Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1637/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Keith J & Mary J Bock

1.3. Property details

Property: LOT 1579 ON PLAN 208449 (House No. 8225 RABBIT PROOF FENCE JACUP 6337)

Local Government Area: Shire Of Jerramungup

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
439.9		Burning	Miscellaneous
439.9		Burning	Miscellaneous
439.9		Burning	Miscellaneous
439.9		Burning	Miscellaneous
439.9		Burning	Miscellaneous
439.9		Burning	Miscellaneous
439.9		Burning	Miscellaneous
439.9		Burning	Miscellaneous
439.9		Burning	Miscellaneous
439.9		Burning	Miscellaneous
530		Burning	Miscellaneous
530		Burning	Miscellaneous

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
Area under application forms a component of: -Beard Veg Association 128: Bare areas; rock outcrops -Beard Veg association 519: Shrublands; mallee scrub, Eucalyptus eremophila Vegetation species common throughout the area are: Eucalyptus uncinata, Eucalyptus falcata, Eucalyptus occidentalis, Eucalyptus platypus, Hakeas, Dryandras and many Melaleuca spp.	The purpose of the clearing is for shallow rooted agricultural spp., and the total area proposed is 439.9ha. Aerial photography suggests that the area to be cleared is mostly in Very Good to Excellent condition (Keighery 1994), except for the smaller patches of native vegetation to the south, which are considered to be Degraded to Good condition (Keighery 1994). There appears to have been little previous disturbance to the vegetation under application. The understorey appears to be intact except in those smaller patches of vegetation in the southern part of the area under application. This is likely to be due to current and previous agricultural and grazing practices. There is no known occurrence of Phytophthora dieback within the vegetation under	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Vegetation condition determined by aerial photography (Jacup 1.4m Orthomosaic - DLI 03) References: DAFWA advice 2007 TRIM ref: DOC17747.

application.

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 larger northern section of the proposed clearing area is considered to be in 'Excellent' condition (Keighery, 1994). The smaller areas of vegetation under application in the southern section of the block are thought to be in a 'good - degraded' condition (Keighery, 1994).

The area under application lies within a highly cleared landscape that has been recognised by the EPA in Position Statement No.2 'Environmental Protection of Native Vegetation - Clearing of Native vegetation, with particular reference to the Agricultural Area'. Native vegetation within this area is considered to be significant and clearing for agricultural purposes is not supported.

A site inspection (2007) found that much of the proposed clearing area displayed very high floristic and habitat diversity, with a well defined stratum of vegetation and numerous different vegetative types including herb fields, shrublands and woodlands.

Aerial photography shows that much of the proposed clearing is one of the last remaining large intact areas of vegetation within the local area (10km radius). Given this and the above factors it is considered that the clearing is at variance to this principle.

Methodology

DAFWA advice 2007 TRIM ref: DOC17747.
SAC Biodatasets, 8th October 2007
EPA (2000)
Keighery 1994
GIS datasets:
- Jacup 1.4m Orthomosaic - DLI 03

(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

Within the local area the following significant species have been recorded:

* Phascogale calura (Red-Tailed Phascogale) Threatened
* Dasyurus geoffroii (Chuditch) P4
* Psophodes nigrogularis oberon (Western Whipbird) P4
* Macropus irma (Western Brush Wallaby) P4

The Red-Tailed Phascogale is arboreal and tends to prefer habitats with a continuous canopy cover of sheoak or wandoo. As the proposed clearing area is a mixture of herb fields, mallee woodland and stands of Eucalyptus platypus it is unlikely that they would be found within the proposed clearing area.

Given the preference for dense shrub habitat that the other recorded species have, they may be present within the proposed clearing area.

During a site inspection (2007) the proponent advised the DEC staff that 'black cockatoos' had been seen on the property. Macropod, Avian and Reptile scats were also observed during this site inspection.

The proposed clearing area also provides an obvious stepping stone between the nearby conservation areas that would assist in maintaining genetic diversity in more mobile fauna species.

