



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6253/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Sirius Gold Pty Ltd

1.3. Property details

Property: Mining Lease 28/376
Local Government Area: Shire of Dundas
Colloquial name: Nova Nickel Project

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|--|
| 460 | | Mechanical Removal | Mineral Production and Associated Activities |

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 31 December 2014

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The clearing permit application area has been broadly mapped as Beard vegetation associations:
487: Medium woodland; redwood & red mallee (*Eucalyptus oleosa*);
488: Mosaic: Medium woodland: gimlet / Shrublands: mallee scrub, *Eucalyptus eremophila* scrub; and
489: Mosaic: Medium woodland: goldfields blackbutt & Dundas blackbutt / Shrublands: dodonaea scrub (GIS Database).

A flora and vegetation survey conducted by Mattiske Consulting Pty Ltd (Mattiske) identified 18 vegetation communities within the application area, categorised as three broad vegetation types: Eucalyptus Woodlands; Mixed Shrublands and Scrubs; and Hummock Grasslands (MBS, 2014). Woodland communities dominated the application area. The following vegetation communities were identified within the application area:

Eucalyptus Woodlands

W1: Woodland of mixed Eucalypts including *Eucalyptus salubris*, *Eucalyptus celastroides*, *Eucalyptus calycogona* subsp. *calycogona*, *Eucalyptus oleosa* subsp. *oleosa* and *Eucalyptus lesouefii* over *Cratystylis conocephala*, *Exocarpos aphyllus*, *Diocirea ternata*, *Eremophila alternifolia*, *Eremophila interstans*, *Eremophila ionantha*, *Eremophila scoparia* and *Geijera linearifolia* over *Olearia muelleri*, *Atriplex vesicaria* and *Scaevola spinescens* over mixed shrubs, herbs and grasses on orange-brown sandy clay-loams on flats.

W2: Woodland of *Eucalyptus salubris* and *Eucalyptus oleosa* subsp. *oleosa* with patches of mixed Eucalyptus species over *Melaleuca quadrifaria*, *Acacia hemiteles*, *Cratystylis conocephala* over *Diocirea ternata*, *Eremophila ionantha*, *Atriplex vesicaria*, *Eremophila decipiens* subsp. *decipiens*, *Eremophila scoparia*, *Geijera linearifolia*, *Senna artemisioides* subsp. *filifolia* and *Exocarpos aphyllus* over *Vittadinia dissecta* var. *hirta*, *Olearia muelleri*, *Sclerolaena diacantha*, *Ptilotus holosericeus* and *Zygophyllum ovatum* over herbs and grasses on red-orange clayloams on flats and lower slopes.

W3: Woodland of *Eucalyptus oleosa* subsp. *oleosa* and *Eucalyptus lesouefii* with occasional *Eucalyptus celastroides* and *Eucalyptus salubris* over *Cratystylis conocephala* over *Olearia muelleri*, *Atriplex vesicaria* and *Santalum acuminatum* over *Rhagodia crassifolia*, *Zygophyllum apiculatum* and *Sclerolaena diacantha* over other mixed shrubs and herbs on orange-brown clay-loams on flats and slopes.

W4: Woodland to open woodland of mixed Eucalyptus species over *Eremophila scoparia*, *Cratystylis conocephala* and *Atriplex vesicaria* over *Sclerolaena diacantha*, *Olearia muelleri*, *Atriplex vesicaria* species and *Rhagodia crassifolia* over herbs on orange clay-loams and sandy-loams on flats.

W5: Woodland of *Eucalyptus clelandii*, *Eucalyptus uma*, *Eucalyptus oleosa* subsp. *oleosa* and *Eucalyptus lesouefii* over *Melaleuca sheathiana* over *Olearia muelleri*, *Eremophila scoparia* and *Alyxia buxifolia* over *Zygophyllum glaucum* and *Maireana* species on orange-brown sandy-loams on flats and lower slopes.

W6: Open woodland of mixed Eucalyptus species over *Eremophila dempsteri*, *Melaleuca halmaturorum* and *Melaleuca sheathiana* over *Cratystylis conocephala* and *Eremophila scoparia* over *Olearia muelleri* and mixed shrubs and herbs on orange clay-loams on flats and slopes.

W7: Open woodland of *Eucalyptus incrassata*, *Eucalyptus rigidula* and *Eucalyptus oleosa* subsp. *oleosa* over *Westringia rigida*, *Daviesia benthamii* subsp. *acanthoclona*, *Acacia erinacea*, *Santalum acuminatum*, *Eremophila scoparia* and *Acacia merrallii* over *Triodia scariosa* and herbs on orange-red clay-loams and sandy-loams on flats and lower slopes.

