



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5934/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Ronald William & Carolyn Joy Brown**

1.3. Property details

Property: Mining Lease 77/1245
Local Government Area: Shire of Kondinin
Colloquial name: North Pit Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4		Mechanical Removal	Sand extraction and associated activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 6 February 2014

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 for the whole of Western Australia. One Beard vegetation association has been mapped within the application area (GIS Database):

519: Shrublands; mallee scrub, *Eucalyptus eremophila*

A flora and vegetation survey has been undertaken over the application area by PEK Enviro (2011). This survey identified the following vegetation groups:

- Mallee low woodland; *Eucalyptus olivine* over mixed heath
- Sandplain heath; *Eremaea pauciflora*/*Acacia sphacelata* subsp. *sphacelata* with emergent *Eucalyptus scyphocalyx*

Clearing Description North Pit Project.
RW and CJ Brown (Brown) proposes to clear up to 4 hectares of native vegetation within a total boundary area of approximately 102 hectares for the purpose of sand extraction and associated activities. The proposal is located approximately 110 kilometres east of Hyden, in the Shire of Kondinin.

Vegetation Condition Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

Comment The vegetation condition was assessed by PEK Enviro (2011).

The proposed clearing is for establishing a pit; stockpile area and haul road associated with sand extraction activities.

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 falls within the Southern Cross (COO2) subregion of the Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). This sub-region is characterised by subdued relief, comprising of gently undulating lands dissected by broad valleys with bands of low greenstone hills (CALM, 2002). Diverse Eucalyptus woodlands rich in endemic eucalypts occur around salt lakes, on low greenstone hill, valley alluvials and broad plains of calcareous earths (CALM, 2002). Mallees and scrub-heaths occur on the uplands, sand lunettes associated with playas along the broad valley floors, and sand sheets around granite outcrops (CALM, 2002).

A flora and vegetation survey has been conducted over the application area by PEK Enviro (2011). The vegetation types found within the application area are considered to be broadly represented in the surrounding areas (PEK Enviro, 2011).

No Threatened or Priority Ecological Communities were recorded in the application area (GIS Database).

The application area supports a relatively large population of the Threatened Flora species *Calectasia pignattiana* (PEK Enviro, 2011; 2012). This species was recorded in several locations across the western side of the application area, as well as in numerous locations in the adjoining area (PEK Enviro, 2012). There were no Priority Flora species recorded (PEK Enviro, 2011). There were also no weed species recorded (PEK Enviro, 2011). Care must be taken to ensure that the proposed clearing activities do not introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

A fauna survey has not been undertaken over the application area. A database search conducted by the assessing officer identified 25 reptile, 14 bird, 9 invertebrate, 5 mammal and 2 amphibian species occurring within 20 kilometres of the application area (DEC, 2007 -). The region in which the application area lies is considered to have low faunal diversity.

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

Methodology CALM (2002)
DEC (2007 -)
PEK Enviro (2011)
PEK Enviro (2012)
GIS Database
- IBRA WA (Regions - Sub Regions)
- Threatened Ecological Sites Buffered

(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**
A fauna survey has not been undertaken over the application area.

A desktop search conducted by the assessing officer did not identify any conservation significant fauna species occurring within 20 kilometres of the application area (DEC, 2007 -).

PEK Enviro advises that the vegetation types within the application area are common to the area (PEK Enviro, 2011), therefore it is considered unlikely that the application area contains significant habitat. Given the small scale of the proposed clearing, it is considered unlikely that the proposed clearing activities will have a significant impact on fauna habitat.

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

Methodology DEC (2007 -)
PEK Enviro (2011)

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

Comments **Proposal is at variance to this Principle**
The flora and vegetation survey conducted by PEK Enviro (2011) identified one Threatened Flora species; *Calectasia pignattiana*. This species was identified in the Sandplain Heath vegetation group (PEK Enviro, 2011). A follow-up targeted search for *Calectasia pignattiana* was undertaken by PEK Enviro in November 2012 to ascertain the extent of the species within and surrounding the application area.

Approximately 625 individuals of *Calectasia pignattiana* were recorded within the application area (PEK Enviro, 2012). Brown (2013) advises that the 4 hectares of clearing associated with the North Pit development will impact 30 of these individuals.

The targeted survey also recorded 247 individuals outside of the application area.

Based on the 2.1 kilometre traverse, PEK Enviro estimate that the species occurs at a density of approximately 0.2 plants/m² in the search area (PEK Enviro, 2012). Areas interpreted as being likely habitat for *Calectasia pignattiana* have been estimated at 153 hectares. Therefore PEK Enviro (2011) has put forward that this species is potentially widespread in the region.

Advice on this species was received from the Species and Communities Branch at the Department of Parks and Wildlife (DPaW, 2014). According to DPaW (2014), this is the most eastern and largest population recorded, making the population both locally and regionally significant. Based on the information provided,

DPaW (2014) estimate that 3.4 percent of the local population and 2.1 percent of the total known number of individuals will be impacted. DPaW (2014) does not consider this level of impact likely to be significant with respect to conservation of this species.

It is also taken into consideration that DPaW will be issuing a "Permit to Take DRF" for the removal of 30 individual plants only.

