



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5373/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Grosvenor Gold Pty Ltd

1.3. Property details

Property: Mining Lease 52/95
Mining Lease 52/96
Mining Lease 52/99
Mining Lease 52/132
Mining Lease 52/133
Local Government Area: Shire of Meekatharra
Colloquial name: Fortnum Gold Mine Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 27 December 2012

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 and are useful to look at vegetation in a regional context. The following Beard vegetation association is located within the application area (GIS Database):

29: Sparse low woodland; mulga, discontinuous in scattered groups.

The application area was surveyed as part of a larger Level 1 flora and vegetation survey conducted by Umwelt Environmental Consultants (Umwelt) from 7 to 10 May 2012 and 30 August 2012 (extension of vegetation mapping). The following five vegetation types were identified within the application area (Umwelt, 2012a):

1. S1: Isolated tall shrubs of *Acacia kempeana*, *Acacia pruinocarpa*, *Acacia tetragonophylla* and *Grevillea berryana* over low sparse shrubland of *Ptilotus obovatus* and *Solanum lasiophyllum* over low sparse grassland of *Aristida contorta* and *Eriachne pulchella* subsp. *dominie*. This community occurs on stony hardpan plains.

2. S2: Tall sparse shrubland of *Acacia aptaneura* and *Acacia aneura* with *Acacia citrinoviridis*, *Acacia tetragonophylla* and *Acacia kempeana* over low sparse shrubland of *Eremophila forrestii* subsp. *forrestii*, *Eremophila galeata*, *Eremophila georgei*, *Eremophila glutinosa*, *Ptilotus obovatus* and *Solanum lasiophyllum* over low sparse grassland of *Aristida contorta* and *Eriachne pulchella* subsp. *dominie*. This community occurs on stony hardpan plains.

3. M2: Open low woodland of *Acacia aptaneura* with *Grevillea berryana* over low sparse shrubland of *Ptilotus obovatus* and *Solanum lasiophyllum*, *Eremophila georgei* and *Eremophila jucunda* subsp. *jucunda* over low sparse grassland of *Aristida contorta* and *Eriachne pulchella* subsp. *pulchella*. This community occurs on minor drainage areas on hardpan plains.

4. C1: Open low woodland of *Acacia cyperophylla* subsp. *cyperophylla* over tall open shrubland of *Acacia aptaneura* over low sparse shrubland of *Eremophila galeata*, *Acacia tetragonophylla* and *Grevillea deflexa* over low sparse grassland of *Eriachne helmsii*, *Eriachne pulchella* subsp. *dominie* and *Sporobolus australasicus*. This community occurs on ephemeral creeks.

5. D: Disturbed/Cleared Land.

Clearing Description Grosvenor Gold Pty Ltd (Grosvenor Gold) has applied to clear 259 hectares within an application area of approximately 541 hectares (GIS Database). The application area is located approximately 140 kilometres north of Meekatharra (GIS Database).

The purpose of the application is to recommence mining at Tom's, Yarlalweelor and Callie's deposits which are part of the deposits that comprise the Fortnum Gold Mine. The application area consists of four separate areas

which are referred to as Tom's, Callie's, Yarlalweelor and Proposed TSF 3. The proposed mining activities include a cutback of Tom's and Yarlalweelor open pits, creation of Callie's North open pit, expansion and creation of waste rock dumps, further realignment of Yarlalweelor Creek, construction of a new tailings storage facility (TSF) (TSF 3) and construction of new laterite and topsoil stockpiles, laydown areas, bunds and haul roads. Clearing will be by mechanical means. Vegetation will be stockpiled for use in rehabilitation.

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

To

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

Comment Vegetation condition was determined by Umwelt (2012b).

The Fortnum Gold mine has been on care and maintenance since 2007. The proposed clearing involves expansion of areas previously disturbed by mining activities. The area has also been extensively grazed and disturbed by cattle, goats, rabbits and camels.

