Government of Western Australia
Department of Mines, Industry Regulation and Safety

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8855/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Egan Street Rothsay Pty Ltd**

1.3. Property details

Property: Mining Lease 59/39
Mining Lease 59/40
Local Government Area: Shire of Perenjori
Colloquial name: Rothsay Gold Mine

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 30 July 2020

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation of the application area is broadly mapped as the following Beard vegetation associations:
358: Shrublands; bowgada & *Acacia quadrimarginea* on stony ridges; and
936: Medium woodland; salmon gum (GIS Database).

A flora and vegetation survey was conducted over the application area by Woodman Environmental Consulting (Woodman) during October, 2016. The following vegetation associations were recorded within the application area (Woodman, 2017):

1. **VT1:** Tall shrubland to open shrubland of mixed species dominated by *Acacia latior*, *Acacia sibina*, *Melaleuca nematophylla* and occasionally *Acacia incognita* over mid open to sparse shrubland dominated by *Aluta aspera* subsp. *hesperia* over low sparse shrubland dominated by *Xanthosia kochii* and *Dianella revoluta* over low open to sparse forbland dominated by *Waitzia acuminata* var. *acuminata*, *Helipterum craspedioides*, *Velleia rosea*, *Brunonia australis* and *Haloragis odontocarpa* forma *rugosa* on red brown to pale brown clay loam soils with ironstone gravel on lower slopes and undulating plains;
2. **VT4:** Low open woodland to woodland dominated by *Allocasuarina dielsiana* and *Melaleuca hamata* over tall shrubland to open shrubland dominated by *Acacia acuminata* and *Allocasuarina tessellata* over mid sparse shrubland dominated by *Acacia karina* and occasionally *Melaleuca radula* over low open to sparse forbland and tussock grassland of mixed species including *Waitzia nitida*, *Lobelia rhytidosperma*, *Goodenia berardiana*, *Ptilotus helipteroides* and *Austrostipa blackii* on red clay-loam soils with basalt stones on the slopes and crests of low hills;
3. **VT5:** Low open woodland dominated by *Melaleuca hamata* over tall shrubland to open shrubland of mixed species dominated by *Acacia ramulosa* var. *ramulosa* and *Acacia tetragonophylla* and *Acacia sibina* over low sparse shrubland dominated by *Eremophila eriocalyx* and *Ptilotus obovatus* over low sparse forbland of mixed species including *Waitzia acuminata* var. *acuminata*, *Calocephalus multiflorus*, *Velleia rosea*, *Ptilotus gaudichaudii* subsp. *eremita* and *Cephalipterum drummondii* on red or red brown clay loam soils with quartz and ironstone gravel on lower slopes,undulating plains and in minor drainage lines;
4. **VT7:** Low open woodland dominated by *Eucalyptus salubris* over sparse tall to mid shrubland of mixed species including *Eremophila pantonii* and *Exocarpos aphyllus* over low sparse samphire shrubland dominated by *Tecticornia disarticulata* over low sparse chenopod shrubland of mixed species including *Rhagodia drummondii*, *Sclerolaena densiflora, Sclerolaena diacantha*, *Maireana tomentosa* subsp. *tomentosa* and *Enchylaena tomentosa* var. *tomentosa* over low sparse tussock grassland and forbland of mixed species including *Erymophyllum glossanthus*, *Austrostipa scabra* subsp. *scabra*, *Ptilotus gaudichaudii* subsp. *eremita* and **Rostraria pumila* on pale brown clay loam soils with colluvial gravel on lower slopes and flats; and
5. VT8: Low open woodland dominated by *Eucalyptus loxophleba* subsp. *supralaevis* and/or *Eucalyptus salubris* over tall sparse shrubland of mixed species including *Eremophila oldfieldii* subsp. *oldfieldii*, *Eremophila oppositifolia* subsp. *angustifolia*, *Acacia tetragonophylla* and *Exocarpos aphyllus* over

sparse mid shrubland of mixed species including *Senna artemisioides* subsp. *filifolia*, *Dodonaea inaequifolia* and *Scaevola spinescens* over low sparse shrubland and tussock grassland of mixed species including *Acacia erinacea*, *Ptilotus obovatus* and *Austrostipa elegantissima* over low sparse chenopod shrubland of mixed species including *Maireana georgei*, *Maireana trichoptera*, *Sclerolaena diacantha*, *Sclerolaena densiflora* and *Rhagodia drummondii* over low sparse tussock grassland and forbland of mixed species including *Austrostipa scabra* subsp. *scabra*, *Cephalipterum drummondii*, *Ptilotus nobilis*, *Zygophyllum ovatum* and *Mesembryanthemum nodiflorum* on red, red brown or brown clay loam soils with colluvial gravel, and occasionally with laterite outcropping, on lower slopes, plains and occasionally lateritic breakaways.

