



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	10533/1
Permit type:	Purpose Permit
Applicant name:	BHP Iron Ore Pty Ltd
Application received:	22 February 2024
Application area:	200 hectares
Purpose of clearing:	Hydrological and hydrogeological investigations, access tracks and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Miscellaneous Licence 46/144
Location (LGA area/s):	Shire of East Pilbara
Colloquial name:	Rivendell / Fanghorn

1.2. Description of clearing activities

BHP Iron Ore Pty Ltd proposes to clear up to 200 hectares of native vegetation within a boundary of approximately 38,898 hectares, for the purpose of hydrological and hydrogeological investigations, access tracks and associated activities. The project is located approximately 33 kilometres northeast of Newman, within the Shire of East Pilbara.

The application is to allow for the clearing of native vegetation to construct access tracks and pads for water bores to undertake hydrological investigation for a future managed aquifer recharge scheme.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	4 June 2024
Decision area:	200 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 Energy, Mines, Industry Regulation and Safety (DEMIRS) on 22 February 2024. DEMIRS advertised the application for a 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 (Appendix A), relevant datasets (Appendix E), supporting information provided by the applicant including the results of a flora and vegetation survey (Appendix D), the clearing principles set out in Schedule 5 of the EP Act (Appendix B), 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 conservation significant flora;
- the loss of native vegetation that is suitable habitat for conservation significant fauna of the region;
- potential impact to surface water quality; and
- potential land degradation in the form of wind erosion.

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;

- implement a ten metre buffer zone to avoid clearing recorded Priority flora species;
- implement a ten metre buffer zone to avoid brush-tailed mulgara burrows;
- conduct pre-clearance surveys to identify greater bilby burrows and implement a 50 metre buffers around them;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- engage a fauna spotter to traverse the clearing area ahead of machinery to alert operators of the presence of fauna;
- avoid riparian vegetation where practicable and where a watercourse is impacted maintain water flows;
- where clearing is required in major drainage lines, clearing is to be undertaken only during the dry season;
- where clearing is required in major drainage lines, clearing is to be limited to five hectares;
- where clearing is required in major drainage lines, avoid trees of four metres or higher;
- commence activities no later than six months after undertaking clearing to reduce the risk of erosion; and
- retain cleared vegetation and topsoil and respread this on a cleared area of equivalent size within the adjacent existing gravel extraction area 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)

Relevant agreements (treaties) considered during the assessment include:

- Japan-Australia Migratory Bird Agreement
- China-Australia Migratory Bird Agreement
- Republic of Korea-Australia Migratory Bird Agreement

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

One vegetation association (High open shrubland of *Grevillea berryana* and *Acacia ancistrocarpa* - SD GbAa) has been clipped out of the application area with a 100 metre buffer as this vegetation association is analogous with DBCA Priority 3 PEC 'Vegetation of sand dunes of the Hamersley Range/Fortescue Valley' (GHD, 2020).

Additionally, BHP Iron Ore Pty Ltd committed to the following (BHP, 2024a):

- Populations of Priority flora will be avoided by a 10 metre buffer where practicable.
- Control of established weed populations will be carried out according to BHP's standard Weed Control and Management Procedures.
- Active Mulgara burrows will be avoided with a 10 metre buffer, where practicable
- Active Greater Bilby burrows will be avoided with a 10 metre buffer
- Active mounds of the Western Pebble-mound Mouse will be avoided using a 10 m buffer, where practicable.
- Where practicable, existing cleared tracks will be used to cross the Fortescue River, Jimblebar Creek and Caramulla Creek and unnamed non-perennial minor drainage lines. If it is necessary for new crossings to be installed, clearing will be kept to a bare minimum and will be constructed flat level to the surface (i.e. a simple clearing with no bunds) to maintain the natural surface flow.

These commitments were taken into account to place conditions on the clearing permit to avoid, minimise, and mitigate environmental impacts from the proposed clearing.

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 A) 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 identified that the impacts of the proposed clearing present a risk to biological values (flora and fauna). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (flora) - Clearing Principles (a)

Assessment

The detailed flora and vegetation assessment survey conducted by Spectrum Ecology (2022) recorded two Priority flora species (*Crotalaria smithiana*, and *Indigofera rivularis*) inside the application area. Additionally, GIS Databases indicated Priority flora species *Amaranthus centralis* and *Ipomoea racemigera* were present inside the application area. Below is an assessment of the potential impacts to these Priority flora species from the proposed clearing.

