Department of Industry and Resources

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2214/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **La Mancha Resources Australia Pty Ltd**

1.3. Property details

Property: L16/28
M15/688

Local Government Area: Shire Of Coolgardie

Colloquial name: Frog's Leg Project Area Power Line Corridor

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.44		Mechanical Removal	Mineral Production

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Vegetation within the application area has been mapped at a 1:250,000 scale as the following Beard vegetation associations.
- 125: Bare areas; salt lakes.
- 480: Succulent steppe with open low woodland; mulga & sheoak over salt bush (Shepherd et al. 2001).

Mattiske Consulting Pty Ltd undertook a flora and vegetation assessment of the application area and surrounding Frog's Leg Project Area on 30 October 2001. Two vegetation communities were identified and described for the application area (Mattiske, 2001).

1) Community 2d: Mixed Shrubland of *Eremophila scoparia*, *Dodonaea viscosa* subsp. *angustissima* over *Rhagodia drummondii*, *Cratystylis microphylla*, *Cratystylis subspinescens, Ptilotus obovatus* var. *obovatus, Olearia muelleri* and *Atriplex vesicaria* subsp. *appendiculata. Santalum spicatum* is also present.

2) Community 3b: Heath of *Melaleuca lateriflora* subsp. *lateriflora* and *Melaleuca sheathiana* over *Atriplex vesicaria* subsp. *appendiculata, Halosarcia pruinosa* and *Maireana triptera*.

Clearing Description

La Mancha Resources has applied to clear 0.44 hectares of native vegetation to construct a power line. The proposed clearing will allow for 17 x 6 metre diameter areas for power line posts and a 430 metre x 10 metre power line access corridor.

Vegetation Condition

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994)

Comment

The condition of the vegetation was good, based on the high diversity of plant communities and the lack of weed species (Mattiske, 2001)

The vegetation structure was intact, with observed disturbances only affecting individual species. No weeds were identified within the survey (Outback Ecology, 2006).

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application area is located within the Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) region which encompasses an area of 12,912,208 hectares. Approximately 98.4% of the pre-European vegetation remains within the Coolgardie IBRA region (GIS database; Shepherd et al. 2001).

Mattiske Consulting were commissioned in October 2001 to undertake a flora and vegetation survey of the application area and surrounding Frog's Leg Project Area. A total of 84 plant taxa (including subspecies and varieties) from 25 plant families were recorded in the Frog's Leg survey area (Mattiske, 2001).

Two vegetation communities were identified and described for the application area (Mattiske, 2001). These were;

- Community 2d - Mixed Shrubland of *Eremophila scoparia, Dodonaea viscosa* subsp. *angustissima* over *Rhagodia drummondii*, *Cratystylis microphylla*, *Cratystylis subspinescens*, *Ptilotus obovatus* var. *obovatus*, *Olearia muelleri* and *Atriplex vesicaria* subsp. *appendiculata*. *Santalum spicatum* is also present.
- Community 3b - Heath of *Melaleuca lateriflora* subsp. *lateriflora* and *Melaleuca sheathiana* over *Atriplex vesicaria* subsp. *appendiculata, Halosarcia pruinosa* and *Maireana triptera*.

A total of 36 and 13 plant species were recorded within vegetation communities 2d and 3b respectively (Mattiske, 2001). No Declared Rare Flora, Priority flora species or Threatened Ecological Communities were recorded within the application area (Mattiske, 2001). The plant communities and fauna habitats identified within the application area are widespread and were not found to have any local or regional significance (Mattiske, 2001; Ninox, 2002). Mattiske (2001) vegetation mapping indicates that the proposed clearing is unlikely to have a significant impact on the vegetation communities within the Frog's Leg Project Area (Mattiske, 2001). The vegetation within the application area is unlikely to represent an area of outstanding biological diversity.

Mattiske Consulting were commissioned in November 2002 to undertake an additional botanical assessment in order to expand the size of the Frog's Leg Project survey area. The supplementary survey increased the total survey area for the Frog's Leg Project area to approximately 10.5 square kilometres (Mattiske, 2002). Two weed species, *Carrichtera annua* (Ward's Weed) and *Carthamus lanatus* (Saffron Thistle) were recorded within the expanded survey area, although outside of the clearing application area (Mattiske, 2002). In order to minimise the risk of introducing weed species into the application area, the Assessing Officer recommends should the permit be granted, that conditions be imposed on the permit for the purposes of weed management.

