GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3603/2
Permit Holder:	Karara Mining Limited
Duration of Permit:	20 June 2010 – 20 June 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 railway construction.

2. **Land on which clearing is to be done**
   Lot 7824 on Plan 150886 (KOOLANOOKA 6623)
   Lot 7803 on Plan 150619 (KOOLANOOKA 6623)
   Lot 7823 on Plan 150618 (KOOLANOOKA 6623)
   Lot 9460 on Plan 154983 (KOOLANOOKA 6623)
   Lot 7811 on Plan 150617 (KOOLANOOKA 6623)
   Lot 9401 on Plan 152169 (KOOLANOOKA 6623)
   Lot 8429 on Plan 152169 (KOOLANOOKA 6623)
   Lot 5996 on Plan 226759 (KOOLANOOKA 6623)
   Lot 5995 on Plan 226759 (KOOLANOOKA 6623)
   Lot 5994 on Plan 226759 (KOOLANOOKA 6623)
   Lot 9851 on Plan 154355 (MORAWA 6623)
   Lot 6313 on Plan 226643 (KOOLANOOKA 6623)
   Lot 7896 on Plan 226643 (KOOLANOOKA 6623)
   Lot 8236 on Plan 226643 (KOOLANOOKA 6623)
   Lot 6311 on Plan 226643 (KOOLANOOKA 6623)
   Lot 6312 on Plan 226643 (KOOLANOOKA 6623)
   Lot 6304 on Plan 226643 (KOOLANOOKA 6623)
   Lot 6303 on Plan 226643 (KOOLANOOKA 6623)
   Lot 7951 on Plan 226643 (KOOLANOOKA 6623)
   Lot 9531 on Plan 156930 (KOOLANOOKA 6623)
   Lot 9457 on Plan 204496 (MORAWA 6623)
   Lot 8979 on Plan 204496 (House No. 207 MUNCKTON MORAWA 6623)
   Lot 9459 on Plan 204496 (MORAWA 6623)
   Lot 3935 on Plan 232417 (MORAWA 6623)
   Road Reserve Morawa
   Railway Reserve Morawa
   Road Reserve Koolanooka

3. **Area of Clearing**
The Permit Holder must not clear more than 227 hectares of native vegetation within the area shaded yellow on attached Plan 3603/2.

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. **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

6. **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.

7. **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.

8. **Flora management**
(a) Prior to undertaking any clearing authorised under this Permit, the site shall be inspected by a *flora specialist* for the presence of rare flora listed in the *Wildlife Conservation (Rare Flora) Notice* 2010.

(b) Where rare flora are identified in relation to condition 8(a) of this Permit, the Permit Holder shall ensure that:
(i) all records of rare flora are submitted to the CEO; and
(ii) no clearing occurs within 50 metres of identified rare flora, unless approved by the CEO;

9. **Wind erosion management**
The Permit Holder shall not clear native vegetation unless construction of the railway begins within 2 weeks of the clearing being undertaken.

PART III - RECORD KEEPING AND REPORTING

10. **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 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;
(ii) the date that the area was cleared; and
(iii) the size of the area cleared (in hectares).

(b) In relation to flora management pursuant to condition 8 of this Permit:
   (i) the location of each rare flora species recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; and
   (ii) the species name of each rare flora species identified.

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 20 March 2015, 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:

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

flora specialist means a person with specific training and/or experience in the ecology and taxonomy of Western Australian flora;

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;

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);

