



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7084/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Central Norseman Gold Corporation Pty Ltd

1.3. Property details

Property: Mining Lease 63/204
Mining Lease 63/138
Miscellaneous Licence 63/56
Local Government Area: Shire of Dundas
Colloquial name: Maybell Mine

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 21 July 2016

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia. Two Beard vegetation associations are located within the application area (GIS Database):

Beard vegetation association 221: Succulent steppe; saltbush; and

Beard vegetation association 3106: Medium woodland; salmon gum & Dundas blackbutt.

Note: Less than 3 hectares of the vegetation under application falls within Beard vegetation association 3106.

A Level 1 flora survey was conducted over the application area and immediate surrounds. Nine vegetation communities were identified (Umwelt, 2016):

S1 - *Eucalyptus oleosa* isolated low mallee trees over *Allocasuarina eriochlamys* subsp. *grossa*, *Melaleuca hamata* and *Acacia neurophylla* subsp. *neurophylla* mid shrubland over *Lepidosperma brunonianum* open low rushland.

E1 - *Eucalyptus dundasii* and *Eucalyptus brockwayi* open mid woodland over *Melaleuca sheathiana* and *Eremophila interstans* open mid shrubland over *Dodonaea stenozyga*, *Alyxia buxifolia*, and *Ptilotus obovatus* open low shrubland.

E2 - *Eucalyptus flocktoniae*, *Eucalyptus torquata* and *Eucalyptus dundasii* open low woodland over *Melaleuca sheathiana*, *Trymalium myrtillus* subsp. *myrtillus* and *Alyxia buxifolia* open mid shrubland over *Westringia rigida*, *Eremophila glabra* and *Maireana radiata* open low shrubland.

E3 - *Eucalyptus dundasii* and *Eucalyptus torquata* open mid woodland over *Melaleuca sheathiana* open mid shrubland over *Trymalium myrtillus* subsp. *myrtillus*, *Westringia rigida* and *Eremophila decipiens* open low shrubland over *Atriplex* species open low chenopod shrubland. This occurs on ridges with outcropping.

E4 - *Eucalyptus dundasii*, *Eucalyptus flocktoniae* and *Eucalyptus brockwayi* open mid woodland over *Melaleuca sheathiana* open mid shrubland over *Eremophila interstans* subsp. *interstans*, *Eremophila decipiens* and *Atriplex nummularia* open shrubland.

E5 - *Eucalyptus flocktoniae*, *Eucalyptus longicornis* and *Eucalyptus salubris* open mid woodland over *Melaleuca sheathiana* open mid shrubland over *Atriplex nummularia* open low chenopod shrubland.

E6 - *Eucalyptus dundasii*, *Eucalyptus flocktoniae* and *Eucalyptus torquata* open mid woodland over *Melaleuca sheathiana* open mid shrubland over *Trymalium myrtillus* subsp. *myrtillus*, *Westringia rigida*, *Eremophila decipiens* and *Atriplex vesicaria* open low chenopod shrubland. This occurs on undulating areas.

E7 - *Eucalyptus torquata* open low woodland over *Alyxia buxifolia*, *Dodonaea lobulata*, *Eremophila decipiens* and *Trymalium myrtillus* subsp. *myrtillus* open low shrubland.

E8 - *Eucalyptus dundasii* and *Eucalyptus salubris* open mid woodland over *Eremophila interstans* subsp. *interstans* and

Eremophila decipiens open low shrubland over *Atriplex nummularia* open low chenopod shrubland.

Clearing Description	Maybell Mine Central Norseman Gold Corporation Pty Ltd proposes to clear up to 30 hectares of native vegetation within a total boundary of approximately 31.24 hectares, for the purpose of mineral production. The project is located approximately 18 kilometres south of Norseman in the Shire of Dundas.
Vegetation Condition	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994). To: Pristine: No obvious signs of disturbance (Keighery, 1994).
Comment	The proposed activity (mineral production) includes an open pit, waste rock landform, ROM pad, topsoil stockpiles, roads, office areas, lay downs, workshop and other required supporting infrastructure. The condition of the vegetation under application was determined via a flora and vegetation survey conducted by Umwelt (2016).

