Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2600/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: MR Glen and Lynne Carpenter

1.3. Property details

Property: LOT 9026 ON PLAN 124020 (NORTH TAMMIN 6409)
LOT 11216 ON PLAN 128933 (NORTH TAMMIN 6409)
LOT 16014 ON PLAN 139565 (NORTH TAMMIN 6409)

Local Government Area: Shire Of Tammin

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
6		Mechanical Removal	Building or Structure

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: 694 and 1048 694: shrublands; scrub-heath on yellow sandplain banksia-xylomelum alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions 1048: mosaic: shrublands; melaleuca patchy scrub / succulent steppe; samphire (Hopkins et al. 2001; Shepherd et al. 2001).	The vegetation association 1048 is regarded as being solely restricted to the Avon Wheatbelt 2 (rejuvenated drainage) sub-IBRA region (Beard, 2007). Currently this vegetation association is significantly under-represented within the AW2 DEC-managed conservation estate, with only 29.34 ha (1.2 % of its remaining extent of 2372.81 ha) being formally protected (Beard 2007. An ArcGis assessment has revealed that the entire 35.61 ha of the DEC-managed Wyola Nature Reserve (A24831) contains vegetation association 1048, which may infer that this nature reserve represents the total size of association 1048 formally protected within the AW2 DEC-managed conservation state (DEC 2008c).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The area under application is 6 hectares of native vegetation for the purpose of car park and motocross tracks. The area under application is described as be in a degraded (Keighery 1994) condition, due to past clearing, soil erosion and salinity. The ground cover is comprised of patchy distributions of Samphire (Halosarcia lepidosperma) and a variety of weeds. The middle storey is comprised of a mixture of Acacia and Melaleuca species (DEC 2008c).

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 to clear 6 hectares of native vegetation for the purpose of car park and motocross tracks. The area under application is considered to be in a degraded (Keighery, 1994) condition, due to past clearing, soil erosion and salinity. The ground cover is comprised of patchy distributions of samphire (Halosarcia lepidosperma) and a variety of weeds. The middle storey is comprised of a mixture of Acacia and Melaleuca species (DEC 2008c).

The area proposed for clearing is located within a priority ecological community (PEC, Priority 1), namely Salt Flats Plant Assemblages of the Mortlock River (East Branch) (DEC 2008b). The habitat comprises braided channels (up to 2 km wide), flats, wash-lines and sandy rises (up to 2m high) stretching along the Mortlock River (East) from Meckering eastwards to just west of Tammin. A mosaic of plant communities assorted by elevation occurs on the river flats. The area represents the most extensive braided saline drainage line in this part of the SW agricultural zone. The plant community comprises mixed shrubs (Scholtzia capitata, Melaleuca aff. uncinata) over species rich herbs on sandy rises, with Melaleuca thyoides margins., dwarf scrub and species rich herbs on wash-line and saline wetlands (DEC 2008b). This PEC is estimated to extend over 6,310 ha, which mainly includes private land with 400 ha in reserves (35 ha in a conservation reserve and 365 ha in water, town and miscellaneous reserves). This estimated area includes those areas inundated when the Mortlock River flows (these particular areas are predominantly bare sand) (DEC 2008c).

The PEC has been recommended for listing as Endangered by the Threatened Ecological Community Scientific Committee (TECSC). The listing has not yet been endorsed through state processes, so remains a Priority 1 community (DEC 2008b).

A DEC flora survey was carried out (DEC 2008c) within the application area. Frankenia glomerate (Priority 3) and Hopkinsia anaectocolea (Priority 3) are located within the lot under application (Lot 9026 and 16014) (DEC 2008a).

The area under application is part of the only contiguous area of remnant vegetation within a 30km radius. The local area is heavily cleared with approximately 15% of native vegetation remaining and the remnant is considered to comprise high levels of biodiversity.

Although the 6ha of vegetation under application represents a low level of biodiversity in its degraded state, the disturbance created by clearing this vegetation is likely to adversely affect the remnant of which it is a part, which holds a high level of biodiversity. The secondary impacts are likely to include sedimentation leading to a reduction in water quality and increased turbidity within this hydrological system (DEC 2008b).

The proposal is therefore at variance to this Principle. Conditions will be placed on the permit to ensure the protection of the remaining biodiversity values including, fencing of uncleared portions of Lot 9026, weed management. Additionally, the loss of biodiversity will be offset by revegetation of a nearby property (Lot 10682).