W8: Low open woodland of *Eucalyptus oleosa* subsp. *oleosa*, *Eucalyptus spreta* and *Eucalyptus lesouefii* over *Melaleuca sheathiana*, *Eremophila ionantha*, *Acacia hemiteles*, *Eremophila scoparia*, *Cratystylis conocephala* and *Melaleuca halmaturorum* over mixed shrubs and herbs on orange-brown clay-loams and sandy-loams on

lower to mid slopes.

W9: Low open woodland of *Eucalyptus gracilis* and *Eucalyptus salubris* over *Eremophila scoparia*, *Eremophila ionantha*, *Melaleuca halmaturorum*, *Diocirea ternata*, *Cratystylis conocephala*, *Olearia muelleri*, *Melaleuca sheathiana* and *Dodonaea stenozyga* over low shrubs and herbs on red-brown sandy-loams and clay-loams on flats.

W10: Open woodland of *Eucalyptus oleosa* subsp. *oleosa* over *Melaleuca halmaturorum* over *Acacia hemiteles* and *Eremophila alternifolia* over *Olearia muelleri* and *Zygophyllum glaucum* on pale orange clay-loams and sandy-loam gravels on flats.

W11: Open woodland of *Eucalyptus salubris*, *Eucalyptus fraseri* subsp. *fraseri*, *Eucalyptus celastroides* and *Eucalyptus prolixa* over *Diocirea ternata*, *Eremophila ionantha*, *Eremophila scoparia* and *Olearia muelleri* over mixed low Chenopods on orange to red clay-loams on flats.

W14: Open woodland of *Eucalyptus salubris*, *Eucalyptus calycogona* subsp. *calycogona* and *Eucalyptus spreta* over *Melaleuca halmaturorum*, *Diocirea ternata*, *Eremophila decipiens* subsp. *decipiens*, *Eremophila scoparia*, *Atriplex vesicaria* and *Olearia muelleri* over herbs and grasses on cracking clays on flats.

W20: Open woodland of *Eucalyptus salubris* with local patches of *Eucalyptus calycogona* subsp. *calycogona*, *Eucalyptus spreta*, *Eucalyptus fraseri* subsp. *fraseri* and *Eucalyptus oleosa* subsp. *oleosa* over *Melaleuca sheathiana*, *Acacia hemiteles*, *Cratystylis conocephala*, *Eremophila scoparia* and *Olearia muelleri* over localized patches of *Triodia irritans* on orange to red-brown clay-loams and sandy-loams on flats and lower slopes.

Mixed Shrublands and Scrubs

S1: Open scrub of *Melaleuca halmaturorum*, *Atriplex vesicaria*, *Cratystylis conocephala* and *Eremophila scoparia* with occasional *Eucalyptus lesouefii* and *Eucalyptus salubris* over *Zygophyllum ovatum*, *Scaevola spinescens*, *Olearia muelleri* and *Sclerolaena diacantha* over other low shrubs and herbs on orange clay-loams on flats and slopes.

S2: Open scrub of *Logania* sp. and *Eremophila ionantha* with occasional emergent *Eucalyptus salubris* and *Eucalyptus spreta* over *Atriplex* species, *Ptilotus holosericeus*, *Vittadinia dissecta* var. *hirta* and *Chenopod* species on orange cracking clays on flats and low lying areas.

S3: Low open shrubland of *Acacia acuminata* (narrow phyllode variant) over *Eremophila decipiens* subsp. *decipiens*, *Dodonaea lobulata*, *Olearia pimeleoides* and *Eremophila deserti* over *Rhagodia ulicina*, *Enchylaena tomentosa* var. *tomentosa* and *Sclerolaena diacantha* and other mixed shrubs on red-brown clays on flats.

S4: Open scrub of *Allocasuarina helmsii* and *Melaleuca uncinata* with occasional *Eucalyptus rigidula* and *Eucalyptus salubris* over *Acacia hemiteles*, *Alyxia buxifolia*, *Dodonaea microzyga* var. *acrolobata*, *Grevillea acuarina*, *Scaevola spinescens* and *Olearia muelleri* over patches of *Triodia ?scariosa* and herbs on orange to red clay loam and clays on flats and slopes.