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**

Five vegetation types were identified within the application area. These were also found in the larger survey area of 1,604 hectares (Umwelt, 2012b). Most of the application area comprises disturbed land (approximately 239.5 hectares or 44.2%) and very open to sparse *Acacia* shrubland on hardpan plains (vegetation types S1 and S2) (approximately 268.8 hectares or 49.8%) (Umwelt, 2012a). The remainder of the application area consists of one small area of mulga (vegetation type M2) (approximately 1.8 hectares or 0.3%) and an ephemeral creekline community (vegetation type C1) (approximately 30.9 hectares or 5.7%). Umwelt (2012b) considered the vegetation to be consistent with that of the surrounding area. The survey area was found to be highly disturbed, with mine pits, associated infrastructure, a creek diversion and evidence of heavy grazing present (Rapallo, 2012). This included severe degradation of the understorey due to the presence of cattle (i.e. lack of understorey, shrubs, groundcovers, grasses and herbs). The proposed clearing of 259 hectares includes approximately 97.4 hectares of disturbed land (Umwelt, 2012a).

A total of 101 plant taxa (including species, subspecies and varieties) from 59 genera and 26 families were recorded during the flora and vegetation survey (Umwelt, 2012b). One weed species, Bipinnate Beggartick (*Bidens bipinnata*), was recorded during the vegetation survey outside the application area. Potential impacts from weeds as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Available databases show no Threatened or Priority Flora or Threatened Ecological Communities have been recorded within the application area (GIS Database). The application area is located within the Priority 1 Robinson Range vegetation complexes (banded ironstone formation) and Priority 1 Fraser Range vegetation complex Priority Ecological Communities (PECs). The application area is relatively flat and due to the lack of banded ironstone formation, it is unlikely vegetation within the application area represents these PECs.

No Threatened Flora or Priority Flora species were recorded during the vegetation survey. Umwelt (2012b) listed several conservation significant flora species as likely to occur within the local area. However, these were considered unlikely to occur within the application area as suitable habitat was either not present or the condition and structure of the vegetation had been permanently altered by grazing (Umwelt, 2012c).

A Level 1 fauna survey targeting vertebrate and invertebrate fauna was conducted by Rapallo from 25 to 28 May 2012. This covered some parts of the application area (Tom's and some of Callie's was not covered) and included areas of similar habitat outside the application area. A total of 50 vertebrate fauna species comprising one fish, one amphibian, three reptile, 39 bird and six mammal (including three introduced species) species were recorded (Rapallo, 2012). Habitat types were based on vegetation types and included tall shrubland, or, where trees and shrubs are absent, hummock grassland; and low woodland (Rapallo, 2012).

Given the existing disturbance and grazing impacts within the application area, it is unlikely the application area comprises a higher level of floristic or faunal biological diversity than surrounding areas.

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

Methodology Rapallo (2012)
Umwelt (2012a)
Umwelt (2012b)
Umwelt (2012c)
GIS Database:
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

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

A Level 1 fauna survey covering parts of the application area was conducted by Rapallo from 25 to 28 May 2012. Fauna habitat assessment was based on ground truthing of vegetation mapping by Umwelt (Rapallo, 2012). Corresponding habitat types included tall shrubland, or, where trees and shrubs are absent, hummock grassland; and low woodland (Rapallo, 2012). These habitat types are also applicable to the unsurveyed areas as vegetation types found in the unsurveyed areas (vegetation types S1 and S2) also occur within the surveyed areas. The application area also contains riparian habitat associated with Yarlalweelor Creek. Due to the existing realignment, some of this vegetation is no longer located along the flow path of Yarlalweelor Creek. Approximately 8.6 hectares of riparian vegetation along Yarlalweelor Creek will be impacted by the proposed clearing (Umwelt, 2012a). Habitat types comprising rocky, vegetated breakaways or large dead Eucalypts with hollows were not found in the survey area (Rapallo, 2012).

