Government of **Western Australia**
Department of **Mines and Petroleum**

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3182/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Western Areas NL**

1.3. Property details

Property: Exploration Licence 70/2148
Local Government Area: Shire of Lake Grace
Colloquial name: Nickel Hill Project

1.4. Application

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

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia. Two Beard vegetation associations have been mapped within the application area (GIS Database; Shepherd, 2007).

125: Bare areas; salt lakes;
941: Mosaic: Medium woodland; salmon gum & morel/shrublands; mallee scrub, redwood (GIS Database; Shepherd, 2007).

The application area was surveyed by Paul Armstrong and Associates on 4 to 6 November 2009 (Paul Armstrong and Associates, 2010). The following vegetation types were identified within the application area:

***Halosarcia* Flats:** Low Heath to Dwarf Scrub dominated by *Halosarcia halocnemoides* subsp. *halocnemoides*. This community covers extensive areas of the regions that are occasionally inundated on the lakebed;

Low Heath on Lake Fringe: Patches of Dwarf Scrub dominated by *Halosarcia halocnemoides* subsp. *halocnemoides* over Herbs to Open Herbs of *Hydrocotyle hexaptera* and *Isotoma scapigera*. This community is a transition from the saline soils on the lakebed to the less saline soils of the dune systems;

Low Heath on Dunes: Low Heath with Patches of Dwarf Scrub dominated by *Atriplex vesicaria* subsp. *appendiculata*, frequently with pasture species *Trifolium* sp.; over Open Low Grass dominated by the weed *Avena barbata*. Also with occasional shrubs of *Pittosporum angustifolium*. This community covers extensive areas on the low dune areas to the east of the lake;

Low Heath: Low Heath with patches of Dwarf Scrub dominated by *Atriplex vesicaria* subsp. *appendiculata*, frequently with pasture species; over Open Low Grass dominated b the weed *Avena barbata*. This community occupies extensive areas between the low dunes to the east of the lake and the woodlands; and

Open Woodlands: Low Woodland of *Eucalyptus kondininensis* subsp. *kondininensis* over Dwarf Scrub dominated by *Atriplex vesicaria* subsp. *appendiculata*, frequently with pasture species *Trifolium* sp. over Open Low Grass dominated by the weed *Avena* sp. This community occupies the flat plains east of the low heath and west of the farmland (Paul Armstrong and Associates, 2010).

Clearing Description

Western Areas NL is proposing to clear up to 0.3 hectares of native vegetation within an area of 18.5 hectares (Western Areas NL, 2009). The proposed clearing is to allow the mobilisation of an Aircore drill rig to enable the effective testing of a number of targets known as the Eastern Shore Prospects (Western Areas NL, 2009).

The drill rig will be mounted on a 6x6 truck, with 1-2 support vehicles or trucks (Western Areas NL, 2010). Access to the drill sites will be via a meandering pathway to minimise disturbance and avoid sensitive areas, or through the use of existing gridlines and tracks wherever possible (Western Areas NL, 2010). Where clearing for access is required it will be undertaken using either a backhoe or a rubber tyre front-end loader, with raised blade (Western Areas NL, 2010).

All cleared topsoil and vegetation will be stockpiled and used in the rehabilitation of access tracks and drill pads (Western Areas NL, 2010).

Vegetation Condition

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994);
To
Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery,

1994).

Comment

The application area is located in the Mallee region, approximately 14 kilometres north-west of Lake King.

The vegetation condition was derived from a vegetation survey conducted by Paul Armstrong and Associates (2010).

3. Assessment of application against clearing principles

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

Comments

Proposal is at variance to this Principle

The application area occurs within the Western Mallee (MAL2) subregion of the Mallee Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by clays and silts underlain by Kankar, exposed granite, sandplains and laterite pavements. Salt lake systems occur on a granite basement, with occluded drainage systems (CALM, 2002). Mallee communities can be found on a variety of surfaces while *Eucalyptus* woodlands occur mainly on fine-textured soils, with scrub heath on sands and laterite (CALM, 2002).

