



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4908/1
Permit Holder:	Shire of Kondinin
Duration of Permit:	21 December 2012 – 21 December 2022

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

LOT 331 ON DEPOSITED PLAN 191193 (FORRESTANIA 6359)
LOT 303 ON DEPOSITED PLAN 70760 (FORRESTANIA 6359)

3. Area of Clearing

The Permit Holder must not clear more than 3.67 hectares of native vegetation within the area hatched yellow on attached Plan 4908/1.

5. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 21 December 2017.

6. 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.

7. 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 right to access land under the *Land Administration Act 1997*, *Local Government Act 1995* or any other written law.

8. 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

9. 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.

10. Weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

11. Flora management

Where *priority flora* have been identified and their written location(s) provided to the CEO, the Permit Holder shall ensure that:

- (a) no clearing of identified *priority flora* occurs; and
- (b) no clearing occurs within 20 metres of identified *priority flora*, unless first approved by the CEO.

12. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) within 3 months following the completion of extractive activities, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) ripping the pit floor and contour batters within the extraction site; and
 - (iv) laying the vegetative material and topsoil retained under condition 12(a) on the cleared area(s) that are no longer required for the purpose for which they were cleared under this Permit; and
- (c) within 24 months of undertaking *revegetation* and *rehabilitation* in accordance with condition 12(b) of this Permit:
 - (i) engage an *environmental specialist* to 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 12(c)(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 12(b)(v) and (vi) of this Permit.
- (d) where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 12(c)(ii) of this permit, the Permit Holder shall repeat condition 12(c)(i) and 12(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (e) where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 12(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 12(c)(ii),

the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 12(c)(ii).

PART III - RECORD KEEPING AND REPORTING

13. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (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 the *revegetation* and *rehabilitation* of areas pursuant to condition 12 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 or decimal degrees;
 - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares);
 - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*, and
 - (v) a copy of the environmental specialist's report.

14. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 13 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 July and 30 June of the preceding year.
- (b) Prior to 21 September 2022, the Permit Holder must provide to the CEO a written report of records required under condition 13 of this Permit where these records have not already been provided under condition 14(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;

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;

priority flora means those plant taxa described as priority flora classes 1, 2, 3 or 4 in the *Department's Declared Rare and Priority Flora List for Western Australia* (as amended);

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) 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 natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area; and

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*.



M Warnock
A/MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

29 November 2012

Plan 4908/1



LEGEND

-  Road Centrelines
-  Cadastre
-  Clearing Instruments
-  Areas Approved to Clear
-  Local Government Authorities
-  Holland 2833 Mar 2011 Mosaic



Scale 1:3000
(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.

Date

M. Warnock
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 acknowledged by the agency acronym in the legend.



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1. Application details

1.1. Permit application details

Permit application No.: 4908/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Kondinin

1.3. Property details

Property: LOT 331 ON PLAN 191193 (FORRESTANIA 6359)
LOT 303 ON PLAN 70760 (FORRESTANIA 6359)

Local Government Area: Shire of Kondinin

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.67		Mechanical Removal	Extractive Industry

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 29 November 2012

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
<p>Beard Vegetation Association: 511 - Medium woodland; salmon gum and morrel (Shepherd et al, 2001).</p> <p>A flora and vegetation survey of the application area was conducted by EnviroWorks Consulting in October 2011. Two vegetation communities, that are reported to be broadly representative of the mapped Beard association, were described during the survey:</p> <p>1) Mixed species Mallee/Thicket (to 4 metres tall) of Eucalyptus aspratilis, E. calycogona, and E. celastroides subsp. celastroides</p> <p>2) Low mixed species scrub of Melaleuca uncinata, Allocasuarina acutivalvis, Hakea cygna and Callitris canescens. (EnviroWorks Consulting, 2012).</p> <p>Community 2 is mapped over approximately 0.4 hectares of the application area, along the northern edge of the existing gravel pit. The remainder of the application area is mapped as Community 1 (EnviroWorks Consulting, 2012).</p>	<p>The Shire of Kondinin has applied to clear 3.67 hectares of native vegetation from Lot 311 on Deposited Plan 191193 (Crown Reserve 42903) and unallocated Crown land (Leake Location 63 and Leake Location 62), Forrestania for the purpose of gravel extraction for shire works.</p> <p>The application area is to the north of an approximately 4 hectare area that is cleared for an existing gravel pit and access track.</p> <p>A level 1 flora and vegetation survey that included the application area reported weeds to be uncommon and generally associated with disturbance (EnviroWorks Consulting, 2012). All weeds present were identified as short lived herbs and were mostly confined to the disturbed edges of the existing gravel pit (EnviroWorks Consulting, 2012).</p> <p>The vegetation under application is reported to be in excellent to very good (Keighery, 1994) condition (EnviroWorks Consulting, 2012). The main disturbances are associated with the existing gravel pit and weed invasion (EnviroWorks Consulting, 2012).</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)</p> <p>To</p> <p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>The vegetation condition and description was determined by aerial imagery and a flora and vegetation survey conducted in October 2011 (EnviroWorks Consulting, 2012).</p>

