Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2253/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Shire of Dowerin**

1.3. Property details

Property: AMERY TOWNSITE LOT 31 (Lot No. 31 DOWERIN-KALANNIE MINNIVALE 6462)
LOT 26011 ON PLAN 86402 (DOWERIN 6461)
ROAD RESERVE (DOWERIN 6461)
UNALLOCATED CROWN LAND (KOOMBERKINE 6461)

Local Government Area: Shire Of Dowerin

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.5		Mechanical Removal	Road construction or maintenance

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: 1413: Shrublands - Acacia, Casuarina and Melaleuca thicket (Shepherd et al. 2001) Heddle Vegetation Complex: Not available (Heddle et al. 1980)	The proposed clearing consists of 0.5 ha of native vegetation for the purpose of realigning Dowerin-Kalannie road under the states Black Spot Program. The proposed clearing includes approximately 0.3 ha of land excised from Amery Nature Reserve and approximately 0.2 ha of adjacent vegetation to the west and east of Amery Nature Reserve. From the fire break bordering Lot 26011 west into bushland for approximately 15m vegetation is in 'very good' condition supporting an intact vegetation structure and a diversity of native species however with a high density of Wild Oats (Avena fatua). From the 15 m mark westward vegetation is in 'excellent' condition supporting structurally intact vegetation with a diversity of native species and no weed invasion. Vegetation within the area under application includes Mallee sp., over Allocasuarina sp.,	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Description and condition of the vegetation under application was determined from the Site Inspection (2008). Vegetation ranges in condition from 'completely degraded' to 'pristine' with an average condition rating of 'excellent'. ATA Environmental conducted a flora survey covering the current alignment of Dowerin-Kalannie road the proposed alignment of Dowerin-Kalannie Road and of the intervening parcel of vegetation which is part of Amery Nature Reserve. Surveys were conducted in July 2003.

	Melaleuca sp. (three different species noted), Hakea sp. and Quondong (Santalum acuminatum) over Dianella revoluta, Synaphea sp., rushes and sedges, everlastings (Rhodanthe citrina), Desmocladus sp., Feather Speargrass (Austrostipa elegantissima) and four other species of native grasses. Weeds recorded within the area under application include Wild Oats (Avena fatua), African Lovegrass (Eragrostis curvula), Afghan Thistle (Solanum hoplopetalum) and Afghan Melon (Citrullus lanatus). Approximately 0.4 ha of the area under application including land excised from Amery Nature Reserve and vegetation to the west is in 'excellent' condition.		
As above.	Approximately 0.07 ha of the area under application to the east of Amery Nature Reserve is in 'very good' condition.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	As above.
As above.	Approximately 0.03 ha of the area under application where Amery-Benjaberring Road meets Dowerin-Kalannie Road is in 'completely degraded' condition.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	As above.

3. Assessment of application against clearing principles

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

Comments

Proposal is at variance to this Principle

The area under application forms 0.5 ha of a larger 226 ha area of native vegetation which includes 0.3 ha of land excised from Amery Nature Reserve, Unallocated Crown Land and other Crown Reserve.

Two species of Priority 1 flora, two Priority 2, five Priority 3 and one Priority 4 flora are located within a 10 km radius of the area under application. The nearest priority flora, Acacia campylophylla (P3), is located approximately 630 m south west of the area under application in the same bushland remnant as the proposed clearing.

DEC (2008a) also suggests that Leucopogon sp. Bungulla (P2) and Acacia campylophylla may occur within the area under application.

During Site Inspection (2008) vegetation within the area under application was observed to be Open Mallee Woodland over a species rich understorey of open heath with native grasses, sedges, rushes and groundcovers, ranging in condition from 'completely degraded' to 'excellent' with the majority in 'excellent' condition. ATA Environmental (2004) recorded 43 native flora species and 13 introduced species within and in the vicinity of the application site; the number of natives recorded likely to be less due to the flora survey being conducted in July when many ephemeral species such as orchids are not visible.

