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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4615/6
Permit type: Purpose

1.2. Proponent details

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

1.3. Property details

Property: *Iron Ore (Mount Bruce) Agreement Act 1972,* Mineral Lease 252SA (AML 70/252)
Local Government Area: Shire of East Pilbara
Colloquial name: Koodaideri Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
700		Mechanical Clearing	Mineral exploration, hydrogeological drilling, geotechnical investigations, construction camp and associated activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 4 February 2016

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia and are useful to look at vegetation in a regional context. Two Beard vegetation associations have been mapped within the application area (GIS Database):

82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*; and

111: Hummock grasslands, shrub steppe; *Eucalyptus gamophylla* over hard spinifex.

There have been numerous flora and vegetation surveys undertaken over the Koodaideri area and surrounding areas since 2011. Based on those surveys and a recent flora and vegetation survey by Rio Tinto (2015), the following vegetation associations have been identified within the application area (Rio Tinto, 2015; Eco logical, 2014; Biota, 2012):

Vegetation of Foothills, Slopes and Hillslopes

AanElTspsTHt - *Acacia aneura*, *Eucalyptus leucophloia* scattered low trees over *Triodia* sp. Shovelanna Hill open hummock grassland over *Themeda triandra* tussock grassland;

AarAspTspsTw - *Acacia arida* tall open shrubland over *Acacia spondylophylla* low shrubland over *Triodia* sp. Shovelanna Hill, *Triodia wiseana* hummock grassland;

AiGwTlaTp - *Acacia inaequilatera*, *Grevillea wickhamii* open shrubland over *Triodia lanigera*, *Triodia pungens* open hummock grassland;

AprGwAarAspTsps - *Acacia pruinocarpa*, *Grevillea wickhamii*, *Acacia arida* tall open scrub over *Acacia spondylophylla* scattered low shrubs over *Triodia* sp. Shovelanna Hill open hummock grasslands;

ChAiGwTsps/Te/Tw - *Corymbia hamersleyana* scattered low trees over *Acacia inaequilatera, Grevillea wickhamii* scattered tall shrubs over *Triodia* sp. Shovelanna Hill or *Triodia epactia* or *Triodia wiseana* hummock grassland;

ElAbTwTsps - *Eucalyptus leucophloia* scattered low trees over *Acacia bivenosa* open shrubland over *Triodia wiseana*, *Triodia* sp. Shovelanna Hill hummock grassland;

ElAhiAarTspsTe - *Eucalyptus leucophloia* scattered low trees over *Acacia hilliana, Acacia arida* low shrubland over *Triodia* sp. Shovelanna Hill, *Triodia epactia* open hummock grassland;

ElAspTsps - *Eucalyptus leucophloia* scattered low trees over *Acacia spondylophylla* low open shrubland over *Triodia* sp. Shovelanna Hill hummock grassland;

ElChAmTw - *Eucalyptus leucophloia*, *Corymbia hamersleyana* low open woodland over *Acacia maitlandii* low shrubland over *Triodia wiseana* hummock grassland;

ElChGwAprTsps - *Eucalyptus leucophloia*, *Corymbia hamersleyana* scattered low trees over *Grevillea wickhamii, Acacia pruinocarpa* scattered shrubs over *Triodia* sp. Shovelanna Hill hummock grassland;

ElEgEkTw - *Eucalyptus leucophloia* low woodland over *Eucalyptus gamophylla*, *Eucalyptus kingsmillii* scattered low mallees over *Triodia wiseana* open hummock grassland;

ElEgHcGwAspAarTspsTw - *Eucalyptus leucophloia*, *Eucalyptus gamophylla* scattered low trees over *Hakea chordophylla*, *Grevillea wickhamii* tall open scrub over *Acacia spondylophylla*, *Acacia arida* shrubland over *Triodia* sp. Shovelanna Hill, *Triodia wiseana* open hummock grassland; and

ElGwAhiAspTwTsps - *Eucalyptus leucophloia* low woodland over *Grevillea wickhamii* scattered shrubs over *Acacia hilliana, A*cacia *spondylophylla* scattered low shrubs over *Triodia* sp. Shovelanna Hill open hummock grassland.