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 to clear 3.67 hectares of native vegetation for the expansion of an existing gravel pit. The application area is located 2.9 kilometres east of the Marvel Lock-Forrestiana Road intersection on the Hyden-Norseman Road.

The application area is to the north of an approximately 4 hectare area that is cleared for an existing gravel pit and access track. The 3.67 hectares of vegetation under application is in excellent to very good (Keighery, 1994) condition (EnviroWorks Consulting, 2012) and appears to be in similar condition as the surrounding native vegetation.

The applicant has twice reduced and modified the application area during assessment from the original application to clear 8.5 hectares, in order to reduce impacts to priority flora.

The application area is located within a recognised high conservation value portion of the largely intact eastern wheatbelt region, which is part of one of the most botanically rich provinces in Australia (DSEWPC, 2012). It is within the Coolgardie IBRA bioregion, which is part of the 16 million hectare Great Western Woodland area, and the 31,400 hectare Lake Cronin Area which is recognised for its high level of flora and fauna diversity and endemism (DSEWPC, 2012). The vegetation under application is within a proposed Class C Nature Reserve and is located approximately 500 metres southeast of the 1100 hectare Class A Lake Cronin Nature Reserve, which contains Lake Cronin.

There are records of 62 species of flora of conservation significance, including three declared rare flora, in the local area (20 kilometre radius). A level 1 flora survey conducted in October 2011 over the 12.27 hectare original application footprint area that included the application area recorded 86 native and 7 non-native flora species from 44 genera and 24 families (EnviroWorks Consulting, 2012). Three priority flora species were identified within the surveyed area (EnviroWorks Consulting, 2012).

There are records of a poorly known priority 1 flora species approximately 180 metres and 270 metres south of the application area, at the edge of the access track to the existing gravel pit. This is the only confirmed location of this species. The level 1 flora survey that included the application area recorded this species at seventeen locations (EnviroWorks Consulting, 2012), with sixteen locations within the original application footprint. The population was estimated at approximately 100 plants that were found to be associated with gravel pit disturbance and along the entrance track (EnviroWorks Consulting, 2012). The level 1 flora survey did not include vegetation in the surrounding area.

The Department of Environment and Conservation (DEC) wrote to the applicant on 3 May 2012 and 11 October 2012 requesting additional survey information to determine the context and significance of the priority 1 flora species occurrence within the application area and the impact of the proposed clearing on the conservation status of this species. Further survey work was not conducted however the applicant has modified and reduced the application area to avoid known locations of priority flora.

Aerial imagery indicates the priority one flora species appears to be restricted to one specific vegetation type, which coincides with EnviroWorks Consulting's (2012) mapping of Community 2: Low mixed species scrub of *Melaleuca uncinata*, *Allocasuarina acutivalvis*, *Hakea cygna* and *Callitris canescens*. This vegetation type occurs around the edges of the existing gravel pit, and appears to have been largely mined out in this area. This vegetation type also extends in a confined area to the southeast, which is outside of the application area.

The proposed clearing area is predominantly mapped as Community 1: Mixed species Low Scrub; Mixed species Mallee/Thicket; gravel pit (EnviroWorks, 2012) and is unlikely to significantly impact the available presumed habitat for the priority 1 flora species.

