



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7460/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Shire of Ravensthorpe
Application received date: 03 February 2017

1.3. Property details

Property: Mallee Road Reserve - 11634156, Dunn Rock
Local Government Authority: Ravensthorpe, Shire of
Localities: West River

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
10.19		Mechanical Removal	Extractive industry

1.5. Decision on application

Decision on Permit Application: Refuse
Decision Date: 5 April 2018
Reasons for Decision:

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing is at variance to principles (a) and (d), may be at variance to principles (b), (g), (h) and (i) and is not likely to be at variance to the remaining principles.

Decision to refuse the application:

The Delegated Officer determined that the proposed clearing will result in impacts to an ecological corridor, six species of priority listed flora, a threatened ecological community and foraging habitat for Carnaby's cockatoo.

On 28 November 2017, a Delegated Officer of the Department of Water and Environmental Regulation (DWER) wrote to the applicant, outlining the abovementioned environmental impacts and advised that, in order to address potential impacts to priority flora, a targeted flora survey by a suitably qualified botanist would be required. The Delegated Officer also sought advice on how the applicant intended to avoid or minimise the identified impacts and offset any significant residual impacts. The applicant advised that no additional advice will be provided to DWER. On 29 January 2018, a Delegated Officer provided the applicant 30 days written notice of the intent to refuse to grant a clearing permit and to provide additional information to support the clearing permit application. No additional information was forthcoming.

In making the decision to refuse to grant the clearing permit, the Delegated Officer had regard to the environmental values of the native vegetation outlined under principles (a) to (j), and planning instruments and other relevant matters outlined in this report, in making the decision on this application.

These matters were taken into consideration by the Delegated Officer in the decision to refuse to grant a clearing permit.

2. Site Information

Clearing Description	The application is to clear 10.19 hectares of native vegetation within two portions (with a combined footprint of approximately 12 hectares) within Mallee Road reserve (PIN 11634156), Dunn Rock, for the purpose of gravel extraction (refer to Figure 1).
Vegetation Description	The application area is mapped as Beard vegetation association 47: Shrublands; tallerack mallee-heath (Shepherd et al., 2001).
Vegetation Condition	Excellent; Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994) To Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment

The vegetation type and condition was determined through mapping, and confirmed during a site inspection conducted by the then Department of Environment Regulation (DER) officers on 22 February 2017 (DER, 2017) and a flora survey conducted by Great Southern Bio Logic (GSBL) (GSBL, 2017).

The application area comprises two portions:

- Area 1 (south west): approximately five hectares, comprises of scattered *Eucalyptus pleurocarpa* over a dense shrubland of *Leptospermum erubescens* (dominant in the midstorey), *Banksia* spp. and *Hakea* spp. over an understorey of *Caustis dioica* and other native shrub species; and
- Area 2 (north east): approximately seven hectares, comprises of *Eucalyptus pleurocarpa* over a dense shrubland of mixed *Banksia* spp., and *Calothamnus* spp. (dominant in the midstorey) with scattered *Hakea* spp. and Proteaceous species over an understorey of *Lepidosperma* spp., and *Hibbertia* sp. (DER, 2017).



Figure 1: Map of proposed clearing areas.

3. Assessment of application against clearing principles

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

Proposed clearing is at variance to this Principle

The local area considered in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area. The majority (approximately 7,275 hectares) of the current extent of vegetation cover in the local area is

located within the Dunn Rock Nature Reserve, which is located approximately 800 metres north east of Area 2 of the application area.

The application area, and adjoining remnant vegetation retained within the road reserve, is continuous with the Dunn Rock Nature Reserve.

The application area is located within the Lake Magenta-King Lakes macro ecological corridor (Wilkins et al., 2006). This corridor provides fauna habitat mostly in Excellent to Good condition (Keighery, 1994) and is part of an ecological linkage between remnants. Ecological corridors are critical to maintaining ecological processes such as the movement of fauna and population survival. Habitat loss and fragmentation are the main contributors to biodiversity decline across landscapes (Scotts and Drielsma, 2003). Furthermore, funnel points are the point where an ecological corridor meets an area of remnant native vegetation. Funnel points are critical to the effective functioning of an ecological corridor as all fauna moving into and out of the linkage must pass through this point.

