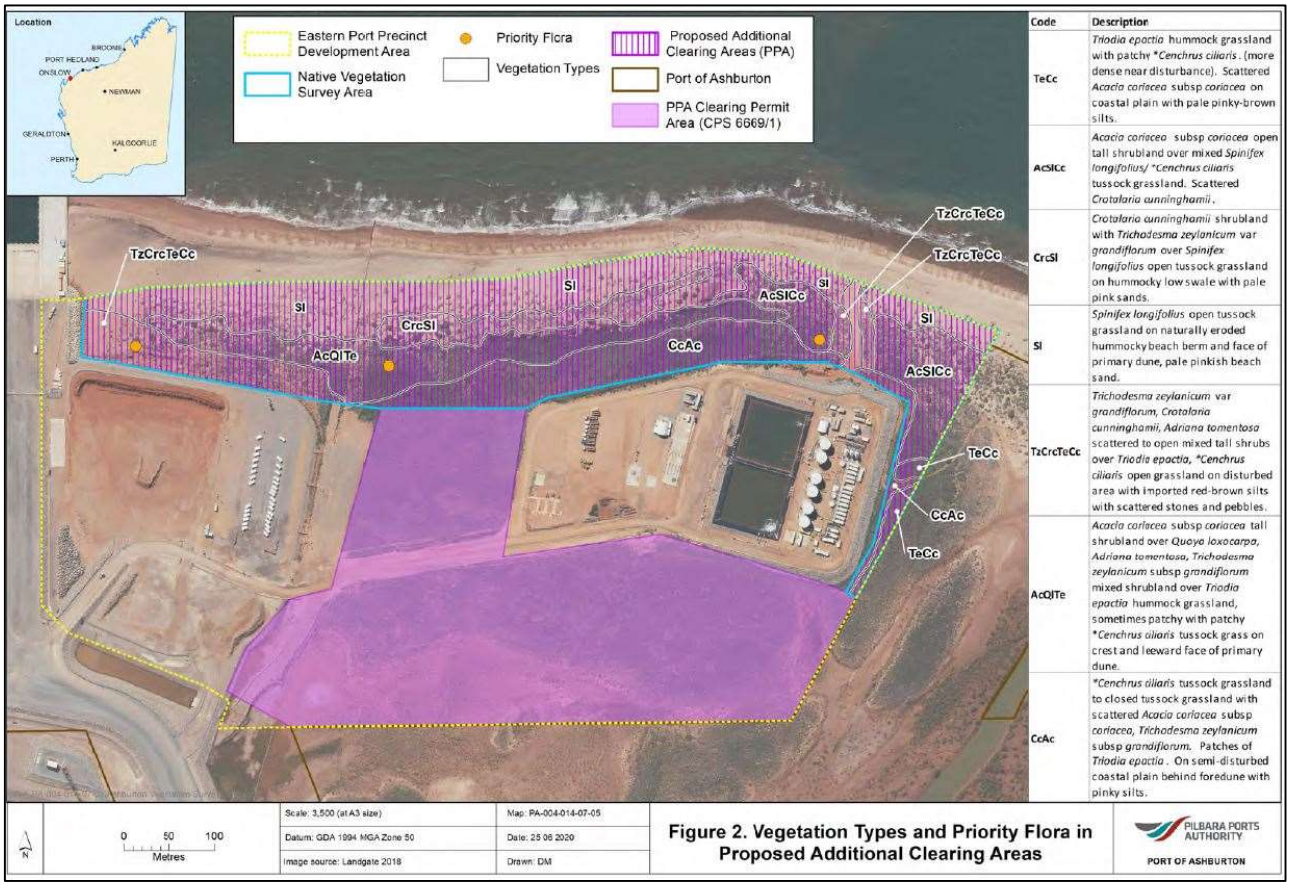
Appendix C – Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Measuring Vegetation Condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

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

Appendix D – Biological survey information excerpts / photographs of the vegetation



Excerpt from VLA (2020) flora and vegetation survey report, showing vegetation types and descriptions in additional clearing areas.