The application area occurs within the A-class Lake King Nature Reserve (GIS Database), which is listed on the Register of National Estate for its natural values (Australian Heritage Database, 2009). According to the Australian Heritage Database (2009), it is an important contemporary refugium for many species and is rich in endemic species at a national scale. It is a large reserve at approximately 40,000 hectares and combined with Dunn Lake Nature Reserve to the south, creates an area of over 67,000 hectares of remnant vegetation. These two reserves comprise a significant area in maintaining existing processes at a regional scale, particularly given the large scale clearing that has occurred throughout the wheatbelt (Australian Heritage Database, 2009).

Two species of Priority Flora (P1 - *Hydrocotyle hexaptera* and P3 - *Frankenia drummondii*) were recorded within the application area during the vegetation survey (Paul Armstrong and Associates, 2010). The proposed clearing would impact upon less than 30 *Hydrocotyle hexaptera* plants, however this would not be considered to have a significant impact on the viability of the population (Paul Armstrong and Associates, 2009). While, approximately 5-10 *Frankenia drummondii* plants will be impacted (Paul Armstrong and Associates (2010). The destruction of 5-10 plants is unlikely to significantly and adversely impact on the survival of the population.

Five alien weed species were recorded within the application area: Cape Weed (*Arctotheca calendula*), Bearded Oat (*Avena barbata*), *Hypochaeris* sp., *Trifolium* sp. and *Ursinia* (*Ursinia anthemoides*) (Paul Armstrong and Associates, 2010). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This in turn can lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. None of these species are listed as 'Declared Plant' species under the *Agriculture and Related Resources Protection Act 1976* by the Department of Agriculture and Food. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

In a local context (1:25,000 scale), aerial photography indicates that approximately 33% of the landscape is under vegetation (with approximately 9.95% of the remaining vegetation cover occurring in reserves) with the remaining 67% cleared for agriculture (GIS Database; Shepherd, 2007). Whilst, in the cleared western and central parts of the subregion only 17.3% of native vegetation cover remains and widespread threats such as salinity are ubiquitous (CALM, 2002). Much of the native vegetation remaining is composed of small fragments (GIS Database), which due to their isolation are likely to be degraded with reduced biodiversity (EPA, 2000).

The vegetation of the application area has been broadly mapped as Beard vegetation associations:
125: Bare areas; salt lakes; and
941: Mosaic: Medium woodland; salmon gum & morrel/Shrublands; mallee scrub, redwood (Shepherd, 2007).
According to Shepherd (2007) there is approximately 15.8% of the pre-European extent of Beard vegetation association 941 remaining in the bioregion and sub-region. The national objective and targets for biodiversity conservation recognise target retention of 30% or more of the pre-1750 clearing extent of each ecological community (Department of the Environment, Water, Heritage and the Arts, 2001). Beyond this number species extinction is believed to occur at an exponential rate (EPA, 2000).

There is no information to suggest that the vegetation within the reserve is more biodiverse than other remnant vegetation within the bioregion. There is no information to suggest that the vegetation within the application area is more biodiverse than vegetation within the remainder of the reserve. However, the application area is certainly more biodiverse than the cleared agricultural land surrounding the nature reserve, and in the local area.

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

Methodology

Australian Heritage Database (2009)
CALM (2002)
EPA (2000)
Paul Armstrong and Associates (2009)

Paul Armstrong and Associates (2010)
Shepherd (2007)
GIS Database
- DEC Tenure
- Hurlstone 50cm Orthomosaic - Landgate 2004
- IBRA WA (Regions - subregions)
- Ironcap 50cm Orthomosaic - Landgate 2004
- King 1.4m Orthomaosaic - Landgate 2003
- Newdegate 1.4m Orthomosaic - Landgate 2004

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is at variance to this Principle

Five broad floristic zones forming habitat types were recorded over the survey area;

- *Halosarcia* Flats;
- Low Shrubs on Lake Fringe;
- Low Shrubs on Dunes;
- Low Heath; and
- Open Woodlands (Paul Armstrong and Associates, 2010).