Methodology

DEC (2008a)
DEC (2008b)
DEC (2008c)
Keighery (1994)

GIS Database:
- CALM Managed Lands and Waters - CALM 01/06/05
- Cunderdin 50cm ORTHOMOSIAC - DLI04
- DEFL, SAC Biodataset (7/08/08)
- TEC Database, SAC Biodatasets - accessed 7/08/08

(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 area under application is part of the only contiguous area of remnant vegetation within the regional area (30km radius). This remnant acts as a significant ecological linkage in a highly cleared area (approximately 15% of native vegetation remaining) including the linkage to the nearby Wyola Nature Reserve.

The application area is considered to be in a degraded (Keighery, 1994) condition (DEC 2008c). The local area (30km radius) is heavily cleared, therefore small remnants of degraded vegetation are providing significant habitat for native fauna.

Clearing of the vegetation under application, although degraded, will further fragment a remnant in a highly cleared area, severing fauna movement.

Given the above factors the proposed clearing may be at variance to this principle. Conditions will be placed on the permit to ensure the protection of the remaining fauna values including, fencing of uncleared portions of Lot 9026. Additionally, the loss of potential habitat will be offset by revegetation of a nearby property (Lot 10682).

Methodology

DEC (2008c)
Keighery (1994)

GIS Database:
- CALM Managed Lands and Waters - CALM 01/06/05
- Cunderdin 50cm ORTHOMOSIAC - DLI04

- Threatened Fauna, SAC Bio Dataset (7/08/08)

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

Comments

Proposal is not likely to be at variance to this Principle

A DEC flora survey was carried out (DEC 2008c) within the application area, to target the rare flora species Frankenia parvula and Roycea pycnophylloides that are known to occur in the local area (10km radius). No populations were located during the survey.

It is considered unlikely that the proposed clearing area is necessary for the existence of these species.

Methodology DEC (2008c)

GIS Database:
- Cunderdin 50cm ORTHOMOSIAC - DLI04
- DEFL, SAC Bio Dataset (31/07/08)

(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 may be at variance to this Principle

There are no known threatened ecological communities (TECs) occurring within a 10km area.

The priority ecological community (PEC) has been recommended for listing as Endangered by the Threatened Ecological Community Scientific Committee (TECSC). The listing has not yet been endorsed through state processes, so remains a Priority 1 community (DEC 2008b).

Therefore the clearing as proposed may be at variance to this principle.

Methodology DEC (2008b)

GIS Database:
- Cunderdin 50cm ORTHOMOSIAC - DLI04
- TEC Database, SAC Biodatasets - accessed 7/08/08

(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

	Pre-European	Current Extent	% Remaining	%DEC managed Land
IBRA Bioregion				
Avon Wheatbelt	9,517,106	1,470,160	15.4	
Shire				
Tammin	110,187	6,048	5.5	
Beard Vegetation Association				
694	346,493	61,030	17.7	51.94
1048	13,814	2,372	17.2	1.24
Beard Vegetation Association in the Bioregion				
694	13,814	6,917	3.98	21.09
1048	13,814	2,3732	17.2	1.24

The area under application falls within EPA Position Statement No.2 agricultural zone. This position statement indicates the Commonwealth does not support clearing of native vegetation within areas which consist of salinity and will contribute to the salinity problems.

Vegetation association 1048 is regarded as being solely restricted to the Avon Wheatbelt 2 (rejuvenated drainage) sub-IBRA region. Currently this vegetation association is significantly under-represented within the AW2 DEC-managed conservation estate. An ArcGis assessment has revealed that the entire 35.61 ha of the DEC-managed Wyola Nature Reserve (A24831) contains vegetation association 1048, which may infer that this nature reserve represents the total size of association 1048 formally protected within the AW2 DEC-managed conservation state (DEC 2008c). It would be challenging to justify the proposed clearing of six ha of this vegetation association if the proposed site for development was in a reasonable condition. The results of the site assessment has however indicated the area proposed for development is degraded due to past clearing and salinity, and hence the proposed clearing of six ha may have to be viewed in this context (DEC 2008c).

However, although the 6ha of vegetation under application is in a degraded state, the disturbance created by clearing this vegetation is likely to adversely affect the remnant of which it is a part, which is made up of Beard Vegetation Association 1048 and 694. The secondary impacts may include sedimentation leading to a reduction in

water quality and increased turbidity within this hydrological system (DEC 2008b).

The above figures demonstrate native vegetation within the biogeographical region and particularly within the Shire (5.5% remaining), are heavily under represented. Beard Vegetation Associations 694 and 1048 are deemed to be critical assets of the State.