Clearing Description

Rothsay Gold Mine.
Egan Street Rothsay Pty Ltd proposes to clear up to 157.244 hectares of native vegetation within a boundary of approximately 520.967 hectares, for the purpose of mineral production. The project is located approximately 230 kilometres south southeast of Geraldton, within the Shire of Perenjori.

Vegetation Condition

Pristine: No obvious signs of disturbance (Keighery, 1994).

To

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

Comment

The vegetation condition was derived from a vegetation survey conducted by Woodman (2017).

The proposed clearing is for a waste dump, low grade ore stockpiles, putrescible waste storage, groundwater evaporation pond, communications tower and tailings storage expansion. The proposed clearing is required to recommence operations and expand the Rothsay Gold Mine. Part of the application area was previously approved for clearing under clearing permit CPS 8444/1, which Egan Street Rothsay Pty Ltd has proposed to surrender if CPS 8855/1 is approved.

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 clearing permit application area is located within the Tallering subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Yalgoo Bioregion (GIS Database). The Yalgoo Bioregion is an interzone between south-western bioregions and the Murchison. It is characterised by callitris - *Eucalyptus salubris*, mulga, and bowgada open woodlands and scrubs on earth to sandy-earth plains in the western Yilgarn Craton and the southern Carnarvon Basin. The latter has a basement of Phanerozoic sediments and is rich in ephemerals. The climate is Mediterranean, semi-arid to arid and warm (CALM, 2002).

VTs 1, 4, 5 and 8 are common and widespread throughout the survey area, and considered to not be of local or regional significance. VT 7 is uncommon and is locally and regionally restricted (Woodman, 2017; Woodman, 2018; Woodman Environmental, 2019). The *Eucalyptus salubris* woodlands of VT 7 are considered to be restricted to the general vicinity of the Study Area, indicating that this VT may have close association with the basalt hills (Woodman, 2017; Woodman, 2018). However, the area of VT 7 to be cleared under this permit application represents less than 10% of the known mapped extent of this VT and will therefore have no significant impact on its total extent.

A Level 2 vegetation survey was undertaken by Woodman Environmental in 2017, followed by a targeted survey in June 2019. No Threatened flora species were identified within the application area. The Level 2 vegetation survey recorded 17 Priority flora species of conservation significance as occurring within the study area. Of these, ten have been identified as Priority flora taxa occurring within the disturbance area, including:

- *Acacia karina* (Priority 1) – 8,835 individuals were recorded in the survey area, and 811 in the application area. The proposed clearing could impact 9.18% of the local population. *A. karina* is known to occur over an area of more than 80 kilometres at its widest point and has at least four populations within the Department of Biodiversity, Conservation and Attractions (DBCA) managed ex-pastoral reserves (Woodman Environmental, 2019). The proposed clearing is not expected to have a significant regional impact on this species.
- *Allocasuarina tessellata* (Priority 1) – 26,695 individuals were recorded in the survey area and application area. The proposed disturbance footprint would impact 2,602 plants. *A. tessellata* is known to occur at multiple locations within the region and has been previously recorded within the Project area (Woodman Environmental, 2019). The proposed clearing will impact approximately 93.74% of the local *A. tessellata* populations and regional populations of this species are unlikely to be significantly impacted (Woodman Environmental, 2019).
- *Grevillea scabrida* (Priority 1) – 4,320 individuals were recorded in the survey area and 89 in the application area. *G. scabrida* has been recorded in multiple surveys of the Project area and has been recorded extensively throughout the survey area.
- *Hemigenia tichbonii* (Priority 1) - 1,825 individuals were recorded in the survey area and 186 in the application area. Therefore, only 10% of the plants known from the Rothsay area will be impacted by

the proposed clearing. This is considered a maximum level of impact considering additional habitat for the taxon within the Rothsay Study Area and beyond remains unsurveyed.

