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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8240/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Hamersley Iron Pty Ltd**

1.3. Property details

Property: Miscellaneous Licence 47/810
Local Government Area: Shire of Ashburton
Colloquial name: Pelican Rail Construction Camp

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
40		Mechanical Removal	Rail construction camp and associated activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 13 December 2018

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation of the application area is broadly mapped as the following Beard vegetation associations:

82: Snappy Gum (*Eucalyptus leucophloia*) low open woodland over Limestone Spinifex (*Triodia wiseana*) open hummock grassland; and
565: Bloodwood (*Corymbia hamersleyana*) open woodland over Soft Spinifex (*Triodia pungens/T. epactia*) open hummock grassland (GIS Database).

A flora and vegetation survey was conducted over the application area by Biota Environmental Sciences Sciences during March, 2018. In addition, outputs from the Rio Tinto and Biota internal databases of conservation significant species from previous studies in the locality (within 40 km of the study area) were reviewed. The following vegetation associations were recorded within the application area (Biota Environmental Sciences, 2018):

P1: Ch(El)AsppTe(Tw)
Corymbia hamersleyana, (*Eucalyptus leucophloia* subsp. *leucophloia*) scattered low trees over *Acacia atkinsiana, A. ancistrocarpa* open shrubland over *A. spondylophylla* scattered shrubs over *Triodia epactia*, (*T. wiseana*) open hummock grassland.

P2: Ch(El)EgAsppTe
Corymbia hamersleyana, (*Eucalyptus leucophloia* subsp. *leucophloia*) scattered low trees over *E. gamophylla* low open mallee woodland over *Acacia atkinsiana* (*A. bivenosa*) open shrubland over *A. spondylophylla* low open shrubland over *Triodia epactia* open hummock grassland.

H1: ChAmoAspTw(Te)
Corymbia hamersleyana scattered low trees over *Acacia monticola* tall shrubland over *A. spondylophylla* low open shrubland over *Triodia wiseana* (*T. epactia*) hummock grassland.

C1: ChAtuAspTHtEUaERtTe
Corymbia hamersleyana scattered low trees over *Acacia tumida* var. *pilbarensis* tall open shrubland *over Acacia spondylophylla* low open shrubland over *Themeda triandra*, *Eulalia aurea, Eriachne tenuiculmis* open tussock grassland and *Triodia epactia* open hummock grassland.

Clearing Description

Pelican Rail Construction Camp
Hamersley Iron Pty Ltd (Hamersley Iron) proposes to clear up to 40 hectares of native vegetation within a boundary of approximately 169 hectares, for the purpose of a rail construction camp and associated infrastructure. The project is located approximately 68 kilometres north of Tom Price, within the Shire of Ashburton.

Vegetation Condition

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);

To

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

Comment

The vegetation condition was derived from a vegetation survey conducted by Biota Environmental Sciences Sciences (2018).

One vegetation unit (H1) defined by this survey was unsuitable for establishment of the desired minimum of two relevés, due to the small area of this vegetation within the study area. However, all vegetation types were considered to be adequately described from the current and existing information (Biota Environmental Sciences, 2018).

Some "wet season" species may have been absent due to the lower than average rainfall in December 2017 and February 2018 (Biota Environmental Sciences, 2018).

The proposed clearing is for a rail construction camp and associated infrastructure.

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 clearing permit application area is located within the Hamersley subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Pilbara Bioregion (GIS Database). The Hamersley subregion is generally described as Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

Beard vegetation association 82 is widespread in the Hamersley subregion, while the 565 vegetation association is more restricted however, the two vegetation types have been subject to only minor clearing (Government of Western Australia, 2018). None of the vegetation within the permit area is known to be a Threatened or Priority Ecological Community (Biota Environmental Sciences, 2018); GIS Database).

The majority of the vegetation in the study area was considered to be in very good to excellent condition, with small areas in very good to poor condition due to the presence of weeds and past disturbance. Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This can in turn lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition. The study area also included a section of the actively used Rio Tinto rail access road. This cleared area was mapped based on the most recent available aerial photography (August 2013) and was classified as Completely Degraded (Biota Environmental Sciences, 2018).

The Priority 2 species *Gompholobium karijini* was recorded from a single population of approximately 25 individuals in vegetation unit P2. The Western Australian Herbarium (2018) has 15 records of this species from a range of approximately 250 kilometres. Several large populations of these species are known in the surrounding area with a population of 1,045 recorded from the Mount Margaret Area (9 kilometres northeast of the permit area) and another population of 337 recorded within and bordering Karijini National Park (33 kilometres southeast of the permit area) (Biota Environmental Sciences, 2018). The landform and vegetation of the P2 vegetation unit are not typical of the habitat of *G. karijini* and it is therefore considered that unit P2 would not represent vegetation of elevated conservation significance (Biota Environmental Sciences, 2018). Potential impacts on this species may be minimised by the implementation of a flora management condition.

The remaining vegetation units are widespread in the locality and are not considered to be of particular significance (Biota Environmental Sciences, 2018).

