Department of Mines, Petroleum and Exploration

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

1. Application details and outcome

1.1. Permit application details

Permit number:	6924/4
Permit type:	Purpose Permit
Applicant name:	BHP Iron Ore Pty Ltd
Application received:	25 February 2025
Application area:	40.5 hectares
Purpose of clearing:	Maintenance to Ophthalmia Dam and all associated infrastructure
Method of clearing:	Mechanical Removal
Tenure:	*Iron Ore (Mount Newman) Agreement Act 1964*, Mineral Lease 244SA (AML 70/244), Special Lease for Mining Operations 3116/3684, Crown Lease N088235, Newman Water Lease, Lot 351 on Deposited Plan 74327 pursuant to the *Iron Ore (Mount Newman) Agreement Act 1964*
Location (LGA area/s):	Shire of East Pilbara
Colloquial name:	Ophthalmia Dam Maintenance Project

1.2. Description of clearing activities

Clearing permit CPS 6924/1 was granted by the Department of Mines and Petroleum (now the Department of Mines, Petroleum and Exploration) on 24 March 2016 and was valid from 16 April to 30 November 2021. The permit authorised the clearing of up to 35 hectares of native vegetation within a boundary of approximately 189.4 hectares, for the maintenance of Ophthalmia Dam and all associated activities.

Clearing permit CPS 6924/2 was granted on 7 February 2019, amending the permit to increase the area approved to clear by five hectares and to increase the permit boundary by 46.3 hectares and include additional tenure to the Permit.

On 27 May 2021 the Permit Holder applied to amend CPS 6924/2 to extend the permit duration, extend the period in which clearing is authorised and change the company name.

On 25 May 2025, the permit holder applied to amend CPS 6924/3 to increase the permit boundary by 40.5 hectares. The amount of clearing authorised remains the same. To date, no clearing has occurred under this permit.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	13 January 2026
Decision area:	40.5 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section with sections 51KA(1) and 51O of the *Environmental Protection Act 1986* (EP Act). and was received by the Department of Mines, Petroleum and Exploration (DMPE) on 25 February 2025. DMPE advertised the application for public comment for a period of 21 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics, relevant datasets, supporting information provided by the applicant including the results of a flora and vegetation survey and fauna survey, the clearing principles set out in Schedule 5 of the EP Act, and any other matters considered relevant to the assessment. The Delegated Officer also considered that the purpose of extending the boundary is to facilitate maintenance and safety of the dam and its associated infrastructure.

The assessment identified that the proposed extension of the boundary will have negligible impact on habitat for flora, fauna and ecological communities, and riperian vegetation and associated river systems. The impacts covered in the previous decision reports remain the same as the impacts associated with the increased boundary for this amendment application. 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;
- potential land degradation due to soil erosion; and
- potential impacts on watercourses and associated riparian vegetation;

- potential impacts to conservation significant fauna habitat; and
- potential impacts to ephemeral drainage lines, and consequently on surface water flow.

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;
- undertake staged clearing;
- vegetation management – avoid riparian vegetation and where a watercourse is to be impacted by clearing, the permit holder shall ensure that the existing surface flow is maintained; and
- retain cleared vegetation and topsoil and respread this on a cleared area of equivalent size within the permit boundary within 12 months of clearing to ensure vegetation and fauna habitat is not permanently lost.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures, the Delegated Officer determined that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

1.5. Site map

A site map of proposed clearing is provided in Figure 1 below.

