



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 7450/1
File Number: 2011/006844-1
Duration of Permit: 5 August 2017 to 5 August 2019

PERMIT HOLDER

Shire of Esperance

LAND ON WHICH CLEARING IS TO BE DONE

Ridgellands Road Reserve (PIN: 11645177), Condingup

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.982 hectares of native vegetation within the area hatched yellow on attached Plan 7450/1.

CONDITIONS

1. Dieback and weed control

When undertaking any clearing authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *dieback* or *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.

DEFINITIONS

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

dieback means the effect of *Phytophthora* species on native vegetation;

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.

Anne Mathews

Dr Anne Mathews
SENIOR MANAGER, CLEARING REGULATION

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

6 July 2017

CPS 7450/1

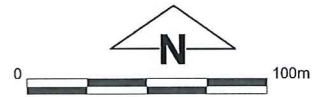
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Plan 7450/1



Legend

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



1:3,000

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

Geocentric Datum of Australia 1994

Anne Mathews Date *6/7/2017*
ANNE 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.: 7450/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Shire of Esperance

1.3. Property details

Property: Ridgелands Road Reserve - 11645177, Condingup
Local Government Authority: Esperance, Shire of
DER Region: Goldfields
DPaW District: Esperance
Localities: Condingup

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.982		Mechanical Removal	Improving road safety

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 6 July 2017

Reasons for Decision: The clearing permit application was received on 24 January 2017, and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing may be at variance to clearing principle (a), (b), (d), (e) and (g) and is not likely to be at variance to the remaining clearing principles.

Through assessment it has been determined that the vegetation within the application area contains vegetation in very good (Keighery, 1994) condition and is located within an extensively cleared and highly fragmented landscape. The Delegated Officer determined that the proposed clearing is not likely to have any significant environmental impacts.

The Delegated Officer determined that the proposed clearing may indirectly impact the environmental values of adjacent remnant vegetation through the introduction or spread of weeds and dieback. Weed and dieback management measures will assist in minimising this risk.

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
The application area is mapped as Beard vegetation association 47 which is described as shrublands; tallerack mallee-heath (Shepherd et al., 2001).	The applicant proposes to clear up to 0.982 hectares of native vegetation for the purpose of improving road safety.	Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).	The condition of the vegetation in the application area was determined by a former Department of Environment Regulation site inspection on 15 March 2017 (DER, 2017) and a site inspection by the Shire of Esperance (Shire of Esperance, 2017).

The vegetation along Ridgелands Road is in a very good (Keighery, 1994) condition, with areas in a degraded (Keighery, 1994) condition.

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 to clear 0.98 hectares of native vegetation within Ridglands Road Reserve (PIN: 11645177) is for the purpose of improving road safety.

Native vegetation within the local area (10 kilometre radius - 32,800 hectares) has been extensively cleared, with 4,381 hectares (13.3 per cent) of pre-European vegetation remaining. The proposed clearing of 0.982 hectares is 0.02 per cent of the pre-European vegetation remaining. Vegetation extent in the local area is discussed further in Principle (e).

A site inspection conducted by DER identified that the vegetation within the application area is in a very good (Keighery, 1994) condition, with some areas in a degraded (Keighery, 1994) condition. The vegetation within the application area is comprised of an *Adenanthos cuneatus*, *Allocasuarina humilis*, *Banksia* sp., *Hakea* sp., *Melaleuca* sp. and *Caustis* sp. shrubland (DER, 2017; Shire of Esperance, 2017).

According to available databases, two rare and 19 priority flora species have been recorded within 20 kilometres of the application area. The closest mapped record is a priority 3 species located 5 kilometres from the application area. The former Department of Parks and Wildlife (Parks and Wildlife) advice stated that "it is possible that the application site could contain habitat for conservation significant flora but would require a survey to confirm this" (Parks and Wildlife, 2017b). However, given the small size of the application area, the proposed clearing is not likely to have a significant environmental impact on these species.

Noting that DER and the Shire of Esperance site inspections identified multiple Proteaceae species within the application area (DER, 2017; Shire of Esperance, 2017) the vegetation within the application area may be representative of the 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' threatened ecological community (TEC), as discussed in Principle (d).