The fauna habitat within the permit area is common in the local region and is not likely to support a high level of faunal diversity (Biota Environmental Sciences, 2018).

The proposed clearing of up to 20 hectares for a rail construction camp and associated infrastructure is unlikely to have any significant impact on the biological diversity of the region.

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

Methodology

CALM (2002)
Biota Environmental Sciences (2018)

GIS Database:
- IBRA Australia
- Pre-European Vegetation
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

(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

The following two fauna habitats have been recorded within the application area (Biota Environmental Sciences, 2018):

1. Stony Triodia Plains

   A total of 165.4 ha (97.9%) of the study area was classified as stony Triodia plains. This habitat is common both locally and regionally and as such is unlikely to support a unique fauna assemblage. The predominant stony hardpan and open vegetation cover of this habitat do not typically support high faunal diversity (vertebrate or invertebrate), with Triodia representing the main microhabitat retreat from predators and the elements (Biota Environmental Sciences, 2018).

   The stony Triodia plains habitat type does not represent core habitat for any conservation significant species with the potential to occur in the study area, but does represent suitable habitat for the Priority 4 Western Pebble-mound Mouse (*Pseudomys chapmani*). No pebble-mounds of this species were recorded within this habitat type during the survey, however the species may still potentially occur in areas that were not traversed (Biota Environmental Sciences, 2018).

2. Minor Creeklines

   A total of 3.1 ha (1.8%) of the study area was Creekline habitat. The creeklines of the study area are only very shallowly incised and would not form large pools or support water for long periods of time following rainfall. The fringing vegetation was very sparse. Given these factors, the creeklines in the study area are unlikely to represent core habitat for any conservation significant fauna species (Biota Environmental Sciences, 2018).

The Rainbow Bee-eater (Schedule 5) and Western Pebble-mound Mouse were considered as likely to occur, however neither was recorded during the 2018 survey. Suitable habitat for both species are common and widespread and the permit area is not likely to contain signficant habitat for these speceis (Biota Environmental Sciences, 2018).

The proposed clearing is unlikely to have any significant impact on fauna habitat at either a local or regional level.

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

Methodology Biota Environmental Sciences (2018)

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

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

Comments

Proposal is not likely to be at variance to this Principle

There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area did not record any species of Threatened flora (Biota Environmental Sciences, 2018).

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

Methodology Biota Environmental Sciences (2018)

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

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

Comments

Proposal is not likely to be at variance to this Principle

There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database).

A flora and vegetation survey of the application area did not identify any TECs (Biota Environmental Sciences,

2018).
Vegetation units that appear to be core habitat for Threatened or Priority flora would be considered to be of elevated significance. The Priority 2 species *Gompholobium karijini* was recorded from a single population of approximately 25 individuals in vegetation unit P2. The landform and vegetation of this unit are not typical of the habitat of *G. karijini* and it is therefore considered that unit P2 would not represent vegetation of elevated conservation significance (Biota Environmental Sciences, 2018).

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

Methodology Biota Environmental Sciences (2018)

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

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

Comments

Proposal is not at variance to this Principle

The application area falls within the Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Pilbara Bioregion (Government of Western Australia, 2018). The application area is broadly mapped as Beard vegetation associations 82 and 565 (GIS Database). Approximately 99% of the pre-European extent of each of these vegetation associations remains uncleared at both the state and bioregional level (Government of Western Australia, 2018).

Vegetation units similar to those recorded in the study area are widespread in the locality, and although there has been localised clearing for mining developments, none of the units have been substantially cleared (Biota Environmental Sciences, 2018).

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

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands
IBRA Bioregion – Pilbara	17,808,657	17,733,583	~99	Least Concern	10.1
Beard vegetation associations – WA					
82	2,565,901	2,553,217	99.51	Least Concern	11.5
565	143,438	143,427	99.99	Least Concern	0
Beard vegetation associations – Pilbara Bioregion					
82	2,563,583	2,550,898	99.51	Least Concern	11.5
565	108,956	108,945	99.99	Least Concern	0

* Government of Western Australia (2018)
** 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 (2018)
Biota Environmental Sciences (2018)

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

No permanent wetlands or watercourses occur within the study area (Biota Environmental Sciences, 2018; GIS Database). There are several minor creeklines in the study area, which are mapped as vegetation unit C1. The flowlines of vegetation unit C1 would form part of the drainage system during periods of high rainfall, channelling water flow from the soutA23heastern end of the study area towards the rail access road and rail line. Provided that clearing is avoided as far as practicable in vegetation unit C1 and surface hydrology is maintained, the clearing is not likely to have a signicant impact on local watercourses (Biota Environmental Sciences, 2018)

The proposed clearing area is located within the Millstream Water Reserve, proclaimed under the Country Areas Water Supply (CAWS) Act 1947 in 1969. A Drinking Water Source Protection Plan was prepared for the Millstream Water Reserve in June 2010 (GIS Database).