The proposed clearing will impact approximately 390 metres of this ecological corridor within Area 1 of the application area and approximately 525 metres of this ecological corridor within Area 2 of the application area, along a 1.7 kilometre section of the road reserve. Area 2 of the application area is approximately 800 metres from the eastern funnel point associated with this ecological corridor. The dissection of this ecological corridor may impact on fauna dispersal in the local area.

The application area contains Proteaceous flora species that provide suitable foraging habitat for threatened fauna Carnaby's cockatoo (*Calyptorhynchus latirostris*) and is located 36 kilometres east, 31 kilometres west and 24 kilometres north west of confirmed Carnaby's cockatoo breeding areas, and may therefore comprise significant habitat for this species. Fauna are discussed further under Principle (b).

A targeted flora survey conducted by Great Southern Bio Logic (GSBL, 2017) confirmed the presence of the following Priority listed flora within the application areas:

- *Hakea cygna* subsp. *needlei* (P2);
- *Synaphea canaliculata* (P2);
- *Banksia rufa* subsp. *chelomacarpa* (P3);
- *Bossiaea spinose* (P3);
- *Pultenaea indira* subsp. *monstrosita* (P3); and
- *Chorizema ulotropis* (P4).

The Department of Biodiversity, Conservation and Attractions (DBCA) advised that the flora taxa identified were mostly data deficient and the survey did not include sufficient information to assess the true proportional impacts upon each taxa in the local context. Therefore, based on the survey results, the proposed clearing would be potentially significant for each species discovered with respect to their local and State wide conservation status. It was also noted that the flora discoveries were range extensions or new populations for those taxa (DBCA, 2017). Further surveys are required outside of the application area in order to ascertain the local extent of the priority flora populations and the impact the proposed clearing will have on these populations.

The survey also confirmed the presence of the 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' Threatened Ecological Community (TEC). This TEC is listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and listed as a Priority 3 ecological community by DBCA.

Given the above, the application area comprises a high level of biological diversity and the proposed clearing is at variance to this 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 indigenous to Western Australia.

Proposed clearing may be at variance to this Principle

Three fauna species listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (WC Act) have been recorded within the local area (10 kilometre radius) (Parks and Wildlife, 2007-), namely the curlew sandpiper (*Calidris ferruginea*), Carnaby's cockatoo (*Calyptorhynchus latirostris*) and malleefowl (*Leipoa ocellata*).

The application area occurs within the known distribution of Carnaby's cockatoo, which is listed as 'fauna that is rare or is likely to become extinct' under the WC Act, and occurs 36 kilometres east, 31 kilometres west and 24 kilometres north west of confirmed breeding areas for this species. The application area contains suitable foraging habitat for this species (DER, 2017). The application area does not contain suitable habitat for the curlew sandpiper, or the malleefowl and no evidence of malleefowl mounds were noted during the flora survey (GSBL, 2017).

As discussed under Principle (a), the application area is located within the Lake Magenta-King Lakes macro ecological corridor, which provides fauna habitat mostly in Excellent to Good condition and is part of an ecological linkage between remnants. The proposed clearing may result in degradation of the ecological linkage and affect the funnel point, thereby impacting fauna movement in the local area.

Noting the condition of the vegetation within the application area, and that the application area is part of an ecological corridor, the vegetation within the application area may comprise significant habitat for indigenous fauna, including the Carnaby's cockatoo.

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

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

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

According to available datasets, one rare flora species has been recorded within the local area (10 kilometre radius). This species is a rhizomatous perennial herb and is known from well-watered sites. All known populations of this species occur in long undisturbed sites with three of these populations being within road reserves. Sandy soils in heath communities within the application area are considered to be suitable habitat for this species (Hopper et al., 1990).

A targeted flora survey conducted by Great Southern Bio Logic (GSBL, 2017) did not locate this flora species.

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

Proposed clearing is at variance to this Principle

A targeted flora survey conducted by Great Southern Bio Logic (GSBL, 2017) confirmed the presence of the 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' TEC within the application area.