Vegetation of Creeks, Gullies and Gorges

AiGpTeCEc - *Acacia inaequilatera*, *Grevillea wickhamii* tall shrubland over *Triodia epactia* hummock grassland over *Cenchrus ciliaris* tussock grassland;

AprGwCEcTe - *Acacia pruinocarpa*, *Grevillea wickhamii* tall shrubland over *Cenchrus ciliaris* tussock grassland over *Triodia epactia* open hummock grassland;

AprApyAThCEc - *Acacia pruinocarpa* scattered trees over *Acacia pyrifolia*, *Atalaya hemiglauca* shrubland over *Cenchrus ciliaris* tussock grassland;

ApyGwAThGOrTErCEcTe - *Acacia pyrifolia*, *Grevillea wickhamii*, *Atalaya hemiglauca*, *Gossypium robinsonii* tall open scrub over *Tephrosia rosea* scattered low shrubs over *Cenchrus ciliaris* tussock grassland over *Triodia epactia* open hummock grassland;

AtuAThGwApyTErCEc - *Acacia tumida, Atalaya hemiglauca, Grevillea wickhamii, Acacia pyrifolia* tall open scrub over *Tephrosia rosea* low open shrubland over *Cenchrus ciliaris* tussock grassland; and

ChApyAtuTErCEc - *Corymbia hamersleyana* scattered low trees over *Acacia pyrifolia*, *Acacia tumida* tall closed shrubland over *Tephrosia rosea* low open shrubland over *Setaria* sp. closed tussock grassland.

Vegetation of Stony Hills and Slopes

H4: *Eucalyptus leucophloia* scattered low trees over *Acacia bivenosa* scattered shrubs over *Triodia wiseana, T.* sp. Shovelanna Hill (S. van Leeuwen 3835) open hummock grassland;

H5: *Eucalyptus leucophloia* low open woodland over *Grevillea wickhamii* scattered tall shrubs over *Acacia hilliana*, *A. spondylophylla* scattered low shrubs over *Triodia wiseana*, *T.* sp. Shovelanna Hill (S. van Leeuwen 3835) open hummock grassland;

H10: *Eucalyptus leucophloia* scattered low trees over *Triodia brizoides* hummock grassland;

H13: *Acacia arida* tall open shrubland over *A. spondylophylla* low shrubland over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *T. wiseana* hummock grassland;

H17: *Eucalyptus leucophloia*, *Corymbia hamersleyana* low open woodland over *Acacia maitlandii* low shrubland over *Triodia wiseana* hummock grassland;

H18: *Eucalyptus leucophloia*, *Corymbia hamersleyana* scattered low trees over *Grevillea wickhamii, Acacia pruinocarpa* scattered shrubs over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) hummock grassland;

H19: *Eucalyptus leucophloia*, *E. gamophylla* scattered low trees over *Hakea chordophylla*, *Grevillea wickhamii* tall open scrub over *Acacia spondylophylla*, *A. arida* shrubland over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *T. wiseana* open hummock grassland;

H20: *Eucalyptus leucophloia* low woodland over *E. gamophylla, E. kingsmillii* scattered low mallees over *Triodia wiseana* open hummock grassland;

H21: *Acacia aneura, A. pruinocarpa* low woodland over *Triodia pungens, T.* sp. Shovelanna Hill (S. van Leeuwen 3835) open hummock grassland;

H22: *Acacia aptaneura, A. pruinocarpa* low woodland over *Eremophila jucunda* open shrubland over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835);

H24: *Eucalyptus leucophloia* scattered low trees over *Triodia pungens* hummock grassland; and

Eucalyptus leucophloia subsp. *leucophloia* open woodland to scattered trees with occasional *Eucalyptus gamophylla* and *Corymbia deserticola* subsp. *deserticola* over *Grevillea wickhamii* subsp. *aprica* and *Hakea chordophylla* high open shrubland over *Acacia spondylophylla* and *Tephrosia arenicola* low open shrubland over *Triodia wiseana* and *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) hummock grassland on high rocky hills and slopes.

Vegetation of Stony Plains

P5: *Corymbia hamersleyana* scattered low trees over *Eucalyptus gamophylla* scattered low mallees over *Acacia inaequilatera, Grevillea wickhamii* tall open shrubland over *Triodia lanigera*, *T. epactia, T. pungens* open hummock

grassland; and

P35: *Corymbia hamersleyana* scattered low trees over *Acacia inaequilatera*, *Grevillea wickhamii* scattered tall shrubs over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *T. epactia, T. wiseana* hummock grassland.