The 'Open Woodlands' within the application area may provide habitat for the following species of conservation significance:

Schedule 1 - Fauna that is rare or likely to become extinct, *Wildlife Conservation (Specially Protected Fauna) Notice, 2010*: Carnaby's Black Cockatoo (*Calypotorhynchus latirostris*) and the Malleefowl (*Leipoa ocellata)*.

Carnaby's Black-Cockatoo occurs in uncleared or remnant areas of eucalypt woodland (DEC, 2010a). Carnaby's Black-Cockatoo nests in the hollows of live or dead eucalypts, with hollows usually two to over 10 metres above ground (DEC, 2010a). Therefore, the 'open woodlands' may provide suitable nesting habitat for this species. The importance of the vegetation as both feeding and nesting ground is magnified by the large areas of cleared land for agriculture which do not provide suitable habitat for this species (GIS Database).

Malleefowl are largely confined to arid and semi-arid woodland that is dominated by mallee Eucalypts on sandy soils, with less than 430 millimetres of rainfall annually, with their remaining range being highly fragmented (DEC, 2010b). Therefore, Malleefowl may utilise the 'open woodlands' recorded within the application area and so the remaining vegetation is important as nesting ground as the surrounding cleared agricultural land do not provide suitable habitat for this species.

In a local context (1:25,000 scale), native vegetation has been extensively cleared for agriculture and as a result the remaining vegetation is highly fragmented (GIS Database). Vegetation corridors such as the application area are highly important as they form ecological linkages that are necessary for the movement of fauna and maintenance of fauna habitat. The application area forms part of an ecological linkage between the surrounding landscape and the Lake King Nature Reserve, therefore it is considered significant habitat.

Based on the above, the proposed clearing is at variance to this Principle. Whilst the application area contains habitat that may be utilised by species of conservation significance, and is a refuge for wildlife in general, it is not expected that the proposed clearing will have a significant impact on fauna habitats. Potential impacts to Scheduled fauna as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

Methodology

DEC (2010a)
DEC (2010b)
Paul Armstrong and Associates (2010)
GIS Database
- Hurlstone 50cm Orthomosaic - Landgate 2004
- Ironcap 50cm Orthomosaic - Landgate 2004
- King 1.4m Orthomaosaic - Landgate 2003
- Newdegate 1.4m Orthomosaic - Landgate 2004

(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 databases, no Declared Rare Flora (DRF) or Priority Flora species occur within the application area (GIS Database).

A flora survey was conducted over the Lake King Nature Reserve Prospect including the application area by staff from Western Botanical on 6 to 7 October 2008 and Paul Armstrong and Associates on 31 October to 2 November 2005 and 4 to 6 November 2009 (Paul Armstrong and Associates, 2005; Paul Armstrong and Associates, 2010; Western Botanical, 2008).

No DRF were recorded during the surveys. Two species of Priority Flora were recorded within the application area (Paul Armstrong and Associates, 2010).

P1 - *Hydrocotyle hexaptera*; and
P3 - *Frankenia drummondii*.

Hydrocotyle hexaptera is a small annual herb associated with gypsum, sandy soils, dunes and salt lakes (Western Australian Herbarium, 1998-2010). Paul Armstrong and Associates (2010) recorded 3 subpopulations of *Hydrocotyle hexaptera* along the proposed gridlines Eastern Shores 1 and Eastern Shores 2 where it was abundant, with 300-600 plants observed. The proposed clearing would impact upon less than 30 *Hydrocotyle hexaptera* plants, however this is not likely to have a significant impact on the viability of the population (Paul Armstrong and Associates, 2010).

