Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2064/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Alec Charles & James Dallow McNab

1.3. Property details

Property: LOT 2 ON PLAN 25694 (Lot No. 2 FOURACRES SCOTT RIVER EAST 6275)

Local Government Area: Shire Of Nannup

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
		Mechanical Removal	Grazing & Pasture

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 51 & 949: Sedgeland; reed swamps, occasionally with heath; Low woodland; banksia (Shepherd et al. 2001; Hopkins et al. 2001). Mattiske Vegetation: Scott (Sd): Low open forest and low woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Agonis flexuosa with some Eucalyptus patens and Banksia spp. on low dunes to low woodland of Melaleuca preissiana-Banksia littoralis on inter-dune depressions in hyperhumid and perhumid zones. Scott (Swd): Mosaic of sedgeland of Restionaceae-Cyperaceae spp. and closed heath of Myrtaceae-Proteaceae spp. with occasional Banksia ilicifolia on swampy depressions and stunted Eucalyptus marginata24 subsp. marginata-Banksia attenuata-Xylomelum occidentale on low sandy rises in hyperhumid and perhumid zones. (Mattiske Consulting, 1998).	The proposal involves clearing approximately 44.14 ha of native vegetation for the purpose of grazing and pasture. The areas proposed for clearing range from uplands of low sandy ridges that are dominated by Eucalyptus marginata (Jarrah) and Banksia attenuata, to a range of wetland communities, from those that may experience sub-surface or limited surface innundation and appear to be dominated by Eucalyptus patens (Blackbutt) and / or Homalspermum firmum to vegetation communities that appear to have the longest periods of deep innundation, dominated by Taxandria inundata and / or Melaleuca rhaphiophylla (DEC Site Visit, 2007). The vegetation ranges in condition from Degraded to Excellent (Keighery, 1994). The area under application is not fenced; some areas have been extensively impacted by stock.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The description of the clearing application area is based on a site inspection conducted by DEC officers on 27 November 2007.

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 proposal is for the clearing of approximately 44.14 hectares for the purpose of grazing and pasture. The vegetation under application comprises several vegetation communities which range in condition from degraded to very good (Keighery, 1994).

The applied area lies in close proximity to the Gingilup Swamps Nature Reserve and the D?Entrecasteaux National Park, and in association with the Gingilup ? Jasper Wetland System, which is recognised as being of national importance (ANCA, 1996).

The applied area is located on the Scott Coastal Plain, a high rainfall area (>1000 mm/yr) recognised as having national estate significance for high species richness, unusually high diversity of vegetation communities, a concentration of rare, restricted and threatened communities, narrowly endemic plants, relict plants, plants with disjunct populations, wetlands of national importance and natural landscapes (EPA, 2000a).

The ANCA Wetland south of the revised applied area comprise heath / wetland vegetation communities in very good to excellent condition, and opportunistic sightings during the site inspection identified populations of Cyathochaeta teretifolia (P3) and Stylidium spinulosum ssp. Spinulosum; the Blackwood District (2007) advises this is the first collection of the species west of the Northcliffe area.

The local area (10 km radius) is approximately 75% vegetated, with the majority of that vegetation (70%) managed by DEC as National Parks, Nature Reserves and State forest. The Gingilup Swamps Nature Reserve and the D'Entrecasteaux National Park both lie 3.5km south of the applied area; several of the large heath / wetlands south of the application area are considered to be in excellent condition; it is considered likely these vegetation communities are also represented within these areas (Blackwood District, 2007).

The area under application is currently grazed by stock and has recently been burnt, however retains good vegetation structure that varies in condition between degraded and very good (Keighery, 1994).

The application area lies approximately 3.5kms from areas managed for conservation and may comprise a high level of biological diversity and therefore may be at variance to this Principle.