A total of 50 vertebrate fauna species comprising one fish, one amphibian, three reptile, 39 bird and six mammal (including three introduced species) species were recorded during the fauna survey (Rapallo, 2012). Evidence of the conservation significant fauna species Australian Bustard (*Ardeotis australis*) (Priority 4) and Bush Stone-curlew (*Burhinus grallarius*) (Priority 4) were identified within the application area in vegetation type S2 (Rapallo, 2012). Evidence of the Bush Stone-curlew was also observed outside the application area. These species are highly mobile and able to utilise surrounding habitat. Other conservation significant fauna species are also likely to occur within the application area, however, factors such as species mobility, existing disturbance, core or preferred habitat requirements and the availability of similar habitat in surrounding areas indicate the application area is unlikely to represent significant habitat for these species.

The fauna survey also recorded six bird species considered to be either locally significant (five species) or highly under reported in the region (one species) (Rapallo, 2012). Those of local significance have undergone a 20% decline in the region. Rapallo (2012) states the project may impact local populations of these species, however, it is unlikely to impact the species.

Fauna management measures include retaining trees (particularly those with hollows) where possible, inspecting areas to be cleared for Bush Stone-curlew and Inland Dotterel (highly under reported) nests and chicks and relocation of these by an authorised officer if found (Umwelt, 2012a).

Evidence of at least seven, potentially more, invertebrate fauna taxa were recorded during the survey (Rapallo, 2012). The habitat types these were recorded in are fairly common, disturbed and generally well connected (Rapallo, 2012). No features conducive to short range endemic (SRE) species were identified and the habitat is not considered relictual. Rapallo (2012) concluded there is a low risk of these habitats supporting SRE species.

Given the occurrence of similar vegetation outside the application area and the existing mining and grazing impacts, it is unlikely the application area represents significant fauna habitat.

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

Methodology Rapallo (2012)
Umwelt (2012a)

(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 records of Threatened Flora within the application area (GIS Database). No Threatened Flora were recorded during the vegetation survey undertaken on 7 to 10 May 2012 and 30 August 2012 (Umwelt, 2012b).

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

Methodology Umwelt (2012b)
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 known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest known TEC is approximately 255 kilometres north east of the application area (GIS Database).

No TECs were recorded during the vegetation survey undertaken on 7 to 10 May 2012 and 30 August 2012 (Umwelt, 2012b).

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

Methodology Umwelt (2012b)
GIS Database:
- Threatened Ecological Sites Buffered

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is not at variance to this Principle

The application area falls within the Gascoyne Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 99.96% of the pre-European vegetation remains (see table) (GIS Database; Government of Western Australia, 2011).

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

29: Sparse low woodland; mulga, discontinuous in scattered groups.

Approximately 99.9% of Beard vegetation association 29 remains at both a state and bioregional level (Government of Western Australia, 2011). Therefore the area proposed to be cleared does not represent a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Gascoyne	18,075,219	18,067,441	~99.96	Least Concern	1.93
Beard veg assoc. – State					
29	7,903,991	7,900,200	~99.95	Least Concern	0.29
Beard veg assoc. – Bioregion					
29	3,802,460	3,799,636	~99.93	Least Concern	0.03

* Government of Western Australia (2011)

** 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 (2011)
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 at variance to this Principle

There is one ephemeral watercourse within the application area known as Yarlarweelor Creek (GIS Database). This creek is a tributary of the Gascoyne River and originates approximately 35 kilometres south east of Fortnum Gold mine (Umwelt, 2012a). It intersects the application area at Yarlarweelor where it has been realigned for the Yarlarweelor open pit. The creek also occurs immediately south of Callie's. This creek only flows in periods of high rainfall (Umwelt, 2012a).

Vegetation mapping of the application area identified one riparian vegetation type growing in association with Yarlarweelor Creek (vegetation type C1). This vegetation type is found at Yarlarweelor and Callie's and was dominated by *Acacia cyperophylla* subsp. *cyperophylla* (Umwelt, 2012b). Grazing impacts were observed along the creek and has resulted in a reduction of understorey cover. The proposed clearing will impact on approximately 8.6 hectares or 27.8% of vegetation type C1 (Umwelt, 2012a). Umwelt (2012a) states that equipment will utilise a raised blade through the creek. Vegetation type M2 was also identified on minor drainage areas on hardpan plains (Umwelt, 2012a). Potential impacts to riparian vegetation as a result of the proposed clearing may be minimised by the implementation of a vegetation management condition.