Mechanical clearing increases the risk of spreading weeds and dieback into native vegetation adjacent to the application area. Weeds can decrease the biodiversity value of an area as they out-compete native vegetation for available resources, contribute to land degradation and increase the frequency and intensity of fires (Department of Environment and Conservation [DEC], 2011). Potential impacts to biodiversity outside the application area as a result of the proposed clearing may be minimised by the implementation of weed and dieback management practices.

The application area is located within the Carnaby's cockatoo known foraging range and contains Proteaceous species that provide suitable foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*; rare or likely to become extinct under the *Wildlife Conservation Act 1950*) (Shire of Esperance, 2017; DER, 2017), as discussed in Principle (b).

Given the application provides foraging habitat for Carnaby's cockatoo, may contain a TEC, rare and priority flora, and the local area has been extensively cleared, the application area may comprise a high level of biological diversity.

Given the above, the proposed clearing may be at variance to this Principle. Given the native vegetation proposed to be cleared is 0.02 per cent of the pre-European vegetation remaining, the proposed clearing is not likely to have any significant environmental impacts.

Methodology

References:

DEC (2011)
DER (2017)
Keighery (1994)
Parks and Wildlife (2017b)
Shire of Esperance (2016)

GIS Database:

- Aerial imagery
- Remnant vegetation
- SAC bio datasets (accessed March 2017)

(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**

The vegetation within the application area is comprised of an *Adenanthos cuneatus*, *Allocasuarina humilis*, *Banksia* sp., *Hakea* sp., *Melaleuca* sp. and *Caustis* sp. shrubland in a very good (Keighery, 1994) condition, with areas in a degraded (Keighery, 1994) condition (DER, 2017; Shire of Esperance, 2017). The local area has been extensively cleared, with 13.3 per cent of its pre-European vegetation extent remaining.

According to available databases, one threatened fauna (Carnaby's cockatoo), no priority fauna species, two species protected under international agreement and one specially protected fauna species have been recorded within 20 kilometres of the application area (Parks and Wildlife, 2007-). The application area only provides potential habitat for Carnaby's cockatoo as the remaining conservation significant fauna species are associated with wetlands.

Black cockatoos forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, *Corymbia calophylla* and a range of introduced species, especially seeds from cones of *Pinus* species (Shah, 2006; Valentine and Stock, 2008). The application area contains suitable foraging habitat for Carnaby's cockatoo.

The proposed clearing of 0.98 hectares in the eastern portion of the road reserve will also cause fragmentation within the road reserve, and will result in a loss of connectivity on the eastern side of the remnant vegetation linkage.

Given the extensively cleared local area, presence of foraging habitat for Carnaby's cockatoo in a very good (Keighery, 1994) condition, the proposed clearing may be at variance to this Principle. Given the native vegetation proposed to be cleared is 0.02 per cent of the pre-European vegetation remaining, the proposed clearing is not likely to have any significant environmental impacts.

Methodology

References:

DER (2017)
Keighery (1994)
Parks and Wildlife (2007-)
Shah (2016)
Shire of Esperance (2017)
Valentine and Stock (2008)

GIS Databases:

- Imagery
- Remnant vegetation

(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, two rare flora species have been recorded within 20 kilometres of the application area. Of these, the application area provides suitable habitat for one species of rare flora.

The first rare flora species is found in areas of damp heath in the Ravensthorpe-Esperance region, where it flowers only after disturbance or summer fire. The species has not been seen in recent years, but populations are known to re-establish from seed stored in the soil, then rapidly decline over the next few years and become difficult to find (Brown et al., 1998).

Considering the difficulty in surveying for this rare flora species, it is unlikely that further surveys will determine the presence or absence of this species. Suitable habitat for this species is likely to remain within the road reserve and areas where this species has been previously recorded nearby.

The second rare flora species is found in granite outcrops (Brown et al., 2008). Suitable habitat for this species is not present within the application area.

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

Methodology

References:

Brown et al. (1998)

GIS Databases:

- SAC bio datasets (accessed March 2017)

(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 may be at variance to this Principle

According to available databases, the majority of the application area is mapped as the 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' community, which is a TEC listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and listed as a Priority 3 ecological community by Parks and Wildlife.