Methodology

Keighery (1994);
EPA (2000a);
Blackwood District (2007);

GIS Databases:
- CALM Managed Lands and Waters - CALM 1/6/04;
- Augusta 50cm ORTHOMOSAIC - DLI04

(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 may be at variance to this Principle

The proposal is for the clearing of approximately 44.14 hectares for the purpose of grazing and pasture. The vegetation under application comprises several vegetation communities which range in condition from degraded to very good (Keighery, 1994).

There are several records of threatened and priority fauna species within a 10 km radius of the proposed clearing, including the Western Ringtail Possum (Pseudocheirus occidentalis; VU), Forest Red-tailed Black-Cockatoo (Calyptorhynchus banksii naso; P3), Malleefowl (Leipoa ocellate; VU) and the Western Mud Minnow (Galaxiella munda; VU).

The Western Mud Minnow occurs (at the closest point) 400m North West of the applied area. The Mud Minnow is one of the rarest of south-west endemic fishes, it is very small (rarely exceeding 60mm in length), it is a surface feeder and prefers headwater stream habitats. (Morgan & Beatty, 2006) The application area, as observed on Site Visit 2007, is seasonally, and in places, permanently inundated with water, and is therefore considered a possible habitat for the Mud Minnow.

The local area is approximately 70% vegetated with the majority being DEC managed National Parks, State Forest and Nature Reserves. The applied area is located approximately 3.5 kilometres from areas managed for conservation.

The vegetation under application is currently grazed by stock and has recently been burnt, however retains good vegetation structure that varies in condition between degraded and very good (Keighery, 1994).

Given the impact of stock on the vegetation under application, the proposal may be considered significant

habitat for fauna indigenous to Western Australia and therefore may be at variance to this Principle.

Recommend a Fauna survey to determine the presence of rare or threatened indigenous fauna within the applied area.

Methodology Keighery (1994);
(Morgan & Beatty, 2006)
Site Visit (2007)

GIS Databases:
- Threatened Fauna - SAC Biodataset - 22/8/07;
- CALM Managed Lands and Waters - CALM 1/6/04

(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**
There are a relatively high number of DRF and / or Priority taxa found on the same broad vegetation association or are known to occur within close proximity (10 km radius) to the proposed clearing.

One population of Meziella trifida (DRF) has been recorded within the local area. This species is currently known to occur within seasonally inundated sedge dominated wetlands with a bare soil floor (DEC, Flora Base, 2008). Blackwood District (2007) advises the deeper wetlands within the location are seasonally inundated and have a bare soil floor but are shrub dominated rather than sedge dominated; therefore this species may occur within the application area, but it would be a new vegetation community association with this species. (Blackwood District, 2007).

Other species known to occur within the local area with similar habitat characteristics include Gastrolobium formosum (P3), Banksia meisneri var. ascendens (P4), Grevillea papilosa (P3) Melaleuca incana ssp Gingilup (P2), Astartea sp Scott River (P4) and Melaleuca basicephala (P4).

DEC (SW Region) advises Ecosystem Monitoring Plots have been established within the Gingilup Swamps Nature Reserve, along the boundary of the property under application, however field collections have not yet been completed.

Given the scale (44.14 ha); presence of inundation areas in very good condition; and the close proximity to several large conservation areas, the area under application may be supporting rare flora and therefore may be at variance to this Principle.

The vegetation under application is currently grazed by stock and has recently been burnt, however retains good vegetation structure that varies in condition between degraded and very good (Keighery, 1994).

Given the applied area is a suitable habitat for a number or rare or priority flora species; is seasonally and in some areas permanently inundated; and taking into account the impacts of stock on the vegetation under application, the proposal area is a viable habitat for rare flora and therefore is at variance to this Principle.

Recommend a Flora survey to determine the actual presence of nearby rare and/or priority species within the applied area.

Methodology DEC, Flora Base (2007);
Blackwood District (2007);
Keighery (1994)

GIS Databases:
- DEFL - SAC Bio Dataset ? 16/4/08
- Blackwood_WAHERB ? SAC Bio Dataset ? 16/4/08

(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**
The vegetation under application comprises several different community types that are not currently threatened or priority listed (Blackwood District, 2007).