The DBCA advised the proposed clearing may have a significant impact on the TEC's local viability, and also possibly on the surrounding vegetation. Therefore, the proposed clearing is at variance to this 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.

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

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).

As indicated in Table 1, the current extents of native vegetation within the Esperance Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, Shire of Ravensthorpe and represented by Beard vegetation association 47 are above the minimum 30 per cent representation threshold.

The local area (10 kilometre radius) retains approximately 33 per cent (approximately 11,652 hectares) of vegetation cover, and the application area represents approximately 0.09 per cent of this current extent.

On the basis that the native vegetation extents present within the local area, mapped Beard vegetation association, the Shire, and the IBRA bioregion are more than the recommended 30 percent threshold, it is considered that the application area is not significant as a remnant of native vegetation within an area that has been extensively cleared.

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

Table 1: Vegetation extents

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Parks and Wildlife Managed Lands	
				Extent (ha)	Current (%)
IBRA Bioregion*					
Esperance Plains	2,899,940	1,495,045	51.55	834,118	54.88
Local Government Authority*					
Shire of Ravensthorpe	982,194	605,474	61.55	196,451	31.95
Beard Vegetation Association in Bioregion*					
47	959,935	336,784	35.08	177,480	52.34

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

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

No mapped watercourses or wetlands intersect the application area.

A targeted flora survey conducted by Great Southern Bio Logic (GSBL, 2017) and site inspection by DER officers (DER, 2017) did not observe any riparian vegetation within the application area.

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

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

Proposed clearing may be at variance to this Principle

The application area covers two mapped soil units. The Dunn Rock 2 Subsystem is described as undulating rises (dominantly gentle slopes) with dominantly gravelly soils (duplex sandy gravels, shallow gravels, yellow-brown sandy duplexes and reticulite deep sandy duplex). The Newdegate 2 Subsystem is described as lower to upper slopes and crests on laterite and colluvium over weathered granite in the south-eastern wheatbelt from Lake Grace to Lake King. Grey and yellow/brown sandy duplex soils, often alkaline, and duplex sandy gravels. Noting the purpose of the proposed clearing, it is likely that the application area is within the lateritic sections of the mapped soil types (DPIRD, 2017; Northcote et al, 1960-68).

According to available datasets, the land degradation risks for these mapped soils types are:

- 30-50% of map unit has a high subsurface acidification risk or is presently acid;
- 3-10% of map unit has a moderate to high salinity risk or is presently saline (Newdegate 2 Subsystem) and 30-50% of map unit has a moderate to high salinity risk or is presently saline (Dunn Rock 2 Subsystem); and
- 30-50% of map unit has a high to extreme wind erosion risk (Newdegate 2 Subsystem) and 10-30% of map unit has a high to extreme wind erosion risk (Dunn Rock 2 Subsystem).

Noting the above, mechanical clearing may increase the risk of subsurface acidification, salinity and wind erosion. Potential impacts inside and outside the application area as a result of the proposed clearing may be minimised through staged clearing and revegetation of the application area.

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

Proposed clearing may be at variance to this Principle

According to available datasets, one conservation area occurs within the local area (10 kilometre radius), being Dunn Rock Nature Reserve which is located approximately 800 metres north west of Area 2 application area.

As discussed under Principle (a), the majority (approximately 7,275 hectares) of the current extent of vegetation cover in the local area is located within the Dunn Rock Nature Reserve. The application area, and remnant vegetation retained within the road reserve, is continuous with the Dunn Rock Nature Reserve.

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 (DEC, 2011).

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

Proposed clearing may be at variance to this Principle

As discussed under Principle (f), no mapped watercourses or wetlands intersect the application area. The DER site inspection and Great Southern Bio Logic flora survey (GSBL, 2017) did not identify riparian vegetation within the application area.

Groundwater salinity mapped within the application area is 14000-35000 milligrams per litre (measured as total dissolved solids), which is considered to be high. Land degradation mapping of the application area indicates that:

- 30-50% of map unit has a high subsurface acidification risk or is presently acid and
- 3-10% of map unit has a moderate to high salinity risk or is presently saline (Newdegate 2 Subsystem) and 30-50% of map unit has a moderate to high salinity risk or is presently saline (Dunn Rock 2 Subsystem).