Vegetation of Drainage Lines

D2: *Acacia tumida*, *A. pyrifolia* tall open shrubland over *Tephrosia rosea*, *Indigofera monophylla* open shrubland over **Cenchrus ciliaris* open tussock grassland with *Triodia pungens* open hummock grassland;

D3: *Corymbia hamersleyana* scattered low trees over *Acacia bivenosa*, *A. ancistrocarpa*, *A. pyrifolia* tall open shrubland over **Cenchrus ciliaris* very open tussock grassland to closed tussock grassland with *Triodia epactia, T. pungens*, *T. lanigera* open hummock grassland;

D5: *Corymbia hamersleyana* scattered low trees over *Acacia tumida*, *A. pyrifolia, Grevillea wickhamii* tall open shrubland over **Cenchrus ciliaris* very open tussock grassland with *Triodia epactia, T. pungens* very open hummock grassland;

D8: *Acacia pyrifolia*, *Grevillea wickhamii*, *Atalaya hemiglauca*, *Gossypium robinsonii* tall open scrub over *Tephrosia rosea* scattered low shrubs over **Cenchrus ciliaris* tussock grassland with *Triodia epactia, T. pungens* open hummock grassland;

D9: *Corymbia hamersleyana* scattered low trees over *Eucalyptus gamophylla* scattered low mallees over *Acacia tumida*, *Grevillea wickhamii* tall shrubland over *Triodia epactia*, *T. pungens* very open hummock grassland

D24: *Acacia pruinocarpa*, *Grevillea wickhamii* tall shrubland over **Cenchrus ciliaris* tussock grassland with *Triodia epactia*, *T. pungens* open hummock grassland;

D35: *Acacia aneura, Eucalyptus leucophloia* scattered low trees over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) open hummock grassland with *Themeda triandra* tussock grassland;

D36: *Acacia inaequilatera, Grevillea wickhamii* tall shrubland over *Triodia epactia* hummock grassland with **Cenchrus ciliaris* tussock grassland;

D39: *Corymbia hamersleyana* low open woodland over *Acacia tumida* var. *pilbarensis, Petalostylis labicheoides* tall open scrub over *Tephrosia rosea* var. Fortescue creeks (M.I.H. Brooker 2186) low open shrubland over *Triodia pungens* scattered hummock grasses;

D40: *Eucalyptus victrix* scattered trees over **Cenchrus ciliaris* tussock grassland; and

Eucalyptus gamophylla and *Corymbia hamersleyana* open woodland to scattered trees over *Acacia tumida* var. *pilbarensis, Grevillea wickhamii* subsp. *aprica* and *Acacia inaequilatera* high shrubland over *Triodia pungens* and *Triodia sp.* Shovelanna Hill (S. van Leeuwen 3835) hummock grassland and *Themeda triandra* open tussock grassland on plains and minor drainage lines.

Vegetation of Gorge/Gullies

D37: *Corymbia ferriticola, Eucalyptus leucophloia* low open forest over *Acacia tumida* tall shrubland over *Triodia epactia* hummock grassland; and

D38: Mosaic of riparian vegetation types associated with a narrow gorge and spring. The vegetation units present at this location ranged from *Eucalyptus camaldulensis* forest over closed sedgeland, to closed canopy *Ficus virens* communities.

Mosaic Units

Gully Mosaic - Deep gullies with different microclimates within the study area supported variable vegetation units at a scale too fine to map individually;

Koodaideri spring - This mapping unit comprised a mosaic of riparian vegetation types associated with a narrow gorge; and

Disturbed Areas
HD Previously cleared areas.

* indicates a weed species.

Clearing Description

Koodaideri Project.
Hamersley Iron Pty Ltd proposes to clear up to 700 hectares within a total boundary of approximately 15,979 hectares for the purposes of mineral exploration, hydrogeological drilling, geotechnical investigations, construction camp and associated activities. The project is located approximately 70 kilometres south east of Wittenoom, in the Shire of East Pilbara.

Vegetation Condition

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

to

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

Comment

The proposed clearing is for a wide range of purposes including mineral exploration, hydrogeological drilling, geotechnical investigations, construction camp and associated activities (Rio Tinto, 2015).