During flora surveys conducted by ATA Environmental (2004) Synaphea constricta was recorded 150 m south west of Amery South Road which is approximately 260 m south of the area under application. During Site Inspection (2008) a Synaphea sp. was identified within the area under application with Synaphea constricta being the only Synaphea recorded during the ATA Environmental (2004) survey. DEC (2008a) suggests that Priority species Leucopogon sp. Bungulla and Acacia campylophylla may be present. ATA Environmental (2004) did not record either of these species during their surveys however Leucopogon sp. Bungulla was not included in the flora search list.

Given the diversity of the vegetation within the area under application the area is also likely to provide habitat for native fauna.

As the area under application adjoins part of Amery Nature Reserve and a larger remnant of native vegetation in a heavily cleared landscape, supports high floristic diversity and possible habitat for Priority flora (being Synaphea constricta and Leucopogon sp. Bungulla), and habitat for native fauna the area is considered to be an area of high biological diversity and as such is considered to be at variance to this principle.

Methodology

References:
- Site Inspection (2008)
- DEC (2008a)
- ATA Environmental (2004)

GIS Databases:
- Dowerin 50cm Orthomosaic - DLI04
- CALM Managed Lands and Waters

(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

Proposal is at variance to this Principle

Nineteen indigenous fauna species of conservation significance are found within a 50 km radius of the area under application. These include Schedule 1 species:
- Australian Painted Snipe (Rostratula benghalensis subsp. australis) (vulnerable)
- Carnaby's Black Cockatoo (Calyptorhynchus latirostris) (endangered)
- Chuditch (Dasyurus geoffroii) (vulnerable)
- Malleefowl (Leipoa ocellata) (vulnerable)
- Minnivale Trapdoor Spider (Teyl spp.) (critically endangered)
- Shield-backed Trapdoor Spider (Idiosoma nigrum) (vulnerable)
- Tree-stem Trapdoor Spider (Aganippe castellum) (endangered)
- Yorkrakine Trapdoor Spider (Kwonkan eboracum) (critically endangered)
- Western Spiny-tailed Skink (Egernia stockesii subsp. badia) (vulnerable)

Priority species:
- Water crustacean (Parartemia contracta) (P1)
- Australian Bustard (Ardertis australis) (P4)
- Bush Stonecurlew (Burhinus grallarius) (P4)
- Crested Bell Bird (southern sp.) (Oreoica gutturalis gutturalis) (P4)
- Hooded Plover (Charadrius rubricollis) (P4)
- Rufous Fieldwren (western wheatbelt sp.) (Calamanthus campestris subsp. montanellus) (P4)
- Shy Heathwren (western spp.) (Hylacola cauta subsp. whitlocki) (P4)
- White-browed Babbler (western wheatbelt) (Pomatostomus superciliosus subsp. ashbyi) (P4)
- Quenda (Isoodon obesulis subsp. fusciventer) (P5)

and Specially Protected Fauna the Peregrine Falcon.

During Site Inspection (2008) vegetation within the area under application was observed to be Open Mallee Woodland over a species rich understorey of open heath with native grasses, sedges, rushes and groundcovers, ranging in condition from 'completely degraded' to 'excellent' with the majority in 'excellent' condition.

During Site Inspection (2008) a group of White Browed Babblers were observed within the area under application. Given the type and structure of the vegetation observed on site the area under application may also provide suitable habitat for three species of Trapdoor Spider the Minnivale Trapdoor, Shield-backed Trapdoor and the Yorkrakine Trapdoor, the Malleefowl, Western Spiny-tailed Skink, Bush Stonecurlew, Crested Bell Bird, Rufous Field Wren, Australian Bustard and Shy Heath Wren (DEC 2008b).

Given the area under application forms part of a larger remnant covering approximately 226 ha in a highly cleared area where the Shire of Dowerin has only 4.3% vegetation remaining and the Wheatbelt bioregion has only 15.4% vegetation remaining (Shepherd 2001; EPA 2006) the area would form part of significant habitat for all these species.

During Site Inspection (2008) no wetlands, open water bodies or bogs prone to irregular flooding were observed making the area unsuitable habitat for the Australian Painted Snipe, Tree-stem Trapdoor Spider and the water crustacean Parartemia contracta.

Vegetation within the area under application is unsuitable for both the breeding and feeding requirements of the Carnaby's Black Cockatoo. The Open Mallee Woodland structure with few log hollows makes the area less significant habitat for the Chuditch. Undergrowth is unlikely to be dense enough for the Quenda and the area is unlikely to be significant habitat for the Peregrine Falcon.

