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

# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

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|---|---|
| **Permit number:** | 10309/1 |
| **Permit type:** | Purpose Permit |
| **Applicant name:** | Hamersley Iron Pty Ltd |
| **Application received:** | 18 August 2023 |
| **Application area:** | 13.5 hectares |
| **Purpose of clearing:** | Desalination plant and associated activities |
| **Method of clearing:** | Mechanical Removal |
| **Tenure:** | *Iron Ore (Hamersley Range) Agreement Act 1963* (Lot 24 on Deposited Plan 241372, Lot 26 on Deposited Plan 241372, Lot 32 on Deposited Plan 47815, Lot 38 on Deposited Plan 241372, Lot 43 on Deposited Plan 241372, Lot 54 on Deposited Plan 243163, Lot 150 on Deposited Plan 242287). |
| **Location (LGA area/s):** | City of Karratha |
| **Colloquial name:** | Dampier Desalination Plant |

### 1.2. Description of clearing activities

Hamersley Iron Pty Limited proposes to clear up to 13.5 hectares of native vegetation within a boundary of approximately 51.024 hectares, for the purpose of building a desalination plant and conducting associated activities. The project is located approximately 1 kilometre north, east, and south of Dampier, within the Shire of Karratha.

The application is to allow for the construction of a small desalination plant and associated pipelines for transfer of water in the industrial port area of Parker Point for the supply of water to the Parker Point Operations and the township of Dampier.

### 1.3. Decision on application and key considerations

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|---|---|
| **Decision:** | Grant |
| **Decision date:** | 30 November 2023 |
| **Decision area:** | 13.5 hectares of native vegetation |

### 1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 18 August 2023. DMIRS advertised the application for a public comment for a period of 21 days, and one submission were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix E), supporting inforamtion including the results of a flora and vegetation and fauna surveys, the clearing principles set out in Schedule 5 of the EP Act (Appendix D), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- impacts to vegetation growing in association with a watercourse

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;

- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- avoid clearing riparian vegetation where practicable and maintain water flows; and
- retain cleared vegetation and topsoil and respread this on a cleared area of equivalent size within 12 months of clearing to ensure fauna habitat is not permanently lost.

## 2. Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Iron Ore (Hamersley Range) Agreement Act 1963*

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

## 3. Detailed assessment of application

### 3.1. Avoidance and mitigation measures

Most of the clearing permit envelope is in a highly disturbed area and clearing of native vegetation has been minimised to 13.5 hectares, of which 10.9 hectares (81 per cent) is in poor to degraded condition. The application area has been subject to flora/fauna surveys and all occurrences of conservation significant species and will be avoided wherever possible. All clearing will be reduced to the extent necessary (Hamersley Iron, 2023).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

### 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix C) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise / hygiene management conditions.

### 3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 23 October 2023 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. One submission was received in relation to this application.

There are two native title claims (WCD2005/001 and WCD 2015/007) over the area under application (DPLH, 2023). These claims have been determined by the Federal Court on behalf of the claimant groups (Ngarluma / Yindjibarndi). 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*.

There are 10 registered Aboriginal Sites of Significance within the application area (DPLH, 2023). 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.

## End

## Appendix A. Details of public submissions

| Summary of comments | Consideration of comment |
|---|---|
| Local Planning Strategies and Local Planning Schemes related to the permit area | Comments within the scope of the assessment were considered and assessed in Appendix C. |