A priority three flora species was recorded from one location at the western edge of the original application area, with the population reported to contain less than 20 plants (EnviroWorks Consulting, 2012). The closest mapped record of this species is approximately 4.4 kilometres northwest of the application area, on the same mapped vegetation type, but different soil type of the application area. The application area has been modified to avoid impacts to this species.

A priority four flora species was recorded at two locations within the original application area, with an estimated population of 100 plants (EnviroWorks Consulting, 2012). The only record of this species within the local area is approximately 5.1 kilometres east-northeast of the application area, on a different mapped soil type to the application area. The application area has been modified to avoid impacts to this species.

Seven introduced flora species were recorded within the application area during the flora survey. These were all identified as short lived herbs and were mostly confined to the disturbed edges of the gravel pit (EnviroWorks Consulting, 2012). Removal of native vegetation and soil disturbance associated with clearing increases the risk of weeds being spread or introduced into new areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by appropriate weed management practices.

The application area is located within the mapped boundary of the priority (P3) ecological community (PEC) 'Ironcap Hills Vegetation Complexes'. This PEC includes vegetation on Mt Holland, Middle Ironcap Hill, Northern Ironcap Hill, Southern Ironcap Hill, Digger Rock and Hatter Hill. Considering the species composition of the application area (EnviroWorks Consulting, 2012) and the soil description in the area proposed to be cleared, the vegetation under application is not considered to be representative of this PEC.

A fauna habitat survey of the application area indicated that habitat for fauna of conservation significance was not present within the application area (EnviroWorks Consulting, 2012).

Considering the above, the vegetation under application may support high biodiversity and the proposed clearing of 3.67 hectares may be at variance to this principle.

The applicant has committed to rehabilitation of the existing gravel pit within the next two years and is willing to commit to including the planting of the priority 1 flora species within the rehabilitation of the gravel pit (Shire of Kondinin, 2012).

Methodology

References:

References:

DSEWPC, 2012

EnviroWorks, 2012

Keighery, 1994

Shire of Kondinin, 2012

Western Australian Herbarium, 1998-

GIS Databases:

- DEC Managed Lands & Waters - DEC 10/09

- Holland 2833 Mar 2011 Mosaic - Landgate 2011

- Hydrography, linear - DoW 07/06

- Pre-European vegetation - DA 01/01

- SAC Biodatasets - 03/12

- Soils, Statewide - 11/99

(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

The application area supports mixed mallee/thicket and low mixed scrub vegetation in excellent to very good (Keighery, 1994) condition (EnviroWorks Consulting, 2012).

The local area (20 kilometre radius) is well vegetated, with approximately 95 per cent vegetation remaining. Aerial imagery indicates there to be numerous areas of disturbance in the form of minor roads and mineral exploration throughout the local area.

The application area is within the 31,400 hectare Lake Cronin Area which is recognised for its high level of flora and fauna diversity and endemism (DSEWPC, 2012). As an area of over 31,000 hectares, the Lake Cronin Area is substantially larger than the average reserve area in the wheatbelt (114 hectares) and is significant in maintaining existing processes at a regional scale, as well as being a potentially important refuge for many species, including invertebrates and smaller vertebrates (DSEWPC, 2012).

The Lake Cronin Area falls in an area in the north-east of the wheatbelt region that is rich in endemic species at a national scale (DSEWPC, 2012). For example, 16 fauna species that are endemic either to the south-west region or to Western Australia occur here (DSEWPC, 2012).

There are records of 11 fauna of conservation significance within the local area (20 kilometre radius), including the following four threatened species:

-Calyptorhynchus latirostris (Carnaby's cockatoo): Rare or Likely to Become Extinct, Wildlife Conservation Act 1950 (WC Act) and Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

-Leipoa ocellata (malleefowl): Rare or Likely to Become Extinct, WC Act and EPBC Act

-Dasyurus geoffroyi (chuditch): Rare or Likely to Become Extinct, WC Act and EPBC Act

-Platycercus icterotis xanthogenys (western rosella): Rare or Likely to Become Extinct, WC Act

A thorough fauna search has not been conducted over the application area, however a level 1 fauna habitat assessment of the application area reported that the vegetation under application provides limited shelter and nesting locations and food resources (flowers, fruit, leaves) for terrestrial, arboreal and aerial species (EnviroWorks Consulting, 2012). It also reported that due to the lack of large trees, the area does not contain habitat for large arboreal or aerial species and that there is no breeding habitat for significant bird species (such as tree hollows) (EnviroWorks Consulting, 2012).