Hummock Grasslands

G1: Open hummock grassland of mixed *Triodia* sp. with emergent *Eucalyptus griffithsii*, *Eucalyptus oleosa* subsp. *oleosa*, *Eucalyptus rigidula* and *Eucalyptus ?kumartensis* over *Acacia erinacea*, *Acacia burkittii* and *Acacia hemiteles* over *Cryptandra aridicola*, *Westringia rigida*, *Senna artemisioides* subsp. *filifolia*, *Eremophila decipiens* subsp. *decipiens*, *Alyxia buxifolia* and *Grevillea acuarina* over herbs on orange-red clay-loams and sandy-loams on flats and slopes.

Clearing Description

Nova Nickel Project.

Sirius Gold Pty Ltd (Sirius) proposes to clear up to 460 hectares of native vegetation within a boundary of approximately 4,666 hectares, for the purpose of establishing an minesite and mining-related infrastructure. The project is located approximately 120 kilometres east-northeast of Norseman, within the Shire of Dundas.

Vegetation Condition

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994);

To

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

Comment

The vegetation condition was derived from a vegetation survey conducted by Matiske Consulting (Matiske, 2014).

The proposal is for a new minesite development, to mine nickel and copper. Vegetation clearing will be required for the purpose of a boxcut mine, a processing plant, tailings storage facility, accommodation camp, airstrip, access roads, and other mining-related infrastructure (MBS, 2014).

3. Assessment of application against Clearing Principles

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

Comments

Proposal may be at variance to this Principle

The application area is located within the Mardabilla and Eastern Goldfield subregions of the Coolgardie Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). The majority of the application area is mapped as the Mardabilla subregion, which is described as limestone plain on a granite basement, with red-brown loams and Aeolian sands. The vegetation of this subregion is dominated by *Eucalyptus* woodlands over broom bush, blue bush and salt bush (CALM, 2002).

The application area is also located within the Great Western Woodlands, an area recognised for its biological richness, which covers a total area of approximately 16 million hectares and stretches from the edge of the Western Australian Wheatbelt to Kalgoorlie-Boulder in the north, to the inland deserts to the north-east and the Nullarbor Plain to the east (DEC, 2010).

Flora and vegetation surveys were conducted by Matiske Consulting Pty Ltd (Matiske) over the proposed Nova project area and surrounding areas, during 2013 and 2014 (MBS, 2014). A total of 369 flora species, from 145 genera and 63 families were recorded within the survey area (Matiske, 2014). A total of 35 vegetation communities were mapped within the greater survey area, categorised as three broad vegetation

types: Eucalyptus woodlands; mixed shrublands and scrubs; and hummock grasslands (MBS, 2014). Eighteen of these vegetation communities occurred within the clearing permit application area, predominantly woodland communities (Mattiske, 2014; MBS, 2014). No Threatened flora or Threatened Ecological Communities were recorded within the application area (MBS, 2014). Five Priority flora species were recorded during the survey, however none of these were recorded within the application area (Mattiske, 2014).

The vegetation condition within the application area ranges from Very Good to Excellent with parts of the application area previously disturbed by mineral exploration activities (Mattiske, 2014; MBS, 2014).

The application area is located partly within the Fraser Range pastoral lease (GIS Database), and previous vegetation disturbance has occurred from pastoral activities, including weed invasion in some areas. A total of 10 weed species were recorded during the flora surveys (Mattiske, 2014). Weeds have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

The application area occurs partly within the buffer zone of a Priority Ecological Community (PEC), the (Priority 1) Fraser Range Vegetation Complex, (GIS Database; MBS, 2014). The PEC buffer zone covers an area of approximately 90,000 hectares, of which approximately 1,178 hectares overlaps the north-western corner of the clearing permit application area (GIS Database). However, only 460 hectares of clearing is proposed within the total application area of approximately 4,666 hectares, further reducing any potential impacts to the PEC. Analysis of the vegetation communities recorded by Mattiske within the survey area and comparison with the PEC descriptions has determined that the PEC itself will be only minimally impacted by the proposed clearing (Mattiske, 2014; MBS, 2014).

A Level 2 fauna survey conducted over the application area and adjacent areas by Rapallo Environmental in November 2013 recorded a total of 136 vertebrate fauna species, including 19 mammal, 40 reptile, and 77 bird species (Rapallo, 2014a).