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

Methodology

Mattiske (2001)
Mattiske (2002)
Ninox (2002)
Shepherd et al. (2001)
GIS Database:
- Interim Biogeographic Regionalisation of Australia

(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

Ninox Consulting was commissioned in April 2002 to undertake an assessment of the vertebrate fauna habitats that occur within the Frog's Leg Project Area. The assessment included a comprehensive literature review to identify species of conservation significance which may potentially occur within the project area, produced an inventory of species known or likely to occur within the project area, assessed the vegetation communities to identify the presence of significant fauna habitat and assessed the regional and local conservation status of the project area (Ninox Consulting, 2002).

Ninox Consulting (2002) identified five major fauna habitats within the Frog's Leg Project Area, and recognised the significance of a salt lake which, when seasonally wet, could potentially provide suitable habitat for a large range of waterbirds and some migratory shorebirds. Ninox Consulting (2002) have used the vegetation communities identified by Mattiske (2002) to describe the five major fauna habitats. The fauna habitats identified were (Ninox Consulting, 2002);

1) Tall Eucalypt woodlands (Woodlands of *Eucalyptus salubris* and *Eucalyptus salmonophloia* over shrubs including *Eremophila scoparia*, *Cratystylis microphylla*, *Atriplex* species and *Maireana* species, native grasses and scattered *Santalum acuminatum* over annuals).
2) Mallee woodlands (Mallee woodlands of *Eucalyptus clelandii* over low mixed shrubs including *Eremophila* species).
3) Woodlands over spinifex (Open woodland of *Eucalyptus gracilis* subsp. *gracilis* over shrubs including *Dodonea viscosa* subsp. *angustissima, Eremophila scoparia, Grevillea sarissa* subsp. *sarissa* and

Triodia scariosa).

4) Scrublands & heathlands (Mixed scrub or heath of *Eremophila* species, *Dodonea viscose* subsp. *Angustissima* or *Melaleuca lateriflora* subsp. *Lateriflora* and *Melaleuca sheathiana*), and;
5) Chenopod heathlands salt lake fringes with chenopods including mainly *Halosarcia* species, *Atriplex vesicaria* subsp.*appendiculata*, *Disphyma crassifolium* subsp. *clavellatum, Cratystylis subspinescens* and *Frankenia interioris* var. *parviflora*.

The vegetation within the application area was identified by Ninox Consulting (2002) to be representative of the fauna habitat type – 'Scrublands & heathlands', which was found to be relatively intact (Ninox Consulting, 2002).

The desk-top review undertaken by Ninox Consulting identified two mammals, twelve bird and two reptile species of conservation significance which may potentially occur within the application area (Ninox Consulting, 2002).

The Chuditch (*Dasyurus geoffroii*), which is listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice 2006 and as Vulnerable under the *Environmental Protection and Biodiversity Conservation Act 1999*, was recorded on the CALM threatened fauna database for the general area (Ninox Consulting, 2002). There are outlying historical records from Lake Lefroy in 1973, Bungalbin Hill and Ghooli near Yellowdine in 1989 (Ninox Consulting, 2002). The Chuditch is predominantly located throughout the mixed Karri/Marri/Jarrah forest of south-west Western Australia, however, also occurs in very low numbers in the Midwest, Wheatbelt and South Coast regions (Orell & Morris, 1994). Chuditch are found in a wide range of habitats which include woodlands, dry sclerophyll forests, riparian vegetation, beaches and deserts, however, has been known to show preference for woodland and mallee habitats (Orell & Morris, 1994). The vegetation within the application area has been described by Ninox Consulting (2002) as 'Scrublands & heathlands' which is well represented outside of the application (Ninox Consulting, 2002). Ninox Consulting (2002) has reported that the Chuditch has a low probability of occurrence within the application area. The proposed clearing is unlikely to impact on significant habitat for the Chuditch.

The Priority 4 listed Central Long-eared Bat (*Nyctophilus timoriensis* (central form)) was recorded on the CALM threatened fauna database for the general area (Ninox Consulting, 2002). This species is a small insect eating bat that roosts in tree hollows and under loose bark on trees (Ninox Consulting, 2002). The Central Long-eared Bat has been recorded south-west of Coolgardie and could occur anywhere in the southern, semi-arid portion of the State (Ninox Consulting, 2002). The habitat within the application area has been described by Ninox Consulting (2002) as 'Scrublands & heathlands', and as a result is unlikely to represent suitable roosting habitat for this species. More suitable roosting habitat for the Central Long-eared Bat was identified within the Eucalypt and Mallee woodlands that occur outside of the application area (Ninox Consulting, 2002). Given the lack of trees within the application area, it is unlikely that the proposed clearing will impact on significant habitat for this species.