- *Lepidosperma* sp. Blue Hills (Priority 1) – 1,610 individuals were recorded in the survey area and 43 in the application area. The distribution of this taxon in Western Australia, where it is endemic, is currently unclear, owing to the uncertainty surrounding the taxonomy of the genus Lepidosperma. DBCA Threatened flora database records indicate it has a range of approximately 80 km, from north-east of Perenjori (ex- Karara Station) in the north-west, to Mount Gibson Station in the south-east (Woodman Environmental, 2019). However, a survey for this taxon conducted by Woodman Environmental indicates that its distribution is far wider, with records stretching from near Mullewa in the north-west to Ninghan Station in the south-east, over a distance of approximately 200 km. Estimates by Woodman Environmental put the number of known individuals at in excess of 80,000 (Woodman Environmental, 2019). The proposed clearing is therefore considered unlikely to impact local or regional populations of this species.
- *Millotia dimorpha* (Priority 1) – 18,595 individuals were recorded in the survey area and application area. The proposed clearing could impact 1,310 plants. *M. dimorpha* has been recorded at numerous sites throughout the local and regional area, commonly in conjunction with *Drummondita fulva* (Woodman Environmental, 2019). The overall impact on local and regional populations of this species is considered to be negligible (Woodman Environmental, 2019).
- *Austrostipa blackii* (Priority 3) – 1,035 individuals were recorded in the survey area and one plant in the application area. It has a range of approximately 580 km in Western Australia, from north of Perenjori in the north-west to south of Kambalda in the south-east.
- *Grevillea subtiliflora* (Priority 3) – 284 individuals were recorded in the survey area and application area. The proposed clearing could impact 34 plants. *G. subtiliflora* has been recorded throughout the survey area and has previously been recorded within the Project area. The localised disturbance to this species is unlikely to adversely impact regional populations of these species.
- *Persoonia pentasticha* (Priority 3) – 96 individuals were recorded in the survey area, with the proposed clearing to potentially impact eight plants. *P. pentasticha* has been recorded in multiple surveys of the Project area, and is known from the Eremaean and South-west Botanical Provinces, Yalgoo, Geraldton Sandplains and Avon Wheatbelt IBRA sub-regions. The proposed clearing is therefore considered unlikely to impact local or regional populations of this species.
- *Rhodanthe collina* (Priority 3) – 25,865 individuals were recorded in the survey area, with the proposed clearing to potentially impact 1,930 plants. It occurs across a range of approximately 180 km within Western Australia (where it is endemic), from Mingenew in the west, to ex-Thundelarra Station in the east (Woodman Environmental, 2019). There are 90 records of this taxon in DBCA's Threatened flora databases representing 28 broad localities, 15 of which occur in conservation reserves (Woodman Environmental, 2019). The proposed clearing is therefore considered unlikely to impact local or regional populations of this species.

Potential impacts to the above Priority flora may be minimised by the implementation of a flora management condition.

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

Three of the four fauna habitats within the application area are widespread in the region. One of the fauna habitats (VSA1) has the most value for local biodiversity and may contain conservation significant fauna species (Silver Lake Resources, 2020). Egan Street Rothsay have committed to impacting less than 10% of this habitat type which has been conditioned through the Mining Proposal process under the *Mining Act 1978*. A fauna management plan has been prepared to minimise risk of direct impact to the Gilled Slender Blue-tongue, Western Spiny-tailed Skink and Malleefowl (Silver Lake Resources, 2020). The fauna management plan commits to undertaking pre-clearance surveys prior to any clearing.