3. Assessment of application against Clearing Principles

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

Comments	<p>Proposal is not likely to be at variance to this Principle</p> <p>The application area is located within the Eastern Goldfields subregion of the Coolgardie Interim Biogeographic Regionalisation for Australia bioregion (GIS Database). The subregion is characterised by Mallees, Acacia thickets and shrub-heaths on sandplains (CALM, 2002). Diverse <i>Eucalyptus</i> woodlands occur around salt lakes, on ranges, and in valleys. Salt lakes support dwarf shrublands of samphire. Woodlands and <i>Dodonaea</i> shrubland occur on basic granulites of the Fraser Range. The area is rich in endemic Acacias (CALM, 2002).</p> <p>Nine vegetation communities were identified within the application area and surrounding area (the Maybell Mine development area), three of which cover over 50% of the area to be cleared (Vegetation community S1, E1 and E7).</p> <p>The application area has been subject to historic mining disturbance from underground mine and decline construction, waste rock dumps, material stockpiles (including potential acid forming material), tailings storage facility, access roads and exploration activities (Umwelt, 2016). The majority of the vegetation within the application area (>50 %) is considered to be in a 'degraded' condition (Umwelt, 2016). Areas of native vegetation ranging in condition from 'excellent' to 'good', as well as a small section of 'pristine' vegetation have been identified within the application area (Umwelt, 2016).</p> <p>No Threatened Ecological Communities (TECs) are known within the application area and none occur within 100 kilometres (GIS Database). A Priority Ecological Community (PEC) "Allocasuarina globosa assemblages on greenstone rock" is located approximately 3.5 kilometres north west of the application area.</p> <p>During a flora and vegetation survey for an adjacent area, seven Priority flora species consisting of one Priority 2, six Priority 3 and one possible Priority 1 species (yet to be positively confirmed) were identified. All Priority flora species recorded in the adjacent area also occur in the Brockway Timber Reserve (Mattiske, 2013). The Priority 1 specimen not yet identified is thought to be <i>Eucalyptus jimberlanica</i>. During a Level 1 flora survey conducted over the application area, five Priority flora species were recorded: <i>Allocasuarina eriochlamys</i> subsp. <i>grossa</i> (P3), <i>Eremophila purpurascens</i> (P3), <i>Eucalyptus brockwayi</i> (P3), <i>Philotheca apiculata</i> (P2) and <i>Melaleuca coccinea</i> (P3)</p> <p>Although all Priority flora taxa recorded or identified during the flora and vegetation survey of the adjacent area have distributions beyond the immediate vicinity, the Department of Parks and Wildlife (DPaW) have advised that four taxa (<i>Eucalyptus jimberlanica</i> - P1, <i>Eremophila purpurascens</i> - P3, <i>Eucalyptus brockwayi</i> - P3 and <i>Philotheca apiculata</i> - P2) have highly restricted distributions around Norseman, largely on live mining tenements, in particular <i>Eucalyptus jimberlanica</i> (P1), <i>Eremophila purpurascens</i> (P3) and <i>Eucalyptus brockwayi</i> (P3) (DPaW, 2015). The application area is also at the southern extent of the range of these taxa. These taxa require particular consideration, not only with respect to potential impacts from this proposal, but also with respect to potential cumulative impacts from mining in the local area (DPaW, 2015). <i>Philotheca apiculata</i> is only known from a timber reserve with a live mining tenement and based on the limited available information, although this species is known from a broader range than the three previously mentioned species, there is the potential for clearing impacts to reduce the known extent of the species. Any impacts on the populations of these four Priority flora species within the application area are potentially significant to the conservation of the species at both the local and regional scale (DPaW, 2015).</p> <p>Of the Priority flora recorded in nearby areas, only <i>Eucalyptus brockwayi</i> and <i>Philotheca apiculata</i> were recorded within the application area. The proposed clearing will result in the taking of three individuals of <i>Eucalyptus brockwayi</i>, ten individuals of <i>Allocasuarina eriochlamys</i> subsp. <i>grossa</i> and 13 individuals of <i>Philotheca apiculata</i>. It is possible that additional individuals may establish in the application area prior to clearing. DPaW (2016a) advised that the proposed impacts to the abovementioned Priority flora species are unlikely to be significant on a population scale and that all species will remain represented in the local area. Potential impacts to the abovementioned Priority flora species as a result of the proposed clearing may be minimised by the implementation of a flora management condition which limits the number of Priority flora to be cleared.</p>
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Three introduced flora (weed) species have been recorded within the local area, none of which are declared pests pursuant to Section 22 of the *Biosecurity and Agriculture Management Act 2007*. Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. 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 not likely to be at variance to this Principle.

