GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3487/1
Permit Holder:	Shire of Kondinin
Duration of Permit:	7 March 2010 – 7 March 2015

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of gravel extraction.

2. **Land on which clearing is to be done**
   unallocated Crown land, (FORRESTANIA 6359 – PIN642818)
   unallocated Crown land, Leake Location 122 (FORRESTANIA 6359 – PIN642831)

3. **Area of Clearing**
   The Permit Holder must not clear more than 31 hectares of native vegetation within the area cross hatched yellow on attached Plan 3487/1.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. **Type of clearing authorised**
   This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the *Local Government Act 1995* or any other written law.

6. **Compliance with Assessment Sequence and Management Procedures**
   Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. **Avoid, minimise etc clearing**
   In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:
   (a) avoid the clearing of native vegetation;
   (b) minimise the amount of native vegetation to be cleared; and
   (c) reduce the impact of clearing on any environmental value.

8. Fauna management

(a) Prior to undertaking any clearing authorised under this Permit, the area(s) shall be inspected by a *fauna specialist* for the presence of *Leipoa ocellata* (Malleefowl) mounds.

(b) Where *Leipoa ocellata* (Malleefowl) mounds are identified in relation to condition 8(a) of this Permit, the Permit Holder shall ensure that no clearing occurs within 50 metres of the identified *Leipoa ocellata* (Malleefowl) mounds, unless approved by the CEO.

9. Retain vegetative material and topsoil, ripping, revegetation and rehabilitation

(a) The Permit Holder shall retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that is already cleared.

(b) Prior to undertaking works pursuant to conditions 9(c), the Permit Holder shall rip the pit floor and contour batters within the extraction site.

(c) Within 12 months following completion of extraction operations, the Permit Holder must *revegetate* and *rehabilitate* the area cross-hatched yellow on attached Plan 3487/1 by:
  (i) deliberately laying the vegetative material and topsoil retained under condition 9(a) on the cleared area;
  (ii) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area; and
  (iii) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.

(d) Within twelve months of undertaking *revegetation* and *rehabilitation* in accordance with condition 9(c) of this Permit, the Permit Holder must:
  (i) determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
  (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 9(d)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the Permit Holder must undertake additional *planting* or *direct seeding* of native vegetation in accordance with the requirements of condition 9(c)(ii) and (iii) of this Permit.

PART III - RECORD KEEPING AND REPORTING

10. Records must be kept

(a) In relation to the clearing of native vegetation authorised under this Permit:
  (i) the species composition, structure and density of the cleared area;
  (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  (iii) the date that the area was cleared; and
  (iv) the size of the area cleared (in hectares).

(b) In relation to fauna management pursuant to condition 8 of this Permit, the location of each *Leipoa ocellata* (Malleefowl) mound recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings

(c) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 9 of this Permit:
   (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
   (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
   (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
   (iv) the species composition, structure and density of *revegetation* and *rehabilitation*.

11. Reporting

(a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 10 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.

(b) Prior to 4 December 2014, the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

fill means material used to increase the ground level, or fill a hollow;

local provenance means native vegetation seeds and propagating material from natural sources within 50 kilometres of the area cleared.

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

regenerate/ed/ion means *revegetation* that can be established from in situ seed banks contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