Parks and Wildlife advised that "The Kwongan TEC has been approximately mapped by the Department of the Environment and Energy (DotEE), with boundaries of areas considered likely to contain the TEC determined based on layers such as geology and remnant vegetation. The total number of occurrences of the TEC >1ha as mapped by DotEE is 11,360, with a total area of about 1,182,000ha. The TEC extends a distance of about 670km. All mapped occurrences require ground-truthing" (Parks and Wildlife, 2017a).

The kwongan shrublands is predominantly located within the Esperance Sandplains and Mallee bioregions, and typically occurs on sandplains where rainfall ranges from 400 to 800 millimetres a year. According to conservation advice produced by the Threatened Species Scientific Committee (TSSC), this TEC is characterised by a 30 per cent or greater cover of Proteaceae species across all layers where they occur or, in disturbed areas, containing two or more diagnostic Proteaceae species that are likely to form a significant vegetated component when regenerated (TSSC, 2014).

Noting that DER and the Shire of Esperance site inspection reports identified multiple Proteaceae species within the application area (DER, 2017; Shire of Esperance, 2017) in a very good (Keighery 1994) condition, the application area may comprise of vegetation representative of the kwongan shrublands TEC.

Conservation advice for this TEC defines several characteristics that may indicate a significant impact, including susceptibility to edge effects, the presence of good fauna habitat, threatened species and weeds or dieback, connectivity to other remnants, and whether the community has been heavily impacted in the local area (TSSC, 2014).

Parks and Wildlife advised that "although the area to be cleared is not extensive, 0.98ha, in the overall context of the full range of the kwongan TEC, this TEC remnant may be significant for connectivity and occurs within an area of highly cleared land. The proposal may require referral to DoEE due to the presence of diagnostic Proteaceous species" (Parks and Wildlife, 2017a).

The proposed clearing of 0.98 hectares in the eastern portion of the road reserve will cause fragmentation within the road reserve, and will result in a loss of connectivity on the eastern side.

Given the above, the proposed clearing may at variance to this Principle. Given the native vegetation proposed to be cleared is 0.02 per cent of the pre-European vegetation remaining, the proposed clearing is not likely to have any significant environmental impacts.

Methodology

References:

DER (2017)
Keighery (1994)
Parks and Wildlife (2017a)
Shire of Esperance (2017)
TSSC (2014)

GIS Databases:

- SAC bio datasets (accessed March 2017)

(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 may be at variance to this Principle

The application area is located within the Esperance Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 52 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2016).

The 10 kilometre radius (32,800 hectares) has been extensively cleared, with 4,382 hectares (13 per cent) of pre-European vegetation remaining. The proposed clearing of 0.982 hectares is 0.02 per cent of the pre-European vegetation remaining.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The application area is mapped as Beard vegetation association 47, which has approximately 35 per cent of its pre-European extent remaining in the Esperance Plains bioregion (Government of Western Australia, 2016).

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*: Esperance Plains	2,899,940	1,495,045	52	55
Shire*: Shire of Esperance	4,459,670	3,210,979	72	30
Beard Vegetation Association in Bioregion*				
47	959,934	336,784	35	52

The vegetation within the application area is in a very good (Keighery, 1994) condition (DER, 2017). Noting the application area may contain the 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' TEC, suitable foraging habitat for Carnaby's cockatoo and may contain habitat for conservation significant flora.

Given the local area is extensively cleared, the vegetation within the application area may be significant for flora, fauna or as an under represented community. Given the native vegetation proposed to be cleared is 0.02 per cent of the pre-European vegetation remaining, the application area may be significant as a remnant of native vegetation in an area that has been extensively cleared.

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

Methodology References:
DER (2017)
Commonwealth of Australia (2001)
Government of Western Australia (2016)*
Keighery (1994)

GIS Databases:
- Imagery
- 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

There are no watercourses or wetlands mapped within the application area or surrounds. A DER site inspection did not note the presence of any wetland or watercourse (DER, 2017).