ATA Environmental (2004) state that as the proposed road realignment is unlikely to result in an increase in

traffic there will be no significant increase in hazard to the movement of fauna across the road and fencing would not be required.

Given that the area under application is part of significant habitat for White Browed Babblers and may form part of significant habitat for five species of Shedule 1 fauna and five species of priority fauna in a landscape that has been heavily cleared clearing of the area under application is considered to be at variance to this principle.

Methodology References:
- Site Inspection (2008)
- Shepherd (2001)
- EPA (2006)
- DEC (2008b)
- DEC fauna habita notes. February 2007

GIS Databases:
- SAC Bio datasets 30/01/2008

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

Comments

Proposal may be at variance to this Principle

Five species of Declared Rare Flora (DRF) are located within a 10 km radius of the area under application; the nearest DRF, Grevillea dryandroides subsp. hirsuta, is located approximately 8.3 km south west.

During Site Inspection (2008) the area under application was observed to support Open Mallee Woodland over a species rich understorey of open heath with native grasses, sedges, rushes and groundcovers, on hard cream coloured loamy sands.

Given the vegetation complexes, topography and soil type present on site (Site Inspection 2007) one species of DRF, being Conostylis wonganensis, may occur within the area under application (Western Australian Herbarium 1998).

ATA Environmental (2004) conducted a low intensity flora survey of the area under application and wider vegetation remnant and did not record any species of DRF or priority species with the area under application. However Conostylis wonganensis did not form part of the significant flora list ATA Environmental used during their survey and thus was not specifically searched for during the survey in 2003.

Given one species of DRF may be found within the area under application and the flora survey did not target this species clearing may be at variance to this principle.

Methodology References:
- SAC Bio datasets 31/01/2008
- Site Inspection (2008)
- Western Australian Herbarium (1998)
- DEC (2008a)
- ATA Environmental (2004)

(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

Proposal is not likely to be at variance to this Principle

No Threatened Ecological Communities (TEC) occur within 10 km of the area under application. However two Priority Ecological Communities (PEC) occur within the a 10 km radius, these being:
- Community 50: Perched clay wetlands of the Wheatbelt dominated by Eragrostis australasica and Melaleuca strobophylla
- Community 53: Dense Melaleuca thickets with emergent Eucalyptus erythronema var. marginata and Eucalyptus transcontinentalis.

During Site Inspection (2008) the area under application was observed to support Open Mallee Woodland over a species rich understorey of open heath with native grasses, sedges, rushes and groundcovers, on hard cream coloured loamy sands.

Given that local PECs support a different species composition and occur on different soils and landform types to the area under application (Gibson et al. 1994; Site Inspection 2007) the area under application is not likely to represent an occurrence of any of these PECs.

Methodology References:
- SAC Bio datasets 31/01/2008
- Site Inspection (2008)
- Gibson et al. (1994)

(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

Proposal is at variance to this Principle

The State government is committed to the National Objective Targets for Biodiversity Conservation, which includes targets that prevent the clearing of ecological communities with an extent below 30% of that present pre-1750 (Commonwealth of Australia 2001).

Beard Vegetation Association 1413 has greater than the recommended 30% minimum of Pre-European extent remaining (74.2% remaining). However, the Shire of Dowerin has only 4.3% of Pre-European vegetation extent remaining and the wider Wheatbelt bioregion has only 15.4% vegetation extent remaining (Shepherd 2001; EPA 2006). Within a 10km radius of the area under application, approximately 12 ha of vegetation remains.

The area under application 0.3 ha of land excised from Amery Nature Reserve and approximately 0.2 ha of adjacent bushland to the west and east of Amery Nature Reserve.

Given the condition of the vegetation under application and the area under application occurs in an area where vegetation has been extensively cleared, being the Shire of Dowerin, clearing is considered at variance to this principle.

