



1. Application details

1.1. Permit application details

Permit application No.: 727/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Bruce Richard and Jennifer Margaret Genoni

1.3. Property details

Property: LOT 6448 ON PLAN 208094 (House No. 404 DEMPSTER KALGAN 6330)

Local Government Area: City Of Albany

Colloquial name: Dempster Road - Lot 6448 on Plan 208094

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
48		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 978 - Low forest; jarrah, Eucalyptus staeri & Allocasuarina fraseriana (Shepherd et al., 2001).	The vegetation in the initial application forms a corridor between vegetation to the north and south and is immediately adjacent to the upper reaches of the Goodga River. That proposal left a buffer between the water course and upland vegetation, but little or no buffer for the marsh area that fringes the Goodga River water course. The negotiated proposal retains vegetation to form a substantial buffer around the Goodga tributary and the applicant has agreed to fence a water course on the eastern side of the property to protect it from stock. This will enhance the protection of the water courses and good quality vegetation on the property.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Vegetation marked in the application as areas 1 and 2 is in 'excellent' condition, with structure intact and no invasive weeds. Area 3 has been cleared at some time in the past and shows signs of disturbance with some weed invasion. The vegetation proposed to be cleared in the negotiated proposal is degraded with extensive weed invasion (DoE Site Inspection, TRIM ref AD222).

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 not likely to be at variance to this Principle**

The vegetation under the original application (marked as areas 1 and 2) demonstrate a high level of biodiversity compared to the vegetation in the local area as it is in excellent condition and demonstrates a significant and intact transition zone from the vegetation of the Goodga River to upland vegetation types (DoE Site Inspection AD222). Application area 3 showed a much lower level of biodiversity as it has been disturbed (cleared and grazed) in the past. The original proposal is considered to be at variance with this Clearing Principle.

Through negotiation, the proposal has been modified to allow for clearing that is not considered to be at variance to this Clearing Principle as the areas are degraded.

Methodology DoE Site Inspection (TRIM ref AD222)

(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 not likely to be at variance to this Principle

CALM has advised (CALM, 2006) that there are many species of threatened or priority fauna that have been recorded within the local area, including:

- Western Trout Minnow, *Galaxias truttaceus hesperius* (P1) (Wildlife Conservation Notice 2005, Schedule 1: Fauna that is rare or is likely to become extinct)
- Western Mud Minnow, *Galaxiella munda* (P4)
- Balston's Pygmy Perch, *Nannatherina balstoni* (P4)
- Bilby, *Macrotis lagotis*, Vulnerable (State) WC Act and EPBC Act.
- Dibbler, *Parantechinus apicalis*, Endangered (State) WC Act and EPBC Act.
- Carnaby's Black-Cockatoo, *Calyptorhynchus latirostris*, Endangered (Federal) EPBC Act and (State) WC Act.
- Baudin's Black-Cockatoo, *Calyptorhynchus baudinii*, Vulnerable (Federal) EPBC Act and Endangered (State) WC Act.
- Western Ringtail Possum, *Pseudocheirus occidentalis*, Vulnerable (Federal) EPBC Act and (State) WC Act.
- Western Bristlebird, *Dasyornis longirostris*, Vulnerable (Federal) EPBC Act and (State) WC Act.
- Australasian Bittern, *Botaurus poiciloptilus* Vulnerable (State) WC Act.
- Peregrine Falcon, *Falco peregrinus*, Specially Protected (State) WC Act.
- Western Trout Minnow, *Galaxias truttaceus hesperius* (P1)
- Forest Red-Tailed Black Cockatoo, *Calyptorhynchus banksii naso*, (P3)
- Carpet Python, *Morelia spilota imbricata*, (P4)

Given the extensive clearing on the western and eastern boundaries of the property (as revealed by aerial photographs) it is highly likely the available habitat will be utilised by one or more of these species.

The area under application is situated at the head of a tributary of the Goodga River that flows through unvested Class A Reserve 24991 and into Moates Lake, a closed estuary within Two Peoples Bay Nature Reserve. Reserve 24991 is approximately 3.2km downstream of the notified area and Moates Lake is approximately 4.2km further on. The River and Moates Lake support a population of the gazetted Western Trout Minnow, *Galaxias truttaceus hesperius*. Its range within Western Australia is restricted to the Goodga River and parts of the Angove River. *Galaxias truttaceus hesperius* is presumed to be extinct from the King and Kalgan Rivers where they were previously known to occur - likely as a result of land clearing leading to elevated water temperatures and salinity (EPBC Nomination Form as cited in CALM (2006)).

