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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7486/1
Permit type: Purpose

1.2. Proponent details

Proponent's name: Minjar Gold Pty Ltd

1.3. Property details

Property: Mining Lease M59/420
Mining Lease M59/497
Local Government Area: Shire of Yalgoo
Colloquial name: Golden Dragon - St Tropez Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
45		Mechanical Removal	Mineral production and mining related activities

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 18 May 2017

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The application area has been mapped as the following two Beard vegetation associations(GIS Database):

The application area has been mapped as the following two Beard vegetation associations (GIS Database):

202: Shrublands; mulga and *Acacia quadrimarginea* scrub.

420: Shrublands; bowgada and jam scrub.

A Level 2 Flora and Vegetation Survey of a larger area which included the application area was undertaken by Terratree (2017) during the period 9 - 12 December 2016. The vegetation survey identified the following seven vegetation community types within the application area:

EkArAtPo: Low Open Woodland of *Eucalyptus kochii* subsp. *amaryssia* over Tall isolated Shrubs of *Acacia ramulosa* var. *ramulosa*, *Acacia anthochaera* and *Daviesia benthamii* subsp. *benthamii* over Sparse Shrubland of *Acacia tetragonophylla*, *Scaevola spinescens* and *Eremophila georgei* over Low Sparse Shrubland of *Ptilotus obovatus* subsp. *obovatus*, *Olearia pimelioides* and *Senna artemisioides* subsp. *filifolia;*

ArElHa: Tall Sparse Shrubland of *Acacia ramulosa* var. *ramulosa*, *Allocasuarina acutivalvis* subsp. *prinsepiana* and *Thryptomene decussata* over Sparse Shrubland of *Eremophila latrobei* subsp. *latrobei, Micromyrtus trudgenii* and *Philotheca sericea* over Low Sparse Shrubland of *Hibbertia arcuata*, *Mirbelia* sp. *Bursarioides* (T.R. Lally 760) and *Eremophila clarkei;*

CcAe: Low Woodland of *Callitris columellaris* over Sparse Shrubland of *Acacia exocarpoides*, *Acacia sibina* and *Eremophila forrestii* subsp. *forrestii:*

AaAaRd: Tall Open Shrubland of *Acacia assimilis* subsp. *assimilis*, *Grevillea obliquistigma* subsp. *obliquistigma* and *Acacia sibina* over Shrubland of *Aluta aspera* var. *hesperia*, *Eremophila forrestii* subsp. *forrestii* and *Philothecasericea* over isolated forbs of *Rhagodia drummondii* and *Waitzia acuminata* var. *acuminata;*

ArMnCi: Tall Sparse Shrubland to Shrubland of *Acacia ramulosa* var. *ramulosa*, *Allocasuarina acutivalvis* susbp. *prinsepiana* and *Acacia sibina* over Sparse Shrubland of *Melaleuca nematophylla*, *Drummondita fulva* and *Calycopeplus paucifolius* over Low Sparse Shrubland of *Cryptandra imbricata*, *Hibbertia arcuata* and *Leucopogon* sp. Clyde Hill (M.A. Burgman 1207):

ElArAa: Low Open Woodland of *Eucalyptus leptopoda* subsp. *arctata* over Tall Shrubland of *Acacia ramulosa* var. *ramulosa*, *Acacia sibina* and *Melaleuca leiocarpa* over Sparse Shrubland of *Aluta aspera* var. *hesperia*, *Eremophila georgei* and *Philotheca deserti* subsp. *deserti;*
Ar: Tall Closed Shrubland of *Acacia ramulosa* var. *ramulosa* and *Acacia sibina.*

Clearing Description

Golden Dragon - St Tropez Project.
Minjar Gold Pty Ltd proposes to clear 45 hectares within a boundary of 84.97 hectares for the purposes of mining and related activities. The project is located approximately 70 kilometres south of Yalgoo within the Shire of Yalgoo.

Vegetation Condition

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

Comment The application area has been previously subjected to historical drilling and exploration activities. The vegetation within the application area has also been disturbed by goats and grazing from other herbivores (Terratree, 2017).

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application area is located within the Tallering sub-region of the Yalgoo Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Yalgoo bioregion is characterised by low woodlands to open woodlands of *Eucalyptus*, *Acacia* and *Callitris* on red sandy plains of the Western Yilgarn Craton and southern Carnarvon Basin. Mulga, Callitris, *Eucalyptus salubris*, and Bowgada open woodlands and scrubs occur on earth to sandy-earth plains in the western Yilgarn Craton (CALM, 2002). The vegetation of the Yalgoo bioregion is well represented in Western Australia and is considered to be of least concern with regards to conservation status (Department of Natural Resources and Environment, 2002; Government of Western Australia, 2016).