The nearest threatened ecological community (TEC) is a Scott River Ironstone association (EN) approximately 2.6 km east of the proposed clearing, and is protected within the Gingilup Swamps Nature Reserve. Based on the limited site inspection, the Scott River Ironstone community was not found to be present within the applied area (Blackwood District, 2007); therefore the applied area is not likely to comprise the whole or part of, or be necessary for the maintenance of, a TEC and is therefore not likely to be at variance to this Principle.

Methodology Blackwood District (2007);

GIS Databases:
- TEC Database - SAC Bio Dataset - 22/8/07;
- Augusta 50cm ORTHOMOSAIC - DLI04

(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 not at variance to this Principle**

Pre-European	Current extent (ha)	Remaining %	% in reserves/DEC-managed land	area (ha)
Warren	833,981	663,141	79.5*	82.4
Shire of Nannup	293,222	247,538	84.4*	31.3
Vegetation type:				
Beard: Unit 23	41,062	30,901	75.3*	66.9
Beard: Unit 51	59,085	34,007	57.6*	61.8
Beard: Unit 949	218,914	124,759	57.2*	23.1
Mattiske: Scott (Sd)	377,148	198,161	52.5**	N/A
Mattiske: Scott (Swd)	103,813	77,505	74.7**	N/A

* (Shepherd, 2006)
** (Mattiske Consulting, 1998)

The area under application is located within the Shire of Nannup, in the Warren Bioregion. The extent of pre-European vegetation within these areas is 84.4% and 79.5%, respectively (Shepherd, 2006).

Based on the remaining vegetation in the local area (70% in 10 km radius), the proposed clearing is not considered significant remnant vegetation in an extensively cleared area and is therefore not at variance to this Principle.

Methodology Shepherd (2006);
Hopkins et al., 2001;
Mattiske Consulting (1998);

GIS Databases:
- Pre-European Vegetation - DA 10/01;
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00;
- Mattiske Vegetation - CALM 24/3/98

(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 at variance to this Principle**
The area under application is mapped as palusplain (seasonally waterlogged), comprising closed heath species that vary between degraded and very good (Keighery, 1994); the proposal is within an environment associated with watercourses and wetlands and is at variance to this Principle.

If approved, conditions addressing the loss of riparian vegetation are recommended.

Methodology Keighery (1994);

GIS Databases:
- Hydrography, Linear - DOE 1/2/04;
- Rivers, DOW;
- Geomorphic Wetlands, Augusta to Walpole - DOE 18/6/03

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

Comments

Proposal is at variance to this Principle

DAFWA (2008) advises the risk of clearing causing land degradation in the form of eutrophication, waterlogging and soil acidification is high.

Approximately 55% of the area under application is mapped as having a very high risk of Phosphorus loss (contributing to nutrient enrichment of surface and / or groundwater) as a result of the proposed clearing.

Removal of native vegetation is also likely to increase waterlogging; however this can be managed through adequate drainage to remove surface water. The applicant has advised DAFWA that he plans to use surface water drainage.

Clearing is also likely to increase the risk of soil acidification; soil testing at 3 sites within close proximity to the area under application has indicated the presence of Acid Sulphate Soils (ASS) within 1.25 metres below the surface. Significant change may be expected if further vegetation is removed; the risk of acidification causing land degradation is very high. DAFWA (2008a) recommends a site specific investigation for ASS prior to any clearing.

Given the above, the risk of clearing causing land degradation is high; therefore the proposal is at variance to this Principle.

Recommend an Acid Sulphate Soil survey to determine site specific information prior to clearing.

Methodology

DAFWA (2008a);
DAFWA (2008b)

(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

There are a number of areas of conservation significance that lie 3.5km south of the applied area.

DEC (SW Region) advises surface water runoff from the wetlands south of the application are is known to enter the adjacent Gingilup Swamps Nature Reserve and the D'Entrecasteaux National Park, which are both located down gradient from the area under application. Changes to these wetlands would result in impacts on the quality of surface water entering these conservation lands, possibly increasing nutrients, weeds, sediments and turbidity.