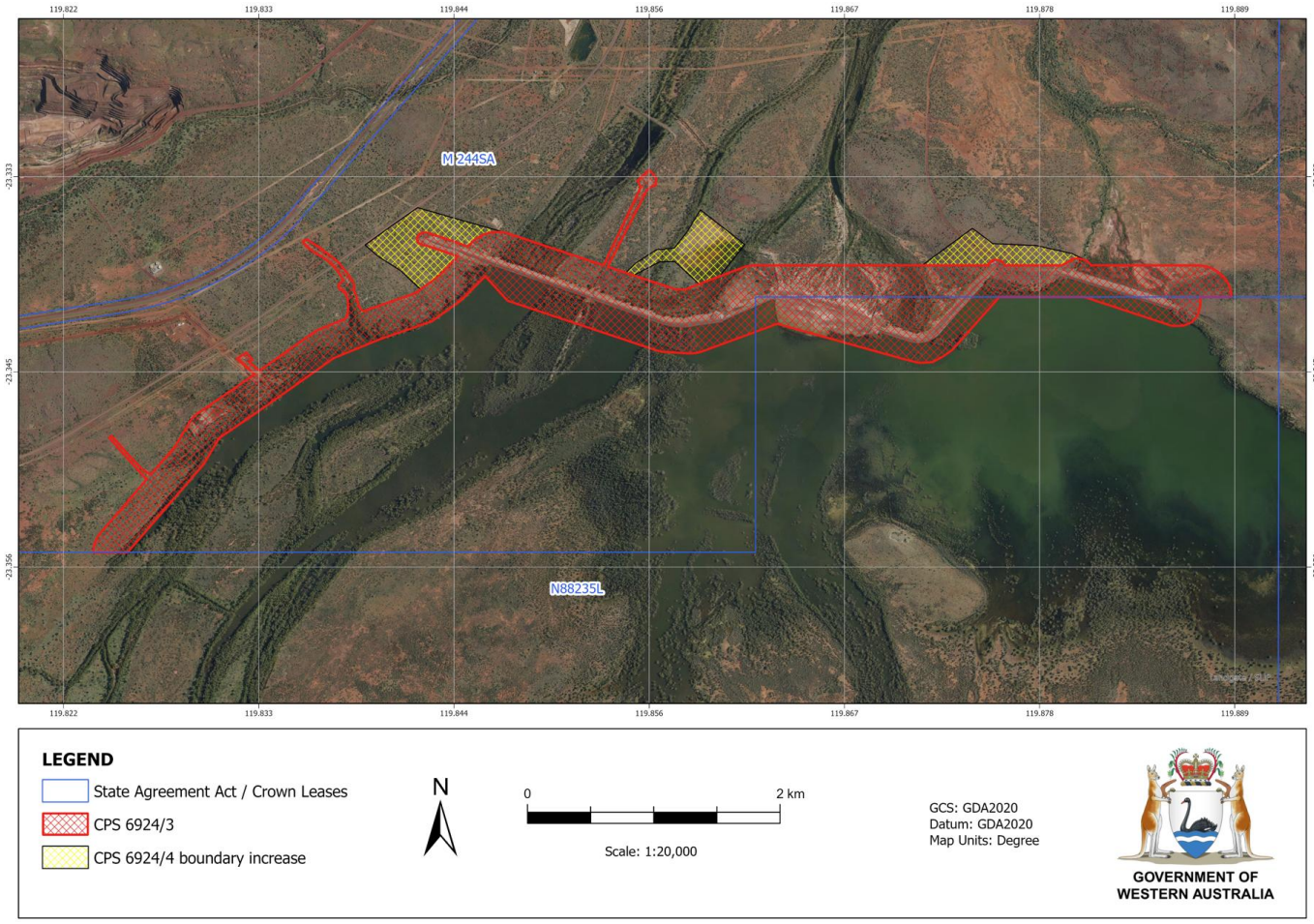

Figure 1: Map of the application area. The yellow area indicates the boundary extension of 40.5 hectares, red indicating the currently approved permit boundary CPS 6924/3.

2. Assessment of application

2.1. Avoidance and mitigation measures

BHP Iron Ore Pty Ltd have requested to increase the boundary of the permit area to enable ongoing maintenance activities for Ophthalmia Dam. Avoidance and mitigation measures that the applicant committed to implement in areas permitted for clearing are listed below (BHP, 2025a):

- Control of established weed populations will be carried out according to BHP's standard Weed Control and Management Procedures; and
- Previously cleared areas utilised where possible and new clearing kept to the smallest areas required.

The applicant adequately demonstrated that all reasonable efforts had been taken to avoid and minimise potential impacts of the clearing on environmental values.

2.2. Assessment of impacts on environmental values

Environmental information has been reviewed, and the assessment of the impacts associated with the proposed amendment against the Clearing Principles remains consistent with the assessment contained in previous versions of the decision reports. A detailed assessment of the Clearing Principles can be found in the previous decision report CPS 6924/1.

The increase in the permit boundary is to enable ongoing safety and maintenance activities of Ophthalmia Dam. The majority of the vegetation to be cleared is associated with the dam, the Fortescue River and major creek line habitats. BHP advise that disturbance of watercourses within the application area will be kept to a minimum and project activities will utilise previously disturbed areas, where practicable, however some clearing of riparian vegetation may be required (BHP, 2025b). The proposed clearing of riparian vegetation is not likely to significantly impact the ecological or hydrological functions of the Fortescue River, Ophthalmia Dam, or the associated creeks or creek line habitats (BHP, 2025b). The proposed clearing will not have a detrimental impact on vegetation associations located in the area (BHP, 2025b; Spectrum Ecology, 2023; GIS Database). Potential impacts to riparian vegetation can be minimised through the continued implementation of a vegetation management condition.