As the local area is heavily cleared with the notified area being one of the only large tracts of bushland in the region it is likely to provide significant habitat for listed and common native fauna species. Additionally much of the vegetation has been assessed as being in 'excellent' condition (Keighery, 1994) with dense understorey that favours many of the species known to the area. The clearing is therefore at variance to this principle.

Methodology

DAFWA advice 2007 TRIM ref: DOC17747.
DEC Site Visit, 2007
SAC Biodatasets - 9th October 2007
Keighery 1994
GIS datsets:
- SAC Bio datasets 300507
- Jacup 1.4m Orthomosaic - DLI 03

(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

DEC records have identified two known Declared Rare Flora (DRF) species and nine Priority species within the local area (10km radius). These species are detailed below:

DRF:
Thelymitra psammophila
Stylidium galioides

Priority:
P2: Melaleuca ordinifolia
P3: Acacia brachyphylla
Daviesia uncinata
Dryandra xylothemelia
Desmocladus biformis
Eucalyptus depauperata
Leucopogon florulentus
Pultenaea adunca
P4: Caladenia plicata

The DRF species Stylidium galioides is restricted to summits of mountain peaks within Fitzgerald River National Park and therefore unlikely to occur within the notified area. Thelymitra psammophila is known to exist amongst low shrubs and sedges, in sandy clay soil that becomes saturated in winter months (Brown et al, 1998). Given the low lying poor drainage areas known to occur within the proposed clearing it is possible that this species may occur here, however soil types within the notified area are predominantly sandy and perhaps too saline to support this species.

Native vegetation within the proposed clearing area was identified during a site inspection (2007) as being rich in floristic diversity. Aerial photography overlaid with floristic data shows a pattern of clumping of significant flora in vegetated areas. Given the absence of large intact vegetation within the local area (10km radius) and greater region, it is likely that significant species of flora would be found within the proposed clearing area.

Given the above information clearing maybe at variance to this principle.

Methodology

Keighery 1994
Brown et al, 1998
DEC Site Visit, 2007
GIS datasets:
- SAC biodatsets 310507
- Pre-European Vegetation - DA 01/01
- Jacup 1.4m Orthomosaic - DLI 03
- Newdegate 1.2m Orthomosaic - DLI 01/98

(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

There are no known Threatened Ecological Communities (TEC's) within the local area (10km radius).

The closest known TEC is located approximately 28km to the north east of the proposed clearing area. This TEC ID is Herblands and Bunch grasslands and is found along gypsum lunette dunes near saline playa lakes. This community is unlikely to occur within the proposed area due to discrepancies in habitat requirements and distance separating the communities.

The proposed clearing is not likely to be at variance to this principle.

Methodology

GIS datasets:
- SAC biodatasets 310507

(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 area under application lies within the Mallee IBRA Bioregion and falls within the boundaries of the Intensive Landuse Zone (ILZ) this bioregion has been significantly cleared and retains only 19.5% of vegetation. Remaining vegetation figures are detailed below

IBRA Bioregion Mallee	Pre-European extent (ha)	Current extent(ha)	Remaining extent(%)	Current extent Cons Res%	Status**
Beard Veg Assoc 519:	2100363	1209507	57.6	18.4	Least Concern
Beard Veg Assoc 128:	47856	29893	62.5	35.1	Least Concern
Shire of Jerramungup	657594	287902	43.8		Depleted

** (Department of Natural Resources and Environment 2002)

The notified area falls within the mapped boundaries identified within EPA Position Statement No. 2 'Environmental Protection of Native Vegetation in Western Australia - Clearing of Native Vegetation, with particular reference to the agricultural area'. This Position Statement recommends that further clearing of native vegetation within the ILZ for agricultural purposes should not be supported.

As any vegetation identified in EPA Position Statement No.2 is considered to be significant this proposal is at variance to this principle.

Methodology

Shepherd et al 2001
Department of Natural Resources and Environment 2002
CAR analysis 2006
EPA 2000
GIS datsets:
- Pre-European Vegetation - DA 01/01
- EPA Position Paper No 2 Agriculture Region - DEP 12/00
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

(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 to be cleared lies within the mapped wetland of Cobomup Creek, which is classified as a South Coast significant wetland. The area is not currently displaying obvious wetland characteristics, however this does not preclude it from occurring in the future.