Although vegetation within the area under application is degraded, it is part of a significant stand of remnant vegetation. The local area (10km radius) has been extensively cleared, with approximately 15% vegetation remaining. Therefore the clearing is at variance to this principle. Conditions will be placed on the permit to ensure the protection of the remaining Beard Vegetation Association values including, fencing of uncleared portions of Lot 9026. Additionally, the loss of Beard Vegetation Association's will be offset by revegetation of a nearby property (Lot 10682).

Methodology

DEC (2008b)
DEC (2008c)
EPA (2000)
Shepherd (2007)

GIS Database:
- Cunderdin 50cm ORTHOMOSIAC - DLI04
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Pre European Vegetation, SAC Bio Dataset (24/07/08)

(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 proposed for clearing is located within a priority ecological community (PEC, Priority 1), namely Salt Flats Plant Assemblages of the Mortlock River (East Branch) (DEC 2008b). It consists of braided channels (up to 2 km wide), flats, wash-lines and sandy rises (up to 2m high) and extends along the Mortlock River (East) from Meckering eastwards to just west of Tammin. A mosaic of plant communities occurs on the river flats, which is mainly due to differences in elevation. The Mortlock Flats (East branch) represents the most extensive braided saline drainage line in this part of the SW agricultural zone. This PEC is estimated to extend over 6,310 ha, which mainly includes private land with 400 ha in reserves (35 ha in a conservation reserve and 365 ha in water, town and miscellaneous reserves). This estimated area includes those areas inundated when the Mortlock River flows (these particular areas are predominantly bare sand) (DEC 2008c).

Although the 6ha of vegetation under application represents a low level of biodiversity in its degraded state, the disturbance created by clearing this vegetation is likely to adversely affect the remnant and the drainage line of which it is a part. The secondary impacts may include sedimentation leading to a reduction in water quality and increased turbidity within this hydrological system (DEC 2008b).

The site is considered to be in association with the Mortlock River and the clearing may impact on the tributary banks, habitat for aquatic fauna or water quality. The proposal is therefore at variance to this principle. Conditions will be placed on the permit to ensure the protection of the remaining values of this drainage line including, fencing of uncleared portions of Lot 9026.

Methodology

DEC (2008b)
DEC (2008c)
GIS Database:
- Hydrography linear (hierarchy) - DoW 13/7/06

(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 proposed clearings topography of the site is 220m AHD (Australian Height Datum). The soil type of the area proposed to clear is considered to be saline valleys, salt lakes and salt-lake channels, which mostly devoid of true soils. Fringing areas consist of few freshwater lakes, common soils are gypseous and saline loams on riverine wash, usually underlain by clayey or sandy strata (Northcote et al. 1960-68). The mean annual rainfall and evapotranspiration rate is 400mm per annum.

The groundwater salinity is between 14000 to 35000mg/L (saline area). Evidence of salinity was recorded on a DEC site visit (2008c). The clearing is likely to add to the ongoing salinity problems (DEC 2008c).

Lantzke (1992) has stated that the soil association within the area under application, Lantzke (1992) further adds that "most of the soils are of low agriculture potential. The sand dunes are highly prone to wind erosion when the vegetation is removed. Many areas are saline or have the potential to become saline".

During a site inspection by DAFWA (2008), it was noted that there is a risk of wind erosion, water erosion and salinity due to the removal of vegetation (DAFWA 2008).

The area under application therefore may be at variance to this principle. Conditions will be placed on the permit to revegetate a nearby property (Lot 10682) to reduce the incremental impacts.

Methodology

DEC (2008c)
DAFWA (2008)
Lantzke (1992)
Northcote et al. (1968)
GIS Database:
- Evapotransporation Isopleths - WRC 29/09/98
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrogeology, statewide DOW 13/07/06
- Mean Annual Rainfall Isohytes (1975 - 2003) DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

(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 may be at variance to this Principle
The Wyola Nature Reserve is 500m south of the area under application.

The area under application is part of the only contiguous area of remnant vegetation within the regional area (30km radius). This remnant acts as a significant ecological linkage in a highly cleared area (approximately 15% of native vegetation remaining) including the linkage to the nearby Wyola Nature Reserve.

The application area is considered to be in a degraded (Keighery, 1994) condition (DEC 2008c). The local area (30km radius) is heavily cleared, therefore small remnants of degraded vegetation are providing significant habitat for native fauna.

Clearing of the vegetation under application, although degraded, will further fragment a remnant in a highly cleared area, potentially incrementally impacting this nearby reserve.

Given the above factors the proposed clearing may be at variance to this principle. Conditions will be placed on the permit to ensure the protection of the remaining vegetation values that may impact the nearby reserve including, fencing of uncleared portions of Lot 9026. Additionally, the loss of connectivity will be offset by revegetation of a nearby property (Lot 10682).