## Appendix B. Site characteristics

### B.1. Site characteristics

| Characteristic | Details |
|---|---|
| Local context | The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is surrounded by development in Dampier Point and it is adjacent to Dampier Paraburdoo Railway and the town of Dampier (GIS Database). |
| Ecological linkage | According to aerial imagery, the application area does not form part of any formal or informal ecological linkages (GIS Database). |
| Conservation areas | The application area is not located within any known or mapped conservation areas. The closest mapped conservation area is the Murujuga National Park located 1.5 kilometres east of the application area (GIS Database). |
| Vegetation description | The vegetation of the application area is broadly mapped as the following Beard vegetation association:<br>117: Hummock grasslands, grass steppe; soft spinifex (GIS Database).<br><br>A flora and vegetation survey was conducted in two stages over the application area by AECOM Australia Pty Ltd during August, 2020 (phase one) and April 2021 (phase 2). The following vegetation associations were recorded within the application area (AECOM, 2021):<br><br>**EcScCc (Minor Flowline):** *Eucalyptus camaldulensis* and *Melaleuca lasiandra* low woodland over *Sesbania cannabina, Acacia coriacea* and *Solanum horridum* mid open shrubland over **Cenchrus ciliaris* low open tussock grassland. This community includes a layer of herbs including *Rhynchosia minima, Pluchea rubelliflora, Cucumis variabilis* and 13 more species.<br><br>**FvTdIc (Tidal/Shoreline):** *Flueggea virosa* subsp. *melanthesoides, Rhizophora stylosa* and *Avicennia marina* scattered mangrove patches with *Typha domingensis, Cyperus vaginatus* and *Spinifex longifolius* low scattered sedges with *Ipomoea costata* and **Passiflora foetida* scattered climbers. Recorded along the mid to upper levels of shoreline where plants occurred sporadically. Low levels of the shoreline were devoid of vegetation.<br><br>**SdSfTe (Hummock Grassland):** *Solanum diversifolium, Indigofera monophylla* and *Acacia synchronicia* mid to low open shrubland with *Swainsona formosa, Boerhavia coccinea* and *Euphorbia australis* mid to low open herbland over *Triodia epactia* Hummock Grassland. Recorded on skeletal soils on lower slopes.<br><br>**ToAlTe (Hummock Grassland):** *Trachymene oleracea* subsp. *oleracea, Trichodesma zeylanicum* var. *zeylanicum* and *Swainsona formosa* mid to tall herbland with *Abutilon lepidum*, *Crotalaria novae-hollandiae* and *Senna notabilis* low shrubland over *Triodia epactia* tall hummock grassland. Recorded on skeletal soils on flats, slopes and around rockpiles. Trees including *Terminalia canescens* growing from rockpiles.<br><br>**Rocky shore:** Shoreline comprised of partially man-made, partially natural rocks, boulders and sand.<br><br>**AaEgPr (Disturbed - Artificial Ephemeral Wetland):** *Acacia ampliceps* and *Sesbania cannabina* medium open shrubland over *Eleocharis geniculata, Schoenus falcatus* and *Cyperus vaginatus* low open sedgeland over *Pluchea rubelliflora, Samolus repens* and *Stemodia grossa* low open herbland. Represents artificial ephemeral wetlands. Wetter areas include *Typha domingensis*. Supports Priority 3 *Eragrostis surreyana* population. Presence of water likely to vary throughout the year.<br><br>**CL:** Cleared – devoid of native vegetation, includes hardstand roads and rail as well as roadside with weeds.<br><br>**Water:** Open water |
| Fauna habitats | A basic fauna assessment was undertaken in two stages by AECOM Australia Pty Ltd during August, 2020 (phase one) and April 2021 (phase 2). The following fauna habitats were recorded within the application area (AECOM, 2021):<br><br>**Disturbed – Artificial wetlands:** Standing water (seasonal), occasional mature tree, sedges, herbs, and low shrubs provide moderate ground cover. It appears that these relatively flat areas were |