The Ethel Gorge Threatened Ecological Community (TEC) consists of a diverse assemblage of stygofauna species (Spectrum Ecology, 2023) but does not include groundwater-dependent vegetation and due to this the TEC is unlikely to be impacted by the proposed clearing.

The Department of Water and Environmental Regulation (DWER, 2025) advised that the proposed clearing should avoid riparian vegetation, particularly along drainage lines. DWER considered the proposed management approach reasonable, noting its emphasis on utilising existing tracks and minimising watercourse crossings. In the event that any modifications are made to the proposal that may have implications on aspects of the environment and/or water management, DWER should be notified to enable the implications to be assessed.

2.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 25 February 2025 by the Department of Mines, Petroleum and Exploration inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the area under application (DPLH, 2025). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. 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 several registered Aboriginal Sites of Significance within the application area (DPLH, 2025). 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.

Other relevant authorisations required for the proposed land use include:

- A Mining Proposal / Mine Closure Plan or Mining Development and Closure Proposal approved under the *Mining Act 1978*

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.

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is in the Gascoyne Interim Bioregion (GIS Database) and is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia.
Ecological linkage	The area proposed to be cleared is not part of a formal ecological linkage (GIS Database).
Conservation areas	The application area does not lie within any conservation area (GIS Database). The nearest conservation area is Karijini National Park which lies 130 kilometres in a northeast direction of the application area (GIS Database).
Vegetation description	The vegetation of the application area is broadly mapped as the following Beard vegetation association: 29: Low woodland, open low woodland or sparse woodland (GIS Database). A flora and vegetation survey was conducted over the application area by Spectrum Ecology over two phases. Phase one occurred at the end of March 2022 to beginning of April 2022, followed by phase two in August. The following vegetation associations were recorded within the application area (Spectrum Ecology, 2023):

Characteristic	Details		
	Broad Floristic Formation	Vegetation Association Description	
	*Cenchrus Tussock Grassland	FP Cci ChaAci AbiApr	Tussock Grassland of *_Cenchrus ciliaris_ with Low Woodland of _Corymbia hamersleyana_ and _Acacia citrinoviridis_ over High Shrubland of _Acacia bivenosa_ and _Acacia pruinocarpa_ over Open Hummock Grassland of _Triodia pungens_ on orange sand on floodplains.
		SC CciEpo Aci	Tussock Grassland of *Cenchrus ciliaris and _Enneapogon polyphyllus_ and Low Woodland of _Acacia citrinoviridis_ on orange brown sand and clay on floodplains.
	*Cenchrus mid tussock grassland	ME CcCsChf EvAci Aads	Mid tussock grassland of *Cenchrus ciliaris, *_Cenchrus setiger_ and _Chrysopogon fallax_ with low to mid open woodland of _Eucalyptus victrix_ and _Acacia citrinoviridis_ over tall scattered shrubs of _Acacia ?adsurgens_ on brown clay loam on medium drainage lines.
	Acacia High Shrubland	FP AaAssAanc Tp	High Shrubland of _Acacia aptaneura_, _Acacia sclerosperma_ subsp. s_clerosperma_ and _Acacia ancistrocarpa_ over very open Hummock Grassland of _Triodia pungens_ on red brown sandy loam on floodplains and medium drainage lines.
	Acacia Low Open Woodland	FP AaAciApr AsyAssAb Tp	Low Open Woodland of _Acacia aptaneura_, _Acacia citrinoviridis_ and _Acacia pruinocarpa_ over Open Shrubland of _Acacia synchronicia_, _Acacia sclerosperma_ subsp. _sclerosperma_ and _Acacia bivenosa_ over Very Open Hummock Grassland of _Triodia pungens_ on red brown clay loam on floodplains and medium drainage lines.
	Acacia Low Woodland	FP AaAprAcao ErffDopeSie ArcDiaAri	Low Woodland of _Acacia aptaneura, Acacia pruinocarpa_ and _Acacia catenulata_ subsp. _occidentalis_ over Open Shrubland of _Eremophila forrestii_ subsp. _forrestii_, _Dodonaea petiolaris_ and _Sida ectogama_ over Open Tussock Grassland of _Aristida contorta_, _Digitaria ammophila_ and _Aristida inaequiglumis_ on red orange clay loam on floodplains.
	Acacia Open Shrubland	SA AaCocTb	Open shrubland of _Acacia aptaneura_ with lower shrubland of _Grevillea striata_, _Eremophila forrestii_ subsp. _forrestii_ with low open woodland of _Corymbia candida_ over very open hummock grassland of _Triodia basedowii_ and very open tussock grassland of _Aristida pruinosa_, and *_Cenchrus ciliaris_ on orange sandy clay plains.
	Eucalyptus Open Woodland	MA EcoAciCyix	Low open woodland of _Eucalyptus camaldulensis_ and _Eucalyptus victrix_ over high open shrubland of _Acacia citrinoviridis_ and (+/-) _Melaleuca glomerata_ over very open sedgeland of _Cyperus ixiocarpus_ and _Cyperus vaginatus_ with very open tussock grassland of *_Cenchrus ciliaris_ on orange sandy clay in major creek lines.
	Eucalyptus Woodland	MA EcrEvi Aci Mgl	Woodland of _Eucalyptus camaldulensis_ and _Eucalyptus victrix_ with Low Woodland of _Acacia citrinoviridis_ and High Open Shrubland of _Melaleuca glomerata_ with Low Scattered Shrubs of _Corchorus crozophorifolius_ over Scattered Hummock Grass of _Triodia pungens_ with Open Tussock Grassland of *_Cenchrus ciliaris_ and _Eulalia aurea_ with Scattered Sedges of _Cyperus vaginatus_ on orange sandy clay in major creek lines.
		MA EcrEv AciApypMg CcEuaTt	Woodland of _Eucalyptus camaldulensis_ subsp. r_efulgens_ and _Eucalyptus victrix_ over High Open Shrubland of _Acacia citrinoviridis, Acacia pyrifolia var. pyrifolia_ and _Melaleuca glomerata_ over Tussock Grassland of *_Cenchrus ciliaris, Eulalia aurea_ and _Themeda triandra_ on brown clay loam on banks of major drainage lines.