The fauna survey identified eight species of conservation significance, all bird species, within the survey area (Rapallo, 2014a). Targeted surveys for malleefowl were conducted over a proposed road corridor and borrow pit areas to the south of the application area (MBS, 2014). The road corridor survey area included a small part of the application area where the proposed access road enters Mining Lease 28/376. Opportunistic malleefowl observations were made during the fauna survey over the remainder of the application area (Rapallo, 2014a). A total of 29 malleefowl mounds were recorded during the various fauna surveys, within the vicinity of the application area, all of which were considered to be inactive (MBS, 2014; Rapallo, 2014a, 2014b). Four malleefowl mounds were recorded within the application area (Rapallo, 2014b). No active malleefowl mounds, or other evidence of malleefowl presence were recorded within the application area (MBS, 2014), however not all of the application area was covered by the targeted malleefowl survey, and there is the potential for further malleefowl mounds to occur within the application area.

The landforms, vegetation associations and fauna habitat types found within the application area are well represented and widespread within the region (MBS, 2014; Rapallo, 2014a).

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

Methodology CALM (2002)
Mattiske (2014)
MBS (2014)
Rapallo (2014a)
Rapallo (2014b)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Threatened and Priority Flora
- 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 may be at variance to this Principle

A Level 2 fauna and habitat survey was conducted over the application area and surrounding areas by Rapallo Environmental from 5 to 19 November 2013 (MBS, 2014). The following five fauna habitats were identified within the application area (Rapallo, 2014a):

Acacia Shrubland: Acacia shrubland to 4 metres over mixed low shrubs. Emergent Eucalyptus to 8 metres.

Woodland: Open Eucalyptus woodland to 15 metres often over *Cratystylis concephala* dominated shrubland with scattered Santalum, Eremophila, Atriplex and Olearia;

Melaleuca: Open Eucalyptus woodland over Melaleuca thicket over mixed shrubs;

Woodland Triodia: Open Eucalyptus woodland over Triodia grassland with occasional Eremophila, Dodonaea, Exocarpos and Allocasuarina that can form groves; and

Woodland Dominated Inundation Zones: Eucalyptus woodland such as gimlet over mixed low shrubland such as Eremophila, *Diocirea ternata*.

All the fauna habitats found within the application area are common and widespread in the region (Rapallo, 2014a). The surrounding area is largely vegetated with intact woodland (Rapallo, 2014a; GIS Database) and therefore, the vegetation proposed to be cleared is unlikely to represent significant habitat for fauna in a regional context.

The fauna survey identified eight species of conservation significance, all bird species, within the survey area (Rapallo, 2014a). Apart from the malleefowl, these bird species are all highly mobile. Although these species may pass through or forage within the application areas, abundant areas of similar habitat occur outside of the application area and hence they are unlikely to be reliant on the habitat found within the application area (Rapallo, 2014a).

Malleefowl (*Leipoa ocellata*) have been recorded within the vicinity of the application area. Malleefowl (Schedule 1 - Fauna that is rare or likely to become extinct, *Wildlife Conservation (Specially Protected Fauna) Notice, 2014*) 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 (DEC, 2012). Malleefowl are likely to forage throughout the Mallee woodlands and shrublands of the region, and potentially occur within the application area (Rapallo, 2014a).

A targeted survey for malleefowl was conducted over a small part of the application area and opportunistic observations were made during the fauna survey conducted over the remainder of the application area (Rapallo, 2014a; 2014b). A total of 29 malleefowl mounds have been recorded within the vicinity of the application area, all of which were considered to be inactive (MBS, 2014; Rapallo, 2014a, 2014b). Four of these malleefowl mounds were recorded within the application area, comprising of one dormant and three extinct mounds (Rapallo, 2014b). No active mounds, were found during the surveys (MBS, 2014; Rapallo 2014b), however, not all of the application area was covered by the targeted survey and hence it is possible that further mounds may exist within the application area. Rapallo (2014b) consider that there is likely to be a small population of Malleefowl in the local area, which may utilise the application area for foraging and potentially breeding. Potential impacts to Malleefowl as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

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

Methodology DEC (2012)
MBS (2014)
Rapallo (2014)
GIS Database:
- Symons Hill 1.3m Orthomosaic - Landgate 2005
- Pre-European Vegetation

(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

A flora survey of the application area did not record any species of Threatened flora (MBS, 2014). The vegetation associations recorded within the application areas are well represented in surrounding areas (GIS Database; MBS, 2014), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of rare flora.

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

Methodology MBS (2014)
GIS Database:
- Declared Rare and Priority Flora List
- Pre-European Vegetation

(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 known Threatened Ecological Communities (TEC's) located within a 100 kilometre radius of the application area (GIS Database).