term means the duration of this Permit, including as amended or renewed; and

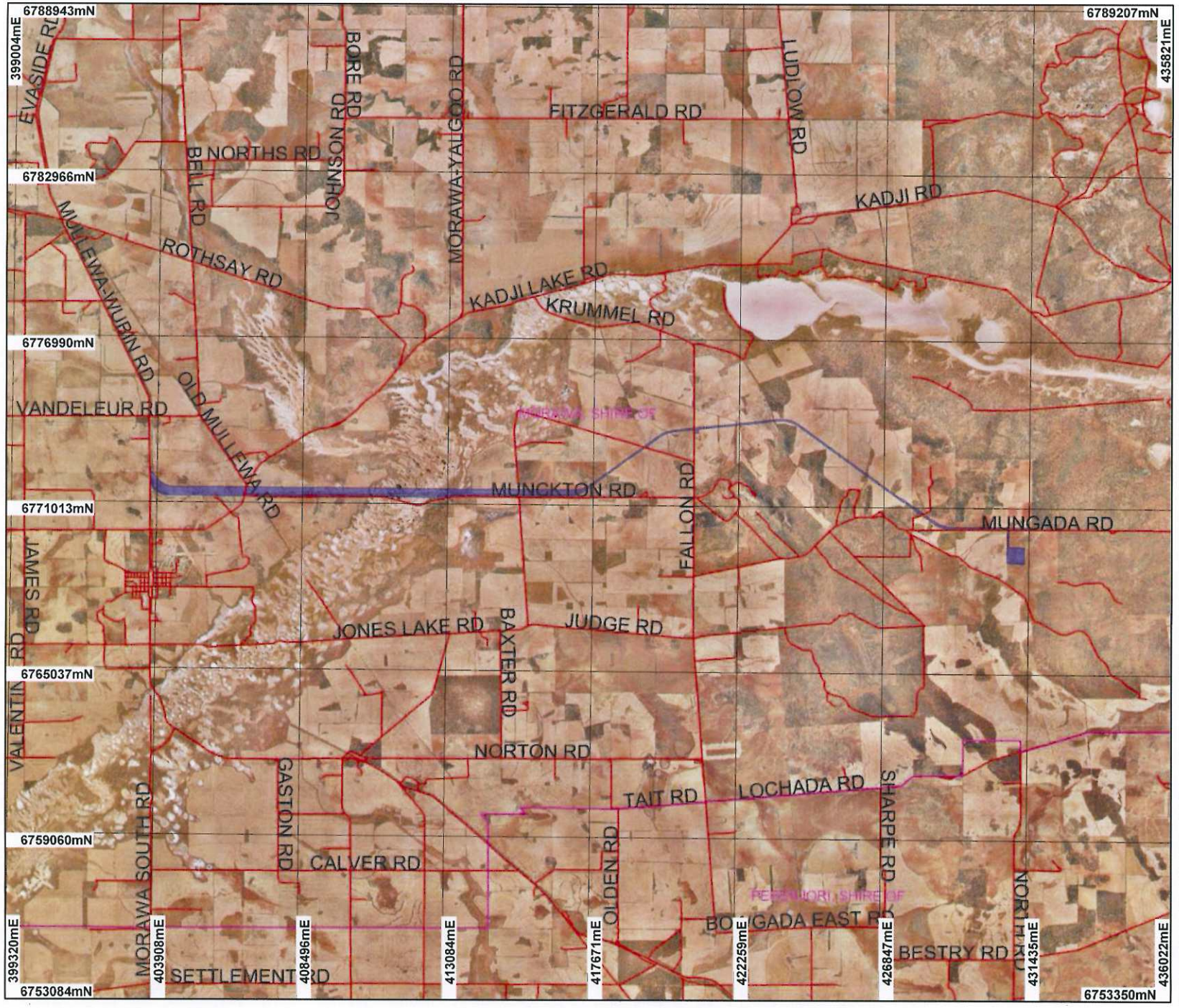
weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

Matthew Warnock
ACTING MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20
of the Environmental Protection Act 1986

7 October 2010

Plan 3603/2



LEGEND

Clearing Instruments

- Areas Applied to Clear
- Road Centrelines
- Local Government Authorities
- Yandanooka 50cm Orthomosaic - Landgate 2005
- Perenjori 50cm Orthomosaic - Landgate 2005

** Project Data is denoted by asterisk.*
This data has not been quality assured.
Please contact map author for details.

N

0 ~5 km

Scale 1:175000
(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.