Frankenia drummondii is a low prostrate shrub associated with sand and lake edges (Western Australian Herbarium, 1998-2010). Paul Armstrong and Associates (2010) recorded a population of approximately 100-200 plants along the access track to the east of the Lake, near Bibby Camm Road. Given the close proximity of the population to the access track, approximately 5-10 plants will be impacted (Paul Armstrong and Associates (2010). The destruction of 5-10 plants is unlikely to significantly or adversely impact on the survival of the population.

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

Methodology
Paul Armstrong and Associates (2005)
Paul Armstrong and Associates (2010)
Western Australian Herbarium (1998-2010)
Western Botanical (2008)
GIS Database
- Declared Rare and Priority Flora List

(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

A search of available databases reveals that there are no Threatened Ecological Communities (TEC's) within the application area (GIS Database).

The nearest TEC is located approximately 68 kilometres south-west of the application area. At this distance there is little likelihood of any impact to the TEC from the proposed clearing.

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

Methodology
GIS Database
- Threatened Ecological Sites

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments

Proposal is at variance to this Principle

The application area falls within the Mallee Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2007) reports that approximately 54.63% of the pre-European vegetation remains in this bioregion, of which approximately 31.22% is located within conservation reserves (see table below). In addition, there is approximately 33.29% of vegetation remaining within the Western Mallee IBRA subregion, of which 25.34% remains in conservation estate.

There is approximately 32.37% of vegetation remaining within the Shire of Lake Grace (Shepherd, 2007). The Shire of Lake Grace is within the Intensive Land Use Zone of the south-west of Western Australia which has been extensively cleared for agriculture. Consequently, only ~32.37% of its pre-European vegetation extent remains within the shire. This places the Shire at 'Depleted' according to the Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment, 2002).

The vegetation within the application area is recorded as Beard vegetation associations (Shepherd, 2007):

- **Beard Vegetation Association 125:** Bare areas; salt lakes; and
- **Beard Vegetation Association 941:** Mosaic: Medium woodland; salmon gum & morrel / Shrublands; mallee scrub, redwood.

According to Shepherd (2007) approximately 51.58% and 15.8% of these vegetation associations remain within the bioregion and 11.4% and 15.77% remain within the subregion (see table below). These vegetation associations are therefore listed as being 'Vulnerable'.

In the context of this clearing proposal, Beard vegetation association 941 is a critical asset as it has less than 30% representation of its pre-clearing extent in the bioregion. EPA (2000) notes 30% to be the current recognised threshold level below which species loss accelerates exponentially at an ecosystem level. Critical assets are defined as 'the most important environmental assets in Western Australia that must be fully protected and conserved for the state to meet its statutory requirements and to remain sustainable in the longer term' (EPA, 2006).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves (and post clearing %)
IBRA Bioregion - Mallee	7,395,898	4,040,547	~54.63%	Least Concern	~17.97% (~31.22%)
IBRA Subregion - Western Mallee	3,981,721	1,325,703	~33.29%	Depleted	~9.95% (~25.34%)
Local Government - Lake Grace	1,188,348	384,699	~32.37%	Depleted	~16.74% (~14.85%)
Beard vegetation associations - State					
125	3,489,858	3,246,667	~93%	Least Concern	~7.18% (~5.32%)
941	34,246	14,516	~42.4%	Depleted	~8.26% (~12.30%)
Beard vegetation associations - Bioregion					
125	166,780	86,018	~51.58%	Least Concern	~29.32% (~12.30%)
941	23,425	3,694	~15.8%	Vulnerable	~12.1% (~48.35%)
Beard vegetation associations - subregion					
125	88,057	10,040	~11.4%	Vulnerable	~47.51% (~38.72%)
941	23,425	3,694	~15.77%	Vulnerable	~12.08% (~48.35%)

* Shepherd (2007)
** Department of Natural Resources and Environment (2002)

Options to select from:	Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment 2002)
Presumed extinct	Probably no longer present in the bioregion
Endangered*	<10% of pre-European extent remains
Vulnerable*	10-30% of pre-European extent exists
Depleted*	>30% and up to 50% of pre-European extent exists
Least concern	>50% pre-European extent exists and subject to little or no degradation over a majority of this area

* or a combination of depletion, loss of quality, current threats and rarity gives a comparable status

Based on the above, the proposed clearing is at variance to this Principle. Potential impacts to remnant native vegetation as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition.