Clearing Permit CPS 4615/1 was granted by the Department of Mines and Petroleum (DMP) on 8 December 2011 and authorised the clearing of up to 167 hectares of native vegetation within a boundary of approximately 6,941 hectares. This permit was amended on 4 April 2013 to increase the amount of clearing approved to 244 hectares, and increase the boundary to 6,945 hectares to allow for additional exploration drilling, geotechnical investigation activities and camp construction. This permit was amended again on 23 May 2013 to correct an error on Plan 4615/2. Clearing Permit CPS 4615/3 was amended on 31 May 2013. The purpose of this amendment was to increase the clearing permit boundary from 6,945 hectares to 7,070 hectares. The amount of clearing authorised remained the same. Clearing permit 4615/4 was amended on 22 October 2015 to extend the period in which clearing is authorised, extend the duration of the permit to 31 July 2026, increase the amount of clearing from 244 to 265 hectares and increase the clearing permit boundary from 7,070 to 7,150 hectares, to allow for additional exploration drilling.

An application for an amendment to clearing permit 4615/5 was received on 24 November 2015 to increase the amount of clearing from 265 to 700 hectares and increase the clearing permit boundary from 7,150 to 15,979 hectares. The proposed amendment will allow for additional hydrogeological drilling and associated activites. The amendment area covers the current clearing permit (CPS 4615/5) and clearing permits CPS 2725/3 and CPS 5315/3, which were previously granted over the area. These permits will be revoked once the current permit has been amended.

3. Assessment of application against clearing principles

Comments

Hamersley Iron Pty Ltd has applied to increase the area permitted to clear from 265 hectares to 700 hectares, and to increase the permit boundary from 7,150 hectares to 15,979 hectares. The amendment also includes additional activities to the purpose for which the clearing can be done.

The flora and vegetation surveys within the amended permit boundary identified 48 vegetation associations, none of which are associated with a Threatened or Priority Ecological Community (Biota, 2012; Eco logical, 2014; Rio Tinto, 2015).

A new flora and vegetation survey was conducted over the majority of the permit area during 2015 (Rio Tinto, 2015). This survey recorded three new Priority flora species within the application area; *Synostemon hamersleyensis* (Priority 1), *Eremophila* sp. Hamersley Range (K. Walker KW 136) (Priority 1) and *Rostellularia adscendens* var. *latifolia* (Priority 3). Approximately 370 individuals of *Synostemon hamersleyensis* were recorded within the application area, from the rocky hills vegetation types in the southern section of the application area. These individuals are considered to be locally significant (Rio Tinto, 2015). The species *Eremophila* sp. Hamersley Range (K. Walker KW 136) was recorded in a single location in the central, southern section of the application area, favouring high sections within the landscape such as breakaways and upper slopes (Rio Tinto, 2015). The species *Rostellularia adscendens* var. *latifolia* is not considered to be restricted to the application area and occurs within all subregions of the Pilbara bioregion. This flora species is not likely to be impacted by the proposed clearing. Potential impacts to Priority Flora species *Synostemon hamersleyensis* and *Eremophila* sp. Hamersley Range (K. Walker KW 136) as a result of the proposed clearing may be minimised by the implementation of a flora management condition. Based on the above, the proposed clearing may be at variance to Principle (a).

No Threatened Flora species were identified within the amendment area. A flora management condition was implemented in Clearing Permit CPS 4615/1 to minimise impacts to the flora species *Lepidium catapycnon,* which was previously listed as a Threatened species. This flora species has since changed conservation status to a Priority 4, and is unlikely to be significantly impacted by the proposed clearing.

Biota (2007) identified an individual plant of the flora species *Sauropus* aff. *trachyspermus*. Whilst not under any conservation threat, Biota (2007) suggests that this is a major range extension for this species which has previously been recorded from the Kimberley region (Western Australian Herbarium, 2016), or that it may be a new species. Given there remains some unknown factors regarding this population it should be treated as being of conservation significance and avoided during exploration activities. Potential impacts to *Sauropus* aff. *trachyspermus* may be minimised through the implementation of a condition limiting clearing within a buffer area surrounding the population of *Sauropus* aff. *trachyspermus*.

The amendment area intersects the Koodaideri Hills, characteristic of the Hamersley Ranges, with fauna habitats including hilltops, slopes, stony plains and small to moderate watercourses (Biota, 2008). A permanent freshwater spring (Koodaideri Spring) occurs within the amendment area, with the habitat provided by this spring being unique within the Koodaideri Hills and not common within the Hamersley Ranges (Biota, 2008). As this spring is a permanent water source, it is a significant faunal habitat as it provides refuge for fauna species, especially during dry conditions. Potential impacts to faunal habitat as a result of the proposed clearing may be minimised by the implementation of a restricted clearing condition.