Information was provided by Dr David Morgan of the Murdoch University Freshwater Fish Group outlines the occurrence of the rare Trout Minnow population in the Goodga River and the need to preserve its habitat and buffers around watercourses (TRIM ref A1880).

Further clearing of 48 ha of native vegetation, as proposed, within the upper reaches that are integral to the protection of the River system, has the potential to negatively impact on the water quality and flow of the Goodga River and may have implications for Moates Lake downstream. Deterioration in water quality and flow may therefore have a detrimental impact on the *Galaxias truttaceus hesperius* population and the geographically restricted Balston's Pygmy Perch, *Nannatherina balstonii*, which is also found in the Goodga system - the easternmost occurrence of the species in WA (CALM South Coast Region as reported by CALM (2006)). The original proposal is considered to be at variance to this Principle.

Through negotiation, the proposal has been modified to allow for clearing that is not considered to be at variance to this Clearing Principle as buffers to the water courses have been retained and improved and the areas permitted to be cleared are degraded.

Methodology

CALM (2006), Dr David Morgan (TRIM ref A1880)

GIS databases:

- Albany 1.4m Orthomosaic - DLI March 03
- CALM Managed Lands and Waters - CALM 1/06/04

(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

CALM (2006) have advised that there are 11 records of 3 species of Declared Rare Flora (DRF) and 70 records of 26 species of Priority Flora within a 10km radius of the area under application. The DRF found in the area are described as follows:

- Andersonia pinaster* (Two Peoples Bay *andersonia*) is described as an erect, slender shrub, 0.2-0.6 m high. Flowers are blue, Jul-Nov. (CALM's Florabase). It only grows near Two Peoples Bay Nature Reserve, where it inhabits deep sands supporting low, open heath (CALM 1998). It is unlikely that *Andersonia pinaster* would be found on site as there is no evidence to suggest that low, open heath occurs within the notified area; the proponent states the vegetation is 'typically stunted jarrah, sheoak and tea tree' and the Beard Vegetation Association is described as Low forest; jarrah, *Eucalyptus staeri* and *Allocasuarina fraseriana*.
- Microtis globula* (South-coast Mignonette Orchid) is a tuberous perennial herb, 0.18-0.35 m high. Flowers are yellow, green, Dec-Jan. It occurs on peaty soils, winter-wet swamps (CALM's Florabase). Little information has been provided regarding the landform condition of the site however the proponent states that 'the peaty damp area adjacent to the proposed clearing (area 4 on attached Map A)' will 'be fenced out to maintain its natural

vegetation'. Providing no peaty areas are proposed to be cleared, and that area 4 (as identified by the proponent) is suitably fenced and protected, it is unlikely that any *Microtis globula* population, if present, would be damaged by the proposal.

-*Drakaea micrantha* is described as a tuberous perennial herb, 0.15-0.3 m high. Flowers are red, yellow, Sep-Oct (CALM's Florabase). It inhabits infertile grey sands in common sheoak (*Allocasuarina fraseriana*) and jarrah (*Eucalyptus marginata*) woodland or forest. It usually grows on old firebreaks and in disturbed sites where competition from other plants has been removed (CALM 1998). In additional information submitted with the application the proponent states that 'the vegetation of area 1 and 2 (as shown in attached Map A) is typically stunted jarrah, sheoak and tea tree' and that a strip several chains wide was cleared about 24 years ago along the north and east boundary of area 2 and has now regrown. Given the habitat preferences of *Drakaea micrantha* and the limited information available regarding landform condition of the site it is possible that the habitat within area 2 (as identified by the proponent) where disturbance has occurred may be suitable for this species of DRF.