The flora and vegetation survey undertaken by Terratree (2017) identified no Threatened Ecological Communities (TEC's) occurring within the application area. However, one Priority Ecological Community (PEC) was identified within a 10 kilometre search area of the application area. The application area is located within the mapped extent of the 'Minjar and Chulaar Hills Vegetation complex, Banded Ironstone formation (BIF)' PEC (GIS Database). However, Terratree (2017) reported that the vegetation located in the application area does not comprise BIF associated vegetation assemblages. In addition, the Minjar and Chulaar Hills PEC extends in a north-south direction over a large area (2,914.47 hectares). The application area is located in the southern portion of the PEC boundary (GIS Database). It is unlikely that the clearing of 45 hectares of native vegetation would impact the PEC in this area. The Department of Parks and Wildlife (DPaW) have recently provided comments on a similar proposal adjacent to this proposal. DPaW recommended that unless unavoidable, disturbance should remain outside the PEC boundary (DPaW, 2016). DPaW also recommended that where clearing within the PEC boundary is unavoidable then clearing should be minimised to that which is absolutely necessary (DPaW, 2016).

The flora and vegetation survey completed by Terratree (2017) identified seven vegetation community types within the application area. Based on a review of a number of databases, survey reports and published literature by Terratree (2017), a number of conservation significant flora species have the potential to occur in the application area. No species of Threatened flora were recorded during the flora survey. However, four Priority flora species were recorded during the flora survey. These include: *Drummondita fulva* (Priority 3), *Grevillea globosa* (Priority 3), *Micromyrtus trudgenii* (Priority 3) and *Psammomoya implexa* (Priority 3) occurring in the flora survey area (Terratree, 2017). However, only three Priority flora species occur within the application area (Terratree, 2017).

Minjar Gold (2017) reported five individuals of *D. fulva* would be impacted by the proposal (with 14,753 individuals remaining), 40 individuals of *G. globosa* would be impacted by the proposal (with 2,005 individuals remaining) and one individual of *P. implexa* would be impacted by the proposal (with 5,450 individuals remaining) in the Golden Dragon project area. No individuals of *M. trudgenii* are located in the application area and this species will not be impacted by the proposal (Minjar Gold, 2017).

A Level 1 fauna survey was conducted over the application area and no Threatened fauna were recorded (Terratree, 2017). A search of available biological databases also confirmed no Threatened fauna were located in the application area (GIS Database). A search of DPaW's NatureMap database revealed records of 141 species of conservation significant fauna, potentially occurring within a 20 kilometre radius of the application area (DPaW, 2017).

Suitable habitat was identified in the application area for Malleefowl (*Leipoa ocellata* – Vulnerable). Terratree (2017) reported tall, open shrubland supporting Acacia shrubland and sandy-surfaced wash plains over stony, gravelly mantles and low rises which may be used by Malleefowl. However, it is unlikely that the vegetation of the application area is significant for Malleefowl species as no mounds, tracks, diggings or individuals were recorded during the fauna survey (Terratree, 2017).

It is unlikely that clearing required as part of the proposal would impact Malleefowl species as large areas of suitable breeding and foraging habitat for the species exist in the surrounding area (GIS Database). Some areas within the application area have also been previously cleared for access tracks or disturbed from past exploration activities, grazing by goats and other herbivores (Terratree, 2017; GIS Database). Given the clearing area is relatively small (45 hectares) and contains areas of previously cleared and disturbed vegetation, the area is not expected to contain a high level of faunal diversity.

The biological surveys confirm the application area does not contain a high level of biological diversity. The proposed clearing is relatively small and the vegetation to be cleared is well represented in the surrounding area. For these reasons it is unlikely to the proposal will result in the clearing of native vegetation that has higher biodiversity values than surrounding, undisturbed vegetation.