The amendment area is comprised mostly of the rocky/stony hills and hill slopes fauna habitats, and includes more of the significant gorge/gully habitat (Rio Tinto, 2015). Conservation significant fauna recorded within the amendment area are the same as those identified within the decision report for Clearing Permit CPS 4615/1. A fauna management condition was implemented in Clearing Permit CPS 4615/1 to minimise impacts to conservation significant species identified during the fauna survey (Biota, 2011; Rio Tinto, 2012; Rio Tinto, 2015). This condition has been amended to restrict clearing within the gorge/gully fauna habitat type, as the majority of conservation fauna records are from this habitat type. This habitat type also includes the Koodaideri adit (a known maternal roost of the Pilbara Leaf-nosed Bat and Ghost Bat), the Koodaideri Spring gorge, and

several other breakaway and cave microhabitats adjacent to surface water pools (Rio Tinto, 2015).

A number of weed species have been identified throughout the amendment area. Clearing activities have the potential to result in an increase in the incidence of weed species, which may negatively impact on the biodiversity of the local area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of existing weed management conditions.

The amendment application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing may be at variance to Principle (a). The assessment against the remaining clearing Principles remains unchanged, and further information can be found in previous decision reports.

Methodology

Biota (2007)
Biota (2008)
Biota (2011)
Biota (2012)
Eco logical (2014)
Rio Tinto (2012)
Rio Tinto (2015)
Western Australian Herbarium (2016)
GIS Database

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

Comments

There is one native title claim (WC2005/006) over the application area (Department of Aboriginal Affairs, 2016). This claim has been registered with the National Native Title Tribunal on behalf of the claimant groups. However, the tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the Act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

According to available databases, there are numerous registered Aboriginal sites of significance within the application area (Department of Aboriginal Affairs, 2016). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal sites of significance are damaged through the clearing process.

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

It is noted that the proposed clearing may impact on a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Federal) Department of the Environment for environmental impact assessment under the *EPBC Act*. The proponent is advised to contact the Department of the Environment for further information regarding notification and referral responsibilities under the *EPBC Act*.

The clearing permit application was advertised on 14 December 2015 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology

Department of Aboriginal Affairs (2016)

4. References

Biota (2007) Koodaideri Rare Flora and Vegetation Survey. Unpublished report prepared for Pilbara Iron Pty Ltd by Biota Environmental Sciences.

Biota (2008) Koodaideri Camp and Infrastructure Areas: Native Vegetation Clearing Permit Report. Unpublished report prepared for Pilbara Iron Pty Ltd by Biota Environmental Sciences.

Biota (2011) Terrestrial Fauna of Koodaideri Phase 1. Unpublished report prepared for Rio Tinto Iron Ore, by Biota Environmental Sciences, March 2011.

Biota (2012) A Vegetation and Flora Survey of the Koodaideri Study Area. Unpublished report prepared for Rio Tinto Iron Ore, by Biota Environmental Sciences, October 2012.

Department of Aboriginal Affairs (2016) Aboriginal Heritage Enquiry System. Government of Western Australia, http://maps.dia.wa.gov.au/AHIS2/. (Accessed 18 January 2016).

Eco logical (2014) Koodaideri Biological Assessment. Eco Logical Australia Pty Ltd, West Perth, Western Australia.

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

Rio Tinto (2012) Exploration drilling at Koodaideri: including supporting documentation for a Native Vegetation Clearing Permit. Rio Tinto Iron Ore.

Rio Tinto (2015) Desktop Flora, Vegetation and Fauna Habitat Assessment at Koodaideri. Native Vegetation Clearing Permit – Supporting Report. Prepared by Hamersley Iron Pty Ltd, December 2015.

Western Australian Herbarium (2016) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. https://florabase.dpaw.wa.gov.au/. (Accessed 19 January 2016).

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	*Environmental Protection Act 1986*, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
TEC	Threatened Ecological Community

Definitions:

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

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

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

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

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**
Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

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

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

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

IA **Migratory birds protected under an international agreement**

Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.

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

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

P **Priority species**
Species which are poorly known; or
Species that are adequately known, are rare but not threatened, and require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 **Priority One - Poorly-known species:**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species:**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species:**
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 **Priority Four - Rare, Near Threatened and other species in need of monitoring:**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Principles for clearing native vegetation:

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

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

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

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

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

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

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

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

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

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