Based on the above, the proposed clearing is at variance to this Principle. However, the proposed clearing will only affect 30 individuals of *Calectasia pignattiana*. Taking into account the relatively large population that will remain, it is not considered likely that this level of impact will threaten the viability of the population or the continued existence of the species.

Methodology Brown (2013)
DPaW (2014)
PEK Enviro (2011)
PEK Enviro (2012)

(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

According to available databases there are no Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest recorded TEC is located approximately 146 kilometres southwest of the application area (GIS Database).

No TECs were identified during the flora and vegetation survey conducted by PEK Enviro (2011).

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

Methodology PEK Enviro (2011)
GIS Database
- Threatened Ecological Sites Buffered

(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

The application area is located within the Coolgardie Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). Approximately 97.96% of pre-European vegetation remains within the Coolgardie bioregion (Government of Western Australia, 2013).

The vegetation within the application area has been broadly mapped as Beard vegetation association (GIS Database):

519: Shrublands; mallee scrub, *Eucalyptus eremophila*

Approximately 98% of this Beard vegetation association remains within the Coolgardie bioregion (see below) (Government of Western Australia, 2013).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Coolgardie	12,912,204	12,648,491	~97.96	Least Concern	10.87
Beard vegetation associations - State					
519	2,333,413	1,440,021	~61.71	Least Concern	10.49
Beard vegetation associations - Bioregion					
519	147,579	146,943	~99.57	Least Concern	10.67

* Government of Western Australia (2013)

** Department of Natural Resources and Environment (2002)

The vegetation within the application area is not considered to be a remnant of vegetation in an area that has been extensively cleared.

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2013)
GIS Database:
- 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 is not at variance to this Principle

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

PEK Environment (2011) did not record any vegetation growing in association with a watercourse or wetland.

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

Methodology PEK Enviro (2011)
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 is not likely to be at variance to this Principle

The soil within the application area has been broadly mapped as AC1 (GIS Database). Northcote (1960 – 1968) describes this soil type as follows:

AC1: Gently sloping to gently undulating plateau areas, or uplands, on granites, gneisses, and allied rocks, with long gentle slopes and, in places, abrupt erosional scarps, some granitic bosses, and tors; and irregularly traversed by narrow shallow valleys and flats: chief soils are yellow earthy sands and sandy yellow earths on depositional sites, and ironstone gravels together with...ironstone gravels on erosional sites where they are underlain by hardened mottled-zone material. Soil dominance varies locally.

PEK Enviro (2011) considers the application area to be comprised of silt and sand, consistent with the Norseman soil landscape zone as described by Tille (2006).

Considering the sandy nature of the application area, the clearing of native vegetation may increase the risk of wind erosion. However, this increase is not likely to be significant considering the proposed clearing is for 4 hectares within an application area of 102 hectares.

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

Methodology Northcote (1960 – 1968)
PEK Enviro (2011)
Tille (2006)
GIS Database:
- Soils, Statewide

(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 proposed clearing is not located within a conservation reserve (GIS Database). The nearest conservation area is the Lake Cronin Nature Reserve, which is located approximately 20 kilometres south-west of the application area (GIS Database).

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

Methodology 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 is not likely to be at variance to this Principle

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

There are no watercourses, wetlands or significant hydrological features located within the application area (GIS Database).

The small scale of the proposed clearing is not likely to impact on groundwater.

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

Methodology GIS Database:
- Hydrography, linear
- 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 climate over the application area can be described as semi-arid, warm Mediterranean, with an average 338.6 millimetres of rain received annually (BoM, 2014). The area under application is located on sandy dune system (Tille, 2006). During rainfall events, water is likely to move through the soil profile rather than flow along the surface or collect and flood (PEK Enviro, 2011).

The clearing of 4 hectares within an application area of 102 hectares is not considered likely to increase the incidence or severity of flooding.

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

Methodology BoM (2014)
PEK Enviro (2011)
Tille (2006)

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

Comments

There are no Native Title Claims over the application area.

There are no Aboriginal Sites of Significance located within the application area. 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 Department of Environment Regulation (formerly 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 amendment was advertised on 30 December 2013 by the Department of Mines and Petroleum inviting submissions from the public. There were two submissions received. One submission requested that the area be rehabilitated once operations had ceased. To avoid duplication, rehabilitation requirements will be dealt with under a Mining Proposal required by the *Mining Act 1978*. The second submission requested that the proponent engage monitors at the commencement of clearing activities.

4. References

- BoM (2014) Climate Statistics for Australian Locations. A Search for Climate Statistics for Hyden. Australian Government Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (accessed 15 January 2014).
- Brown (2013) Additional information for clearing permit application ? M77/1245 North Pit. Unpublished report prepared by Ronald and Carolyn Brown.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia.
- DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed xx/xx/xxxx
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- DPaW (2014) Advice from Species and Communities Branch, Department of Parks and Wildlife, 22 January 2014.
- Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- PEK Enviro (2011) Level 1 Vegetation and Flora Survey. Unpublished report prepared for Ronald and Carolyn Brown.
- PEK Enviro (2012) Threatened Flora and Reconnaissance Search Report. Unpublished report prepared for Ronald and Carolyn Brown.
- Tille, P. (2006) Soil-landscapes of Western Australia's Rangelands and Arid Interior. Resource Management Technical Report 313. Department of Agriculture and Food. Western Australia.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), 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 (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
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 Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

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.