Surveys of the application area did not identify any Threatened Ecological Communities (Mattiske, 2014; MBS, 2014).

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

Methodology Mattiske (2014)
MBS (2014)

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 Proposal is not at variance to this Principle

The areas applied to be cleared are located within the Coolgardie IBRA bioregion (GIS Database). There is approximately 98% of pre-European vegetation remaining within the bioregion (Government of Western Australia, 2013).

The majority of the application area is broadly mapped as Beard vegetation association 487: Medium woodland; redwood and red mallee (*Eucalyptus oleosa*) (GIS Database). Two small areas in the north-western corner of the application area are mapped as Beard vegetation association 488: Mosaic: Medium woodland: gimlet / Shrublands: mallee scrub, *Eucalyptus eremophila* scrub; and another very small area is mapped as Beard vegetation association 489: Mosaic: Medium woodland: goldfields blackbutt & Dundas blackbutt / Shrublands: dodonaea scrub (GIS Database). Approximately 100% of the pre-European extent of these vegetation associations remain uncleared at both the state and bioregional level (Government of Western Australia, 2013). Hence, the vegetation proposed to be cleared does not represent a significant remnant of vegetation in an area that has been extensively cleared.

| | Pre-European area (ha)* | Current extent (ha)* | Remaining %* | Conservation Status** | Pre-European % in DPaW managed lands |
|--|-------------------------|----------------------|--------------|-----------------------|--------------------------------------|
| IBRA Bioregion - Coolgardie | 12,912,204 | 12,648,491 | ~ 98 | Least Concern | 15.53 |
| Beard vegetation association - State | | | | | |
| 487 | 498,611 | 498,611 | ~ 100 | Least Concern | 22.36 |
| 488 | 37,994 | 37,994 | ~ 100 | Least Concern | 0 |
| 489 | 78,604 | 78,604 | ~ 100 | Least Concern | 0 |
| Beard vegetation association - Bioregion | | | | | |
| 487 | 498,179 | 498,179 | ~ 100 | Least Concern | 22.35 |
| 488 | 37,994 | 37,994 | ~ 100 | Least Concern | 0 |
| 489 | 78,604 | 78,604 | ~ 100 | Least Concern | 0 |

* Government of Western Australia (2013)

** Department of Natural Resources and Environment (2002)

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:
- IBRA WA (Regions - Sub Regions)
- 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 likely to be at variance to this Principle

There are no permanent watercourses or wetlands within or in close proximity to the application area (GIS database).

One seasonal watercourse passes through the application area (GIS Database). Seasonal watercourses in the region are dry for most of the year, only flowing briefly following significant rainfall events (MBS, 2014). Removal of vegetation may result in an increase in runoff and may increase sediment loads in surface water flows, however the impacts on any watercourses are likely to be minimal.

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

Methodology MBS (2014)

- GIS Database:
- Geodata, Lakes
- 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 landforms in the vicinity of the application area are generally flat to undulating land with small valleys occasionally broken by low narrow rocky hills and ridges, or tors and bosses; some block silcrete and silcrete fragments; some clay pans and salt lakes with dunes and lunettes; some small dune tracts (Northcote et. al., 1960-1968). The soil type within the application area is classified as DD14 (GIS Database), which Northcote et. al., (1960-1968) described as mainly brown and grey-brown calcareous earths, mostly with loamy surface soils, but there are some areas with sandy surface soils and some soils and gilgais. MBS (2014) report that the project area is overlain with a thin layer of topsoil ranging from clay to sands, with red-brown clay-loam and calcareous silty to clayey loams occurring most commonly within the application area. There was little evidence of sandy soil profiles recorded within the application area (MBS, 2014).

Any clearing of native vegetation within the application area has the potential to cause soil and wind erosion (MBS, 2014), however clay-loam soils are likely to be less susceptible to wind erosion than sandy soils. Potential land degradation will be minimised through management measures including revegetation of temporarily disturbed areas and the construction of drains and bunds where necessary (MBS, 2014).

Potential land degradation as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

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

- Methodology** MBS (2014)
Northcote et al. (1960-1968)
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 nearest conservation area is the Dundas Nature Reserve (Class B), which is located approximately 60 kilometres southwest of the application area, at its nearest point (GIS Database). The proposed clearing is unlikely to have any impacts on the environmental values of this or any other conservation area.