The proposed pit expansion at Yarlarweelor requires a further realignment of Yarlarweelor Creek. The proposed realignment extends the realignment already in place. Grosvenor Gold was granted a Permit to Obstruct or Interfere under Section 17 of the *Rights in Water and Irrigation Act 1914* on 23 October 2012 by the Department of Water to undertake works associated with the realignment (Umwelt, 2012a). Permit applications to obstruct or interfere with a bed or bank are assessed against a framework of principles relating to hydrology,

riparian zones and site disturbance impacts such as erosion, sedimentation, weeds, clearing, loss of habitat and change to ecological values. Conditions placed on the permit issued to Grosvenor Gold requires rehabilitation of sites affected by construction or removal activities and that realignment works do not result in upstream water ponding.

A vegetation condition assessment of Yarlalweelor Creek and its associated tributary was undertaken on 4 to 6 June 2012 to assess current and proposed impacts to riparian vegetation from the existing and proposed creek realignment (Umwelt, 2012b). Historical and current grazing pressures were observed in all transects (two transects are located within the application area) (Umwelt, 2012b). According to Umwelt (2012b), there was no discernable difference in condition between transects upstream and downstream of the existing creek realignment suggesting that no significant impacts to the creek system will occur as a result of the proposed realignment.

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

Methodology Umwelt (2012a)
Umwelt (2012b)
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

The application area has been mapped as occurring on the Durlacher, Horseshoe, Jamindie and Three Rivers land systems (GIS Database). The Durlacher land system consists of stony plains, lower tributary drainage plains and low stony rises, supporting scattered tall shrublands of mulga and other Acacias. In some areas pasture degradation has led to serious erosion by sheeting and gullyng (Payne et al., 1987). The Horseshoe land system consists of gently undulating stony plains and low rounded hills and is generally not susceptible to erosion (Curry et al., 1994). The Jamindie land system consists of stony hardpan plains and rises supporting groved mulga shrublands, occasionally with spinifex understory. Drainage tracts are moderately susceptible to erosion, some hardpan plains are slightly susceptible and other parts are inherently resistant (Van Vreeswyk et al., 2004). The Three Rivers land system consists of broad hardpan plains with minor sandy banks and sparse Mulga shrublands. Sandy banks can be susceptible to erosion (Payne et al., 1988). Erosion was observed along creek banks during the fauna survey (Rapallo, 2012). Potential impacts from erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

The average annual evaporation rate is over 12 times the average annual rainfall, so there is a low likelihood of raised saline water tables occurring as a result of the proposed clearing (GIS Database).

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

Methodology Curry et al. (1994)
Payne et al. (1987)
Payne et al. (1988)
Rapallo (2012)
Van Vreeswyk et al. (2004)
GIS Database:
- Evaporation Isopleths
- Rainfall, Mean Annual
- Rangeland Land System Mapping

(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 Department of Environment and Conservation (DEC) managed lands (GIS Database). The nearest conservation reserve is the former Doolgunna leasehold, located approximately 45 kilometres south east of the application area (GIS Database). Based on the distance between the application area and the former Doolgunna leasehold, the proposed clearing is not likely to impact 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:
- DEC Tenure

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

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

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). There are no permanent waterbodies or watercourses within the application area, however, Yarlarweelor Creek, a significant stream and ephemeral watercourse, occurs within the application area (GIS Database). This creek only flows in periods of high rainfall (Umwelt, 2012a). The banks along Yarlarweelor Creek may be susceptible to erosion and evidence of siltation has been observed within and upstream of the project area (Umwelt, 2012a). Potential impacts from erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

A vegetation condition assessment of transects upstream and downstream of the existing creek realignment found there was no discernable difference in vegetation condition suggesting that no significant impacts to the creek system will occur as a result of the proposed realignment (Umwelt, 2012b). A Permit to Obstruct or Interfere has been issued by the Department of Water for the proposed creek realignment. This permit requires that the realignment works do not result in upstream water ponding and requires rehabilitation of sites affected by construction or removal activities. Umwelt (2012a) states the realignment is unlikely to alter the current flow of surface water or exacerbate local erosion or sedimentation. Potential impacts to Yarlarweelor Creek as a result of the proposed clearing may be minimised by the implementation of a vegetation management condition.