Methodology

Department of Natural Resources and Environment (2002)
EPA (2000)
EPA (2006)
Shepherd (2007)
GIS Database
- Pre-European Vegetation
- IBRA WA - (regions - subregions)

(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

The application area overlaps the north-eastern fringes of Lake King called the Eastern Shores (Paul Armstrong and Associates, 2009). The topography of the Lake King Project area is of moderate relief, estimated to be 30 metres above the surrounding salt lakes (Western Areas NL, 2009). Lake King is now essentially a sump for all run-off water, with evaporation usually sufficient to maintain a dry surface crust, except in winter when the main rains fall (Western Areas NL, 2009).

Based on vegetation mapping conducted by Paul Armstrong and Associates (2005) there would appear to be riparian vegetation present within the application area (Paul Armstrong and Associates, 2010). Two of the four vegetation associations found within the application area are associated with the Lake King wetland (Paul Armstrong and Associates, 2010):

- *Halosarcia* Flats; and
- Low Shrubs on Lake Fringe (Paul Armstrong and Associates, 2010).

According to available GIS Database and maps provided by Western Areas NL (2009), Nickel Hill is located on the far north-eastern end of Lake King and a small proportion of the proposed clearing occurs on the margins of Lake King.

Based on the above, the proposed clearing may be at variance to this Principle. However, given the size of Lake King (approximately 10,644 hectares), the clearing of 0.3 hectares of vegetation is unlikely to significantly impact the ecological communities or environmental values associated with the wetland. Provided surface water run-off is managed and the natural surface water flow patterns are not disturbed, the proposed clearing is unlikely to result in any significant impact to Lake King.

Methodology

Paul Armstrong and Associates (2005)
Paul Armstrong and Associates (2009)
Paul Armstrong and Associates (2010)
Western Areas NL (2009)
GIS Database
- Hydrography - Linear

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

Comments

Proposal may be at variance to this Principle

Soil sampling within the application area was undertaken by Western Areas NL (2009).

According to Western Areas NL (2009) Nickel Hill is dominated by residual laterite duricrust overlain by very thin (approximately 5 centimetres) latosols. This type of soil is prone to water erosion.

Soils rapidly thicken as distance is increased away from Nickel Hill and exhibit yellow brown aeolian (wind driven) sand mixing. The salt lake shores are bordered by coarse yellow sands, usually gypsiferous (Western Areas NL, 2009). These soils are not prone to erosion.

Due to the small size of the proposed clearing, the likelihood of increased water logging is very minimal. Furthermore the area close to the lake shore is already hyper saline and the proposed clearing is not likely to increase salinity levels.

Based on the above, the proposed clearing may be at variance to this Principle. Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition.

Methodology

Western Areas NL (2009)

(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 at variance to this Principle

The application area is within the Lake King Nature Reserve (A-class) which occurs within a region that has been extensively cleared and is therefore important for the conservation of flora and fauna. It is listed on the Register of National Estate for its 'natural values' (Australian Heritage Database, 2009). At 40,000 hectares it is a substantial nature reserve in terms of size (although approximately half of this area is salt lake) and is important to maintain ecological function on a regional scale (Australian Heritage Database, 2009). Lake King is also listed in 'A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002' (CALM, 2002) as a wetland of regional significance.

In the context of this clearing proposal, Lake King Nature Reserve is a critical asset as it is classified as an A-Class Nature Reserve. Critical assets are defined as 'the most important environmental assets in Western Australia that must be fully protected and conserved for the state to meet its statutory requirements and to remain sustainable in the longer term' (EPA, 2006).

The proposed clearing of 0.3 hectares represents an extremely small fraction of the vegetation within the reserve. Provided adequate rehabilitation occurs, it is unlikely the proposed clearing would significantly impact on the environmental values of the reserve.