M Warnock Date 7/10/10

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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3603/2

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Karara Mining Limited**

1.3. Property details

Property:

LOT 7824 ON PLAN 150886 (KOOLANOOKA 6623)
LOT 7803 ON PLAN 150619 (KOOLANOOKA 6623)
ROAD RESERVE (KOOLANOOKA 6623)
LOT 7823 ON PLAN 150618 (KOOLANOOKA 6623)
LOT 9460 ON PLAN 154983 (KOOLANOOKA 6623)
LOT 7811 ON PLAN 150617 (KOOLANOOKA 6623)
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LOT 6312 ON PLAN 226643 (KOOLANOOKA 6623)
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LOT 9457 ON PLAN 204496 (MORAWA 6623)
LOT 8979 ON PLAN 204496 (House No. 207 MUNCKTON MORAWA 6623)
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LOT 9851 ON PLAN 154355 (MORAWA 6623)
ROAD RESERVE (MORAWA 6623)
ROAD RESERVE (MORAWA 6623)
LOT 9851 ON PLAN 154355 (MORAWA 6623)
LOT 3935 ON PLAN 232417 (MORAWA 6623)
RAILWAY RESERVE (MORAWA 6623)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
227		Mechanical Removal	Railway construction or maintenance

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 (Shepherd, 2007)	The proposal is to clear 227 hectares of native vegetation for the construction of a railway.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The vegetation condition was determined through aerial photography and a Flora and Fauna survey (Karara Mining,

352: Medium woodland; York gum; 420: Shrublands; bowgada & jam scrub; 551: Shrublands; Allocasuarina campestris thicket; 631: Succulent steppe with woodland and thicket; York gum over Melaleuca thyoides & samphire; 684: Mosaic: Shrublands; Shrublands; jam scrub with scattered York gum in the valleys / Allocasuarina campestris thicket; and 693: Mosaic: Low woodland: Allocasuarina heugeliana over mallee and acacia scrub / Allocasuarina campestris thicket Surveys of the railway corridor identified 20 plant communities of which 3 are degraded communities and 4 disturbance communities within this section of the railway corridor (Karara Mining, 2009)	The area under application includes areas for which the current land use is agricultural paddocks. These areas are considered to be in a completely degraded (Keighery, 1994) condition. Some vegetation under application has been subject to severe disturbance (Karara Mining, 2009), these areas are considered to be in degraded (Keighery, 1994) condition. The proposal intersects some pockets of remnant vegetation in very good (Keighery, 1994) condition (Karara Mining, 2009).	2009).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

The proposal is to clear 227ha of native vegetation in degraded to very good (Keighery, 1994) condition for the purpose of constructing a railway.

The area applied to clear is within the Avon Wheatbelt Interim Biogeographic Regionalisation for Australia (IBRA) bioregion. The Avon Wheatbelt bioregion is an interzone between the Geraldton Sandplains and Yalgoo bioregions, and whilst it is rich and diverse in flora and fauna, most species are wide ranging and typically occur in one or more adjoining bioregions (DEC, 2002).

Thirty nine vegetation communities and a total of 348 discrete vascular plant taxa were identified within the total railway corridor (approximately 770ha). Of the taxa identified 17 weed species, one rare flora (Tecticornia bulbosa) and 7 priority flora were identified within the corridor survey area (Karara Mining, 2009; DEC (2010b).

The flora survey identified Tecticornia bulbosa (rare flora) within and in close proximity to the application area (Karara Mining, 2009).

Three occurrences of non- conservation significant flora have been recorded within the railway corridor which are new range extensions for these species, including Gnephosis eriocephala, Phebalium lepidotum and Philotheca glabra (Karara Mining, 2009).

A fauna survey of the railway corridor identified conservation listed Malleefowl (Leipoa ocellata), Western Spiny-tailed Skink (Egernia stokesii badia) and Major Mitchells cockatoos (Cacatua leadbeateri) within the larger railway corridor (approximately 770ha) (Karara Mining, 2009). Local records indicate that Carnabys Black Cockatoos have in the past used nearby areas as feeding and roosting habitat (DEC, 2010a) The fauna survey did not identify any Malleefowl mounds or habitat suitable for Major Mitchells cockatoos or Carnabys Black Cockatoos within the applied area. Several observations of Western Spiny-tailed Skink scats were found within vegetation contiguous with that found within the applied area. As such, this species may occur within the applied area.

The local area (10km radius) retains approximately 50% native vegetation cover with most of the vegetation in similar condition as the vegetation under application.

The vegetation under application comprises a mosaic of remnant vegetation along a linear area and is therefore likely to provide an ecological linkage between areas of remnant vegetation in the local area.