The Cobomup creek runs throughout the property and although the proposed clearing is not located within this area, there are numerous mapped non-perennial tributaries which extend into the proposed clearing areas.

Advice from DAFWA (2007) states that groundwater tables are known to be rising within this property and predict further rises in the watertable should the clearing proceed. This is likely to affect ecological communities that are wetland dependent.

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

Methodology

DAFWA, 2007
GIS databases:
- Hydrography, linear (hierarchy) - DOW
- South Coast Significant Wetlands - DOE 4/8/03
- Hydrography, linear (medium scale, 250k GA)

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

Comments

Proposal is seriously at variance to this Principle

The area under application is currently under a Soil Conservation Notice (SCN) issued by the Department of Agriculture and Food (DAFWA) in 2003.

At the time the SCN was issued DAFWA did a full assessment of the property and identified that there is potential for land degradation in the form of salinity. In 2007 a representative from DAFWA re-assessed the property and found that the same issues in regards to salinity applied to the notified area and had in fact progressed to a more degraded state.

DAFWA has found that the area consists of a deep weathered geological profile which results in a high rate of recharge to groundwater. There is therefore a high risk of clearing resulting in saline induced land degradation. DAFWA also advised that clearing may also impact land degradation through waterlogging on drainage flats and other poor draining low-lying areas.

Given the above factors it is likely that the clearing is seriously at variance to this principle.

Methodology DAFWA advice 2007 TRIM ref: DOC17747.
GIS databases:
- Groundwater Salinity, Statewide - DOW

(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

Within the local area (10km radius) there are two known conservation areas:
* Lake Magenta Nature Reserve, located 9.1km N
* Fitzgerald River National Park, located 10km S,

Aerial photography shows that the surrounding area is largely cleared for farming and agricultural purposes. The proposed clearing area offers a noticeable stepping stone between the two conservation areas, which may assist in maintaining genetic diversity of more mobile species of fanua.

Within EPA Bulletin 1262 it is stated that Lake Magenta is recognised as being wetland of subregional significance. In 2002 the then CALM began a recovery project to address salinity degradation at the headwaters of the Fitzgerald River Biosphere reserve, inlcuding Lake Magenta and surrounding farmland. Due to this it is recognised that increasing levels of salinity in surrounding farmlands may have deletorious affects on local conservation areas.

Methodology EPA Bulletin 1262, September 2007
SAC Biodatasets, 9th October 2007
Keighery 1994
GIS databases:
- Jacup 1.4m Orthomosaic - DLI 03
- CALM Managed Lands and Waters - CALM 1/07/05

(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 seriously at variance to this Principle

The subject landscape is a level to undulating dissected plateau with relatively low elevation and is dissected by many small tributaries of the upper catchments of the larger river systems that flow to the coast. Some parts of this system are severely salt affected due to the deeply weathered profiles which have a high rate of recharge, and from past land clearing and agricultural practices. The rate of groundwater rise is consequently high, although reduced rainfall in recent years has resulted the rate of rise to 15cm/yr. DAFWA (2007) advise that this rise is still a significant concern. Saline affected valley floors and stagnations in the hydrological system mean that waterlogging and salinity problems are prevalent (DAFWA 2007). Annual evaporation (1800mm/year) is significantly greater than rainfall (400mm/year) and groundwater salinity has been recorded as 7000 - 14 000 TDS mg/litre in the area under application. The latest water sample taken (13 Sep 07) within the lot under application gave a reading of 4530mS/m and soil samples returned a reading of highly saline.

A recent site visit found evidence of salinity present in the creekline within the proposed clearing area. DAFWA (2007) advised that an increase in salinity levels resulting from clearing was high. As salinity is already present in the creekline, this creekline has the ability, through on flows, to affect and degrade water quality of other local watercourses.