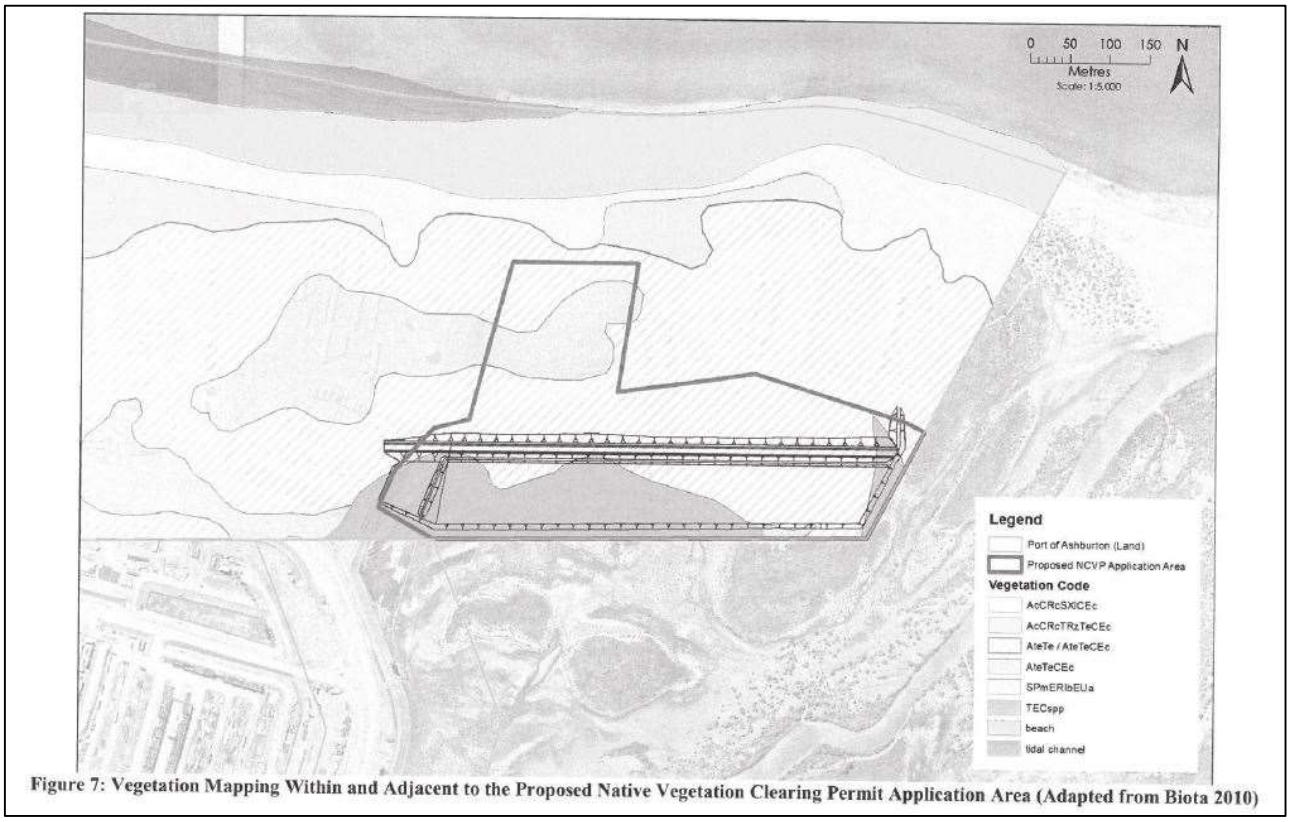


Figure 7: Vegetation Mapping Within and Adjacent to the Proposed Native Vegetation Clearing Permit Application Area (Adapted from Biota 2010)

Excerpt from PPA supporting information for CPS 6669/1 (2015), identifying vegetation types in clearing area

Vegetation descriptions (VLA, 2020):

AcCRcSXlCEc: *Acacia coriacea* subsp. *coricea. Crotalana cunninghamii* tall shrubland over *Spinifex longifolius. (*Cenchrus ciliaris)* open tussock grassland.

AcCRcTRzTeCEc: *Acacia coriacea* subsp. *coricea* tall shrubland over *Crotalana cunninghamii. Trichodesma zeylanicum* var. *grandiflorum* open shrubland ovewr *Triodia epactia* open hummock grassland with **Cenchrus ciliaris* open tussock grassland.

TECspp: *Tecticornia* spp. low shrubland

SPmERlbEUa: *Sporobolus mitchellii, Eriachne* aff. *benthamii, E. benthamii, Eulalia aurea* tussock grassland

AteTeCEc: *Acacia tetragonophylla* scattered shrubs over *Triodia epactia* hummock grassland **Cenchrus ciliaris* open tussock grassland