As discussed under Principle (g), mechanical clearing may increase the risk of subsurface acidification and salinity, which may cause deterioration in the quality of surface or underground water.

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

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

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

The mapped soils within the application area are dominated by highly permeable gravel and yellow sands. Noting this and the absence of watercourses or wetlands within the application area, the proposed clearing is not likely to increase the incidence or intensity of flooding.

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

Planning instruments and other relevant matters.

The application was advertised online on 3 March 2017 and in *The West Australian* newspaper on 6 March 2017 by the then DER, inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

The application area is managed as a public road by the Shire of Ravensthorpe.

No Aboriginal sites of significance are recorded within the application area.

4. Applicant's Submissions

- On 16 June 2017: a then DER Delegated Officer wrote to the applicant, outlining that a preliminary assessment of the proposed clearing identified potential impacts to conservation significant flora and associated habitat (and fauna habitat) and that a flora survey was required to confirm the type and condition of the vegetation under application.
- On 26 October 2017: the applicant provided results of a targeted flora survey which identified the presence of six priority listed flora species and a threatened ecological community (TEC) within the two application areas.
- On 28 November 2017: a Department of Water and Environmental Regulation (DWER) Delegated Officer wrote to the applicant, outlining the environmental impacts associated with the proposed clearing and advised that, in order to address potential impacts to priority flora, a targeted flora survey by a suitably qualified botanist would be required. The Delegated Officer also sought advice on how the applicant intended to avoid or minimise the identified impacts and offset any significant residual impacts.
- On 4 January 2018: the applicant advised that no additional advice would be provided to support the application.
- On 29 January 2018: a DWER Delegated Officer wrote to the applicant, providing the applicant 30 days written notice of the intent to refuse to grant a clearing permit and provide additional advice to support the application. No additional information was forthcoming.

5. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Department of Biodiversity, Conservation and Attractions, Species and Communities Branch (DBCAs) (2017) Advice provided to the Department of Environment Regulation regarding clearing permit application CPS 7460/1 (DWER Ref A1556174).
- Department of Environment and Conservation (DEC) (2011) Invasive Plant Prioritisation, Department of Environment and Conservation, Perth.
- Department of Environment Regulation (2017) Site inspection report for CPS 7463/1, 22 February 2017 (DER Ref A1413630)
- Department of Parks and Wildlife (2017) Advice provided to the Department of Environment Regulation regarding clearing permit application CPS 7460/1 (DER ref A1400393).
- Department of Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed March 2017
- Department of Primary Industries and Regional Development (DPIRD) (2017). NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/>
- Great Southern Bio Logic (GSBL) (2017) Targeted Flora Survey, Mallee Road – Shire of Ravensthorpe 25 October 2017
- Government of Western Australia (2016). 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, Perth.
- Hopper, S.D., S. van Leeuwen, A.P. Brown & S.J. Patrick (1990). Western Australia's Endangered Flora and other plants under consideration for declaration. Perth, Western Australia: Department of Conservation and Land Management.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- 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.
- Scotts, D and Drielsma, M (2003), Developing landscape frameworks for regional conservation planning: an approach integrating fauna spatial distributions and ecological principles. Pacific Conservation Biology. Vol. 8, No. 4.
- 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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au/>
- Wilkins, P., Gilfillan, S., Watson, J. and Sanders, A. (ed). 2006. The Western Australian South Coast Macro Corridor Network – a bioregional strategy for nature conservation, Department of Conservation and Land Management (CALM) and South Coast Regional Initiative Planning Team (SCRIPT), Albany, Western Australia.

GIS Database:

Aboriginal sites of significance

Annual Rainfall, Statewide

Groundwater salinity, Statewide

Geomorphic Wetlands

Hydrography, linear

Imagery

Parks and Wildlife tenure

Pre-European vegetation

SAC bio datasets – accessed March 2017

Soils, Statewide

Topography