The Malleefowl (*Leipoa ocellata*), which is listed under Schedule 1 (Fauna that is rare of is likely to become extinct) of the Wildlife Conservation (Specially Protected Fauna) Notice 2006 and as Vulnerable under the *Environmental Protection and Biodiversity Conservation Act 1999*, was recorded on CALM's rare fauna database and the Western Australian Museum database search (Ninox Consulting, 2002). The Malleefowl is known to occur in the Kalgoorlie region and may persist in the vicinity of the application area (Ninox Consulting, 2002). The Malleefowl builds large nesting mounds which may persist for many years (Ninox Consulting, 2002). A specific search was made for nesting mounds during the site assessment, however, none were located (Ninox Consulting, 2002). It is unlikely that the Malleefowl will be impacted on by the proposed clearing activities.

The Peregrine Falcon (*Falco peregrinus*), listed under Schedule 4 (Other specially protected fauna) of the Wildlife Conservation (Specially Protected Fauna) Notice 2006, is a highly mobile bird of prey that is likely to occur within the project area (Ninox Consulting, 2002). The Peregrine Falcon has little apparent habitat specifity apart from an affinity for cliffs with rocky ledges which act as suitable breeding habitat (Ninox Consulting, 2002). Given the lack of suitable breeding areas within the application area, this species is unlikely to be impacted on by the scale and nature of the proposed clearing.

The Priority 4 listed Square-tailed Kite (*Lophoictinia isura*) was recorded along a proposed haul road for the White Foil Mine (located approximately two kilometres south-west of the application area) and is almost certain to occur within the application area (Ninox Consulting, 2002). The Square-tailed Kite is a wide ranging bird of prey that can be found within a diverse range of habitats which includes forests, woodlands and scrublands (Ninox Consulting, 2002). The habitat identified within the application area is not restricted to the immediate area and is widely represented throughout the Eastern Goldfields subregion (Ninox Consulting, 2002). Given the species occurrence across a wide range of habitats of which are widespread throughout the Eastern Goldfields, the proposed clearing is unlikely to have a significant impact on habitat for this species.

The Priority 4 listed Hooded Plover (*Charadrius rubricolis*), recorded on CALM's threatened fauna database, inhabits the margins and shallows of saltlakes in the Goldfields region (Ninox Consulting, 2002). The Hooded Plover is a highly mobile bird that is able to move large distances between areas of suitable habitat. Numerous salt lakes are located within close proximity to the application area (GIS Database; Ninox Consulting, 2002). There is the possibility that this species could be present within the application area when the nearby saltlakes retain water (Ninox Consulting, 2002). Given the species ability to move large distances between areas of suitable habitat, the proposed clearing is unlikely to significantly impact on habitat for this species.

The Rainbow Bee-eater (*Merops ornatus*), Fork-tailed Swift (*Apus pacificus*), Wood Sandpiper (*Tringa glareola*), Common Sandpiper (*T. hypoleucos*), Greenshank (*T. nebularia*) and Sharp-tailed Sandpiper (*Calidris acuminata*) are protected under the CAMBA and JAMBA treaties (China and Japan/ Australia Migratory Bird Agreements). All of these species may utilise the habitat within and adjoining the application area, for nesting or foraging, at different times throughout the year (Ninox Consulting, 2002). The habitat type identified for the application area is not restricted to the immediate area and there is a widespread distribution of similar habitat types throughout the Eastern Goldfields subregion (Ninox Consulting, 2002). The clearing of 0.44 hectares of native vegetation is unlikely to impact on significant habitat for these migratory species.

The Woma Python (*Aspidites ramsayi*) and the Carpet Python (*Morelia spilota imbricata*), both listed under Schedule 4 (Other specially protected fauna) of the Wildlife Conservation (Specially Protected Fauna) Notice 2006, may potentially occur within the application area (Ninox Consulting, 2002).

