



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 6692/1
File Number: 2015/001787
Duration of Permit: From 5 December 2015 to 5 December 2017

PERMIT HOLDER

Shire of Dandaragan

LAND ON WHICH CLEARING IS TO BE DONE

LOT 237 ON PLAN 52031 (Crown Reserve 28541), JURIEN BAY

AUTHORISED ACTIVITY

The Permit Holder must not clear more than 2.06 hectares of native vegetation and 2 native trees within the areas cross-hatched yellow on attached Plan 6692/1.

CONDITIONS

1. Weed control

- (a) 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*:
- (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared;
 - (iii) restrict the movement of machines and other vehicles to the limits of the areas to be cleared;
- (b) At least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

DEFINITIONS

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

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 Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

A handwritten signature in black ink, appearing to read "Matt Warnock", written over a horizontal line.

Matt Warnock
SENIOR MANAGER
CLEARING REGULATION







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

5 November 2015

Plan 6692-1



Legend

-  Cadastre (Search)
-  Local Government Authority
-  Roads
-  Cadastre
-  Imagery
-  Clearing Instruments Activities



1:2,000

(Approximate when reproduced at A4)
GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

M Warnock Date *5/11/15*
M Warnock

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



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WESTERN AUSTRALIA
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1. Application details

1.1. Permit application details

Permit application No.: 6692/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Shire of Dandaragan

1.3. Property details

Property: LOT 237 ON PLAN 52031, JURIEN BAY
Colloquial name:
Local Government Authority: DANDARAGAN, SHIRE OF
DER Region: Midwest
DPaW District: MOORA
LCDC: DANDARAGAN
Localities: JURIEN BAY

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.06	2	Mechanical Removal	Landscaping

1.5. Decision on application

Decision on Permit: Granted
Application:
Decision Date: 5 November 2015

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
Beard Vegetation Association 1026 is described as Mosaic: Shrublands; Acacia rostelifera, A. cyclops (in the south) & Melaleuca cardiophylla (in the north) thicket / Shrublands; Acacia lasiocarpa & Melaleuca acerosa heath (Shepherd et al, 2001)	The clearing of 2.06 hectares of native vegetation and two native trees within Lot 237 on Plan 52031 (Crown Reserve 28541), Jurien Bay for the purpose of Jurien Bay Foreshore Redevelopment.	Excellent; Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994). To: Degraded; Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. (Keighery, 1994).	The vegetation condition was established through supporting documentation provided by the applicant (Maia, 2015). 92 percent of the vegetation under application consists of Acacia shrubland, mixed mid sparse to open coastal shrubland, spinifex hummock grassland and spinifex hummock grassland with mixed open shrubland in an excellent (Keighery 1994) condition (Maia, 2015). A small portion of the survey area was found to be in a degraded (Keighery, 1994) condition as it was previously cleared for firebreaks, pathways, a gazebo area and drainage sumps (Maia, 2015).

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 is not likely to be at variance to this Principle**
The proposed clearing of 2.06 hectares and two native trees within Lot 237 on Plan 52031 (Crown Reserve), Jurien Bay is for the purpose of Jurien Bay Foreshore Redevelopment.

A level 1 Flora and Vegetation Survey of the application area undertaken by Maia in July 2015 identified that the majority of the vegetation (92.31 percent) proposed for clearing is in excellent (Keighery 1994) condition with a small portion (7.7 percent) in degraded (Keighery, 1994) condition (Maia 2015). The vegetation under application consists of Acacia shrubland, mixed mid sparse to open coastal shrubland, spinifex hummock grassland and spinifex hummock grassland with mixed open shrubland (Maia 2015).

Based on available databases there are 28 records of priority flora species mapped within the local area (10 kilometre radius) of the area under application. A level 1 Flora and Vegetation Survey site inspection undertaken by Maia Environmental Consultancy in July 2015 identified one priority three flora species within the survey area. *Thryptomene* sp. *Lancelin* (M.E. Trudgen 14000) is a priority three flora species under the Wildlife Conservation Act 1950. Priority three are known from one or a few locations, some of which are on lands managed primarily for nature conservation. Such species are in urgent need of further survey (Parks and Wildlife, 2007-).

The Maia Survey found one record of *Thryptomene* sp. *Lancelin* (M.E. Trudgen 14000), the Shire of Dandaragan amended the application area and will not be directly impacting this priority 3 species (Maia, 2015). Implementing weed management practices will further ensure that adjoining vegetation is not degraded through the proposed clearing.

Thryptomene sp. *Lancelin* is known from 25 records, nine of which are recent (2001 - 2013). It has a known range of over 180 kilometres in dunes along the coast from Lancelin to south of Port Denison. The application area is within the known distribution of the taxon and so the proposed clearing is not likely to have a regional significance. On a local scale, the application area is only one of two known locations in Jurien Bay, the other record (from 2009) is located approximately 850 metres north of the application area, in an area already impacted from clearing. The taxon is usually found in small stands, and therefore the singular plant located in the application area has the potential to have high local significance (Parks and Wildlife, 2015b).

Several fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius). Given the location and type of vegetation recorded, the vegetation under application is not likely to provide significant habitat for these species.