Methodology CALM (2002)
DPaW (2015)
DPaW (2016a)

GIS Database:
- IBRA Australia
- Pre-European vegetation
- 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 desktop survey was conducted over the application area by Umwelt (2016) and a total of nine fauna species of conservation significance were either recorded within the application area or have the potential to occur within the application area. A more detailed Level 2 fauna survey was conducted over the area immediately adjacent to the application area in 2012. The survey recorded a total of one frog, 44 reptile, 74 bird and 20 mammal species and identified the local area as having the potential to support a wide range of vertebrate species (Western Wildlife, 2013). All habitats identified are generally widespread in the subregion, and of the fauna species recorded in the local area, three have the potential to be impacted by the proposed clearing: the Rainbow Bee-eater (*Merops ornatus* - Marine; Migratory), Chuditch (*Dasyurus geoffroyi* - Vulnerable) and Malleefowl (*Leipoa ocellata* - Vulnerable) (DPaW 2015; Umwelt, 2016).

The Rainbow Bee-eater is a migratory species and is likely to be a breeding visitor to the application area. The Rainbow Bee-eater is a common species that migrates southwards in summer to breed and utilises a range of habitats, but favours lightly wooded areas near water. South of the Tropic of Capricorn, breeding usually occurs between October and December, although the breeding season extends from August to January (DotE, 2015). The burrow is dug on flat or angled sandy ground, including alongside tracks and roads with adults and newly fledged juveniles remaining at the breeding area for another 2-3 weeks (DPaW, 2015).

DPaW (2016a) have advised that the Rainbow Bee-eater is unlikely to be significantly impacted by the proposed clearing as they breed across a large portion of the State. However, individuals will be impacted if clearing of nesting burrows occurs while they are in use, with the potential destruction resulting in loss of eggs and mortality of chicks and adult birds (DPaW, 2015; DPaW, 2016a). Potential impacts to Rainbow Bee-eater breeding sites as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

There have been recent anecdotal reports of Chuditch in the area with at least one road kill reported in the local area (DPaW, 2015; DPaW, 2016a). Given the large distribution of Chuditch and the quantity of suitable habitat in the local and regional area, impacts are not likely to be significant (DPaW, 2016a).

Old (at least 25 years or older) Malleefowl mounds have been recorded in the vicinity of the application area, although no active mounds or evidence of live animals have been observed (Western Wildlife, 2013). DPaW (2016a) have advised that while it cannot be confirmed that the application area is unsuitable as Malleefowl habitat, past disturbance of the area may have reduced the habitat potential for mound building. It is possible that Malleefowl may build a mound(s) within the application area (DPaW, 2016a). If there are any active (in use) mounds within the application area when clearing occurs, then there may be an impact on the local population (DPaW, 2016a). To reduce the potential for impacts on the local population, the proponent has committed to inspect areas to be cleared for the presence of active mounds and avoid any clearing of active mounds until juveniles have left the area (Umwelt, 2016).

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

Methodology DotE (2015)
DPaW (2015)
DPaW (2016a)
Umwelt (2016)
Western Wildlife (2013)

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

Comments Proposal is not likely to be at variance to this Principle

According to available databases, there are no species of Threatened flora known to occur within a 10

kilometre radius of the application area (GIS Database; DPaW, 2016b). No Threatened flora species were recorded during a Level 1 flora and vegetation survey over the application area and surrounding area (Umwelt, 2016).