The proponent proposes to retain a 100m buffer of vegetation around the creekline which would assist in lessening the effects of sedimentation and erosion on the water quality.

Given that there is currently a definite saline presence within the proposed clearing area, additional clearing of 439.9ha of native vegetation is highly likely to increase groundwater levels and salt recharge resulting in a further reduction of water quality on site and within a local context (DAFWA 2007). Given this information, the proposal is seriously at variance to this Principle.

Methodology DAFWA advice 2007 TRIM ref: DOC17747.
DEC Site visit report, September 2007
GIS databases:
- Evaporation Isopleths - BOM 09/98
- Groundwater Salinity, Statewide - DOW
- Rainfall, Mean Annual - BOM 30/09/01
- Hydrography, linear - DOE 1/2/04

(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

Annual evaporation (1800mm/year) is significantly greater than rainfall (400mm/year) which may indicate that

little sheet surface flow or run off occurs on the property. The proposal to clear a large area (439.9ha) in an area with little remaining remnant vegetation (10 - 15% within a 10km radius), is likely to exacerbate the incidence of flooding in a largely cleared landscape where the soil profiles in the area have a high rate of recharge and the valley depressions are at risk of waterlogging. Given this information, the proposal maybe at variance to this Principle.

Methodology DAFWA advice 2007
GIS databases:
- Evaporation Isopleths - BOM 09/98
- Rainfall, Mean Annual - BOM 30/09/01

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

Comments

There was a Notice of Intent to Clear approx. 500ha submitted by proponents in 2003. A Soil Conservation Notice was issued in 2003 due to concerns about on and off-site salinity.

The EPA have assessed and provided a bulletin on a nearby property. EPA Bulletin 1262 (Sep 2007) refers to Kent Location 1664. This property is located approximately 28km to the north-east of the proposed clearing. In Bulletin 1262 the EPA holds the view that the proposal (clearing for agriculture) should not be implemented as it could not meet the EPA objectives in relation to biodiversity conservation and potential land degradation.

The area proposed to be cleared falls within the boundaries identified under EPA Position Statement No.2 'Environmental Protection of native vegetation in Western Australia - Clearing of native vegetation, with particular reference to the agricultural area'. This position statement advises that any further reduction in native vegetation through clearing for agricultural purposes cannot be supported.

As the proponent is proposing to replace the deep-rooted vegetation currently on site with shallow rooted annual crops and pastures, the likelihood of increased groundwater levels and subsequent salinisation is high.

The majority of the area under application is located within a Soil Conservation Notice under section 30B of the Soil and Land Conservation Act 1945. Under section 51D(3) of the Environmental Protection Act, 1986 a clearing permit can not be issued in contravention of a Soil Conservation Notice.

Methodology DAFWA advice 2007 TRIM ref: DOC17747
EPA Bulletin 1262, September 2007

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Miscellaneous	Burning	439.9	This assessment has demonstrated that the proposed clearing of 439.9ha of native vegetation on Kent location 1579 is seriously at variance with Principles (g) and (i); at variance with Principles (a),(b),(e) and (f); may be at variance with Principles (c), (h) and (j); and is not likely to be at variance to principle (d).
Miscellaneous	Burning	439.9	Agriculture
Miscellaneous	Burning	439.9	Agriculture
Miscellaneous	Burning	439.9	Agriculture
Miscellaneous	Burning	439.9	Agriculture
Miscellaneous	Burning	439.9	Agriculture
Miscellaneous	Burning	439.9	Agriculture
Miscellaneous	Burning	439.9	Agriculture
Miscellaneous	Burning	439.9	Agriculture
Miscellaneous	Burning	439.9	Agriculture
Miscellaneous	Burning	530	Agriculture
Miscellaneous	Burning	530	Agriculture

5. References

Brown, A, Thomson-Dans, C, Marchant, N, 1998, Western Australia's Threatened Flora, Department of Conservation and Land Management.

DAFWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM ref DOC17747.

DEC Site Visit, 13 September 2007, TRIM ref. DOC36575

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.

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.

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

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.

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)