The closest Priority Ecological Community (PEC) or Threatened Ecological Community (TEC) to the application area is located 18 kilometres south of the application area and is described as "Stromatolite community of stratified hypersaline coastal lake – Lake Thetis" (vulnerable). Given the type of vegetation under application and the distance to the closest TEC or PEC the application area is not likely to represent or impact upon these communities.

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

Methodology

References:

Keighery, B.J. (1994)
Maia (2015)
Parks and Wildlife (2007-)
Parks and Wildlife (2015b)

GIS Databases:

-SAC Bio Datasets (Accessed September 2015)
-Parks and Wildlife tenure

(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 is not likely to be at variance to this Principle

There are 15 fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 recorded within the local area (10 kilometre radius) of the area under application. However, all of the fauna were recorded on the offshore islands to the west.

Potential feeding areas for Carnaby Cockatoo's have been identified near Jurien Bay. However, the survey identified no native large seeded tree species such as *Eucalyptus*, *Corymbia*, *Banksia* or any other proteaceous shrubs known to be favoured by Carnaby's Black Cockatoo for feeding or roosting habitat (Maia, 2015).

Given the vegetation type, location and presence of significant vegetation adjoining the application area. The vegetation under application is not likely to be considered significant fauna habitat.

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

Methodology

References:

Maia (2015)

GIS Databases:

- Threatened fauna
- Parks and Wildlife (2007-)
- Carnaby's Cockatoo Feeding SCP unconfirmed

(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

Three threatened flora species listed under the Wildlife Conservation Act 1950, have been recorded within the local area (10 Kilometres radius). The soils are mapped as low-lying deposits of inlets and estuaries; chief soils are calcareous sands on the dunes. Associated are various and acid peats soils in the swale behind the coastal dunes.

One species was recorded in clay loam sandy clay, often moist environment and is located 4.5 kilometres north of the application area. The second species is found in low heath in grey sand and lateritic gravel or laterite boulders, hilltops and rides and has been recorded 6.8 kilometres from the application area. The third species was recorded 9.5 kilometres from the application area and grows in shallow sand on limestone ridges and slopes, where it emerges from heath and thicket of parrotbush and chenille honey-myrtle.

A level one general flora and vegetation survey carried out by Maia Environmental Consultancy in July 2015 did not identify any threatened flora species within the application area (Maia, 2015).

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

Methodology References:
Maia (2015)

GIS Databases:
-SAC Bio datasets (Accessed September 2015)
-Threatened and priority flora

(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

There are no Threatened Ecological Communities (TEC's) recorded within the local area (10 kilometre radius). The closest TEC is located 18 kilometres south of the application area and is described as "Stromatolite community of stratified hypersaline coastal lake – Lake Thetis". This community is listed as vulnerable under the Environment Protection and Biodiversity Conservation Act 1999.

Given the observed vegetation type and distance to the nearest TEC, it is not likely for the application area to comprise of, or be necessary for the maintenance of a TEC. The proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Databases:
-SAC Bio datasets (Accessed September 2015)

(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 likely to be at variance to this Principle

The area under application is located within the Swan Coastal Plain Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion retains approximately 39 percent pre-European vegetation (Government of Western Australia, 2014).

The area under application is located within the Shire of Dandaragan, within which there is approximately 44 percent pre-European extent remaining (Government of Western Australia, 2014).

The vegetation under application is mapped as Beard vegetation association 1026 of which there is approximately 94 percent pre-European extent remaining within the Swan Coastal Plain bioregion (Government of Western Australia, 2014).

The local area (10 kilometre radius) surrounding the application area retains approximately 70 percent native vegetation.

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).

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,222	580,697	39	37
Shire*				
Dandaragan, Shire of	671,022	296,632	44	42
Beard Vegetation Association in Bioregion*				
1026	58,419	54,820	94	56

Methodology References:
Commonwealth of Australia (2001)
Government of Western Australia (2014)

GIS Databases:
-Pre-European vegetation
-NLWRA, Current Extent of Native 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**
The closest watercourse to the proposed clearing is Hill River occurring 7.5 kilometres east and the closest wetland is Cervantes Wetlands, described as a sumpland, which is located 1.5 kilometres north east of the application area.

The vegetation of the application area is not growing in, or in association with, an environment associated with a watercourse or wetland. It is an approximately 80 metre wide strip of coastal vegetation adjacent to the beach (Maia, 2015).

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

Methodology References:
Maia (2015)

GIS Databases:
-Hydrography, linear
-Geomorphic wetland Cervantes Eneabba database

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

Comments **Proposed clearing is not likely to be at variance to this Principle**
Soils within the application area are mapped as coastal dune formations backed by the low-lying deposits of inlets and estuaries: Chief soils are calcareous sands on the dunes (Northcote et. Al. 1960-68).

The vegetation under application consists of Acacia shrubland, mixed mid sparse to open coastal shrubland, spinifex hummock grassland and spinifex hummock grassland with mixed open shrubland (Maia 2015).