Methodology

DEC (2008c)
Keighery (1994)
GIS Databases:
- CALM Managed Lands and Waters - CALM 01/06/05
- Cunderdin 50cm ORTHOMOSIAC - 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 at variance to this Principle
The area proposed to clear is considered to be saline (DEC 2008a). The mean annual rainfall and evapotranspiration rate is 400mm per annum. The clearing is likely to add to the ongoing salinity problem which is currently on site.

The area proposed for clearing is located within a Priority Ecological Community (PEC, Priority 1), namely Salt Flats Plant Assemblages of the Mortlock River (East Branch) (DEC 2008c). The area under application is within a flood limit area, in close proximity to a minor non-perennial water course and non-perennial salt lakes.

DEC hydrologists advised that disturbance created by clearing this vegetation is likely to adversely affect the remnant of which it is a part as sediment loads could potentially flow towards the east side of the community, with increased levels of disturbance leading to an increased sediment loads (DEC 2008b). In this case, water quality would then be compromised and turbidity of the system is likely to be changed. This has the potential to have detrimental impacts on the downstream areas of the PEC (DEC 2008b).

The site is considered to be in association with the flood limit area, clearing is likely to increase salinity and turbidity and the clearing may impact on the tributary banks, habitat for aquatic fauna or water quality. The proposal is therefore is at variance to this principle. Conditions will be placed on the permit to ensure the protection of the remaining vegetation values that may impact the nearby reserve including, fencing of uncleared portions of Lot 9026. Additionally, the loss of connectivity will be offset by revegetation of a nearby property (Lot 10682).

Methodology

DEC (2008b)
DEC (2008c)
GIS Database:

- Evapotransporation Isopleths - WRC 29/09/98
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrogeology, statewide DOW 13/07/06
- Mean Annual Rainfall Isohytes (1975 - 2003) DEC 02/08/05

(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 may be at variance to this Principle

The proposed clearing falls within a flood plain. The topography of the site is 220m AHD (Australian Height Datum), giving the landscape a low lying relief.

The proposed area to clear is most likely be subject to seasonal inundation (within a floodplain), depending on the duration, scale and intensity of a rainfall event (DEC 2008c). Incremental increase in flooding may occur

Given the above factors the clearing proposal is may be at variance to this principle.

Methodology

DEC (2008c)

GIS Database:
- Evapotransporation Isopleths - WRC 29/09/98
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrogeology, statewide DOW 13/07/06
- Mean Annual Rainfall Isohytes (1975 - 2003) DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The proponent has advised that the area to be revegetated on Location 10682 is fenced to exclude stock and that a conservation covenant will be placed over the area.

The area under application is within Rights in Water and Irrigation (RIWI) surface water area.

The Shire of Tammin has given development approval on the condition that terms and conditions must be followed and other approvals such as a building licence and an effluent disposal permit be granted (DOC60309 and DOC61010). The area applied for under the current clearing permit application is for the purpose of a motocross track and car park only. The Shire development approval is for a multi purpose off road vehicle facility, incorporation camping, self contained cottages, ablutions, workshop, caretaker facilities, kiosk , outdoor concert facility and paintball facility.

Methodology

GIS Database:
- Native Title Claims - LA 2/5/07
- RIWI Act, Groundwater Areas - DoW 13/07/06
- Town Planning Scheme Zones - MFP 31/08/98

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), (e), (f) and (i) and may be at variance to principles (b), (d), (g), (h) and (j), and principle (c) is not likely to be at variance.

5. References

DEC (2008a) Additional Regional advice. Application CPS 2600/1, Lot 9026 Wyola Road, North Tammin. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC66215).

DEC (2008b) Additional PEC advice. Application CPS 2600/1, Lot 9026 Wyola Road, North Tammin. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC60637).

DEC (2008c) Site Inspection Report for Clearing Permit Application CPS 2600/1, Lot 9026 Wyola Road, North Tammin. Site inspection undertaken 19/02/2008. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC66215).

Department of Agriculture and Food (2008) Advice. Commissioner of Soil and Land Conservation. DEC TRIM Ref: DOC61565.

EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.

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.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Lantzke, N.C (1992) Soils of the Northam Advisory District, The zone of Ancient Drainage. Bulletin 4244, Department of

Agriculture, Western Australia. IN: Department of Agriculture and Food (2008) Advice. Commissioner of Soil and Land Conservation. DEC TRIM Ref: DOC61565.
Shepherd, D.P. (2007). 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.
Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. http://florabase.dec.wa.gov.au/. Accessed on 31/07/08

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)