Advice was received from the Department of Water and Environmental Regulation in relation to this NVCP application on 3 December 2018. There are a number of watercourses within the tenement - upstream tributaries of the Weelumurra Creek. Clearing of any riparian vegetation associated with these waterways should be avoided and appropriate setbacks to potentially contaminating activities maintained.

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

Methodology

Biota Environmental Sciences (2018)

GIS Database:
- Hydrography, Lakes
- Hydrography, linear

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

Comments

Proposal is not likely to be at variance to this Principle

The application area lies within the Boolgeeda, Newman and River land systems (GIS Database). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Boolgeeda land system is the main land system within the permit area covering 152.7 hectares of the 169 hectares. The Boolgeeda land system is described as stony lower slopes and plains below hill systems supporting hard and soft spinifex grasslands and mulga shrublands. Vegetation is generally not prone to degradation and the system is not susceptible to erosion. The system is subject to fairly frequent burning (Van Vreeswyk et al, 2004).

The Newman land system covers 7.1 hectares of the application area and is described as Rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands. The system contains iron ore deposits which are currently being mined and deposits which are likely to be mined in the future. Spinifex is the dominant vegetation and the system is burnt fairly frequently (Van Vreeswyk et al, 2004).

The River land system covers 9.2 hectares of the application area and is described as active flood plains and major rivers supporting grassy eucalypt woodlands, tussock grasslands and soft spinifex grasslands. The system is largely stabilised by buffel and spinifex and accelerated erosion is uncommon. However, susceptibility to erosion is high or very high if vegetative cover is removed (Van Vreeswyk et al, 2004). The small area of higher relief in the southeastern section of the study area has a stony loam soil, which is inherently resistant to erosion (Biota Environmental Sciences, 2018).

The proposed clearing of up to 40 hectares of native vegetation within a boundary of approximately 169 hectares is unlikely to cause appreciable land degradation.

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

Methodology

Biota Environmental Sciences (2018)
Van Vreeswyk et al. (2004)

GIS Database:
- Landsystem Rangelands

(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 at variance to this Principle

There are no conservation areas in the vicinity of the application area. The nearest DBCA (formerly DPaW) managed land is the Class A Karijini National Park which is located approximately 33 kilometres to the south east of the application area (Biota Environmental Sciences, 2018; GIS Database).

The proposed clearing is unlikely to impact on the environmental values of any conservation area.

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

Methodology

Biota Environmental Sciences (2018)

GIS Database:
- DPaW Tenure

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

Comments

Proposal is not likely to be at variance to this Principle

There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water flows.

The application area is within the Millstream Water Reserve (Public Drinking Water Source Area) (GIS Database). Advice was received from the Department of Water and Environmental Regulation in relation to this NVCP application on 3 December 2018. The advice states that the proposed clearing and subsequent camp activities occur within the Priority 2 (P2) area of the reserve and that in P2 areas, construction/mining camps are considered compatible with conditions 2, 9, 13 and 16, as defined in DWER's Water Quality Protection Note no. 25. There are a number of watercourses within the tenement - upstream tributaries of the Weelumurra Creek. Clearing of any riparian vegetation associated with these waterways should be avoided and appropriate setbacks to potentially contaminating activities maintained.

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

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

Methodology

Biota Environmental Sciences (2018)

GIS Database:
- Hydrography, Linear
- Public Drinking Water Source Areas

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

Comments

Proposal is not likely to be at variance to this Principle

The climate of the region is semi-arid, with a low average rainfall of approximately 271.3 millimetres per year (BoM, 2018). No permanent surface water sources or wetlands occur in the study area. During rainfall events, the shallow creeklines that flow from the elevated southeast would act as foci for the surface water. There is no reason to expect that the clearing would cause or exacerbate flooding in the area, provided that the flow through surface watercourses is maintained. (Biota Environmental Sciences, 2018).

The proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

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

Methodology

Biota Environmental Sciences (2018)
BoM (2018)
Van Vreeswyk et al. (2004)

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

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

Comments

The clearing permit application was advertised on 19 November 2018 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. No submissions were received in relation to this application.

The determined native title in the area is held by the Yindjibarndi People WC2003/003. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2018). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

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

Methodology DPLH (2018)

4. References

BoM (2018) Bureau of Meteorology Website – Climate Data Online, Paraburdoo weather station. Bureau of Meteorology. http://www.bom.gov.au/climate/data/ (Accessed 5 December 2018).

Biota Environmental Sciences (2018) Koodaideri Pelican Rail Camp Native Vegetation Clearing Permit Report. Report prepared for Rio Tinto, by Biota Environmental Sciences, April 2018.

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

DPLH (2018) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. http://maps.daa.wa.gov.au/AHIS/ (Accessed 5 December 2018).

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 (2018) 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

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

Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A. (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
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DBCA	Department of Biodiversity Conservation and Attractions, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
DEE	Department of the Environment and Energy, Australian Government
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DoE	Department of the Environment, Australian Government (now DEE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
EP Act	*Environmental Protection Act 1986*, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Federal Act)

GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2017) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

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

Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the *Wildlife Conservation Act 1950*.

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 1950*.

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.