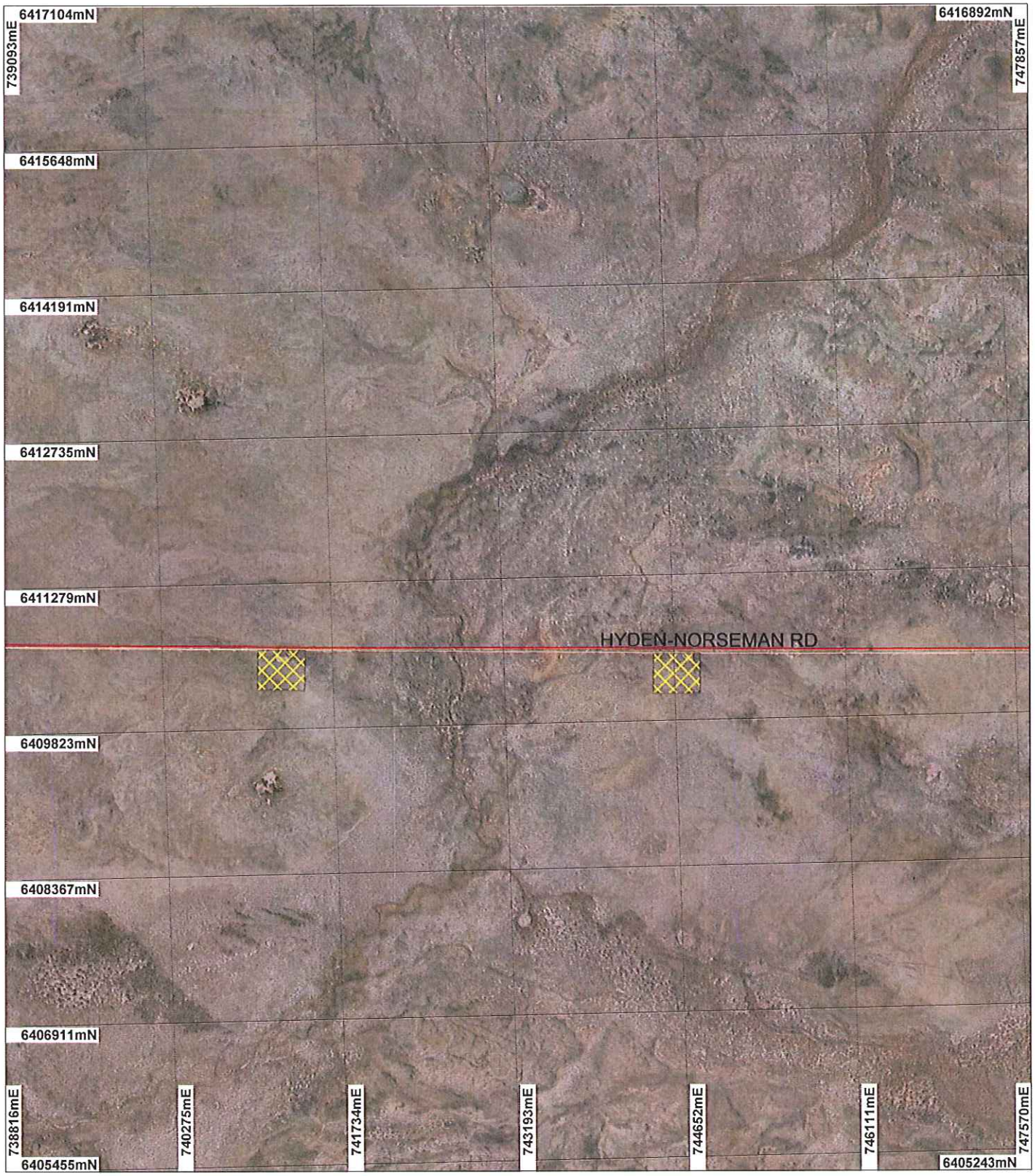
weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

Keith Claymore
A/ ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

Officer delegated under Section 20
of the Environmental Protection Act 1986

4 February 2010

Plan 3487/1



LEGEND

Clearing Instruments

- Areas Approved to Clear
- Road Centrelines

Cadastre for labelling

Holland 50cm Orthomosaic - Landgate 2004

N

0 ~1.5 km

Scale 1:51413

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

K Claymore Date 4/2/10

K Claymore

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Department of Environment and Conservation

Our environment, our future

Department of
Environment and Conservation
Our environment, our future

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3487/1
Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: UNALLOCATED CROWN LAND (FORRESTANIA 6359)
LEAKE LOCATION 122 (FORRESTANIA 6359)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
31		Mechanical Removal	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
Beard vegetation Associations: 511 - Medium woodland; salmon gum & morrel 2048 - Shrublands; scrub-heath in the Mallee Region	The application is for the construction of two gravel pits, requiring the clearing of 31 ha of native vegetation. The vegetation under application is classified as being in good (Keighery, 1994) condition, consisting of predominately a low heath of shrubs and herbs under one metre in height (EnviroWorks, 2009). No weed species were identified during a vegetation survey (EnviroWorks, 2009).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The vegetation description was assessed through vegetation surveys (EnviroWorks, 2009) and a DEC conducted site visit (DEC, 2010).

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 may be at variance to this Principle

The application is for the construction of two gravel pits, requiring the clearing of 31 ha of native vegetation. The vegetation under application is classified as being in good (Keighery, 1994) condition, have high biodiversity (103 native species recorded during vegetation survey), and consisting of predominately a low heath of shrubs and herbs under one metre in height (EnviroWorks, 2009). No weed species were identified during a vegetation survey (EnviroWorks, 2009).

