Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5110/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Poseidon Nickel Limited

1.3. Property details

Property: *Poseidon Nickel Agreement Act 1971*, Mining Lease 261SA (AM 70/261)
Local Government Area: Shire of Laverton
Colloquial name: Windarra Nickel Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 2 August 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. Two Beard vegetation associations have been mapped within the application area:

Beard vegetation association 18: Low woodland; mulga (*Acacia aneura*); and
Beard vegetation association 109: Hummock grasslands, shrub steppe; *Eucalyptus youngiana* over hard spinifex (Government of Western Australia, 2011; GIS Database).

MBS Environmental (2012) identified six vegetation communities in the application area, describing the vegetation communities of the application area as follows:

1. **DRMS –** Drainage Tract Mulga Shublands – *Acacia aneura* var. *conifer, A. aneura* var. *aneura* scrub over mixed open dwarf scrub of *Eremophila serrulata, Solanum lasiophyllum* and *Abutilon cryptopetalum* over diverse, mid-dense annual forbs and grasses of *Eragrostis* aff. *falcata, Dysphania glomulifera* subsp. *eremaea* and *Vellia rosea* on alluvial, orange, sandy silt;
2. **MUWA –** Mulga Wanderrie Grassy Shrublands – *Acacia ramulosa* var. *linophylla, Eremophila forrestii* subsp. *forrestii* open low scrub, over scattered mixed low shrubs and annuals including *Eremophila granitica, Maireyana triptera, Solanum lasiophyllum and Dysphania kalpari* over very open mixed grasses of *Eragrostis eriopoda, Monacather paradoxa, Aristida contorta, Enneapogon* aff. *cylindrica* and *Amphipogon* aff. *caerulescens* var. *caerulescens* on orange sand with scattered quartz cobbles;
3. **SAES –** Stony Plain Acacia-Eremophila Shrublands – Open low scrub of *Acacia grasbyi, A. ramulosa* var. *ramulosa, Senna artemisioides* subsp. *artemisioides,* and *Eremophila abietina* subsp. *abietina* over open dwarf scrub of *Ptilotus obovatus, Solanum lasiophullum* and *Ptilotus helipteroides* with *Eriachne* aff. *mucronata* and *Calandrinia polyandra* on quartz boulder scree over orange sandy silt;
4. **SASP –** Sandplain Spinifex Hummock Grasslands – *Acacia aneura* var. *conifera* open scrub with emergent *Brachychiton gregorii* over scattered *Eremophila forrestii* subsp. *forrestii* shrubs over dense *Triodia basedowii* hummock grass and very open forbs, annuals and grasses on orange sandy silt;
5. **SIMS –** Stony Ironstone Hummock Grasslands – Very scattered to scattered tall shrublands with well-developed mid and low shrub strata in which the genera *Eremophila* and *Senna* are prominent. Dominant shrubs are *Acacia aneura, Eremophila fraseri, Scaevola spinescens* and *Ptilotus obovatus*; and
6. Rehabilitated and Disturbed.

Clearing Description

Poseidon Nickel Limited is proposing to clear up to 72.6 hectares of native vegetation within for the Windarra Nickel Project. The clearing of vegetation is required for the purposes of mineral production and associated activities. This includes construction of a waste rock dump, ROM stockpile, access road, box cut, portal, topsoil stockpiles and workshop/administration buildings at the Cerberus underground project.

The vegetation will be cleared using a dozer and/or grader. The vegetation and topsoil will be stockpiled separately for use in rehabilitation.

Vegetation Condition

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

To:

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

The application area is located in the East Murchison subregion of Western Australia and is situated approximately 14 kilometres north-west of the Laverton town site (GIS Database).

The vegetation condition was derived from a vegetation survey conducted by MBS Environmental (2012).

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 areas occur within the East Murchison subregion of the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by its internal drainage, and extensive areas of elevated red desert sandplains with minimal dune development. Salt lake systems associated with the occluded Paleodrainage system. Broad plains of red-brown soils and breakaway complexes as well as red sandplains. Vegetation is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and Halosarcia shrublands (CALM, 2002).