| Characteristic | Details |
|---|---|
| | created by earthworks (e.g. excavation of fill material) associated with the construction of nearby rail/road infrastructure. Moderate complexity when water is present. This habitat is a result of historical earthworks (likely for sourcing fill). Due to significant rainfall in July 2020, these relatively flat areas contained ponded water. It would be expected that surface water would be temporary, and these areas would be dry for much of the year.<br><br>***Triodia* grasslands on rocky slopes and flats:** Grasslands with moderate to high ground cover on rocky slopes and flat areas. Includes some tall shrubs over diverse low herbs, shrubs and grasses. Occurs on skeletal rocky slopes and around rock piles. Varies in complexity from high to low in the absence of rock piles to provide shelter. Recorded on skeletal slopes.<br><br>**Minor creeks:** Ephemeral creeks that intersect existing railway. Includes mature trees in varying densities (no hollows observed), low log litter and moderate density groundcover of tussock grasses, herbs and shrubs. Recorded on skeletal rocky soils. Complexity is moderate to high with the presence of under-mid and upper-storey vegetation.<br><br>**Shoreline:** Rocky/boulder shoreline sloping from existing infrastructure (port) into subtidal areas. Intertidal areas were dominated by oyster encrusted rocks and there were no low tidal sand or mud mudflats exposed seaward of the rocky shoreline (i.e. no mudflat habitat suitable as foraging areas for shorebirds). Isolated patches of mangroves (predominantly *Avicennia marina*) occurred on mid-upper levels of the rocky shoreline. Complexity is low with minimal ground cover.<br><br>**Cleared:** Rail, road and port infrastructure providing minimal habitat. Includes some escarpments of rocks along the rail corridor. |
| Vegetation condition | The vegetation survey (AECOM, 2021) and aerial imagery indicate the vegetation within the proposed clearing area is in Very Good to Completely Degraded (Trudgen, 1991) condition.<br><br>The full Trudgen (1991) condition rating scale is provided in Appendix D. |
| Climate | The application area is located in an arid zone with an annual average rainfall (Dampier Salt) of 265.6 millimetres (BoM, 2023). |
| Soil description | The soil within the application area is mapped as unit Bz15 (GIS Database) which is described as rocky hills and offshore islands of acid intrusive rock. Largely bare rock outcrop with pockets of shallow siliceous sands and loams (Northcote et al., 1960-68). |
| Land systems and land degradation risk | The application area falls within the Granitic land system (DPIRD, 2023). This land system is described as rugged granitic hills supporting shrubby hard and soft spinifex grasslands. The system is subject to fairly frequent burning and is not susceptible to erosion (van Vreeswyk et al., 2004). |
| Waterbodies | The desktop assessment and aerial imagery indicated that various, non-perennial watercourses transect the area proposed to be cleared. The application area is also adjacent to a tidal flat located between Dampier and Dampier Archipelago (GIS Database). |
| Hydrogeography | The application area falls within the Pilbara Groundwater Area which is legislated by the *RIWI Act 1914*. The mapped groundwater salinity is 1,000-3,000 milligrams per litre total dissolved solids which is described as brackish (GIS Database). |
| Flora | There were no Threatened or Priority flora species recorded within the application area (AECOM, 2021; GIS Database). |
| Ecological communities | The application area is not located within any known or mapped Threatened or Priority Ecological Communities (PEC) (AECOM, 2021; GIS Database). The buffer boundary for the 'Burrup Peninsula Rock Pile' PEC (P1) is 3.7 km northeast of the application area (GIS Database). |
| Fauna | There were no Threatened or Priority fauna species recorded within the application area (AECOM, 2021; GIS Database). |

## B.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and biological survey information, impacts to the following conservation significant flora required further consideration. Only records within 50 kilometres were considered.

| Species name | Conservation status | Suitable habitat features? [Y/N] | Distance of closest record to application area (km) | Number of known records (total) | Are surveys adequate to identify? [Y, N, N/A] |
|---|---|---|---|---|---|
| *Eragrostis surreyana* | P3 | Y | .01 km | 10 | Y |
| *Rhynchosia bungarensis* | P4 | Y | 2.06 km | 87 | Y |
| *Terminalia supranitifolia* | P3 | Y | 0.7 km | 53 | Y |
| *Vigna triodiophila* | P3 | Y | 3.3 km | 21 | N |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

(AECOM, 2021; Western Australian Herbarium, 1998-; GIS Database)