The Woma Python is known from four disjunct populations within the Goldfields which extend from Yuna, Wialki and Menzies, south to Boddington, Narembeen and Marvel Loch and east to the western edge of the Nullarbor Plain (Outback Ecology, 2004; Storr et al. 2002). The Woma favours open myrtaceous heath on sandplains, and dunefields dominated by *Triodia spp*, although it may be found in woodlands and shrublands (Ninox Consulting, 2002; Outback Ecology, 2004; Dept of CALM, 2002). A two day targeted fauna survey for the Woma Python did not reveal any individuals, or evidence of this species occurring within the application area or wider Frog's Leg Project Area (Outback Ecology, 2004). The habitat identified within the application area is common throughout the surrounding Eastern Goldfields subregion. The proposed clearing is unlikely to impact on significant habitat for the Woma Python.

The Carpet Python may be found within most vegetation types, although it is known to show a preference for habitats that include hollow trunks, disused burrows, caves, rocky crevices and beneath boulders (Outback Ecology, 2004). The species has a distribution that extends to Geraldton and Yalgoo in the north, east to Pinjin, Kalgoorlie, Fraser Range and Eyre (Ninox Consulting, 2002; Outback Ecology, 2004; Storr et al. 2002). A search for the Carpet Python was carried out during the targeted survey for the Woma Python, however, the search did not reveal any individuals or evidence of the Carpet Python occurring within the application area (Outback Ecology, 2004). The proposed clearing of 0.44 hectares is unlikely to impact on significant habitat for this species.

The Ninox Consulting (2002) site assessment revealed that the habitat type associated within the application area (Scrublands & heathlands) was not unique to the local area, nor had exceptional regional qualities (Ninox Consulting, 2002). Whilst the habitats may have some local significance to fauna because of the amount of habitat disturbance which has occurred throughout this portion of the Eastern Goldfields, representatives of this habitat type exist in nearby Nature Reserves and the surrounding area (Ninox Consulting, 2002). The proposed clearing is unlikely to impact on any significant fauna habitat.

In terms of the potential for habitat fragmentation, the proposed clearing will be limited to a series of 17 cleared areas 6 metres in diameter, and a 430 metre long and 10 metre wide power line access corridor (La Mancha Resources 2007). Given the narrow width of the access corridor and the minor area of the proposed clearing, it is unlikely that significant habitat fragmentation will occur.

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

Methodology

Dept of CALM (2002)
Mattiske (2002)
Ninox Consulting (2002)
Orell & Morris (1994)
Outback Ecology (2004)
Storr et al. (2002)
GIS Database:
- Hydrography, linear_1

(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

According to available datasets there are no known records of Declared Rare Flora (DRF) or Priority flora species within the application area (GIS database). A population of the Priority one species *Eremophila praecox* has been recorded approximately 11 kilometres south-east of the application area within the Kurrawang Nature Reserve (GIS Database).

Mattiske Consulting Pty Ltd carried out a flora and vegetation survey of the Frog's Leg Project Area during October 2001 (Mattiske, 2001; Mattiske, 2002). A supplementary survey was undertaken in October 2002 to include adjoining areas not surveyed during October 2001. In total the survey area encompassed approximately 10.5 square kilometres of the Frog's Leg Project Area, and included the clearing application area (GIS Database; Mattiske, 2002). The flora and vegetation survey included a search of the Department of Conservation and Land Management's (now the Department of Environment and Conservation) Threatened

(Declared Rare) Flora databases and Western Australian Herbarium Specimen database for DRF and Priority flora species, a field survey to define and map the vegetation communities within the survey area and a search for the existence of conservation significant species (Mattiske, 2002).

No DRF or Priority flora species were recorded within the application area or wider project area during the flora and vegetation survey (Mattiske, 2001; Mattiske, 2002). Given the distance separating the application area and the nearest known population of *Eremophila praecox*, the proposed clearing activities are unlikely to impact on any known DRF of Priority flora species.

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

Methodology

Mattiske (2001)
Mattiske (2002)
GIS Database:
- Declared Rare and Priority Flora List
- CALM Managed Lands and Waters

(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's) within the area subject to be cleared (GIS database). The nearest known TEC is located in excess of 150 kilometres from the application area (GIS database). The proposed clearing is not likely to impact on any known TEC.

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

Methodology

GIS Database:
- Threatened Ecological Communities

(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 at variance to this Principle

The clearing application area falls within the Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) region in which approximately 98.4% of the pre-European vegetation remains (GIS database; Shepherd et al. 2001).

The vegetation within the application area has been mapped as Beard vegetation association 125: Bare areas; salt lakes, and 480: Succulent steppe with open low woodland; mulga & sheoak over salt bush. According to Shepherd et al. (2001) approximately 99.4% and 100% of these vegetation associations remain within the Coolgardie IBRA region.