MBS Environmental (2012) conducted a flora and vegetation survey over the application area during 10 to 13 May 2011 and July 2011. The flora and vegetation survey identified six vegetation communities within the application area. The area proposed to be cleared is not considered to be remnant vegetation. The vegetation of the wider Murchison region remains largely undisturbed despite widespread pastoral activities, feral grazing and weed invasion. Due to its mining history, the vegetation of the application area has been previously disturbed (MBS Environmental, 2012). The condition of the vegetation types were classified as 'disturbed' to 'good' (Keighery, 1994; GIS Database). The flora survey identified a total of 202 vascular plant taxa from 90 genera and 42 families within the application area. MBS Environmental (2012) state that the application area has a moderate species richness and the application area does not support a high diversity of flora or vegetation units which may be important for the locality or the subregion.

A search of the Department of Environment and Conservations Threatened and Priority Flora databases revealed four records of Priority Flora species within a 20 kilometre radius of the application area (DEC, 2012). No Threatened Flora species were identified (DEC, 2012). MBS Environmental (2012) identified no Threatened Flora and no Priority Flora species within the application area.

There were no Threatened Ecological Communities or Priority Ecological Communities (PEC) were recorded or identified within the application area (MBS Environmental, 2012; GIS Database). The Laverton Downs subterranean PEC's protection buffer extends into the application area (GIS Database). The actual PEC does not; with the groundwater assemblage type located approximately five kilometres north-north-west of the application area (MBS Environmental, 2012).

There were two weed species were identified during the survey; Ruby Dock (*Acetosa vesicaria*) and Coral Cactus (*Cylindropuntiafulgida* var. *mamillata*) (MBS Environmental, 2012). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

There were five faunal habitats identified within the application area, one of which was considered to be of significance due to the presence of riparian vegetation (MBS Environmental, 2012). The drainage tract mulga shrublands associated with the significant faunal habitat is common throughout the local and regional area (MBS Environmental, 2012). All of the remaining habitats within the application area are considered to be common and widespread within the subregion and faunal assemblages are unlikely to be different to that found in similar habitat located elsewhere in the region (MBS Environmental, 2012). The clearing of 72.6 hectares of native vegetation is unlikely to have a significant impact on faunal diversity in a regional and local context.

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

Methodology

CALM (2002)
DEC (2012)
Keighery (1994)
MBS Environmental (2012)
GIS Database:
- IBRA WA (Regions - Subregions)
- Pre-European vegetation
- Threatened Ecological Sites Buffered
- Mount Varden 1.4m Orthomosaic - Landgate 2002
- Laverton 50cm Orthomosaic - Landgate 2006

(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

There were five broad fauna habitat types recorded within the survey area by MBS Environmental (2012);

1. Open Mulga flats over sparse *Eremophila* and grasses;
2. Drainage valleys with dense *Acacia* over grasses;
3. Red sand dunes with sparse *Eucalypt* over Spinifex;
4. Open Eucalypt woodland over lower slopes of *Acacia, Solanum* and *Triodia;* and
5. Disturbed areas and rehabilitated landforms.

MBS Environmental (2012) identified the vegetation condition to be 'degraded' to 'good' (Keighery, 1994). The landforms and habitat found within the application area is considered as being well represented in the East Murchison subregion (MBS Environmental, 2012). The application area does not contain habitats or faunal assemblages that are ecologically significant. The clearing of 72.6 hectares of native vegetation is not likely to contain significant habitat for fauna.