## Appendix C. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| **Environmental value: biological values** | | |
| Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."*<br><br>Assessment:<br><br>The vegetation units identified within the application area are considered to be of low conservation value and are widely distributed both locally and throughout the Roebourne subregion (AECOM, 2021). None of these vegetation units are characteristic of any known or mapped Priority Ecological Communities. All vegetation units were in better condition outside the application area, as notable disturbance is present. Priority flora species *Eragrostis surreyana* was recorded 10 metres away from the application area but not within. The flora survey could have identified *Rhynchosia bungarensis* and *Terminalia supranitifolia* if they were present as it was conducted during their flowering period. *Vigna triodiophila* could have been missed as it is a small creeping species and the flora survey was conducted outside of its flowering period (AECOM, 2021). However, given the already disturbed condition of the application area it is unlikely that any significant populations of *V. triodiophila* would survive in the application area. | Not likely to be at variance | No |
| Principle (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."*<br><br>Assessment:<br><br>None of the five fauna habitats represent significant habitat for conservation significant fauna species that potentially occur in the survey area. Habitats are widespread on the Burrup Peninsula. Therefore, no fauna species are likely to be restricted to or reliant on the habitats present (AECOM, 2021). | Not likely to be at variance | No |
| Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."*<br><br>Assessment:<br><br>The area proposed to be cleared is not likely to contain Threatened flora species and none were recorded in the application area (AECOM, 2021; GIS Database). | Not likely to be at variance | No |
| Principle (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."*<br><br>Assessment:<br><br>The application area does not intersect or contain vegetation that belongs to any known or mapped Threatened Ecological Community (AECOM, 2021; GIS Database). | Not likely to be at variance | No |
| **Environmental value: significant remnant vegetation and conservation areas** | | |
| Principle (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."*<br><br>Assessment:<br><br>The application area falls within the Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (GIS Database). Over 99 per cent of the pre-European vegetation still exists in the Pilbara Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 117 (GIS Database). This vegetation association has not been extensively cleared as over 94 per cent of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019). | Not likely to be at variance | No |
| Principle (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."*<br><br>Assessment: | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| Given the distance to the nearest conservation area (GIS Database), the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas. | | |
| **Environmental value: land and water resources** | | |
| Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."*<br>Assessment:<br>Given the application area is adjacent to a tidal flat and it intersects multiple ephemeral drainage lines (GIS Database), the proposed clearing is likely to impact vegetation growing in association with a watercourse or wetland. Impacts from the proposed clearing to riparian vegetation and waterflows can be managed by placing a watercourse management condition on the clearing permit. | At variance | No |
| Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."*<br>Assessment:<br>The mapped land system and soils are not susceptible to erosion (van Vreeswyk et al., 2004). Noting the location of the application area, the proposed clearing is not likely to have an appreciable impact on land degradation. | Not likely to be at variance | No |
| Principle (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."*<br>Assessment:<br>Given no permanent water courses, wetlands, or Public Drinking Water Source Areas are recorded within the application area (GIS Database), the proposed clearing is unlikely to impact the quality of surface or ground water quality. | Not likely to be at variance | No |
| Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."*<br>Assessment:<br>Given no permanent water courses or wetlands are recorded within the application area (GIS Database), the proposed clearing is unlikely to cause, or exacerbate, the incidence or intensity of flooding. | Not likely to be at variance | No |

## Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

**Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)**

| Condition | Description |
|---|---|
| Excellent | Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement. |
| Very good | Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks. |
| Good | More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds. |
| Poor | Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds. |

| Condition | Description |
|---|---|
| Very poor | Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species. |
| Completely degraded | Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs. |

# Appendix E. Sources of information

## E.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- Aboriginal Heritage Places (DPLH-001)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Pre-European Vegetation Statistics
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers

## E.2. References


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Hamersley Iron (2023) Clearing permit application form, CPS 10309/1, received 18 August 2023.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) Atlas of Australian Soils, Sheets 1 to 10, with explanatory data. CSIRO and Melbourne University Press: Melbourne.

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Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) An inventory and condition survey of the Pilbara Region, Western Australia. Technical Bulletin No. 92. Department of Agriculture, South Perth, Western Australia.

Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed 21 November 2023).

## 4. Glossary

### Acronyms:

| | |
|---|---|
| **BC Act** | *Biodiversity Conservation Act 2016,* Western Australia |
| **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) |
| **DCCEEW** | Department of Climate Change, Energy, the Environment and Water, Australian Government |
| **DBCA** | Department of Biodiversity, Conservation and Attractions, Western Australia |
| **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) |
| **DoEE** | Department of the Environment and Energy (now DCCEEW) |
| **DoW** | Department of Water, Western Australia (now DWER) |
| **DPaW** | Department of Parks and Wildlife, Western Australia (now DBCA) |
| **DPIRD** | Department of Primary Industries and Regional Development, Western Australia |
| **DPLH** | Department of Planning, Lands and Heritage, Western Australia |
| **DRF** | Declared Rare Flora (now known as Threatened Flora) |
| **DWER** | Department of Water and Environmental Regulation, Western Australia |
| **EP Act** | *Environmental Protection Act 1986*, Western Australia |
| **EPA** | Environmental Protection Authority, 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:

**{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-**

**T** **Threatened species:**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

***Threatened fauna*** is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

***Threatened flora*** is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

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 in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

**EN** **Endangered species**

Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

**VU** **Vulnerable species**

Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

**Extinct Species:**

**EX** **Extinct species**

Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

**EW** **Extinct in the wild species**

Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

**Specially protected species:**

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

**MI** **Migratory species**

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes 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 fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

**CD** **Species of special conservation interest (conservation dependent fauna)**

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

**OS** **Other specially protected species**

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

**P** **Priority species:**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species 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.

**(c)** Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened 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 the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.