<table>
<tr><th>Characteristic</th><th colspan="3">Details</th></tr>
<tr><td></td><td>Triodia Hummock Grassland</td><td>CP TwTa Ese AbPlApyp
HS TsAbEll</td><td>Hummock grassland of Triodia vanleeuwenii and Triodia pungens with very open tussock grassland of Eriachne lanata under open shrubland of Acacia bivenosa and or Acacia hilliana and woodland of Eucalyptus leucophloia subsp. leucophloia on stony hillslopes.</td></tr>
<tr><td></td><td></td><td>HS Tw EllChHc AancAbAa</td><td>Hummock Grassland of Triodia wiseana with Low Open Woodland of Eucalyptus leucophloia subsp. leucophloia, Corymbia hamersleyana and Hakea chordophylla and Open Shrubland of Acacia ancistrocarpa, Acacia bivenosa and Acacia aptaneura on red sandy loam on hill slopes.</td></tr>
<tr><td></td><td></td><td>RP Tpu EsoExe AciAscAbi</td><td>Hummock Grassland of Triodia pungens and Low Woodland of Eucalyptus socialis and Eucalyptus xerothermica over High Open Shrubland of Acacia citrinoviridis, Acacia sclerosperma, and Acacia bivenosa and Very Open Tussock Grassland of *Cenchrus ciliaris and Paraneurachne muelleri on rocky plains.</td></tr>
<tr><td></td><td>Triodia low hummock grassland</td><td>CP TragTpTw AbAsySeao Ese(±Et)</td><td>Low hummock grassland of Triodia angusta, Triodia pungens, and Triodia wiseana with mid to tall sparse shrubland to scattered shrubs of Acacia bivenosa (wispy form), Acacia synchronicia, and Senna artemisioides subsp. oligophylla with low scattered tree of Eucalyptus socialis subsp. eucentrica (± Eucalyptus trivalva) on red-brown clay loam on calcrete stony plains and platforms.</td></tr>
<tr><td></td><td></td><td>HS Ts(±TragTw) AbHallAads SeahSeglErfs</td><td>Low hummock grassland of Triodia vanleeuwenii ± Triodia angusta, and Triodia wiseana with mid to tall sparse shrubland to scattered shrubs of Acacia bivenosa, Hakea lorea subsp. lorea, and Acacia adsurgens over low scattered shrubs of Senna artemisioides subsp. helmsii, Senna glutinosa subsp. ×luerssenii, and Eremophila fraseri subsp. fraseri on brown silty loam on undulating low hills.</td></tr>
<tr><td>Vegetation condition</td><td colspan="3">The vegetation survey (BHP, 2025b) and aerial imagery indicate most of the vegetation within the proposed clearing area is rated as ‘Excellent’ to ‘Completely Degraded’. According to BHP (2025b), the vegetation in the surrounding area is considered to be in better condition than that of the amendment application area. Areas classed as “Completely Degraded” were due to disturbances predominantly associated with mining activity (Spectrum Ecology, 2023).