During the field survey, 24 weed species were recorded, eleven of which were recorded from within the application area, including *Pentameris airoides* subsp. *airoides, Rumex vesicarius, Medicago minima, Rostraria pumila, Sisymbrium erysimoides, Echium plantagineum, Lysimachia arvensis, Rumex hypogaeus, Spergula pentandra, Centaurea melitensis* and *Arctotheca calendula*. 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 can in turn lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

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

Methodology

CALM (2002)
Silver Lake Resources (2020)
Woodman (2017)
Woodman (2018)
Woodman Environmental (2019)

GIS Database:
- IBRA Australia
- Pre-European Vegetation

- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Flora
- Threatened Fauna

(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

The following four vegetation/substrate associations (VSAs) have been recorded within the application area (Bamford, 2017):

- VSA 1 - Open woodland to tall shrubland (mainly *Melaleuca* and *Acacia*) over often open shrubland with a mixed shrubby understorey on hills and undulating plains on gravelly loam soils. Includes some small rocky breakaways.
- VSA 2 - Low woodland to tall shrubland of *Allocasuarina*, *Melaleuca* and *Acacia* thicket on clayey-loam flats and lower slopes.
- VSA 3 - Open eucalypt woodlands of Gimlet or York Gum. Shrubby understory often sparse and soils typically loam or clayey loam low in the landscape. Includes drainage lines with occasional large eucalypts and dense thickets of tall shrubs. Much of this is degraded by grazing and previous mining.
- VSA 4 - Old mine shafts and bare ground.

Fauna habitat VSA1 has the most value for local biodiversity and may contain conservation significant fauna species (Silver Lake Resources, 2020). Egan Street Rothay have committed to impacting less than 10% of this VSA which has been conditioned through the Mining Proposal process under the *Mining Act 1978* (Silver Lake Resources, 2020).

A desktop assessment identified 234 vertebrate fauna species as potentially occurring within a 20 kilometre radius of the application area, including eight amphibians, 62 reptiles, 133 birds and 30 mammals (Bamford, 2017). Of these species, 32 species are considered to be of conservation significance. Nine of these conservation significant species are listed under legislation and one is listed as Priority by the DBCA. The remaining 20 species are considered to be significant due to their extensive decline across the mid-west of Western Australia, and some species occur at the edge of their range (Bamford, 2017).

Three fauna investigations have previously occurred at the Rothsay project area:

- Rothsay Project Area Fauna Assessment, M.J. & A.R. Bamford Consulting Ecologists, 24 March 2017 (Level 1 assessment);
- Egan Street, Fauna review to inform a Native Vegetation Clearing Permit; Rothsay Project Area, 6 March 2019 (desktop assessment); and
- Pre-Clearing Fauna Notes - M.J. & A.R. Bamford Consulting Ecologists, 29 July 2019; (Targeted Threatened Fauna survey).

A low-intensity reconnaissance survey was conducted over the application area in January 2017 (Bamford, 2017) and did not record any fauna species of conservation significance. Targeted searching was undertaken for three species of listed significance, the Western Spiny-tailed Skink (*Egernia stokesii badia* – Vulnerable)), Malleefowl (*Leipoa ocellata* – Vulnerable) and Gilled Slender Blue-tongue (*Cyclodomorphus branchialis* - Vulnerable), but no evidence of these was found.

A subsequent targeted survey was undertaken in June 2019 (Bamford, 2019), and included the Northern Shield-backed Trapdoor Spider in the search. Two long unused Malleefowl mounds were identified, and several Trapdoor burrows were found in the landfill and biopad area (within the application area) in a typical situation for the trapdoor spider (*Idiosoma nigrum* – Vulnerable or *Idiosoma clypeatum* - Priority 3), with the burrows in gravelly, ironstone soil under acacia shrubs. They appear to occur only at low densities in the survey area compared with further north, in the Karara/Blue Hills/Mungada region (Bamford, 2019).

Despite this, it is expected that the Malleefowl and the Shield-backed Trapdoor Spider are present in shrublands on low hills around the margins of the application area, although probably at regionally low densities. Some significant species are likely to occur as residents of the survey area, or at least as regular visitors (Bamford, 2017). The woodland habitat favoured by the Western Spiny-tailed Skink is degraded and thus the species may not be present although it cannot be ruled out. Significant species may include several invertebrates considered to be Short Range Endemics, likely to occur on low rocky and gravelly hills in the area.

Based on the above, the proposed clearing is at variance to this Principle. Potential impacts to fauna habitats may be minimised by the implementation of a fauna management condition, requiring a fauna specialist to conduct a fauna survey of the application area to identify *critical habitat* being utilised by the above species.