DEC (SW Region) also advises several plots of the Scott River Ironstone (TEC) are located within close proximity to the area under application; the quality of surface water entering these plots may impact on the aforementioned values.

Given the distance of the applied area from the adjacent conservation areas, an increase in surface water as a result of the proposed clearing is considered unlikely to impact on the environmental values of areas managed for conservation; therefore the proposal is not likely to be at variance to this Principle.

Methodology

GIS Databases:
- CALM Managed Lands and Waters - CALM 1/6/04;
- Topographic Contours, Statewide - DOLA 12/9/02

(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 at variance to this Principle

The soils of the area under application are described as leached sands on low-lying, poorly drained plains; associated are soils in shallow depressions and swampy drainage ways, including acid peats and soils overlying block laterite (Northcote et al. 1960-68).

This soil type has poor nutrient retention ability; therefore water runoff has the potential to contain high levels of nutrients. Runoff flows into numerous drains contained on the property, which ultimately discharges into the Scott River.

The proposed clearing is likely to increase surface water runoff, containing elevated nutrient concentrations, and may contribute to eutrophication of the Scott River. The area under application is low-lying palusplain, which poses a high risk of waterlogging; this risk can be managed by surface water drainage, but potentially creates a pathway for nutrient transport to wetland areas down gradient (DAFWA, 2008b).

The proposal is at variance with this principle as clearing of the application area will result in increased nutrient

loading in runoff.

Recommend conditions addressing surface water drainage are placed on the permit.

Methodology Northcote et al. (1960-68);

GIS Databases:
- Hydrography, Linear - DoE 1/2/04;
- Topographic Contours, Statewide - DOLA 12/9/02

(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 at variance to this Principle

The majority of the area under application consists of wetland / swamp in wet soils of leached sands and peats (Northcote et al. 1960-68).

Given the low infiltration rates of these soils, the low relief and high average annual rainfall (> 1000 mm) in the area, there is a very high risk of localised flooding associated with an increase in the incidence of waterlogging.

The area under application consists of low-lying palusplain. The proposed clearing poses a high risk of waterlogging; (DAFWA, 2008b) therefore the proposal may be at variance to this Principle.

Recommend conditions addressing surface water drainage are placed on the permit.

Methodology Northcote et al. (1960-68);
DAFWA (2008b)

GIS Databases:
- Rainfall, Mean Annual;
- Topographic Contours, Statewide - DOLA 12/9/02

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

Comments

The applied area is within the Scott Coastal Plain Strategy area, and is therefore subject to the Scott Coastal Plain Steering Committee's 'Strategy for a Sustainable Future' (SCPSC, 2001). This strategy, also recognised by the EPA (2000a), recommends that further clearing within the strategy area for agricultural purposes should not be supported, unless the areas are not riparian, will not result in a net reduction of vegetation on the property or catchment, and the principles and criteria referred to in Section 4.3 of the EPA's Position Statement No.2, Environmental Protection of Native Vegetation in Western Australia (EPA, 2000b), can be met. The proposed clearing is considered to be inconsistent with the recommendations of the EPA (2000a) on the Scott Coastal Plain.

Public submission (2007) objects to the proposal, and outlines issues on the importance of retaining vegetation on natural stream zones of the Scott River (Principle f); the contiguity with the Gingilup Swamps NR (Principle h); the potential impacts on the Scott River and downstream ecosystems (Principle i); and flags the NRM investment by the WA Government in the Scott River region (planning issues). All issues have been addressed in the relevant clearing principles.

Methodology Scott Coastal Plan Steering Committee (2001);
EPA (2000a);
EPA (2000b);
Public submission (2007);

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Grazing & Pasture	Mechanical Removal		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 (c), (f), (g), (i) and (j); - may be at variance to Principles (a) and (b); and - is not or is not likely to be at variance to the remaining clearing Principles

5. References

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Shepherd, D.P. (2006). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

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)