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

Methodology

CALM (2002)
Department of Natural Resources and Environment (2002)
DPaW (2016)
DPaW (2017)
Government of Western Australia (2016)
Terratree (2017)

GIS Database:
- Threatened Fauna
- Threatened and Priority Flora
- TEC/PEC – Buffer
- TEC/PEC – Boundaries

(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 Level 1 fauna survey was conducted over the application area (Terratree, 2017). Based on the results of this survey, the majority of the habitat type identified in the application area was described as tall, open shrubland supporting Acacia shrubland (Terratree, 2017). Some parts of the fauna survey area have been disturbed by previous exploration activities, access tracks, grazing by goats and other herbivores (Terratree, 2017; GIS Database). No Threatened fauna were recorded in the application area as part of the fauna survey (Terratree, 2017).

The search of available biological databases confirmed no Threatened fauna have been recorded in the application area (GIS Database). A search of DPaW's NatureMap database revealed records of 1 amphibian, 93 birds, 13 mammals and 34 reptile species within a 20 kilometre radius of the application area (DPaW, 2017). Given the application area is relatively small (84.97 hectares) and contains areas of previously cleared and disturbed vegetation, the area is not expected to contain a high level of faunal diversity. Five species of conservation significant fauna had the potential to occur in the area. These species include:

- Malleefowl (*Leipoa ocellata* – Threatened)
- Western Spiny-tailed Skink (*Egernia stokesii* subsp. *badia* – Threatened)
- Shield-backed Trapdoor Spider (*Idiosoma nigrum* - Threatened),
- Rainbow Bee-eater (*Merops ornatus* – Marine)
- Peregrine Falcon (*Falco peregrinus* – Other Specially Protected).

Malleefowl (*Leipoa ocellata* – Threatened) could potentially occur as suitable habitat for the species is present in the application area. Malleefowl occupy semi-arid to arid shrublands and low woodlands dominated by mallee. Malleefowl also favour a sandy substrate and abundance of leaf litter for the construction of breeding mounds. The majority of the habitat in the application area is described as tall, open shrubland supporting Acacia shrubland on sandy-surfaced wash plains over quartz-strewn plains with stony, gravelly mantles (Terratree, 2017). No Malleefowl individuals or tracks were recorded during the fauna survey (Terratree, 2017). There were also no active Malleefowl mounds recorded in the application area (Terratree, 2017).

Two historic Malleefowl mounds were recorded in the application area during the fauna survey (Terratree, 2017). However, these mounds were severely weathered with a loss of structural integrity and estimated to be 20 - 100 years old (Terratree, 2017). Terratree (2017) reported that due to the condition of these two historic mounds, it is unlikely they would be used for future breeding. It is also unlikely that the species would depend on this area, given the large areas of suitable fauna habitat located nearby and in surrounding areas. Given the relatively small clearing footprint of the application area in the context of the greater region, it is unlikely that clearing activities would impact conservation significant species.

Western Spiny-tailed Skink (*Egernia stokesii* subsp. *badia* – Threatened) could potentially occur in the application area. However, no individuals of the species were recorded during the fauna survey (Terratree, 2017). Western Spiny-tailed Skinks are restricted to the northern Wheatbelt region of Western Australia from Mullewa south to Kellerberrin and inhabit timber and rock crevices. The fauna habitat assessment reported a low probability of this species inhabiting the area due to the low shrub layer, few habitat logs or rocky outcroppings (Terratree, 2017). Therefore, it is unlikely that the habitat is significant for the species.

The Shield-backed Trapdoor Spider (*Idiosoma nigrum* - Threatened) could potentially occur in the application area. This species occurs in the central and northern Wheatbelt and at Jack Hills and Weld Range (Terratree, 2017). The Shield-backed Trapdoor Spider typically inhabits clay soils of Eucalypt woodlands and Acacia vegetation with areas of leaf litter and twigs to build burrows (Terratree, 2017). No fauna burrows or individuals were recorded in the application area during the fauna survey (Terratree, 2017). The habitat assessment also reported a low probability of this species inhabiting the application area due to a lack of leaf and twig debris needed for burrow construction (Terratree, 2017). The species is unlikely to be present as there is limited suitable habitat in the application area.

The area proposed to be cleared does not contain significant habitat for fauna species indigenous to Western Australia.

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

Methodology DPaW (2017)
Terratree (2017)

GIS Database:
- Threatened Fauna

(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 search of available databases was undertaken and no Threatened flora have been recorded in the application area (GIS Database). A flora survey was also undertaken by Terratree (2017) which did not record species of Threatened flora in the application area. The native vegetation proposed to be cleared is not likely to contain or is not necessary for the continued existence of rare flora.