Considering the amount of vegetation remaining in the local area, the proposed clearing of 3.67 hectares of native vegetation is not likely to be at variance to this principle.

Methodology References:
DSEWPC, 2012
EnviroWorks Consulting, 2012
Keighery, 1994
GIS Databases:
- Holland 2833 Mar 2011 Mosaic - Landgate 2011
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 03/12

(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 are records of three declared rare flora species within the local area (20 kilometre radius).

Considering the habitat requirements for these species (Western Australian Herbarium, 1998-), the application area may support suitable habitat. However, a level one flora survey conducted in October 2011 to assess the vegetation under application for flora of conservation significance did not record any rare flora within the application area (EnviroWorks Consulting, 2012).

Given the above, the vegetation under application is considered unlikely to support, or be necessary for the maintenance of, rare flora. Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology References:
EnviroWorks Consulting, 2012
Western Australian Herbarium, 1998-
GIS Databases:
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 03/12
- Soils, Statewide - 11/99

(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 records of threatened ecological communities (TEC) within the application area or within the local area (20 kilometre radius).

No TECs were identified during a level 1 flora survey conducted over the application area (EnviroWorks Consulting, 2012).

Considering the above, the proposed clearing is not likely to be at variance to this principle.

Methodology References:
EnviroWorks Consulting, 2012
GIS Databases:
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 03/12
- Soils, Statewide - 11/99

(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**

The vegetation under application is part of the Lake Cronin Area which is recognised for its high level of flora and fauna diversity and endemism (DSEWPC, 2012). It is in a recognised high conservation value portion of the largely intact eastern wheatbelt region, which is part of one of the most botanically rich provinces in Australia (DSEWPC, 2012).

As an area of over 31,000 hectares, the Lake Cronin Area is a significant area in maintaining existing processes at a regional scale. It is substantially larger than the average reserve area in the wheatbelt of 114 hectares and therefore is a potentially important refuge for many species, including invertebrates and smaller vertebrates (DSEWPC, 2012).

The application area is in close proximity to occurrences of three priority flora species (Enviroworks, 2012), including a poorly known priority 1 species.

The local area (20 kilometre radius) is approximately 95 per cent vegetated and the application area has been mapped as Beard vegetation association 511, which retains approximately 94 per cent (435,794 hectares) of the

pre-European extent in the Coolgardie IBRA bioregion (Shepherd, 2009).

While the vegetation under application may support habitat for flora of conservation significance, it is not considered to be within an extensively cleared landscape and therefore the proposed clearing is not likely to be at variance to this principle.

	Pre-European (ha)	Current Extent Remaining (ha)	(%)	Extent in DEC Managed Lands (%)
IBRA Bioregion* Coolgardie	12,912,204	12,707,873	98	16 (2,004,534ha)
Shire* Shire of Kondinin	741,930	389,733	53	6 (23,948ha)
Beard Vegetation Association in Bioregion* 511	464,424	435,794	94	19 (84,231ha)

* Government of Western Australia, 2011

Methodology References:
DSEWPC, 2012
EnviroWorks Consulting, 2012
Government of Western Australia, 2011
GIS Databases:
- Holland 2833 Mar 2011 Mosaic - Landgate 2011
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 03/12

(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 at variance to this Principle**
There are numerous small seasonal water bodies in the local area (20 kilometre radius), however none are within 1 kilometre of the application area.

Lake Cronin is located approximately 2.3 kilometres northwest of the application area, within the Lake Cronin Nature Reserve.

A vegetation survey of the application area did not identify any vegetation growing in, or in association with, a watercourse or wetland (EnviroWorks Consulting, 2012).

Give the above, the proposed clearing is not at variance to this principle.

Methodology References:
EnviroWorks Consulting, 2012
GIS Databases:
- DEC Managed Lands & Waters - DEC 10/09
- Hydrography, linear - DoW 07/06

(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**
The soils in the application area are mapped as plains with some clay pans and small salt lakes, dunes, and lunettes: chief soils are brown and grey-brown calcareous earths (Northcote et al., 1960 - 1968).