Beard vegetation association mapping 511 and 2048 fall within the application area. Both associations have more than 30% vegetation remaining within the Mallee Bioregion (Shepherd, 2007). Onsite analysis of the vegetation noted that beard vegetation association 511 did not appear to be present within the application area (DEC, 2010).

Within the local area (20km radius) there is approximately 75% native vegetation remaining in similar condition to the application area, however as there has been a lack of flora and fauna surveys within the local area (DEC, 2010) the condition of the surrounding vegetation in comparison to the application area is hard to ascertain.

Both gravel pits are just inside the buffer of a Priority 3 Ecological Community known as Ironcaps Hills Vegetation Complexes (DEC, 2010). Mining is listed as the main threat to this PEC (DEC, 2010). The vegetation on site does not comprise the landforms or vegetation associated with this PEC, and given the

distance to the PEC (10kms) unlikely to impact on its values.

Given the level of biodiversity within the application, and with limited vegetation survey compiled for the surrounding area the proposed clearing may be at variance to this principle.

Methodology

References:
DEC (2010)
EnviroWorks (2009)
Keighery (1994)
Shepherd (2007)
GIS Database:
- Hyden OConnor 1.4m Orthomosaic - Landgate 1999
- Holland 50cm Orthomosaic - Landgate 2004
- Hurlstone 50cm Orthomosaic - Landgate 2004
- CALM Managed Lands and Waters - CALM 01/06/05
- SAC Biodatasets - accessed 6 Jan10
- Pre European Vegetation - DA 01/01
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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

There are 11 known records of fauna of conservation significance within the local area (20km radius) of the application area. The closest record is approximately 7kms from the proposed clearing area. The local area (20km radius) is highly vegetated and is in a similar or better condition as the vegetation under application.

The low woodland and tall heath vegetation within the application area provides shelter and nesting locations for some fauna species, while all the vegetation under application contains food resources (EnviroWorks, 2009). The lack of large trees means the area does not contain habitat for large arboreal species (EnviroWorks, 2009).

No fauna species of conservation significance were observed during site visits (EnviroWorks, 2009; DEC, 2010). However, thorough fauna surveys were not undertaken.

Leipoa ocellata (Malleefowl - Vu) mounds may be located within the application area given the very good (Keighery, 1994) condition of the vegetation and the type of vegetation within the applied area.

A targeted fauna survey should be undertaken to ascertain the likelihood of Malleefowl utilising the application area as a condition of the permit (DEC, 2010).

The proposal as stated is not likely to be at variance to this principle.

Methodology

References:
EnviroWorks (2009)
DEC (2010)
Keighery (1994)
GIS Database:
- CALM Managed Lands and Waters - CALM 01/06/05
- SAC Biodatasets - accessed 6 Jan 10

(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

There is a high number of known records of rare and priority flora within the local area (20km radius).

Onsite flora surveys were undertaken in Autumn and Spring 2009. No rare or priority flora species were observed within the application area (EnviroWorks, 2009).

Given the above, it is unlikely that the proposed clearing is at variance to this principle.

Methodology

Reference:
EnviroWorks (2009)
GIS Database:
- SAC Biodatasets - accessed 6 Jan 10

(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 records of Threatened Ecological Communities within the local area (20km radius) of the application area. Given this, it is unlikely that the proposal is at variance to this principle.

Methodology

GIS Database:
- Sac Biodatasets 6 Jan 2010

(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 likely to be at variance to this Principle

	Pre-European (ha)	Current extent (ha)	Remaining (%)	% In reserves DEC Managed Land
IBRA Bioregions				
Mallee	7,395,898	4,040,547	54.63	N/A
Shire				
Kondinin	741,927	374,478	50.47	N/A
Beard Vegetation Association with Bioregion*				
2048	313,728	149,978	47.81	15.77
511	139,594	46,825	33.54	19.33

(Shepherd et al. 2007)

The application area falls within beard vegetation associations 511 and 2048 with 47.81% and 33.54% vegetation remaining within the Mallee bioregion (Shepherd et al., 2007). The Shire of Kondinin and Mallee Bioregion have 50.47% and 54.63% (Shepherd, 2007) vegetation remaining respectively. Onsite analysis of the vegetation noted that beard vegetation association 511 did not appear to be present within the application area (DEC, 2010).

The vegetation under application is considered to be in very good (Keighery, 1994) condition. Within the local area (20km radius) there is approximately 75% native vegetation remaining which appears through aerial imagery to be in similar condition to the application area.