According to the Bioregional Conservation Status of Ecological Vegetation Classes the conservation status for the Coolgardie Bioregion and for Beard vegetation associations 125 and 480 is of 'Least Concern' (Department of Natural Resources and Environment, 2002).

While a small percentage of the vegetation types within the Coolgardie bioregion are protected within conservation reserves, the bioregion remains largely uncleared. The proposed clearing is unlikely to impact on the conservation status for Beard vegetation association 125 and 480 within the Coolgardie bioregion.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Coolgardie	12,912,208	12,707,623	~98.4	Least Concern	9.7
Beard veg assoc. – State					
125	3,491,834	3,287,864	~94.2	Least Concern	6.9
480	86,099	86,099	~100	Least Concern	0.0
Beard veg assoc. – Bioregion					
125	545,719	542,554	~99.4	Least Concern	4.4
480	37,354	37,354	~100	Least Concern	0.0

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

* Shepherd et al. (2001)
** Department of Natural Resources and Environment (2002)

Methodology Department of Natural Resources and Environment (2002)
Shepherd et al. (2001)
GIS Database:
- Interim Biogeographic Regionalisation of Australia_1
- Pre-European Vegetation

(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 may be at variance to this Principle

There are no permanent wetlands or watercourses within the application area (GIS Database).

The application area is located in close proximity to two salt lakes (GIS Database). One salt lake is located approximately 250 metres north of the application area whilst the second is located approximately 500 metres west (GIS Database).

Botanica Consulting was commissioned on 19 September 2007 to map the riparian vegetation within the vicinity of the salt lakes. Due to the location of the application area in relation to the salt lakes and the vegetation communities that have been identified, the vegetation within the application area is regarded as riparian vegetation (Botanica Consulting, 2007; Outback Ecology, 2006; Mattiske, 2001). Riparian vegetation mapping of the Frog's Leg Project area indicates that the proposed clearing of 0.44 hectares for the power line corridor will have a minor impact on the riparian vegetation that surrounds the nearby salt lakes. However, due to the minor nature of the proposed clearing, the proposal is unlikely to significantly impact on the riparian vegetation which acts as a buffer area to the nearby salt lakes.

Groundwater salinity of the application area is in the range of 14,000 - 35,000 mg/L Total Dissolved Solids (GIS Database) and is considered saline. The clearing of 0.44 hectares is unlikely to impact on any groundwater dependent ecosystems (GIS Database).

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

Methodology Botanica Consulting (2007)
Mattiske (2001)
Outback Ecology (2006)
GIS Database:
- Hydrography, linear_1
- Geodata, Lakes
- Groundwater Salinity, Statewide
- Potential Groundwater Dependant Ecosystems - DOE 2004

(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 proposed clearing of 0.44 hectares will allow for 17, 6 metre diameter areas for power line posts, and a 430 metre long by 10 metre wide power line access corridor (Botanica Consulting, 2007). A site assessment by Outback Ecology observed that the application area and surrounding areas are relatively flat (Outback Ecology, 2006). Assessment of topographic contours indicates that the application area is characterised by a topographic gradient of approximately 2% (GIS Database). With the area experiencing low and variable mean annual rainfall (approximately 265 millimetres) and high mean annual evaporation (approximately 2664 millimetres) (BoM 2008; GIS Database), the proposed clearing is unlikely to cause erosion or other land degradation issues.

The application area is located in close proximity to two salt lakes (GIS Database). One salt lake is located approximately 250 metres north of the application area whilst the second is located approximately 500 metres west (GIS Database). Botanica Consulting (2007) has identified the vegetation within the application area as riparian vegetation. Due to the low topography of the area, the application area may be subject to short periods of inundation following extreme rainfall events (GIS Database), however, the proposed clearing of 0.44 hectares is unlikely to increase the occurrence or severity of water logging either on or off-site.

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

Methodology

BoM (2008)
Botanica Consulting (2007)
Outback Ecology (2006)
GIS Database:
- Topographic Contours, Statewide
- Rainfall, Mean Annual
- Hydrography, linear_1

(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 not located within a conservation area (GIS Database). The nearest conservation area is Kurrawang Nature Reserve which is located approximately 10 kilometres south-east of the application area (GIS Database). Given the small area of proposed clearing and the distance separating the application area and the nearest conservation area, the proposed clearing is unlikely to impact on the conservation values of the Kurrawang Nature Reserve.