MBS Environmental (2012) conducted a fauna survey of the application area during 10 to 12 May 2011 and again during 17 to 18 October 2011. MBS Environmental (2012) recorded 69 vertebrate species within the application area, including five introduced species. Several more faunal species are considered likely to utilise the application area (MBS Environmental, 2012). There were no species of conservation significance recorded within the application area. There are four species of conservation significance which are likely to occur in the application area; the Australian Bustard (*Ardeotis australis*), Rainbow Bee-eater (*Merops ornatus*), Peregrine Falcon (*Falco peregrinus*) and Long-tailed Dunnart (*Sminthopsis longicaudata*) (DEC, 2012). These species may use the study area for foraging as part of a larger territory area and are considered highly mobile and/or have a wide distribution. The Long-tailed Dunnart inhabits rocky habitats, which are present in limited areas within the application area. Due to the widespread nature of the habitat, it is unlikely there will be a significant impact on the conservation status of this species (MBS Environmental, 2012). The habitat present within the application areas is not considered significant habitat for other conservation significant species (MBS Environmental, 2012). The proposed clearing of 72.6 hectares of native vegetation is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species as the application area does not contain significant habitat for the potential species (MBS Environmental, 2012).

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

Methodology

DEC (2012)
Keighery (1994)
MBS Environmental (2012)

(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 species within the application area (GIS Database). A search of the Department of Environment and Conservations' Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a 20 kilometre radius of the application area (DEC, 2012).

MBS Environmental (2012) conducted a vegetation and flora survey of the application area during 10 to 13 May 2011, and throughout July 2011, during which No Threatened Flora species were recorded within the survey area.

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

Methodology

DEC (2012)
MBS Environmental (2012)
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

A search of the available databases shows that there are no Threatened Ecological Communities (TEC's) situated within 50 kilometres of the application area (GIS Database).

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

Methodology 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 Murchison IBRA bioregion (GIS Database). The vegetation within the application area is recorded as:

Beard vegetation association 18: Low woodland; mulga (*Acacia aneura*); and
Beard vegetation association 109: Hummock grasslands, shrub steppe; *Eucalyptus youngiana* over hard spinifex (Government of Western Australia, 2011; GIS Database).

According to the Government of Western Australia (2011), Beard vegetation associations 18 and 109 retain approximately 99% of their pre-European extent. The local area has been extensively cleared, however the area proposed to be cleared is not a significant remnant of native vegetation.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Murchison	28,120,587	28,044,823	~99.73	Least Concern	1.05
Beard vegetation associations - State					
18	19,892,305	19,843,823	~99.76	Least Concern	2.13
109	949,307	948,338	~99.90	Least Concern	10.75
Beard vegetation associations - Bioregion					
18	12,403,172	12,363,252	~99.68	Least Concern	0.37
109	310,285	309,324	~99.69	Least Concern	24.44

* 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 - subregions)
- 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

Based on vegetation mapping by MBS Environmental (2012), the vegetation type DRMS is riparian vegetation associated with drainage lines:

- Drainage Tract Mulga Shrublands (DRMS): *Acacia aneura* var. *conifer, A. aneura* var. *aneura* scrub over mixed open dwarf scrub of *Eremophila serrulata, Solanumlasiophyllum,* and *Abutilon cryptopetalum* over diverse, mid-dense annual forbs and grasses of *Eragrostis* aff. *falcate, Dysphania glomulifera* subsp. *eremaea,* and *Velliarosea* on alluvial, orange, sandy silt.

The condition of the riparian vegetation type is classified as 'degraded' to 'good' (Keighery, 1994; GIS Database).

Surface drainage in the application area is through several ephemeral drainage lines (GIS Database), flowing during periods of intense rainfall and draining into salinas to the west and south of the mine (MBS Environmental, 2012). A proposed tailings pipeline for the project crosses two drainage lines within the application area, into a nearby creek (Beasley Creek) outside the application area (MBS Environmental, 2012; GIS Database). This pipeline will be buried at the Beasley Creek water course crossing to prevent impediment

of surface water flows, and approximately 3.59 hectares of the DRMS vegetation type will be cleared (MBS Environmental, 2012). An additional 2.07 hectares of DRMS vegetation will be cleared for the Cerberus haul road. The proposed clearing is likely to have some impact to the drainage vegetation and Poseidon Nickel Limited will minimise disturbance where possible (MBS Environmental, 2012).

Provided disturbance to riparian habitats is avoided or minimised where possible, and strict weed hygiene procedures are followed, the proposed works are not expected to substantially impact these vegetation units. Potential impacts to riparian vegetation may be minimised through the implementation of a vegetation management condition.