The full Trudgen (1991) condition rating scale is provided in Appendix B.</td></tr>
<tr><td>Climate and landform</td><td colspan="3">The climate of the Pilbara bioregion is classified as tropical, arid to semi-arid. Rainfall can be variable, falling mainly in cyclonic events from December to February (Spectrum Ecology, 2023). The average annual rainfall measures 318 millimetres, and evaporation greatly exceeds rainfall in the region throughout the year and on a month by month basis (BHP, 2025b; BoM, 2025). The application area consists of flat and gently sloping plains (BHP, 2025b).</td></tr>
<tr><td>Soil description</td><td colspan="3">The amended application area consists of extensive flat and gently sloping plains, which sometimes have a surface cover of gravels, on which red-brown hardpan frequently outcrops, with the most dominant soils being shallow earthy loams (BHP, 2025b). Stony plains on basalt are also representative of the application area (DPIRD, 2025).</td></tr>
<tr><td>Land degradation risk</td><td colspan="3">The application area falls within the River system, and the Newman system (DPIRD, 2025; GIS Database). The dominant soils are shallow, earthy loams which are not generally susceptible to erosion (Northcote, et al., 1960-68). However, when vegetation is removed the susceptibility to erosion is high (Van Vreeswyk, et al., 2004).</td></tr>
<tr><td>Waterbodies</td><td colspan="3">The amended application area intersects the Fortescue river and lies adjacent to the Ophthalmia Dam (GIS Database).</td></tr>
<tr><td>Hydrogeography</td><td colspan="3">The groundwater within the application area is between 500 – 1,000 milligrams per litre of Total Dissolved Solids (TDS), which is considered to be potable (GIS Database).</td></tr>
<tr><td>Flora</td><td colspan="3">No priority flora species were recorded within the amended application area. Several Priority flora records occur within a 20 kilometre radius of the application area.</td></tr>
<tr><td>Ecological communities</td><td colspan="3">One Threatened Ecological Community occurs within the application area (BHP Billiton, 2025b; GIS Database). The boundary of the ‘Ethel Gorge Aquifer Stygobiont Community’ Threatened Ecological Community is located over the majority of the application area.</td></tr>
</table>

Characteristic	Details
Fauna	One fauna specie, *Plegadis falcinellus* (Glossy ibis), was recorded within the increased permit boundary (GIS Database). Several fauna species of conservation significance fauna were recorded from the permit area of CPS 6924/3.

Appendix B. 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's (1991) Measuring Vegetation Condition method was designed for the Eremaean Botanical Province and the Northern Botanical Province of Western Australia.

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.
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 C. References and databases

C.1. GIS datasets

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

- Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
- Clearing Regulations - Schedule One Areas (DWER-057)
- DBCA - Lands of Interest (DBCA-012)
- DBCA - Legislated Lands and Waters (DBCA-011)
- DBCA Fire History (DBCA-060)
- Directory of Important Wetlands in Australia - Western Australia (DBCA-045)
- Groundwater Salinity Statewide (DWER-026)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- IBSA Survey Details (DWER-118)
- Local Government Area (LGA) Boundaries (LGATE-233)
- Localities (LGATE-234)
- Native Title (Determination) (LGATE-066)
- Native Title (Fed Court) (LGATE-005)
- Native Title (NNTT) (LGATE-004)
- Native Vegetation Extent (DPIRD-005)
- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)

- Regional Parks (DBCA-026)
- Reserves (LGATE-227)
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Rivers (DWER-036)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping - Best Available (DPIRD-027)
- Soil Landscape Mapping - Soil Sites (DPIRD-071)
- Soil Landscape Mapping - Systems (DPIRD-064)
- Soil Landscape Mapping - Western Australia attributed by WA Soil Group (DPIRD-076)
- Soil Landscape Mapping - Zones (DPIRD-017)
- Surface Water Management Areas (DWER-041)
- Surface Water Management Subareas (DWER-042)
- Townsites (LGATE-248)
- WA Now Aerial Imagery
- Waterways Conservation Act Management Areas (DWER-072)
- Wild Rivers (DWER-087)

Restricted GIS Databases used:

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

C.2. References

BHP Iron Ore Pty Ltd (2025a) Clearing permit application form, CPS 6924/4, received 25 February 2025.