	Pre-European area (ha)	Current extent (ha)	Remaining %	% in reserves/DEC-managed land
Local area	31,400	3,979	12.6	-
Avon Wheatbelt **	9,517,117	1,468,711	15.4	1.6
Shire of Dowerin *	188,786	8,055	4.3	-
Heddle vegetation complex				
No data available	-	-	-	-
Beard vegetation associations **				
1413	1,679,930	1,247,089	74.2	12.3

* (Shepherd 2001)
** (EPA, 2006)

Methodology

References:
- Shepherd (2001)
- EPA (2006)
- Commonwealth of Western Australia (2001)
- Site Inspection (2008)

GIS Databases:
- Pre-European Vegetation - DA 01/01
- Heddle Vegetation Complexes - DEP 21/06/95
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- CALM Managed Lands and Waters
- Dowerin 50cm Orthomosaic - DLI04
- EPA Position Paper No 2 Agriculture Region

(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

Proposal is not likely to be at variance to this Principle

No wetlands are located within the vicinity of the area under application. Two minor non-perennial watercourses are located 270m north and west of the area under application.

During Site Inspection (2008) the area under application was not observed to support wetland dependent vegetation and instead supported Open Mallee Woodland over a species rich understorey of open heath with native grasses, sedges, rushes and groundcovers.

Given vegetation present on site is not wetland dependent, clearing is considered not likely to be at variance to this principle.

Methodology

References:
- Site Inspection (2008)

GIS Databases:
- Hydrography, linear_1

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

Comments

Proposal may be at variance to this Principle

The vegetation under application lies within soils associated with gently undulating to rolling terrain with some ridges and uneven slopes, and with the variable presence of lateritic and granitic landforms, chief soils are hard alkaline yellow mottled soils and hard alkaline red soils either of which may be dominant locally (Northcote et al. 1960-68).

Clearing of vegetation as proposed risks exposing soils which are susceptible to wind erosion.

An Environmental Assessment and Management Plan has been submitted for the proposed road realignment stating that wind induced soil erosion can be managed through the application of water, and dust generated from the proposed works shall be monitored during the construction phase with control measures implemented when deemed appropriate (ATA Environmental 2004).

Given the size of the area under application, being approximately 17m wide and 411m in length and the risk of wind erosion once soils are exposed, clearing may be at variance to this principle if appropriate management actions are not undertaken.

Methodology

References:
- Northcote et al. (1960-68).
- Site Inspection (2008)
- ATA Environmental (2004)

(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

Proposal is at variance to this Principle

0.3 hectares of land has been excised from Class A Reserve 38703 - Amery Nature Reserve for the proposed realignment of the Dowerin-Kalannie Road reserve (MacTiernan 2008).

A further 0.2 ha of bordering vegetation to the east and west is also under application to clear. Amery Nature Reserve forms part of a larger 220 ha vegetation remnant.

DEC (2008a) advise that connectivity within Amery Nature Reserve will be diminished by the proposed clearing. The proposed road realignment will result in an approximately 0.3 ha portion along the reserves northern boundary being excised from the 26 ha portion to the south. Amery Nature Reserve is already fragmented in an east-west direction by Amery South Road and the proposed realignment of Dowerin-Kalannie Road will result in further fragmentation of the nature reserve.

Given that the proposed clearing will result in the fragmentation of a portion of Amery Nature Reserve, clearing as proposed is considered to be at variance to this principle.

Methodology

References:
- DEC (2008a)
- MacTiernan (2008)

GIS Databases:
- CALM Managed Lands and Waters
- Dowerin 50cm Orthomosaic - DLI04

(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

Proposal is not likely to be at variance to this Principle

No wetlands are located within the vicinity of the area under application. Two minor non-perennial watercourses are located 270 m north and west of the area under application.

During Site Inspection (2008) the area under application was observed to support deep rooted perennial vegetation being Open Mallee Woodland over a species rich understorey of open heath with native grasses, sedges, rushes and groundcovers.

Despite the deep rooted nature and high quality condition of the vegetation under application, the area under application is small, approximately 0.5 ha in size and clearing is unlikely to cause deterioration in the quality of surface or underground water. Thus clearing is not considered likely to be at variance to this principle.

Methodology

References:
- Site Inspection (2008)

GIS Databases:
- Groundwater Salinity, Statewide

- Hydrography, linear_1

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

Comments

Proposal is not likely to be at variance to this Principle

No wetlands are located within the vicinity of the area under application. Two minor non-perennial watercourses are located 270 m north and west of the area under application.