There is also a record of Priority species *Laxmannia jamesii* (P4) occurring 140m from the notified area within low open woodland. *Laxmannia jamesii* (James' Paperlily) is described on Florabase as a tufted, stilt-rooted perennial, herb, 0.05-0.2 m high. Flowers are red, white, May-Jul. It occurs on grey sand, winter-wet locations. Given the proximity of this record to the notified area and the apparently similar vegetation from the aerial photograph it is possible that it may also occur within the notified area.

The notified area may therefore include the Declared Rare Flora *Drakaea micrantha* and/or Priority species *Laxmannia jamesii* (P4). CALM (2006) recommends that an appropriately timed flora survey be undertaken by a suitably qualified botanist to determine whether the proposed clearing is likely to impact on any flora species of conservation significance and in particular *Drakaea micrantha*. The original proposal may have been at variance with this Clearing Principle.

Through negotiation, a revised proposal has been considered. While the revised proposal may be at variance to this Clearing Principle, it is less likely as the areas are relatively degraded with little or no understorey.

Methodology CALM (2006)
GIS Databases:
Declared Rare and Priority Flora List - CALM 01/07/05
FloraBase Descriptions by the Western Australian Herbarium, CALM.

(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 closest recorded Threatened Ecological Community (TEC) to the site is 35.5km northeast (Knight East). CALM (2006) has advised that there is no evidence to suggest that any EPBC Act listed TECs or State listed TECs are present within the notified area. This proposal is not likely to be at variance to this Principle.

Methodology CALM (2006)
GIS Database:
-Threatened Ecological Communities - CALM 12/04/05

(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

The vegetation in the area under application is a component of Beard Vegetation Association 978 (Hopkins et al. 2001) of which there is 39.1% of the pre-European extent remaining (Shepherd et al. 2001). The benchmark of 15% representation in conservation reserves (JANIS, 1997) has not been met for Beard Vegetation Association 978. 260,100 ha remain and therefore the vegetation type is considered 'depleted' for biodiversity conservation (Department of Natural Resources and Environment, 2002). However, the negotiated proposal is not considered to be at variance with the Clearing Principle as the vegetation to be removed is degraded and the applicant has agreed to fence and protect watercourses which will offset the removal, plus the property will still be approximately one third vegetated.

Methodology Shepherd et al. (2001), Hopkins et al (2001), Department of Natural Resources and Environment (2002), JANIS (1997)
EPA (2000)

(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

The proposed cleared site is adjacent to a marsh area which contains a non-perennial watercourse (tributaries of the Goodga River) which flows south through the Moates Goodga Angove Catchment System into the Moates Lake System. This system is listed as an ANCA Wetland and is located 6km to the southeast of the proposed clearing application. The initial proposal was considered to be at variance with this Clearing Principle due to the loss of vegetation buffering the Goodga River headwaters. However, it is considered that the

negotiated outcome is not likely to be at variance with the Clearing Principle as buffering vegetation will be retained and protected from stock.

Methodology GIS Databases:
-Hydrography, linear - DOE 01/02/04
-ANCA Wetlands - CALM 08/01
-Register of the National Estate - EA 28/01/03

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

Comments Proposal is not likely to be at variance to this Principle

Assessment by DAWA (2005) identified the potential for land degradation in the form of waterlogging and eutrophication, especially if clearing was to occur adjacent to the drainage line (Goodga River). The Commissioner advised that vegetation should be retained adjacent to the drainage lines to prevent this risk. The DoE considers that clearing of Areas 1 and 2 (see attached Map A) would be at variance with this Clearing Principle, but that the clearing of Area 3 (see attached Map A) and other negotiated area are not likely to be at variance with this Clearing Principle.

Methodology DAWA (2005)

(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 not likely to be at variance to this Principle

CALM (CALM 2006) has advised that the initial proposed area lies at the head of a tributary of the Goodga River that flows through unvested Class A Nature Reserve 24991 and into Moates Lake, a closed estuary within Two Peoples Bay Nature Reserve. Protection of the Goodga River system is crucial for maintaining the high conservation values of both Nature Reserves.