A flora and fauna survey over the application area described the soils as gravelly lateritic loams and clays, in a landscape of flats and gentle slopes (EnviroWorks Consulting, 2012).

Considering the above and the relatively small amount of clearing proposed (3.67 hectares), it is unlikely to result in appreciable land degradation and is not likely to be at variance to this principle.

Methodology References:
EnviroWorks Consulting, 2012
Northcote et al., 1960 -1968
GIS Databases:
- Soils, Statewide - 11/99

(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

The application area is within a proposed Class C DEC-managed Nature Reserve and is approximately 500 metres southeast of the Class A Lake Cronin Nature Reserve.

The relatively small amount of clearing proposed (3.67 hectares) is unlikely to impact upon the environmental values of conservation areas and the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:

- DEC Managed Lands & Waters - DEC 10/09
- Holland 2833 Mar 2011 Mosaic - Landgate 2011

(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 not located within a Public Drinking Water Source Area.

The groundwater salinity within the application area is approximately 14,000 - 35,000 milligrams/Litre Total Dissolved Solids. This is considered to be hyper saline. Considering the size of the area to be cleared (3.67 hectares) and that there is approximately 95 per cent native vegetation remaining in the local area (20 kilometre radius), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

The application area is located within a semi arid, warm Mediterranean environment with an average annual rainfall of 400 millimetres. The relatively small size of the proposed clearing area in this climate is unlikely to result in significant changes to surface water flows.

Given the above, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:

- Groundwater Salinity, Statewide
- Holland 2833 Mar 2011 Mosaic - Landgate 2011
- Public Drinking Water Source Areas - DoW 08/11
- Rainfall, Area Actual

(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 application area experiences a semi arid, warm Mediterranean climate with an average annual rainfall of 400 millimetres.

The soils in the application area are mapped as plains with some clay pans and small salt lakes, dunes, and lunettes: chief soils are brown and grey-brown calcareous earths (Northcote et al., 1960 - 1968).

A flora and fauna survey over the application area described the soils as gravelly lateritic loams and clays, in a landscape of flats and gentle slopes (EnviroWorks Consulting, 2012).

Considering the above and the relatively small area to be cleared (3.67 hectares) in relation to the amount of vegetation remaining in the surrounding area, the proposed clearing is not likely to increase the potential for flooding and is not likely to be at variance to this principle.

Methodology References:

- EnviroWorks Consulting, 2012
 - Northcote et al., 1960 - 1968
- GIS Databases:**
- Soils, Statewide - 11/99
 - Mean Rainfall, Area

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

Comments

The application area is located on Lot 331 on Deposited Plan 191193 (Crown Reserve 42903), which is reserved to the Shire of Kondinin for the purpose of gravel, and unallocated Crown land (UCL) Lot 303 on Deposited Plan 70760 (previously Leake Location 62 and 63). The Department of Regional Development and Lands has provided support for the proposed clearing and gravel extraction on UCL by endorsing the application form.

The application area is within the Ballardong People's registered native title claim area. Notification of this clearing permit application was made by letter to the Ballardong People and their representatives, the South West Aboriginal Land and Sea Council (SWALSC). The SWALSC (2012) advised that the matter went before the Ballardong Working Party meeting and the resolution was for monitors to be present when the vegetation is cleared and for a description of the vegetation to be provided.

There are no registered Aboriginal Sites of Significance within the application area

The application area is within the Kondinin-Ravensthorpe Groundwater Area proclaimed under the Rights in Water and Irrigation Act 1914. It is the proponent's responsibility to liaise with the Department of Water to determine whether approvals are required for the proposed works.

One public submission was made in objection to the application, on the basis that Kondinin is a very floristic area with excellent spring wildflowers, with 1450 native species, including 9 Threatened and a further 121 Priority species (Submission, 2012). The assessment against Principles (a) and (c) addresses impacts to threatened and priority flora.

Methodology

References:

Submission, 2012

SWALSC, 2012

GIS Databases:

- Aboriginal Sites of Significance - DIA 02/12

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5. 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)