Given the high amount of vegetation remaining within the local area the proposed clearing is not likely to be significant as a remnant in a highly cleared landscape.

Methodology

References:
DEC (2010)
EPA (2000)
Keighery (1994)
Shepherd et al. (2007)
GIS Database:
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI 8/07/04
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 6 Jan 10
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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

There is one major tributary approximately 1.2km west and 1.6km east of the application areas. Given the distance from the applied area and the watercourse, it is unlikely that the clearing as proposed is at variance to this principle.

Methodology

GIS Database:
- ANCA wetlands - Environment Australia 26/3/99
- CALM Managed Lands and Waters - CALM 01/06/05
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
- Hydrography linear - DOW 13/7/06
- 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 is not likely to be at variance to this Principle

Rainfall is approximately 400mm annually, elevation is 360m AHD across the entire applied area and the soils are described as gently sloping to gently undulating plateau areas or uplands with long and very gentle slopes. Chief soils are sandy yellow earths containing some ironstone (Northcote et al. 1960 - 1968). Given the soil characteristics, low rainfall and small relief, it is considered unlikely that the proposed clearing will cause appreciable land degradation.

Methodology

Reference:
Northcote et al. (1960-68)
GIS Database:
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrogeology, statewide - DOW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrography, linear - DOW 13/7/06
- Mean Annual Rainfall (30-09-2001)
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide DA 11/99
- Topographic contours statewide - DOLA and ARMY 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 is not likely to be at variance to this Principle

There is one conservation reserve within a 20km radius of the application area. Lake Cronin Nature Reserve (A Class) is located 12.4km east of the application area. Given the distance between the application area and the conservation reserve, the proposal is unlikely to be at variance to this principle.

Methodology

GIS Database:
- CALM Managed Lands and Waters - CALM 01/06/05
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001
- System 1 to 5 and 7 to 12 areas - DEC 11/7/06

(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 application area is situated within the Swan Avon-Lockhart Catchment, where groundwater salinity is recorded as being 14000 - 35000 mg/L. The proposed clearing of 31 hectares of vegetation is unlikely to cause deterioration in the quality of groundwater, given that the local area is well vegetated (approximately 75% remaining) and groundwater is already highly saline. There is one major tributary 1.2km west and 1.6km east of the application area. Land monitor data indicates that the area proposed for clearing has a low risk of salinity (DEC, 2010). Given the distance from the application area to the watercourses it is unlikely that the proposal will impact on the quality of surface water.

The proposed clearing as stated, is unlikely to be at variance to this principle.

Methodology

References:
DEC (2010)
GIS DataBases:
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06

(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

The rainfall for the area is 400mm with an evapotranspiration rate of 400mm. Soils are described as gently sloping to gently undulating plateau areas or uplands with long and very gentle slopes. Chief soils are sandy yellow earths containing some ironstone (Northcote et al. 1960 - 1968). Given the soil characteristics, low rainfall and small relief, although the application area is high in the landscape, it is considered unlikely that the proposed clearing will increase peak flood height or duration in flood height.

Methodology

Reference:
Northcote et al (1960-1968)
GIS Database:

- Evaporation Isopleths - WRC 29/09/98
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrographic catchments, subcatchments - DoW 01/06/07
- Hydrography, linear - DoW 13/7/06
- 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

A submission was received from the South West Aboriginal Land and Sea Council (SWALSC) noting 4 registered sites within the applied area. Under the Aboriginal Heritage Act all sites are protected and it is illegal to disturb or destroy a site. The Ballardong Working Party (BWP) are meeting 24 February 2010, to discuss the application to clear and request a Heritage survey be completed, if not already.

The application area does not fall within the Town Planning Scheme Zone.

Under the Local Government Act, local government authorities have the authority to enter land to extract gravel (Schedule 3.2 of Local Government Act).

Methodology

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 assessment recommendation is that the proposed clearing is may be at variance to Principle (a) and is not likely to be at variance to the remaining clearing Principles.

5. References

DEC (2010) Site Inspection Report for Clearing Permit Application CPS 3487/1, Unallocated Crown Land, Hyden. Site inspection undertaken 12/01/2010. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC117783).

EnviroWorks (2009). EnviroWorks Consulting. Flora and Vegetation Survey, Proposed Gravel Pits, Hyden-Norseman Road, Shire of Kondinin. 30 November 2009.

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.

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

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

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.

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 (now DEC)
DMP	Department of Mines and Petroleum (ex DoIR)
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)