Given the above, the vegetation in the application area is not likely to be growing in or in association with a watercourse or wetland, and the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
DER (2017)

GIS Databases:
- Hydrography, linear

(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 soil type within the application area is mapped as Xd1, which is described as gently undulating plains or plateaus at low elevation with small granitic hills, some flats, seasonal swamps and talus; and some more strongly undulating land where dissection has begun. Chief soils within this soil type are sandy neutral yellow mottled soils containing variable amounts of ironstone gravel in the surface sand, with leached sands sometimes containing ironstone gravel and underlain by clay substrate at depths of three to five feet (Northcote et al., 1960-68).

Given the extensively cleared local area, size of the application area, topography and mapped soil type, the proposed clearing may cause land degradation via wind erosion.

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

Methodology References:
Northcote et al. (1960-68)

GIS Database:
- Hydrography, linear
- Remnant vegetation
- Soils, statewide

(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 nearest conservation areas are Kau Rock Nature Reserve located 14 kilometres north west, and Cape Le Grand National Park located 16 kilometres south of the application area.

Given the distance between the application area and the conservation areas, the proposed clearing is not likely to have an impact on the environmental values of these conservation areas.

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

Methodology GIS Databases:
- Parks and Wildlife tenure
- Remnant vegetation

(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

No wetlands or watercourses have been recorded within or in close proximity to the application area. The proposed clearing will not impact on surface water quality.

Groundwater salinity within the application area is mapped as 3,000 to 7,000 milligrams per litre (measured as Total Dissolved Solids). This level of groundwater salinity is considered to be brackish. The proposed clearing of 0.98 hectares is not likely to increase groundwater salinity.

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

Methodology GIS Databases:
- Groundwater salinity, statewide
- Hydrography, linear
- Remnant vegetation

(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

Annual rainfall within Esperance is approximately 616 millimetres (Bureau of Meteorology, 2017). The proposed clearing of 0.98 hectares over the mapped soil type (discussed in Principle (g)) is not likely 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:
Bureau of Meteorology (2017)

GIS Databases:
- Soils, statewide

Planning instruments and other relevant matters.

Comments The application to clear 0.98 hectares of native vegetation within Ridglands Road Reserve (PIN: 11645177) is for the purpose of improving road safety.

The clearing permit application was advertised in *The West Australian* newspaper on 24 January 2017 and on DER's website on 10 February 2017 by DER inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

There are no Aboriginal Sites of Significance mapped within the application area. It is the applicant's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Parks and Wildlife advised that "The Esperance Shire are encouraged to implement 'best practice' for the proposed widening to limit the spread of weeds across the disturbed area. The burden (soil, plant material), is not be pushed into heaps and deposited into the roadside vegetation beyond the application area" (Parks and Wildlife, 2017a).

Methodology GIS Databases:
- Aboriginal Sites of Significance

4. References

- Brown, Thomson-Dans and Marchant. (1998) *Western Australia's Threatened Flora*, Department of Conservation and Land Management, Western Australia.
- Bureau of Meteorology (2017) *Climate statistics for Australian locations*. Bureau of Meteorology. URL: http://www.bom.gov.au/climate/averages/tables/cw_009789.shtml. Accessed March 2017.
- Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.
- Department of Environment Regulation (DER) (2017) *Site Inspection Report for Clearing Permit Application CPS 7450/1*. Site inspection undertaken 15 March 2017. Department of Environment Regulation, Western Australia (DER Ref: A1428045).
- Department of Environment and Conservation (DEC) (2011) *Invasive Plant Prioritisation*, Department of Environment and Conservation, Perth.
- Department of Parks and Wildlife (Parks and Wildlife) (2007-) *NatureMap: Mapping Western Australia's Biodiversity*. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed February 2017.
- Department of Parks and Wildlife (Parks and Wildlife) (2017a) *Advice received on 17 May 2017*. Department of Parks and Wildlife (DER Ref: A1438590).
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Wildlife (DER Ref: A1447406).

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- 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.
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- 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 Esperance (2017) Supporting Information for clearing permit application CPS 7458/1. Shire of Esperance. DER Ref: A1369342.
- Threatened Species Scientific Committee (TSSC) (2014). Approved Conservation Advice for Proteaceae Dominated Kwongan Shrublands of the southeast coastal floristic province of Western Australia. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/126-conservation-advice.pdf>.
- Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gnarara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008.