Given the extent of native vegetation in the local area and as the application area includes mapped records of rare flora and active habitat for conservation listed fauna the proposed clearing may be at variance to this Principle.

Methodology References:
DEC (2002)

DEC (2010a)
DEC (2010b)
Karara Mining (2009)
Keighery (1994)

GIS Database
Interim Biogeographic Regionalisation of Australia
SAC Bio Datasets accessed 16 March 2010

(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

Several fauna surveys have been conducted over the railway corridor, including targeted searches for Malleefowl (Leipoa ocellata) and Western Spiny-tailed Skink (Egernia stokesii badia) (Karara Mining, 2009).

Several fauna species of conservation significance have the potential to occur within the application area, based on the habitat present Malleefowl, Western Spiny-tailed Skink, Majors Mitchells Cockatoo (Cacatua leadbeateri) and the Shield-backed Trapdoor Spider (Idiosoma nigrum) are considered the most likely to be present (Karara Mining, 2009). Local records indicate that Carnabys black cockatoo have in the past used the nearby areas as feeding and roosting habitat (DEC, 2010a)

Searches were made for Shield-backed Trapdoor Spider (Schedule 1 'Fauna that is rare or is likely to become extinct', Wildlife Conservation (Specially Protected Fauna) Notice 2008) burrows; however none were recorded within the railway corridor (Karara Mining, 2009). Two areas of suitable habitat were identified during these surveys (Karara Mining, 2009) and as this species is cryptic there is still potential for this species to occur within the application area.

Major Mitchells cockatoo (Schedule 4 'Other specially protected fauna', Wildlife Conservation (Specially Protected Fauna) Notice, 2008) has been recorded in the local area however surveys did not identify any directly associated with this section of the proposed railway (Karara Mining, 2009).

Surveys for Malleefowl mounds ('Vulnerable' under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 and Schedule 1 'Fauna that is rare or is likely to become extinct', Wildlife Conservation (Specially Protected Fauna) Notice 2008) have been undertaken within the applied area; however no mounds were recorded (Karara Mining, 2009).

Five occurrences of Western Spiny-tailed Skink ('Endangered' under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 and Schedule 1 'Fauna that is rare or is likely to become extinct', Wildlife Conservation (Specially Protected Fauna) Notice 2008) scats were recorded within vegetation contiguous with the application area. As such it is considered likely that this species occurs within areas of good to very good (Keighery, 1994) condition vegetation within the applied area.

Parartemia extracta is a brine shrimp species that is in the process of being nominated as a priority species that is known to occur in salt lakes in the Kadji Kadji area (near the application area) (DEC, 2010a).

The local area (10km radius) retains approximately 50% native vegetation cover with most of the vegetation in similar condition as the vegetation under application. The vegetation under application comprises a mosaic of remnant vegetation along a linear area and is therefore likely to provide an ecological linkage between areas of remnant vegetation in the local area.

The application area may include habitat for conservation significant species as described in the Fauna surveys summary report (Karara Mining, 2009) and as the clearing area is large (227 ha) in an area with 50% native vegetation cover, the vegetation under application may be significant transitional habitat for fauna indigenous to Western Australia.

Given the above, the proposal may be at variance to this principle.

Methodology

References:
DEC (2010a)
Karara Mining (2009)
Keighery (1994)

GIS Database:
SAC Bio Datasets accessed 16 March 2010

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

Comments

Three rare flora are known to occur within 10km of the application area namely Eucalyptus synandra, Tecticornia bulbosa and Grevillea bracteosa subsp. howatharra.

Flora surveys of the railway corridor identified T. bulbosa as occurring adjacent to Munckton Road (within the survey area)(DEC, 2010b) and did not identify any occurrences of E. synandra (Karara Mining, 2009). The applicant has provided advice that all occurrences of T. bulbosa will be avoided, however some indirect impacts may result from the clearing and management plans will be implemented to mitigate this potential impact (Karara Mining, 2009)

Based on the above, the proposed clearing may be at variance to this Principle and that flora management conditions should be placed on the permit to manage the direct impacts to rare flora.

Methodology

References:
DEC (2010b)
Karara Mining (2009)

GIS Database
SAC Bio Datasets accessed 16 March 2010

(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

There is one known record of threatened ecological communities (TECs) within the local area (10km radius) namely the Koolanooka System. This TEC is located, at its closest point approximately 4 km south of the application area.