Vegetation type TeCc

Vegetation type AcSICc

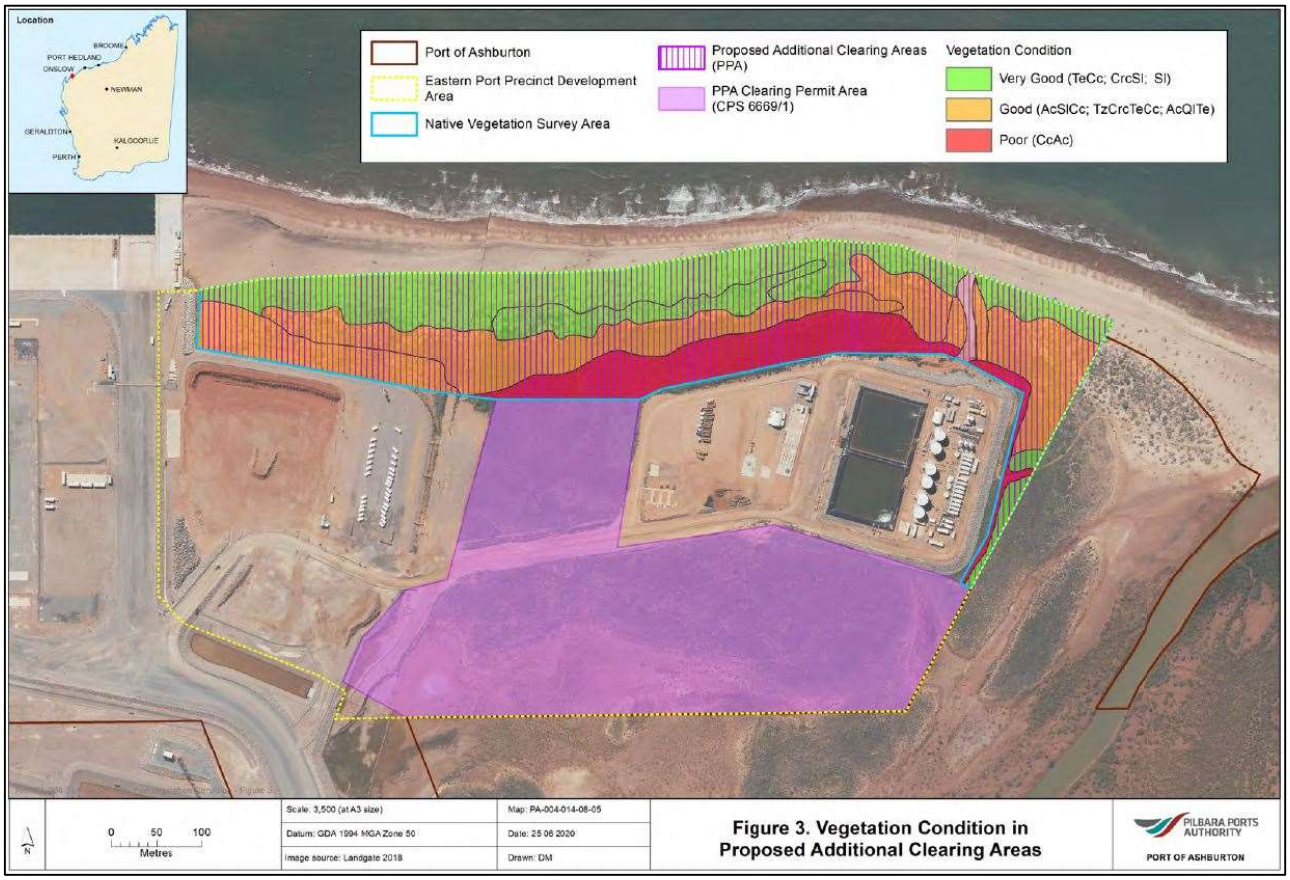
Vegetation type CrcSI

Vegetation type SI

Vegetation type CcAc

Vegetation type TzCrcTeCc

Vegetation type AcQlTe



Excerpt from VLA (2020) flora and vegetation survey report, showing vegetation condition in additional clearing areas

Appendix E – References and databases

1. GIS datasets

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- Aboriginal Heritage Places (DPLH-001)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Regional Parks (DBCA-026)
- Soil and Landscape Mapping – Best Available

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

2. References

Biota (2010) Vegetation and Flora Survey of the Wheatstone Project Area, near Onslow. Report prepared for Chevron by Biota Environmental Services.

Bureau of Meterology (BOM) (2020). Climate statistics for Australian locations - Onslow. Accessed August 2020 from http://www.bom.gov.au/climate/averages/tables/cw_005017.shtml.

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Department of Biodiversity, Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dpaw.wa.gov.au/. Accessed August 2020.

Department of Primary Industries and Regional Development (DPIRD) (2017). NRInfo Digital Mapping. Accessed at https://maps.agric.wa.gov.au/nrm-info/ Accessed August 2020. Department of Primary Industries and Regional Development. Government of Western Australia.

Environmental Protection Authority (EPA) (2008) Environmental Guidance for Planning and Development Guidance Statement No 33. Environmental Protection Authority, Western Australia.

Government of Western Australia. (2019). *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019.* WA Department of Biodiversity, Conservation and Attractions. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

Kendrick P and Mau R (2002). Carnarvon 1 (CAR1 — Cape Range subregion). In: A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. NatureBase, Western Australian Department of Environment and Conservation, Perth.

Pilbara Ports Authority (PPA) (2015) Clearing Permit application supporting information. DWER ref A940527

Pilbara Ports Authority (PPA) (2020) Clearing Permit application CPS 8963/1. DWER ref A1910034

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Shire of Ashburton (2020) Comments on Clearing Permit application CPS 8963/1. DWER ref A1921866

Trudgen, M.E. (1991) Vegetation Condition Scale. In: National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth, Western Australia.

Vicki Long & Associates (VLA) 2020) Pilbara Ports Authority – Port of Ashburton – Eastern Port Precinct additional clearing areas flora survey. Unpublished report prepared for Pilbara Ports Authority. February 2020.

Western Australian Herbarium (1998-). FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. https://florabase.dpaw.wa.gov.au/ Accessed August 2020.