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

- Methodology** GIS Database:
- DEC proposed 2015 pastoral lease exclusions
- 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 within a Public Drinking Water Source Area, and there are no permanent watercourses or wetlands within the application area (GIS Database). One minor seasonal watercourse passes through the application area (GIS Database). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (MBS, 2014). Management practices will be implemented to minimise the risk of erosion and potential impacts to surface water quality (MBS, 2014).

The proposed clearing is unlikely to result in increased sedimentation of any watercourse, or cause deterioration in the quality of surface or underground water.

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

- Methodology** MBS (2014)
GIS Database:
- Hydrography, Linear
- 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 climate of the region is semi-arid, with a low average rainfall of approximately 250-300 millimetres per year (CALM, 2002). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (MBS, 2014).

There are no permanent water courses or waterbodies within the application area (GIS Database). One minor seasonal water course passes through the application area. Temporary localised flooding may occur during heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

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

Methodology CALM (2002)
MBS (2014)
GIS Database:
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 15 September 2014 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC1999/002) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. 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 registered Aboriginal Sites of Significance located within or in close proximity to the 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.

The Nova Nickel Project was referred to the Environmental Protection Authority (EPA) by the proponent in June 2014. On 18 August 2014, the EPA determined that the proposal did not warrant assessment under Part IV of the *Environmental Protection Act 1986* (EP Act), and that potential environmental impacts could be adequately regulated under the *Mining Act 1978* and Part V of the EP Act.

It is noted that the proposed clearing may impact on a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Federal) Department of the Environment for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of the Environment for further information regarding notification and referral responsibilities under the EPBC Act.

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

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Determined by the Federal Court
- Native Title Claims - Filed at the Federal Court
- Native Title Claims - Registered with the NNTT

4. References

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DEC (2010) A Biodiversity and Cultural Conservation Strategy for the Great Western Woodlands. Department of Environment and Conservation, Western Australia.
- DEC (2012) Fauna Profiles: Malleefowl *Leipoa ocellata* (Gould, 1840). Department of Environment and Conservation, Perth. February 2012.
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5. Glossary

Acronyms:

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| BoM | Bureau of Meteorology, Australian Government |
| DAA | Department of Aboriginal Affairs, Western Australia |
| DAFWA | Department of Agriculture and Food, Western Australia |
| DEC | Department of Environment and Conservation, Western Australia (now DPaW and DER) |
| DER | Department of Environment Regulation, Western Australia |
| DMP | Department of Mines and Petroleum, Western Australia |
| DRF | Declared Rare Flora |
| DotE | Department of the Environment, Australian Government |
| DoW | Department of Water, Western Australia |
| DPaW | Department of Parks and Wildlife, Western Australia |
| DSEWPaC | Department of Sustainability, Environment, Water, Population and Communities (now DotE) |
| EPA | Environmental Protection Authority, Western Australia |
| EP Act | <i>Environmental Protection Act 1986</i> , Western Australia |
| EPBC Act | <i>Environment Protection and Biodiversity Conservation Act 1999</i> (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 |
| PEC | Priority Ecological Community, Western Australia |
| RIWI Act | <i>Rights in Water and Irrigation Act 1914</i> , Western Australia |
| s.17 | Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia |
| TEC | Threatened Ecological Community |

Definitions:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

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|-----------|---|
| T | <p>Threatened species: Specially protected under the <i>Wildlife Conservation Act 1950</i>, listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).</p> <p>Threatened Fauna and Flora are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo <i>Calyptorhynchus latirostris</i> is specially protected under the <i>Wildlife Conservation Act 1950</i> as a threatened species with a ranking of Endangered.</p> <p><u>Rankings:</u> CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild. EN: Endangered - considered to be facing a very high risk of extinction in the wild. VU: Vulnerable - considered to be facing a high risk of extinction in the wild.</p> |
| X | <p>Presumed Extinct species: Specially protected under the <i>Wildlife Conservation Act 1950</i>, listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).</p> |
| IA | <p>Migratory birds protected under an international agreement: Specially protected under the <i>Wildlife Conservation Act 1950</i>, listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice. Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.</p> |

- S** **Other specially protected fauna:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P1** **Priority One - Poorly-known species:**
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
- P2** **Priority Two - Poorly-known species:**
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.
- P3** **Priority Three - Poorly-known species:**
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.
- P4** **Priority Four - Rare, Near Threatened and other species in need of monitoring:**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
- P5** **Priority Five - Conservation Dependent species:**
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.