During Site Inspection (2008) the area under application was observed to support deep rooted perennial vegetation being Open Mallee Woodland over a species rich understorey of open heath with native grasses, sedges, rushes and groundcovers.

Despite the deep rooted nature and high quality condition of the vegetation under application, the area is small being approximately 0.5 ha and is some distance from the nearest watercourse. Clearing is thus considered unlikely to cause or exacerbate the incidence or intensity of flooding and is unlikely to be at variance to this principle.

Methodology

References:
Site Inspection (2008)
GIS Databases:
- Hydrography, linear_1

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

The proposal to excise 0.3ha of land from Class A reserve Amery Nature Reserve has been tabled in both Houses of Parliament, concluding 11 March 2008, with no motion of disallowance passed. As a result permission has been given for implementation of the proposed reserve amendment (MacTiernan 2008).

An Environmental Assessment and Management Plan has been composed by ATA Environmental (2004). This report states that:

During works

- Soils and fill materials imported for use on site shall be obtained from a weed and dieback free source.
- Vehicles/machinery shall be thoroughly cleaned of soil off-site prior to entering and leaving the construction area.
- Dust control measures shall be undertaken during the construction phase on all cleared and exposed areas, as required using water.
- Vegetation cleared from the proposed road realignment along with logs suitable for animal refuge will be stockpiled and used for the rehabilitation of the existing Dowerin Kalannie Road.

Existing Road Rehabilitation

- The existing Dowerin Kalannie Road will be rehabilitated by the removal of the road surface and road base.
- Rehabilitation works shall use locally native species compatible with the surrounding area.
- Seed to be used in rehabilitation will include seed collection from bushland areas adjacent to the project area.
- Depending on the success of seed collection adjacent to the project area, additional seed and seedling tubestock may be sourced from nurseries with priority given to nurseries that have collected from the locality of the study area.
- Seed shall be collected in May/June.
- Tree guards and rabbit control will be used to protect plants from grazing by rabbits if deemed appropriate by the consultant.
- All rehabilitation works are to be undertaken by suitably qualified personnel.

Completion of Works

- The existing Dowerin-Kalannie Road (0.45 ha) will be vested with the Shire of Dowerin as Conservation Estate.
- Weed invasion shall be monitored and managed within the road reserve for a period of 2 years.
- Following road work activities dieback status within the study area shall be monitored.
- Signage along portions of road that dissects bushland areas shall be installed in consultation with DEC to notify the public of potential wildlife movement.

The Executive Officer of the Roadside Conservation Committee (RCC) has advised that the roadside vegetation is contiguous with the surrounding vegetation, and recommends that should a permit be granted it is especially

important that a condition be placed on it to revegetate the existing roadway (Executive Officer Roadside Conservation Committee 2008).

There are no Registered Sites of Aboriginal Significance or Native Title Claims recorded within the area under application.

Methodology

References:
- ATA Environmental (2004)
- Executive Officer Roadside Conservation Committee (2008)
- Department of Indigenous Affairs (2008)
- MacTiernan (2008)
- Shepherd (2001)
- EPA (2000)

GIS Databases:
- Native Title Claims

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to principles (a), (b), (e) and (h) and may be at variance to principles (c) and (g).

5. References

ATA Environmental. (2004). Dowerin-Kalannie Road Amery-Benjabbering Road Intersection Improvements: Environmental Assessment and Management Plan. TRIM Ref. DOC50381 and DOC50382.

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

DEC (2008a). Clearing of Native Vegetation within and Surrounding Amery Nature Reserve 38703, Application CPS 2253/1 - Advice. TRIM Ref. DOC49677.

DEC (2008b). Trapdoor Spider Habitat Preferences. Advice to Swan Region Native vegetation Protection Officer. Received from Anov-Mortlock-Yilgarn Regional Office, Nature Conservation Branch, Department of Environment and Conservation, W.A. Received 10/03/2008. TRIM Ref. DOC48715.

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MacTiernan, A. (2008). Dedication of land for inclusion into the Dowerin-Kalannie Road Reserve. TRIM Ref. DOC52065.

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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.

Site Inspection. (2008). Site Inspection Report, Department of Environment and Conservation (DEC). Perth, Western Australia. TRIM Ref. DOC45647.

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6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)

DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)