The application area exists within the recommended buffer of the Koolanooka System TEC (10km buffer zone), however given the condition of the vegetation under application and the disconnected nature of the vegetation joining the application area with the TEC, the proposed clearing is unlikely to impact on this TEC.

The applied vegetation structure and composition, as described by Karara Mining (2009), are not representative of any known TEC.

Based on the above, the proposed clearing is not likely to be at variance with this Principle.

Methodology

References:
Karara Mining (2009)

GIS Database
SAC Bio Datasets accessed 16 March 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

	Pre-European	Current extent (ha)	Remaining (ha)(%)	% In reserves DEC Managed Land
IBRA Bioregion*				
Avon Wheatbelt	9,518,411	1,444,595	15.18	11.12
Shire*				
Morawa	351,033	106,147	30.24	46.27
Beard Vegetation Association*				
352	724,274	120,436	16.63	10.20
420	859,632	829,286	96.47	12.74
551	302,423	70,079	23.17	27.62
631	106,853	54,635	51.13	22.09
684	213, 758	33,602	15.72	1.34
693	4,396	3,149	71.64	0.00
Beard Vegetation Association with Avon Wheatbelt Bioregion*				
352	630,582	88,398	14.02	11.45

420	44,968	15,219		33.85	10.82
551	257,692	37,505	14.55	8.25	
631	104,051	52,250		50.22	18.65
684	213,291	33,523	15.72	1.34	
693	4,396	3,149	71.64	0.00	

* (Shepherd, 2007)

The local area (10km radius) retains approximately 50% native vegetation and therefore has not been extensively cleared.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

Vegetation unit 352, 551 and 684 retain less than this 30% of pre-European vegetation extent, however the proposal is to clear approximately 0.1% of these vegetation units in total.

As such the application area is not likely to represent a significant remnant of native vegetation in an extensively cleared landscape.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:
Commonwealth of Australia (2001)
Shepherd (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
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

There are six minor, non perennial watercourses intersecting the application area as well as one non-perennial lake and one area subject to inundation (Yarra Yarra Salt Lake Crossing).

The removal of limited vegetation associated with small non-perennial watercourses is unlikely to significantly impact on this watercourse network as a whole throughout the landscape. Karara Mining (2009) also advise that infrastructure will be put in place to assist with any hydrology impacts associated with this proposal, including culverts and new embankment construction at the Yarra Yarra Salt Lake Crossing.

The vegetation associated with the Yarra Yarra Salt Lake Crossing is a small part of an approximately 1 million hectare area (Yarra Yarra Lakes Catchment). An existing road and disused railway embankment traverses this area however in the construction of the new embankment approximately 20 hectares of dwarf shrublands (primarily chenopod species) are proposed to be cleared (Karara Mining, 2009) the removal of the vegetation associated with the Yarra Yarra Salt Lake Crossing is likely to impact the watercourse network in the immediate vicinity of the clearing.

Based on the above, the proposed clearing is at variance to this Principle.

Methodology

References:
Karara Mining (2009)

GIS Database
Hydrography linear 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

The soils of the applied area are identified by Northcote et al. (1968) as chiefly neutral red and yellow earths (My43); gypseous and saline loams on riverine wash (SV4); alkaline red earths (Mx12) and ironstone gravels with earthy and sandy matrices (MZ1).

The above soils are not highly susceptible to wind erosion however throughout the rangelands region water

erosion through linear clearing of the landscape has often resulted in significant erosional damage (DEC, 2010a). No Environmental Management Plans relating to land degradation through water erosion have been provided to DEC.

Groundwater salinity is mapped from 7000 to greater than 35000 mg/L over the application area. Further removal of deep rooted native vegetation may increase soil salinity within the local area (10km radius).

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology

References:
DEC (2010a)
Northcote et al (1968)

GIS Database
Average Annual Rainfall Isohyets - WRC 29/09/98
Annual Evaporation Contours (Isopleths) - WRC 29/09/98
Hydrogeology, statewide DOW 13/07/06
Hydrographic catchments, catchments - DoW 01/06/07
Hydrography, linear - DOW 13/7/06
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

The vegetation under application is adjacent to DEC managed land namely a Conservation Commission owned Timber Reserve.