The Moates Lake System supports significant populations of Australasian Bittern *Botaurus poiciloptilus*, Vulnerable (State) WC Act, and the Western Trout Minnow *Galaxias truttaceus hesperius*, which has a highly restricted distribution in WA (DEH 1995 as cited in CALM 2006). Clearing of 48ha of native vegetation within the upper reaches of the Goodga River that are integral to the protection of the river system, has the potential to negatively impact on the water quality and flow of the river and may have implications for Moates Lake downstream. Land clearing is believed to have resulted in elevated water temperatures and salinity in the King and Kalgan rivers (EPBC Nomination Form as cited in CALM 2006) that flow into Oyster Harbour, Albany, where the Western Trout Minnow, *Galaxias truttaceus hesperius* (P1) was previously known to occur. There is a risk that further vegetation clearance within the catchment may increase runoff, siltation and eutrophication and alter the hydrology of the Moates Lake system. This may impact on the environmental values of Nature Reserve 24991 and Two Peoples Bay Nature Reserve causing a detrimental impact on the trout minnow and Australasian Bittern populations.

The extent of the potential impact of this proposal is difficult to quantify, however based on the limited information provided and the existing impacts from earlier clearing and cultural activities, the initial proposal may be at variance to this Principle.

The Department of Environment has negotiated an outcome that protects and enhances buffers (protection from stock) to the water courses. The revised proposal is not likely to be at variance with this Clearing Principle.

Methodology CALM (2006),
GIS Databases:
-CALM Managed Lands and Water - CALM 01/07/05
-Register of National Estate - EA 28/01/03

(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

The salinity in the Goodga River had risen steadily since the late 1960s due to the removal of perennial vegetation in the catchment (Mayer et al 2005), and the salt output/input ratio measured indicates a net export of salt. The Goodga River also had a higher mean salinity for the period 1993-2002 than for 1983-1992. Thus, although much fresher than some other rivers in the Albany basin, the Goodga was still experiencing rising stream salinity. It is likely that the removal of the vegetation as described in the original proposal could increase the risk of salinity in the Goodga River. However, as the result of negotiation, the area now proposed is not likely to be at variance with this Clearing Principle as the vegetation is in a more degraded condition, is a smaller area and areas have been set aside for protection from stock.

Methodology Mayer et al (2005)

(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**
Clearing of the area under the original application may have exacerbated local flooding as Areas 1 and 2 (see attached Map A) are immediately adjacent to the Goodga River headwaters with topography on the western side demonstrating a 1 in 10m slope. However, the revised proposal is unlikely to be at variance with this Clearing Principle as vegetated buffers have been retained around the water courses and a smaller area is now proposed to be cleared.

Methodology GIS databases-
-Hydrography, linear DoE 01/02/04
-Topographic contours- Statewide DOLA 12/09/02
-Rainfall, mean annual- BOM 30/09/01

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

Comments
A submission from a conservation group requested that flora and fauna surveys be conducted as part of this application as well as a management plan drawn up for the remaining vegetation and covering key environmental issues. These issues were considered as part of the assessment and negotiations for this application.

The proposal is not at variance with any known planning instruments, Native Title or EPA decisions.

Methodology

4. Assessor's recommendations

Purpose	Method Applied	Decision	Comment / recommendation
Grazing & Pasture	Mechanical Removal 48 area (ha)/ trees	Grant 23ha	Assessment of the original proposal indicated that it was at variance with Principles a, b, g, and i and may be at variance with Principles c, f, h and j and is not likely to be at variance with Principles d and e. Following negotiation with the applicant, the proposal was modified so that the clearing was either not at variance or not likely to be at variance with the Clearing Principles. It is recommended that the modified proposal be granted a clearing permit conditional on fencing of some of the remaining vegetation.

5. References

CALM (2006) CALM Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref A1930.
DAWA (2005) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref IN24126.
Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
Mayer, X. Ruprecht, J. and Bari, M. (2005) Stream salinity status and trends in south-west Western Australia. Salinity and Land Use Impact Series Report No. SLUI38. Natural Resource Management and Salinity Division, Department of Environment, Western Australia.
Morgan, D.L. (2003) Distribution and biology of *Galaxias truttaceus* (Galaxiidae) in south-western Australia, including first evidence of parasitism of fishes in Western Australia by *Linulia intestinalis* (Cestoda). Env. Biol. Fish. 66: 155-167.
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 (2005) CALM Florabase. <http://florabase.calm.wa.gov.au/>

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture

DEP	Department of Environmental Protection (now DoE)
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 DoE)