BHP Iron Ore Pty Ltd (2025b) Application to amend NVCP CPS 6924/3 Ophthalmia Dam Maintenance, Native Vegetation Clearing Permit Amendment Application Supporting Document. February 2025.

Biologic (2023) East Ophthalmia and Ninga Detailed Vertebrate Fauna Survey. Biologic Environmental Survey. Report to BHP Western Australia Iron Ore. December 2023.

Bureau of Meteorology (BoM) (2025) Bureau of Meteorology Website – Climate Data Online, Weather Station. Bureau of Meteorology. https://reg.bom.gov.au/climate/data/ (Accessed 18 December 2025).

Department of Planning, Lands and Heritage (DPLH) (2025) Aboriginal Cultural Heritage Inquiry System. Department of Planning, Lands and Heritage. https://espatial.dplh.wa.gov.au/ACHIS/index.html?viewer=ACHIS (Accessed 16 December 2025).

Department of Primary Industries and Regional Development (DPIRD) (2025) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. https://dpird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f (Accessed 16 December 2025).

Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. https://www.wa.gov.au/system/files/2024-11/procedure-native-vegetation-clearing-permits.pdf

Department of Water and Environmental Regulation (DWER) (2025) Advice received in relation to Clearing Permit Application CPS 6924/4. Department of Water and Environmental Regulation, Western Australia, May 2025.

Environmental Protection Authority (EPA) (2016a) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf

Environmental Protection Authority (EPA) (2016b) Technical Guidance – Terrestrial Fauna Surveys. https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf

Environmental Protection Authority (EPA) (2020) Technical Guidance – Terrestrial Fauna Surveys. https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf

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.

Spectrum Ecology (2023) East Ophthalmia & Ninga Detailed Flora & Vegetation Survey. Prepared for BHP WAIO.

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.

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.

3. 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
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety (now DMPE)
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DMPE)
DMP	Department of Mines and Petroleum, Western Australia (now DMPE)
DMPE	Department of Mines, Petroleum and Exploration
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* (Commonwealth 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 (2023) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia:

Threatened species

T 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 the species of fauna that are listed as critically endangered, endangered or vulnerable threatened species.

Threatened flora is the species of flora that are listed as critically endangered, endangered or vulnerable threatened species.

The assessment of the conservation status of threatened species is in accordance with the BC Act listing criteria and the requirements of Ministerial Guideline Number 1 and Ministerial Guideline Number 2 that adopts the use of the International Union for Conservation of Nature (IUCN) Red List of Threatened Species Categories and Criteria, and is based on the national distribution of the species.

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.

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.

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.

Extinct species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

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).

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.

Specially protected species

SP **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).

Migratory species include birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) or 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.

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

Species of special conservation need that are 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).

Currently only fauna are listed as species of special conservation interest.

OS **Other specially protected species**

Species 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).

Currently only fauna are listed as species otherwise in need of special protection.

Priority species

P **Priority species**

Priority is not a listing category under the BC Act. The Priority Flora and Fauna lists are maintained by the department and are published on the department's website.

All fauna and flora are protected in WA following the provisions in Part 10 of the BC Act. The protection applies even when a species is not listed as threatened or specially protected, and regardless of land tenure (State managed land (Crown land), private land, or Commonwealth land).

Species that may possibly be threatened species that do not meet the criteria for listing under the BC Act because of insufficient survey 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 prioritisation for survey and evaluation of conservation status so that consideration can be given to potential listing as threatened.

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

Assessment of priority status 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 – known from few locations, none on conservation lands**

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, for example, 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 for threatened listing and appear to be under immediate threat from known threatening processes. These species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species – known from few locations, some on conservation lands**

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, for example, 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 for threatened listing and appear to be under threat from known threatening processes. These species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species – known from several locations**

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. These species need 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 a conservation dependent specially protected species.

(c) Species that have been removed from the list of threatened species or lists of conservation dependent or other specially protected species, during the past five years for reasons other than taxonomy.

(d) Other species in need of monitoring.

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.