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

Methodology DPaW (2016b)
Umwelt (2016)

GIS Database
- Threatened and Priority Flora List

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments **Proposal is not at variance to this Principle**

According to available datasets, there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). A Level 1 flora and vegetation survey of the application area and surrounding areas did not identify the presence of any TECs or communities similar to that of any known TECs (Umwelt, 2016).

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

Methodology Umwelt (2016)

GIS Database:
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Ecological Communities 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 occurs within the Coolgardie Interim Biogeographic Regionalisation of Australia bioregion, in which approximately 98% of the pre-European vegetation remains (see table below) (GIS Database; Government of Western Australia, 2014).

Two Beard vegetation associations have been mapped within the application area (GIS Database). As the below table illustrates, all are well represented, retaining at least 94% of pre-European vegetation within the state and bioregion (Government of Western Australia, 2014). Given the amount of vegetation remaining in the local area and bioregion, the vegetation proposed to be cleared is not considered to represent a remnant within an extensively cleared area.

	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	~ 15.9
Beard veg assoc. - State					
221	63,720.06	59,923.05	~ 94	Least Concern	~ 17.1
3106	52,660.80	51,602.81	~ 98	Least Concern	~ 7.6
Beard veg assoc. - Bioregion					
221	19,497.70	19,304.66	~ 99	Least Concern	~ 10.1
3106	52,659.62	51,601.68	~ 98	Least Concern	~ 7.6

* Government of Western Australia (2014)

** 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 (2014)

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

One minor non-perennial watercourse is mapped as intersecting the northern section of the application area. No permanent waterholes, lakes or perennial watercourses were identified within the application area during the flora and vegetation survey (Umwelt, 2016).

The closest wetland (Lake Dundas) is located approximately 600 metres south east and fringing riparian vegetation is known to occur close to the lake. No such vegetation has been recorded within the application area, as vegetation identified within the application consists predominately of Eucalyptus woodlands (Umwelt, 2016; GIS Database).

According to GIS mapping systems, Lake Dundas has an extent of approximately 6,886 hectares but is part of a larger lake system that is approximately 44,000 hectares. Large salt lakes are common to the local area and region (GIS Database) and the proposed clearing is not likely to result in significant impacts to the wetland or any associated vegetation.

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

Methodology Umwelt (2016)

GIS Database:
- Hydrography, linear

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

Comments Proposal may be at variance to this Principle

Advice was received from the Department of Agriculture and Food Western Australia (DAFWA) for an adjacent application. It was noted that some soils known from the area are quite prone to soil erosion if disturbed and native vegetation is removed (DAFWA, 2015). DAFWA (2015) also advised that even the more resistant areas may be susceptible to erosion if native vegetation is removed, due to the local topography (steep slopes) and that surface disturbance and altered surface water hydrology will trigger erosion.

Steep slopes have been identified within the application area (Umwelt, 2016) and erosion following clearing is probable at these locations. Umwelt (2016) has advised that waste rock dumps will be constructed to utilise existing slopes. While this may prevent future erosion (if design and construction is appropriate), areas left open following clearing, will be susceptible to erosion.

DAFWA (2015) considers that soil erosion for sites in this area can be managed by the implementation of appropriate management practises, including rehabilitation of the disturbed areas post mining. Potential land degradation as a result of the proposed clearing may be further minimised by the implementation of a staged clearing condition.

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

Methodology DAFWA (2015)
Umwelt (2016)

(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 designated conservation area; however the application area does fall within a proposed State Forest (PSF7) and within Crown Reserve 13140, which is proposed to be an addition to the Brockway Timber Reserve (GIS Database; DPaW, 2016a). As the area under application is situated on vacant Crown land which is not vested in the Conservation Commission, it is not necessarily affected by these proposals, until in effect (Conservation Commission of Western Australia, 2013).

The Brockway Timber Reserve is situated approximately one kilometre north of the application area. This reserve is vested with the Conservation Commission of Western Australia and managed by the Department of Parks and Wildlife. The Dundas Nature Reserve is another conservation area situated within the local area. The Dundas Nature Reserve is located approximately 13 kilometres east (GIS Database).