Methodology

Bamford (2017)

Bamford (2019)
Silver Lake Resources (2020)

GIS Database:
- Imagery
- Pre-European Vegetation
- Threatened Fauna

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

Comments

Proposal may be at variance to this Principle

The desktop survey identified 49 conservation significant flora species as potentially occurring within the vicinity of the Rothsay Project Area, including three Threatened flora species, *Acacia woodmaniorum*, *Eucalyptus synandra* and *Stylidium scintillans* (Woodman, 2017).

A flora and vegetation survey did not identify suitable habitat for *Acacia woodmaniorum* or *Eucalyptus synandra,* however did identify suitable habitat for *Stylidium scintillans* within the application area. However, due to the timing of the initial survey being inconsistent with the flowering period of this species, no individuals were recorded (Woodman, 2017; Woodman, 2018). A targeted flora survey for *Stylidium scintillans* was conducted over the application area during the flowering period on 27 - 28 August 2018. No individuals of *Stylidium scintillans* were recorded during the targeted survey (Woodman, 2018). However, approximately 20 individuals were seen in full flower in a known location approximately 12 kilometres north-east of the application area (Woodman, 2018). Therefore, it is considered unlikely that *Stylidium scintillans* currently occurs within the application area. However, as the specific environmental conditions required to support this species is currently unknown, the potential habitat identified in the application area may be considered suitable and become occupied in the future (Woodman, 2018).

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

Methodology

Woodman (2017)
Woodman (2018)

GIS Database:
- Pre-European Vegetation
- Threatened and Priority Flora

(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 (TECs) located within or in close proximity to the application area (GIS Database).

A flora and vegetation survey of the application area did not identify any TECs (Woodman, 2017; Woodman, 2018; Woodman Environmental, 2019).

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

Methodology

Woodman (2017)
Woodman (2018)
Woodman Environmental (2019)

GIS Database:
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

(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 application area falls within the Yalgoo Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 97% of the pre-European vegetation still exists in the IBRA Yalgoo Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 358: Shrublands; bowgada & *Acacia quadrimarginea* on stony ridges; and 936: Medium woodland; salmon gum (GIS Database). Approximately 61-96% of the pre-European extent of each of these vegetation associations remains uncleared at both the state and bioregional level (Government of Western Australia, 2019).

Therefore, the application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands
IBRA Bioregion – Yalgoo	5,057,325	4,923,840	~97	Least Concern	31.34
IBRA Subregion – Tallering	3,498,943	3,387,092	~96	Least Concern	23.71
Beard vegetation associations – WA					
385	39,816	24,443	~61	Least Concern	0.16
936	698,751	676,689	~96	Least Concern	4.08
Beard vegetation associations –Yalgoo Bioregion					
385	16,473	16,365	~99	Least Concern	-
936	1,769	1,769	~100	Least Concern	34.38
Beard vegetation associations – Tallering Subregion					
385	16,473.46	16,364.97	~99	Least Concern	-
936	1,769.72	1,769.72	~100	Least Concern	34.38

* Government of Western Australia (2019)
** 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 (2019)

GIS Database:
- IBRA Australia
- 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 at variance to this Principle**
There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Several seasonal creek lines pass through the application area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall (BoM, 2020).

Based on the above, the proposed clearing is at variance to this Principle. Potential impacts to vegetation growing in association with the watercourses may be minimised by the implementation of a watercourse management condition.

Methodology BoM (2020)

GIS Database:
- Hydrography, 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 may be at variance to this Principle**
The majority of the application area lies within the Singleton land systems, and to a lesser extent within the Moriarty and Graves land systems (GIS Database). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

Singleton land system is described as rugged greenstone ranges with dense casuarina and acacia shrublands. This land system is not generally susceptible to erosion (Payne et al., 1998).

Moriarty land system is described as low greenstone rises and stony plains supporting halophytic and acacia shrublands with patchy eucalypt overstoreys. This land system may be susceptible to erosion if vegetation cover is removed (Payne et al., 1998).

Graves land system is described as basalt and greenstone rises and low hills, supporting eucalypt woodlands with prominent saltbush and bluebush understoreys. This land system may be susceptible to erosion if vegetation cover is removed (Payne et al., 1998).