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

Methodology

GIS Database:
- CALM Managed Lands and Waters

(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

There are no permanent wetlands or watercourses within the application area (GIS Database). The salt lakes in the vicinity of the application are likely to remain dry for the majority of the year and only hold surface water for short periods following significant rainfall events. The clearing of 0.44 hectares for the proposed the power line corridor is unlikely to impact on surface water quality.

Groundwater salinities of the application area have been recorded in the range 14,000 - 35,000 mg/L Total Dissolved Solids and are already considered to be saline (GIS Database). The proposed clearing of 0.44 hectares is unlikely to impact on ground water quality.

The application area is not located within a Public Drinking Water Source Area (GIS Database).

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

Methodology

GIS Database:
- Hydrography, linear_1
- Groundwater Salinity, Statewide
- Public Drinking Water Source Areas (PDWSAs)

(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 is located approximately 20 kilometres west of Kalgoorlie-Boulder airport which has a mean annual rainfall of 265 millimetres and mean annual evaporation of 2664 millimetres (BoM, 2008). Rainfall for the region is non-seasonal, and there is considerable variation from year to year (BoM, 2008). No permanent waterbodies are located within the application area. The application area is located in close proximity to two salt lakes (GIS Database). One salt lake is located approximately 250 metres north of the application area whilst the second is located approximately 500 metres west (GIS Database). Salt lakes within the Eastern Goldfields generally remain dry for the majority of the year, although may hold free-standing water for short periods of time following extreme rainfall events. Given the close proximity of the application area to the salt lakes, the application area may be subject to infrequent inundation following significant rainfall events (GIS Database). However, the clearing of 0.44 hectares is unlikely to exacerbate or increase the incidence of flooding in the area.

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

Methodology

BoM (2008)
GIS Database:
- Hydrography, linear_1
- Geodata, Lakes

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

Comments

There are two Native Title claims over the area under application; WC98_027 and WC99_029. These claims have been registered with the National Native Title Tribunal on behalf of the claimant groups. However, the mining tenement has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no Aboriginal Sites of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the DEC and the DoW to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licence or approvals are required for the proposed works.

Methodology

GIS Database
- Native Title Claims – DLI 7/11/05
- Sites of Aboriginal Significance DIA

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Mineral Production	Mechanical Removal	0.44	The clearing principles have been addressed and the proposed clearing may be at variance to Principle (f), is not likely to be at variance to Principle (a), (b), (c), (d), (g), (h), (i) or (j) and is not at variance to Principle (e). Should the permit be granted, it is recommended that conditions be imposed on the permit for the purposes of weed management and permit reporting.

5. References

Botanica Consulting (2007). Riparian Vegetation Mapping of the Frog's Leg Project Proposed Power Line Corridor. Prepared for La Mancha Resources Pty Ltd, Prepared by Botanica Consulting, September 2007.

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Ninox Consulting (2002). A Vertebrate Fauna Assessment of the Proposed Frog's Leg Gold Project Near Kalgoorlie, Western Australia. Prepared for Mines and Resources Pty Ltd, Prepared by Ninox Wildlife Consulting.

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Outback Ecology (2004). Frog's Leg Project – Targeted Fauna Survey. Prepared for Mines and Resources Australia Pty Ltd. Prepared by Outback Ecology Environmental Management Services, January 2004.

Outback Ecology (2006). White Foil and Frog's Leg – Flora Survey of Potential Cutback Areas of the Frog's Leg (M15/688 Lease) and White Foil Open Pits (M15/830) Lease).

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001). Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Storr, G.M., Smith, L.A. and Johnstone, R.E. (2002). Snakes of Western Australia. Western Australian Museum, Francis Street, Perth.

6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), Western Australia.
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

Definitions:

{Atkins, K (2005). ***Declared rare and priority flora list for Western Australia, 22 February 2005*****. Department of Conservation and Land Management, Como, Western Australia} :-**

P1	**Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2	**Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3	**Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
P4	**Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
R	**Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been

adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

X **Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

Schedule 1 **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.

Schedule 2 **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.

Schedule 3 **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.

Schedule 4 **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

P1 **Priority One: Taxa with few, poorly known populations on threatened lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P2 **Priority Two: Taxa with few, poorly known populations on conservation lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P3 **Priority Three: Taxa with several, poorly known populations, some on conservation lands**: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P4 **Priority Four: Taxa in need of monitoring**: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

P5 **Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999)*

EX **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.

EX(W) **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

CR **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.

EN **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

VU **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

CD **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.