Given that the local area is well vegetated, with large amounts of intact native vegetation remaining, the proposed clearing is unlikely to impact on the environmental values of adjacent or nearby conservation areas, or any areas used for the purpose of conservation.

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

Methodology DPaW (2016a)
Conservation Commission of Western Australia (2013)

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

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

Lake Dundas is located approximately 500 metres south east of the application area. Lake Dundas is a large salt lake, with an extent of approximately 6,886 hectares and may hold water depending on seasonal rainfall. Minor localised altered flow regimes and increased sedimentation may result from the proposed clearing activities. Potential impacts to surface water quality as a result of the proposed clearing may be minimised by the implementation of a watercourse management condition.

The application area has a groundwater salinity that is brackish to saline (14000 – 35000 milligrams/Litre Total Dissolved solids) (GIS Database). The proposed clearing of up to 30 hectares of native vegetation within an area that has extensive amounts of vegetation remaining, is unlikely to result in any significant impacts to groundwater quality.

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

Methodology GIS Database:
- Groundwater Salinity, Satewide
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)
- RIWI Act, Groundwater 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 Coolgardie region has an arid to semi-arid climate, with a mean rainfall of approximately 300 millimetres, falling predominately in the winter months, with evaporation far exceeding rainfall (CALM, 2002; BoM, 2016).

The proposed clearing is located within the Balladonia Catchment which has an area of approximately 3,481,034 hectares (GIS Database). Extensive clearing of native vegetation may increase the potential for small scale, localised flooding events, however given the climate of the region, sloping topography, proximity to Lake Dundas, and the large amount of remaining vegetation in the local area, the proposed clearing is unlikely to result in a significant increase in the incidence or intensity of flooding.

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

Methodology BoM (2016)
CALM (2002)

GIS Database:
- Hydrographic Catchments – Catchments

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There is one native title claim over the application area (WC1999/002) (GIS Database; DAA, 2016). 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 Sites of Aboriginal Significance located in the area applied to clear (GIS Database; DAA, 2016). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, the 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 13 June 2016 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology DAA (2016)

4. References

- BoM (2016) Climate Statistics for Australian Locations. A Search for Climate Statistics, Australian Government Bureau of Meteorology. <http://www.bom.gov.au> (Accessed June 2016).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management.
- Conservation Commission of Western Australia (2013) *Forest Management Plan 2014-2023*, Conservation Commission of Western Australia, Perth.
- DAA (2016) Aboriginal Heritage Inquiry System, Department of Aboriginal Affairs, Perth, Western Australia < <http://maps.dia.wa.gov.au>> (Accessed July 2016).
- DAFWA (2015) Advice received in relation to Clearing Permit Application CPS 6823/1. Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia, Western Australia, April 2016.
- 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.
- DotE (2015) *Merops ornatus* in Species Profile and Threats Database, Department of the Environment, Canberra. < <http://www.environment.gov.au>>.
- DPaW (2015) Advice received in relation to Clearing Permit Applications CPS 6823/1 & CPS 6824/1. Species and Communities Branch, Department of Parks and Wildlife, Western Australia, April 2016.
- DPaW (2016a) Advice received in relation to Clearing Permit Application CPS 7084/1. Species and Communities Branch Department of Parks and Wildlife, Kensington, Western Australia, July 2016.
- DPaW (2016b) NatureMap, Department of Parks and Wildlife <http://naturemap.dec.wa.gov.au> (Accessed July 2016).
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. WA Department of Parks and Wildlife, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske (2013) Flora and Vegetation Survey of the Mt Henry Survey Area. Supporting Information for CPS 6823/1. Mattiske Consulting Pty Ltd. Kalamunda, Western Australia.
- Western Wildlife (2013) Mt Henry Area Baseline Fauna Survey: Level 2 Fauna Survey 2012 & 2013 – Final Report. Supporting Information for CPS 6823/1. Western Wildlife, Mahogany Creek, Western Australia.
- Umwelt (2016) Maybell Mine Project, Supporting document for clearing permit application. Report prepared by Umwelt (Australia) Pty Ltd, May 2016.

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
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
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 <i>Wildlife Conservation Act 1950</i> , 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).
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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.