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

Methodology
Keighery (1994)
MBS Environmental (2012)
GIS Database:
- Geodata, Lakes
- Hydrography, Linear
- Laverton 50cm Orthomosaic - Landgate 2006
- Mount Varden 1.4m Orthomosaic - Landgate 2002

(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 is predominately within the Bullimore land system (GIS Database).

The Bullimore land system is described as gently undulating sandplain with occasional linear dunes and stripped surfaces supporting tall shrublands and hard spinifex (Curry et al., 1994). Sandplain Mallee-Acacia-Spinifex shrubland are of very low productivity and this system is generally not susceptible to erosion (Curry et al., 1994).

The above land system generally has a low erosion hazard, however, due to the tenements mining history, the vegetation of the application area has been previously disturbed (MBS Environmental, 2012). Due to the large area of native vegetation proposed to be cleared (72.6 hectares) potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

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

Methodology
Curry et al. (1994)
MBS Environmental (2012)
GIS Database:
- 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 is not located within any conservation area (GIS Database). The nearest conservation area is De La Poer Range Nature Reserve, located approximately 113 kilometres north-east of the application area (GIS Database).

Given the distance of the application area from the De La Poer Range Nature Reserve, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the 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

The application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The application area is located within the proclaimed Goldfields groundwater area under the *Rights in Water and Irrigation Act 1914* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purpose other than domestic and/or stock watering is subject to licence by the Department of Water.

The application area has a groundwater salinity that ranges from marginal to saline (1,000 - 7,000

milligrams/Litre Total Dissolved solids (TDS) (GIS Database). The proposed clearing of 72.6 hectares of native vegetation is unlikely to further deteriorate the quality of underground water (GIS Database).

Several drainage tracts transect the application areas (GIS Database). These drainage tracts are dry for most of the year and only flow and hold surface water for short durations following significant rainfall events. If clearing of riparian vegetation is required there may be some localized short term sedimentation during the clearing process however, this is not likely to be an ongoing issue. Potential impacts to riparian vegetation may be minimised through the implementation of a vegetation management condition. The clearing of vegetation as a result of this proposal is therefore unlikely to result in any further deterioration in surface or groundwater quality in the local area.

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

Methodology

GIS Database:
- Geodata, Lakes
- Hydrography, Linear
- Public Drinking Water Source Areas
- RIWI Act, Groundwater Areas
- Groundwater Salinity, Statewide

(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 experiences an arid climate with mainly winter rainfall, with an annual average rainfall of approximately 233.5 millimetres per year (CALM, 2002; BoM, 2012). Based on an average annual evaporation rate of 2,400 - 2,800 millimetres (BoM, 2012), any surface water resulting from rainfall events is likely to be relatively short lived.

Given the size of the area to be cleared (72.6 hectares) compared to the size of the Lake Carey catchment area (11,378,213 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate 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 (2012)
CALM (2002)
GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

There are no Native Title claims over the area under application. 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 is no registered Aboriginal Site 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 25 June 2012 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

Methodology

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

4. References

BoM (2012) Climate Statistics for Australian Locations. A Search for Climate Statistics for Laverton, Australian Government Bureau of Meteorology, viewed 16 July 2012, <http://reg.bom.gov.au/climate/averages/tables/cw_012045.shtml>.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Murchison 1 (MUR1 - East Murchison subregion) Department of Conservation and Land Management, Western Australia.

Curry, P.J., Payne, A.L., Leighton, K.A., Hennig, P., & Blood, D.A (1994) An Inventory and Condition Survey of the Murchison River Catchment, Western Australia, Department of Agriculture, Western Australia.

DEC (2012) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 16 July 2012, <http://naturemap.dec.wa.gov.au>.

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.

MBS Environmental (2012) Windarra Nickel Project Clearing Permit (Purpose Permit) Application - Native Vegetation Management Plan and Assessment of Clearing Principles. Prepared for Poseidon Nickel Limited, June 2012.

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.