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

Methodology Terratree (2017)

GIS Database:
- 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**
According to available databases, there are no Threatened Ecological Communities (TEC's) located in the application area (GIS Database). Terratree (2017) reported no vegetation communities considered to be a TEC within or near the application area as a result of the flora survey (Terratree, 2017).

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

Methodology Terratree (2017)

GIS Database:
- TEC/PEC - Buffers
- TEC/PEC - Boundaries

(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 Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 97.36% of the pre-European extent of vegetation remains in Western Australia (refer to table below) (Government of Western Australia, 2016; GIS Database). As large areas of the pre-European extent of native vegetation remain within the Yalgoo IBRA region, the vegetation is considered to be of least concern with regards to conservation status (Department of Natural Resources and Environment, 2002).

The native vegetation located in the application area has been mapped as Beard vegetation associations 202: Shrublands; mulga and *Acacia quadrimarginea* scrub and 420: Shrublands; bowgada and jam scrub (GIS Database). These vegetation associations have not been extensively cleared as over 96% of the vegetation associations remain at the State and bioregional levels (refer to table below) (Government of Western Australia, 2016).

The clearing of vegetation as part of the proposal is not part of a significant ecological linkage. The area proposed to be cleared is also not considered to be significant as a remnant in an area that has been extensively cleared (GIS Database). The vegetation of the application area is considered to be in very good condition and for these reasons the clearing of native vegetation is not at variance to this Principle (Terratree, 2017).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in All DPaW Managed Land
IBRA Bioregion – Yalgoo	5,057,325.85	4,923,840.47	97.36	Least Concern	31.77
IBRA Subregion -Tallering	3,498,943.53	3,387,092.96	92.84	Least Concern	24.33
Local Government -Yalgoo	2,794,946.37	2,733,268.13	97.79	Least Concern	22.51

Beard veg assoc. – State					
202	448,529.32	448,343.81	99.96	Least Concern	22.91
420	859,632.11	830,216.19	96.58	Least Concern	14.17
Beard veg assoc. – Bioregion					
202	45,096.14	45,011.91	99.81	Least Concern	40.08
420	621,396.05	620,265.57	99.82	Least Concern	16.47
Beard veg assoc. – Subregion					
202	45,096.14	45,011.91	99.81	Least Concern	40.08
420	615,816.17	614,685.69	99.82	Least Concern	16.61

* Government of Western Australia (2016).
** 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 (2016)
Terratree (2017)

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 at variance to this Principle
There are no watercourses or water bodies mapped within the application area (Terratree, 2017; GIS Database). The application area does not support vegetation associated with a watercourse or wetland.

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

Methodology

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
Northcote et al (1960-68) describes soils in the application area as metasediments, with a scattered ironstone gravel pavement. The majority of soils are shallow earthy loams underlain by a red-brown hardpan at less than 12 inches in depth (Northcote et al.,1960-68). Terratree (2017) describes soils of the application area as sandy-surfaced wash plains over quartz-strewn plains with stony, gravelly mantles and low rises. Low rises may also contain outcrops of granite, gneiss and schists (Terratree, 2017). These soils provide a greater level of stability and minimise erosion potential.

The area under application falls within a low rainfall area (260 millimetres mean annual rainfall) and the risk of flooding is low (BoM, 2017). There is the potential for short-term and localised flood events and waterlogging during heavy rainfall periods. However, this is not expected to cause appreciable land degradation within the application area. Due to the arid climate and low rainfall it is also unlikely that clearing activities will cause on-site or off-site impacts with regards to salinity, nutrient export or soil acidification (GIS Database).

The proposed clearing of 45 hectares is not likely to cause land degradation or reduce the land capability of the application area.

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

Methodology

BoM (2017)
Northcote et al. (1960-68)
Terratree (2017)

GIS Database:
-Groundwater Sallinity, Statewide
- Hydrography, linear

(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 does not lie within any conservation areas or DPaW managed lands (Terratree, 2017; GIS Database). The application area is located approximately 400 metres to the west of the former Warriedar Pastoral Station which is proposed for conservation and now managed by DPaW (GIS Database). The former Warriedar Pastoral Station consists of a large area of land approximately 23,064 hectares in size located directly south and east of the application area. (GIS Database). The proposed clearing is not likely to impact on any ecological linkages to Warriedar Pastoral Station. The proposed clearing is not likely to have any impacts on the environmental values of this or any other conservation area.