Groundwater occurs in fractured rock aquifers beneath the project area and prior to mining was encountered between 10 and 20 metres below ground level (Umwelt, 2012a). According to available databases, groundwater salinity within the application area is between 500 and 1,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered fresh to marginal. The proposed clearing is not likely to cause deterioration of groundwater quality.

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

Methodology Umwelt (2012a)
Umwelt (2012b)
GIS Database:
- Groundwater Salinity, Statewide
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)

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

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

The application area is located within the Gascoyne River catchment area (GIS Database). Given the size of the area to be cleared (259 hectares) in relation to the size of the catchment area (8,039,088 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale.

With an average annual rainfall of 300 millimetres and an average annual evaporation rate of 3,800 millimetres there is likely to be little surface flow during normal seasonal rains (GIS Database). Whilst large rainfall events may result in flooding of the area, the proposed clearing is not likely to lead to an increase in incidence or intensity of flooding.

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

Methodology GIS Database:
- Evaporation Isopleths
- Hydrographic Catchments – Catchments
- Rainfall, Mean Annual

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

Comments

There is one native title claim over the area under application: WC99/13 (GIS Database). This claim has been determined by the federal court. 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*.

According to available databases, there are no registered Aboriginal Sites of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment and Conservation and the

Department of Water to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 3 December 2012 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Determined by the Federal Court

4. References

- Curry, P.J., Payne, A.L., Leighton, K.A., Hennig, P. and Blood, D.A. (1994) An Inventory and Condition Survey of the Murchison River Catchment and Surrounds, Western Australia.
- 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 (2011) 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Payne, A.L., Curry, P.J. and Spencer, G.F. (1987) An Inventory and Condition Survey of Rangelands in the Carnarvon Basin, Western Australia. Department of Agriculture, Western Australia.
- Payne, A. L., Mitchell A. A. and Holman, W.F. (1988). An inventory and condition survey of the rangelands in the Ashburton River Catchment, Western Australia. Department of Agriculture, Western Australia, Technical Bulletin 62, revised edition 1988.
- Rapallo (2012) Level 1 Fauna Survey of Fortnum Gold Mine. Unpublished report for Grosvenor Gold Pty Ltd dated July 2012.
- Umwelt (2012a) Fortnum Gold Mine Application for a Clearing Permit (Purpose): Tom's (M52/132, M52/133), Yarlalweelor (M52/132, M52/133), Callie's (M52/95, M52/133), TSF 3 (M52/96, M52/99, M52/132). Unpublished report for Grosvenor Gold Pty Ltd dated November 2012.
- Umwelt (2012b) Fortnum Gold Mine Level 1 Flora and Vegetation Survey and Creek Vegetation Condition Assessment Mining Leases (M) 52/95, 52/96, 52/99, 52/132, 52/133 and Exploration Lease (E) 52/1659. Unpublished report for Grosvenor Gold Pty Ltd dated November 2012.
- Umwelt (2012c) Further Information provided by Umwelt Environmental Consultants in email correspondence dated 27 November 2012.
- Van Vreeswyk, A.M.E., & Payne, A.L. & Leighton, K.A. & Hennig, P (2004) An inventory and condition survey of the Pilbara region, Western Australia. Department of Agriculture, Western Australia.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1 Priority One - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P2 Priority Two - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P3 Priority Three - Poorly Known taxa:** taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
- P4 Priority Four – Rare taxa:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
- R Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):** taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
- X Declared Rare Flora - Presumed Extinct taxa:** taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1 Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2 Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3 Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4 Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1 Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2 Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3 Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4 Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- P5 Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (Environment Protection and Biodiversity Conservation Act 1999)

- EX Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W) Extinct in the wild:** A native species which:
- (a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
 - (b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its

past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

- CR** **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN** **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU** **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD** **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.