Removal of vegetation in close proximity to this conservation area may indirectly impact on the environmental values of the area. A survey of the railway corridor identified 17 weeds species (Karara Mining, 2009) within or in close proximity to the application area, clearing of these weed species may indirectly impact on the values of nearby conservation areas through the spread of weeds.

Based on the above, at the proposed clearing may be at variance to this Principle as the clearing may impact on vegetation growing within a conservation area, through weed encroachment.

Weed management conditions be placed on the permit to minimise the impacts of clearing on nearby conservation areas through increased weed dispersal.

Methodology

References:
Karara Mining (2009)

GIS Database
DEC Tenure - DEC Sept 08
Register of National Estate - Environment Australia, Australian and world heritage division 12 Mar 02
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

The soils of the applied area are identified by Northcote et al. (1968) as chiefly neutral red and yellow earths (My43); gypseous and saline loams on riverine wash (SV4); alkaline red earths (Mx12) and ironstone gravels with earthy and sandy matrices (MZ1).

The above soils are not highly susceptible to wind erosion, however throughout the rangelands region water erosion through linear clearing of the landscape has resulted in significant erosional damage.

Groundwater salinity is mapped from 7000 to greater than 35000 mg/L over the application area, further removal of deep rooted native vegetation may increase soil salinity within the local area (10km radius) and lead to a rise in salinity of groundwater.

The proposed clearing intersects six minor, non perennial watercourses, one non-perennial lake and one area subject to inundation (Yarra Yarra Salt Lake Crossing).

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology References:
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
Hydrography, linear - DOW 13/7/06
Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
Salinity Risk LM 25m - DOLA 00
Topographic Contours, Statewide - DOLA 12/09/02

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments

The soils of the applied area are identified by Northcote et al. (1968) as chiefly neutral red and yellow earths (My43); gypseous and saline loams on riverine wash (SV4); alkaline red earths (Mx12) and ironstone gravels with earthy and sandy matrices (MZ1). These soils are not known to hold water in the A horizon or to be hydrophobic.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
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
Hydrography, linear - DOW 13/7/06
Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
Salinity Risk LM 25m - DOLA 00
Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

On the 23 September 2010, Karara Mining Limited applied to amend their clearing permit CPS 3603/1, to increase the footprint of the area that clearing is to occur in, but to still confine the limit of clearing to 227 hectares. The amendment also corrected an administrative error in Reporting Condition 11(b) to amend the date to 20 March 2015.

Karara Mining have obtained a Licence to take fauna from the Species and Communities Branch of the Department of Environment and Conservation for the greater Karara mining proposal however do not have a licence to take fauna within the proposed railway corridor (DOC120156).

Approval has been received from the Department of the Environment, Water, Heritage and the Arts for the Karara to Tilley Rail Project (A302335).

Land access approvals received from the Department of Regional Development and Lands, Public Transport Authority and private owners (A304818 and A304632).

A submission has been received for a related clearing application (CPS 3518/1) from the Shire of Morawa advising that the applicant has not consulted with the Shire of Morawa in regards to approvals required for the railway to cross Shire lands (DOC120155).

The greater Karara Mining project has been formally assessed by the EPA under Bulletin Report 1321 (DOC117508) and given authorisation for implementation under Ministerial Statement 805. DEC has previously approved an offset proposal for the Greater Karara Iron Ore Project (CEOD5799).

DEC is currently investigating the potential impacts of this proposal in the issuing of a Miscellaneous lease of the railway project area. It is recommended through this process that a Conservation Management Plan and a Decommissioning and Closure Plan are developed in order to ensure minimal environmental impacts over the life of this project. (DOC119945). These recommendations are consistent with those of the clearing permit process.

There are two registered Aboriginal Site of Significance within the application area namely Mongers Lake Waterway and Koolanooka Springs. It is the proponent's responsibility to comply with the Aboriginal Heritage

Methodology	Act 1972 and ensure that no Aboriginal Sites of Significance are damaged throughout the clearing process. GIS Database Aboriginal Sites of Significance Native Title Claims

4. References

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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)