Based on the above, the proposed clearing is at variance to this Principle. Potential impacts to the Lake King Nature Reserve as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition.

Methodology
Australian Heritage Database (2009)
CALM (2002)
EPA (2006)
GIS Database
- DEC Tenure

(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 may be at variance to this Principle

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The groundwater salinity within the application area is approximately >35,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be hyper saline. Given the size of the area to be cleared (0.3 hectares) compared to the size of the Yilgarn Southwest Groundwater Province (24,601,260 hectares) (GIS Database), the proposed clearing is not likely to cause groundwater salinity levels within the application area to alter significantly.

As the application area overlaps the margins of Lake King, groundwater is at the surface at the margins of the lake and gets progressively deeper higher in the landscape (Western Areas, 2008). The removal of 0.3 hectares of vegetation is not likely to cause groundwater levels to significantly alter. As clearing will take place close to the lake edge, run off during rainfall events may cause small amounts of sediments to be deposited into the lake.

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

Methodology
Western Areas (2008)
GIS Database
- Groundwater Provinces
- Groundwater Salinity, Statewide
- Public Drinking Water Source Areas

(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 warm Mediterranean climate with an average annual rainfall of 368.2 millimetres recorded from the nearest weather station at Newdegate Research Station approximately 47.5 kilometres west of the application area (CALM, 2002; BoM, 2010). Rainfall is usually experienced during winter months and it is likely that during times of intense rainfall there may be some localised flooding in adjacent areas (CALM, 2002).

The application area is located within the Swan-Avon Lockhart catchment area (GIS Database). However, the small area to be cleared (0.3 hectares) in relation to the size of the Swan-Avon Lockhart catchment area (2,839,267 hectares) (GIS Database) is not likely to increase the potential for flooding within the application area, local area or within the catchment (GIS Database).

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

Methodology
BoM (2010)
CALM (2002)
GIS Database
- Hydrographic Catchments - Catchments

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

Comments

Under Section 24(3) of the *Mining Act 1978* mining or exploration activities within Class-A Nature Reserves is prohibited unless;

(a) Subject to subsection (4) mining may be carried out on any land referred to in subsection 1(a) or (b) with the written consent of the Minister who may refuse his consent or who may give his consent subject to such terms and conditions as the Minister specifies in the consent; and

(b) Before giving his consent whether conditionally or unconditionally the Minister shall first consult with, and obtain the concurrence thereto, of the responsible Minister.

On the 5 May 2006, consent to mine on Conservation of Flora and Fauna Nature No. 39422 being the Lake King Nature Reserve was granted to Western Areas NL by the Minister responsible for the *Mining Act 1978*, with the concurrence from the Minister for the Environment; Racing and Gaming.

It should be acknowledged that as the application area falls within the A-Class Lake King Nature Reserve, Cabinet decision 5.07 (July 2002) applies. This Cabinet decision notes 'that the continued action to progress mining and petroleum exploration applications that were made before the 2001 election is intended and this will result in grants being progressively made to applicants.' This approval is subject to: 'where applications were made before the 2001 election result in exploration proceeding in national parks and nature reserves, it should be made clear that there is no presumption that approval will be given for mining or petroleum extraction'. The exploration licence 70/2148 was applied for on 4 December 1998 and was granted on 4 October 2005.

The current clearing permit application is approximately 0.1 kilometres and 0.5 kilometres east of two previous clearing permits (CPS 2487/1 and CPS 1506/2 respectively). These were for similar exploration proposals from Western Areas NL, where 0.1 hectares of native vegetation was approved to clear in both instances.

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

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

The clearing permit application was advertised on 13 July 2009 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

Methodology GIS Database
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to Principles (a), (b), (e) and (h), may be at variance to Principles (f), (g) and (i) and is not likely to be at variance to Principles (c), (d) and (j).

5. References

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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.
DMP	Department of Mines and Petroleum, 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.