There is a potential for the clearing of the application area to cause soil erosion from winds due to the foredune location. However, the applicant has proposed to develop the area for public use, the area will be a mixture of grassed areas for open space, a beach volley ball court, decking to adjoin the existing jetty and commercial hard stand areas (Maia, 2015).

Given this and the relatively small area proposed to be cleared, it is not likely for the proposed clearing to cause appreciable land degradation in the form of soil erosion.

Given the above and that the vegetation under application is not deep rooted the risk of salinity, eutrophication, water erosion or flooding causing land degradation is low.

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

Methodology References:
Maia (2015)
Northcote, K. H. et al. (1960-68)

GIS Databases:
-Soils, statewide
-Salinity Risk

(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 is not likely to be at variance to this Principle**
The proposed clearing area is 60 metres from the Jurien Bay Marine Park and 2.7 kilometres from Boullanger Whitlock, Favourite, Tern and Osprey Islands Nature reserves.

The vegetation proposed for clearing is in an excellent to degraded (Keighery 1994) condition (Maia 2015). It is recommended that the applicant use a suitable maintenance program for the redevelopment, including the use of appropriate fertiliser to limit the effect of nutrient runoff into the adjacent Marine Park. A key performance indicator for the Jurien Bay Marine Park is sediment and water quality with long term water quality monitoring sites having been established adjacent to the current development proposal location (Parks and Wildlife, 2015a).

Although the future management of the site may incrementally add to pressures on the nearby, marine reserves, given the location and distance to the Islands Nature reserve, clearing the vegetation under application is not likely to have an impact on the environmental values of the Islands Nature reserve.

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

Methodology References:
Keighery, B.J. (1994)
Maia (2015)
Parks and Wildlife (2015a)

GIS Databases:
-Parks and Wildlife Tenure
-Soils, Statewide
-Topography, Statewide

(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**
The closest watercourse to the proposed clearing is Hill River, occurring 7.5 kilometres east and the closest wetland to the proposed clearing is Cervantes Wetland, a sumpland, occurring 1.5 kilometres north east of the application area.

Given the distance to the nearest wetland or watercourse, the proposed clearing is not likely to cause deterioration in the quality of surface water.

Groundwater salinity mapped within the application area is 500 -1000 milligrams per litre of total dissolved solids which is considered low. Given this, the highly vegetated local area (70 per cent of native vegetation remaining within a 10 kilometre radius) and the small area of clearing proposed, it is not considered that the proposed clearing will cause the deterioration of underground water quality.

It is recommended that the applicant use a suitable maintenance program for the redevelopment, including the use of appropriate fertiliser to limit the effect of nutrient runoff into the adjacent Marine Park. A key performance indicator for the Jurien Bay Marine Park is sediment and water quality with long term water quality monitoring sites having been established adjacent to the current development proposal location (Parks and Wildlife, 2015a).

The proposed clearing is not likely to be at variance to this Principle.

Methodology References:
Parks and Wildlife (2015a)

GIS Databases:
-Hydrography, linear
-Geomorphic wetland database
-Groundwater salinity

(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 may be at variance to this Principle

Average annual rainfall for the local area is 600 millimetres. The application area slopes towards the coastline and soils are predominantly calcareous sands which can drain readily (Northcote et al. 1960-68). Given this and the relatively small size of the application area the clearing is not likely to be at variance to this Principle.

Applications that involve the removal or modifications of existing foredune systems should consider the potential for inundation from storm surges and other sea level rises (Parks and Wildlife, 2015a).

Methodology

References:

Northcote, K. H. et al. (1960-68)
Parks and Wildlife (2015a)

GIS Databases:

-Hydrography, linear
-Geomorphologic wetland database
-Groundwater salinity

Planning instruments and other relevant matters.

Comments

The proposed clearing of 2.06 hectares and two native trees within Lot 237 on Deposited Plan 52031 (Crown Reserve 28541), Jurien Bay is for the purpose of Jurien Bay foreshore redevelopment.

The application area is zoned Parks and Recreation under the Town Planning Scheme Zone.

One aboriginal site of significance is mapped within the application area. It is the applicant's responsibility to ensure that they comply with their responsibilities under the Aboriginal Heritage Act 1972.

The clearing permit application was advertised on 17 August 2015 by the Department of Environment Regulation inviting submissions from the public. There were no submissions received.

Methodology

GIS Databases:

-Town Planning Scheme Zones
-Aboriginal sites of significance

4. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. WA Department of Parks and Wildlife, Perth.
- Heddl, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Maia Environmental Consultancy - Supporting documentation for Clearing Permit Application CPS 6692/1 - Shire of Dandaragan Jurien Bay Foreshore Level 1 Flora and Vegetation Survey, July 2015 DER Ref: A948339
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed September 2015
- Regional advice for clearing application CPS 6692/1 - Shire of Dandaragan - Lot 237 on Plan 52031, Jurien Bay. Department of Parks and Wildlife, Perth Western Australia. DER Ref: A971105
- 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.
- Species and Communities advice for clearing application CPS 6692/1 - Shire of Dandaragan - Lot 237 on Plan 52031, Jurien Bay. Department of Parks and Wildlife, Perth Western Australia. DER Ref: A986173