The proposed clearing of up to 157.244 hectares of native vegetation, for the purpose of mineral production is unlikely to cause appreciable land degradation. The impacts of erosion that may be caused by the proposed clearing of native vegetation may be minimised by the implementation of a staged clearing condition.

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

Methodology Payne et al. (1998)

GIS Database:
- Landsystem Rangelands
- 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 application area is not located within a conservation area. The nearest DBCA (formerly DPaW) managed land is the former Karara Pastoral Lease which is located approximately 640 metres southwest of the application area at its nearest point (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.

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

Methodology GIS Database:
- DPaW Tenure
- Reserves

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments

Proposal is not likely to be at variance to this Principle

There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall (Payne et al., 1998). The proposed clearing is unlikely to result in significant changes to surface water flows.

The proposed clearing is unlikely to cause deterioration in the quality of underground water.

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

Methodology Payne et al. (1998)

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 289 millimetres per year (BOM, 2020). There are no permanent water courses or waterbodies within the application area (GIS Database). Temporary localised sheet flooding may occur briefly following heavy rainfall events (Payne et al., 1998). 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 BOM (2020)

Payne et al. (1998)

GIS Database:
- Hydrographic Catchments - Catchments
- Hydrography, linear

Planning Instrument, Native Title, previous EPA decision or other matter.

Comments

The clearing permit application was advertised on 20 April 2020 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC1997/072) over the area under application (DPLH, 2020). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure 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 within the application area (DPLH, 2020). 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 Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

As Malleefowl mounds and Shield-back Trapdoor burrows have been identified within the clearing permit application area, as well as several records of the Western Spiny-tailed Skink just outside of the application area, it is recommended that an EPBC referral for Matters of National Environmental Significance be undertaken by the proponent. This is due to the real chance or possibility that the proposed clearing will:

- reduce the area of occupancy of the species;
- adversely affect habitat critical to the survival of a species;
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline;
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat;
- introduce disease that may cause the species to decline; or
- interfere with the recovery of the species.

Methodology DPLH (2020)

4. References

BoM (2020) Bureau of Meteorology Website – Climate Data Online, Paynes Find. Bureau of Meteorology. http://www.bom.gov.au/climate/data/ (Accessed 6 July 2020).

Bamford (2017) Rothsay Project Area Fauna Assessment. Report prepared for Egan Street Resources by Bamford Consulting Ecologists, 24 March 2017.

Bamford (2019) Egan Street Resources; Rothsay Gold Project: Pre-Clearing Fauna Notes - M.J. & A.R. Bamford Consulting Ecologists. Unpublished report prepared by Bamford Consulting Ecologists for Egan Street Resources, July 2019.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.

DPLH (2020) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. http://maps.daa.wa.gov.au/AHIS/ (Accessed 6 July 2020).

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.

Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Payne, A.L., Van Vreeswyk, A.M.E., Pringle, H.J.R., Leighton, K.A and Hennig, P (1998) Technical Bulletin No. 90: An inventory and condition survey of the Sandstone-Yalgoo-Paynes Find area, Western Australia. Department of Agriculture, Western Australia, South Perth.

Silver Lake Resources (2020) Native Vegetation Clearing Permit, NVCP CPS 8855/1 Supporting Document. Report prepared by Silver Lake Resources, June 2020.

Woodman (2017) Rothsay Gold Project Flora and Vegetation Assessment. Report for Egan Street Resources Limited, prepared by Woodman Environmental Consulting Pty Ltd, March 2017.

Woodman (2018) Rothsay Gold Project Targeted Survey for *Stylidium scintillans* (Threatened). Report for Egan Street Resources Limited, prepared by Woodman Environmental Consulting Pty Ltd, September 2018.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
DoEE	Department of the Environment and Energy, Australian Government
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DoE	Department of the Environment, Australian Government (now DoEE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DoEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
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
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
TEC	Threatened Ecological Community

Definitions:

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

T **Threatened species:**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**
Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**
Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation*

(Specially Protected Fauna) Notice 2018 for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**
Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species:

EX **Extinct species**
Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW **Extinct in the wild species**
Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species:

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI **Migratory species**
Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD **Species of special conservation interest (conservation dependent fauna)**
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS **Other specially protected species**
Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P **Priority species:**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 **Priority One - Poorly-known species**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species**
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations 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 locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

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 are close to qualifying for vulnerable but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.