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

Methodology

Terratree (2017)

GIS Database:
- DPaW 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
No Public Drinking Water Source Areas (PDWSA's) are located within or in the vicinity of the application area (GIS Database). There are no permanent watercourses or wetlands located within the application area (Terratree, 2017; GIS Database). Therefore, the clearing of native vegetation required for the proposal will not cause deterioration in the quality of surface water, including sedimentation, erosion, turbidity or eutrophication of water bodies on-site or off-site.

Groundwater salinity within the application area is between 500 – 1000 milligrams per litre of Total Dissolved Solids (TDS) and is considered to be brackish (GIS Database). It is not expected that the proposed clearing of 45 hectares within a permit boundary of 84.97 hectares would adversely alter salinity levels within the application or surrounding area. Additionally, the low mean annual rainfall and relatively small amount of clearing required within a large application area is unlikely to cause changes to groundwater (BoM, 2017). The proposed clearing is not likely to have an impact on the quality of groundwater either on-site or off-site of the application area.

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

Methodology

BoM (2017)
Terratree (2017)

GIS Database:
- Groundwater Salinity, Statewide
- 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
Annual mean rainfall for the nearest weather station located at Thundelarra recorded 260 millimetres and total average annual evaporation for the area is approximately 2,400 millimetres (BoM, 2017). Surface water flow in the catchment is ephemeral and there is likely to be little surface water flow during normal seasonal rains. In the event of heavy rainfall, there is the potential for short-term and localised flooding. However, it is unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of large-scale, regional flooding.

Terratree (2017) describes soils of the application area as red shallow loams, red loamy earths, red deep sands, stony soils and red sandy duplexes (Terratree, 2017). These soils provide a greater level of stability and are unlikely to cause or exacerbate large-scale flooding.

The relatively small amount of native vegetation clearing (45 hectares) within a large application area (84.97 hectares) is unlikely to adversely impact the application area. It is unlikely that the clearing associated with the proposal will cause, or exacerbate the incidence or intensity of flooding. The surrounding area is also well vegetated further reducing the likelihood of or intensity of flooding (GIS Database).

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

Methodology BoM (2017)
Terratree (2017)

GIS Database:
- Hydrography, linear

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

Comments There is one native title claim (WC1997/072) over the application area (DAA, 2017). This claim has been registered with the National Native Title Tribunal on behalf of the claimant groups (DAA, 2017). However, the 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 (DAA, 2017). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal sites of significance are damaged through the clearing process.

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

The clearing permit application was advertised on 6 March 2017 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology DAA (2017)

4. References

BoM (2017) Bureau of Meteorology Website - Climate Data Online, Thundelarra. Bureau of Meteorology. http://www.bom.gov.au/climate/averages/tables/cw_007091.shtml (Accessed 16 March 2017).

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Yalgoo (Tallering subregion) Department of Conservation and Land Management, Perth, Western Australia.

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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 (2016) Advice received in relation to Clearing Permit Application CPS 6939/1, Minjar Gold Pty Ltd. Mid-West Region, Department of Parks and Wildlife, Western Australia, March 2016.

DPaW (2017) NatureMap - Mapping Western Australia's Biodiversity, Department of Parks and Wildlife. https://naturemap.dpaw.wa.gov.au/ (Accessed 2 May 2017).

Government of Western Australia (2016) 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Western Australian Department of Parks and Wildlife, Perth, Western Australia.

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

Minjar Gold (2017) Additional Information received in relation to Clearing Permit Application CPS 7486/1. Minjar Gold Pty Ltd, West Perth, 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.

Terratree (2017) St Tropez Level 2 Flora and Vegetation, Targeted Significant Flora and Fauna Habitat Assessment, Prepared for Minjar Gold Pty Ltd Perth, Western Australia, February 2017.

5. Glossary

Acronyms:

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
DotEE	Department of the Environment and Energy, 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 DotEE)

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:

{DPaW (2015) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

T — **Threatened species:**
Published as Specially Protected under the *Wildlife Conservation Act 1950,* listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.

Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.

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. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EN — **Endangered species**
Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

VU — **Vulnerable species**
Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EX — **Presumed extinct species**
Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.

IA — **Migratory birds protected under an international agreement**
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 the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.

CD — **Conservation dependent fauna**
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.

OS — **Other specially protected fauna**
Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

P — **Priority species**
Species which are poorly known; or
Species that are adequately known, are rare but not threatened, and 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.

Principles for clearing native vegetation:

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

(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.

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

(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.

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

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

(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.

(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.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.