***Amaranthus centralis* (P3)**

There is one record of *A. centralis* inside the application area (GIS Database). This flora species is an annual herb with flowering records in May (Western Australian Herbarium, 1998-). Given the reconnaissance flora survey conducted by GHD (2022) was undertaken post wet season (May 2020) in accordance with the EPA technical guidance for flora surveys (2016), it is likely that if present, *A. centralis* would have been identifiable during the time of the survey. Additionally, this species was recorded over two decades ago, in 2001 (GIS Database). Given this species is an annual species it is possible that it is no longer present in the application area. Although suitable habitat is present in the application area within the watercourses and river banks, the watercourse management condition on the clearing permit will limit the amount of habitat for this species to be cleared. Therefore, it is unlikely that the proposed clearing will result in significant impacts on this species.

***Crotalaria smithiana* (P3)**

Twenty-seven individuals of Priority flora species *C. smithiana* were recorded inside the application area (Spectrum, 2022). According to records from the Western Australian Herbarium (1998-), there are only five records of this species in the state. Four out of these five records are located in the Fortescue subregion of the Pilbara bioregion. Habitat for this species is the floodplains of watercourses. All of the recorded individuals in the application area were recorded within the Fortescue River (Spectrum, 2022). Given the limited distribution of this species, and the small number of records, it is likely that the proposed clearing will result in significant impacts to this species.

***Indigofera rivularis* (P3)**

Five individuals of Priority flora species *I. rivularis* were recorded inside the application area (Spectrum, 2022). The Western Australian Herbarium (1998-) reports 61 records of this species throughout the Hamersley subregion of the Pilbara bioregion. All individuals recorded within the application area were located in the Fortescue River (Spectrum, 2022). Although there are numerous records of this Priority species, the individuals recorded in the application area could represent a range extension for the species as seen in Figure 9 of Appendix D.

***Ipomoea racemigera* (P2)**

There is one record of *I. racemigera* inside the application area (GIS Database). This flora species is a creeping annual herb with flowering records from April to August (Western Australian Herbarium, 1998-). Given the reconnaissance flora survey conducted by GHD (2022) was undertaken post wet season (May 2020) in accordance with the EPA technical guidance for flora surveys (2016), it is likely that if present, *I. racemigera* would have been identifiable during the time of the survey. Given this species is an annual species it is possible that it is no longer present in the application area. The record in the application area is located within the Jimblebar Creek (GIS Database). Although suitable habitat is present in the application area within the watercourses and river banks, the watercourse management condition on the clearing permit will limit the amount of habitat for this species to be cleared. Therefore, it is unlikely that the proposed clearing will result in significant impacts on this species.

Conclusion

Based on the above assessment, the proposed clearing is likely to result in significant impacts to Priority flora species *Crotalaria smithiana* and *Indigofera rivularis*. The species recorded within the application area were recorded within, or have habitat associated with the Fortescue River and the Jimblebar Creek.

For the reasons set out above, it is considered that the impacts of the proposed clearing on Priority flora can be managed by implementing a 10 metre buffer around the recorded Priority flora and limiting the amount of habitat to be cleared within watercourses.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Flora management condition requiring the implementation of a 10 metre buffer zone around the recorded Priority flora to avoid the clearing of *Crotalaria smithiana* and *Indigofera racemigera*; and
- clearing within the habitat mapped as Major Drainage Line will be limited five hectares.

3.2.2. Biological values (fauna) - Clearing Principles (b)

Assessment

The application area contains records of five conservation significant species. Four of these species were recorded during the recent fauna surveys conducted over the application area (Biota, 2022 and GHD, 2022). These records are mapped on Figure 10 of Appendix D.

Grey falcon (Vulnerable)

The application area contains nesting and foraging habitat for the grey falcon within the Major Drainage Line habitat. Protecting nesting trees is a primary conservation action for this species. For this reason, the Major Drainage Line is considered to be critical habitat for the grey falcon (Biota, 2022). Additionally, a single grey falcon was recorded in the Mulga Woodland habitat, 400 metres from the Major Drainage Line habitat (Biota, 2022). Clearing within the Major Drainage Line habitat may result in significant impacts to the grey falcon and its habitat.

Greater bilby (Vulnerable)

The application area appears to be at the border of an area where habitat for greater bilby is likely to occur (see Figure 1 below). Critical habitat for the greater bilby is described as (DCCEEW, 2023):

- Any area where the species is known or likely to occur as shown on the distribution map on the greater bilby SPRAT profile. Figure 1 below is indicative of these areas at the time of publication;
- Any location outside the known or likely distribution where bilbies are found to occur;
- Any area, between the areas noted above, that may be periodically occupied by bilbies; and
- Any area which bilbies may naturally colonise or may feasibly be reintroduced.

The sand plains and mulga woodlands in the application area are ideal for burrowing and foraging (Biota, 2022). A level 1 fauna survey conducted by GHD (2022) included a targeted survey for the greater bilby. No evidence of the greater bilby was recorded in the application area, however, it is considered likely to occur within the application area (GHD, 2022). The proposed clearing may result in a significant impact for the greater bilby and its habitat.

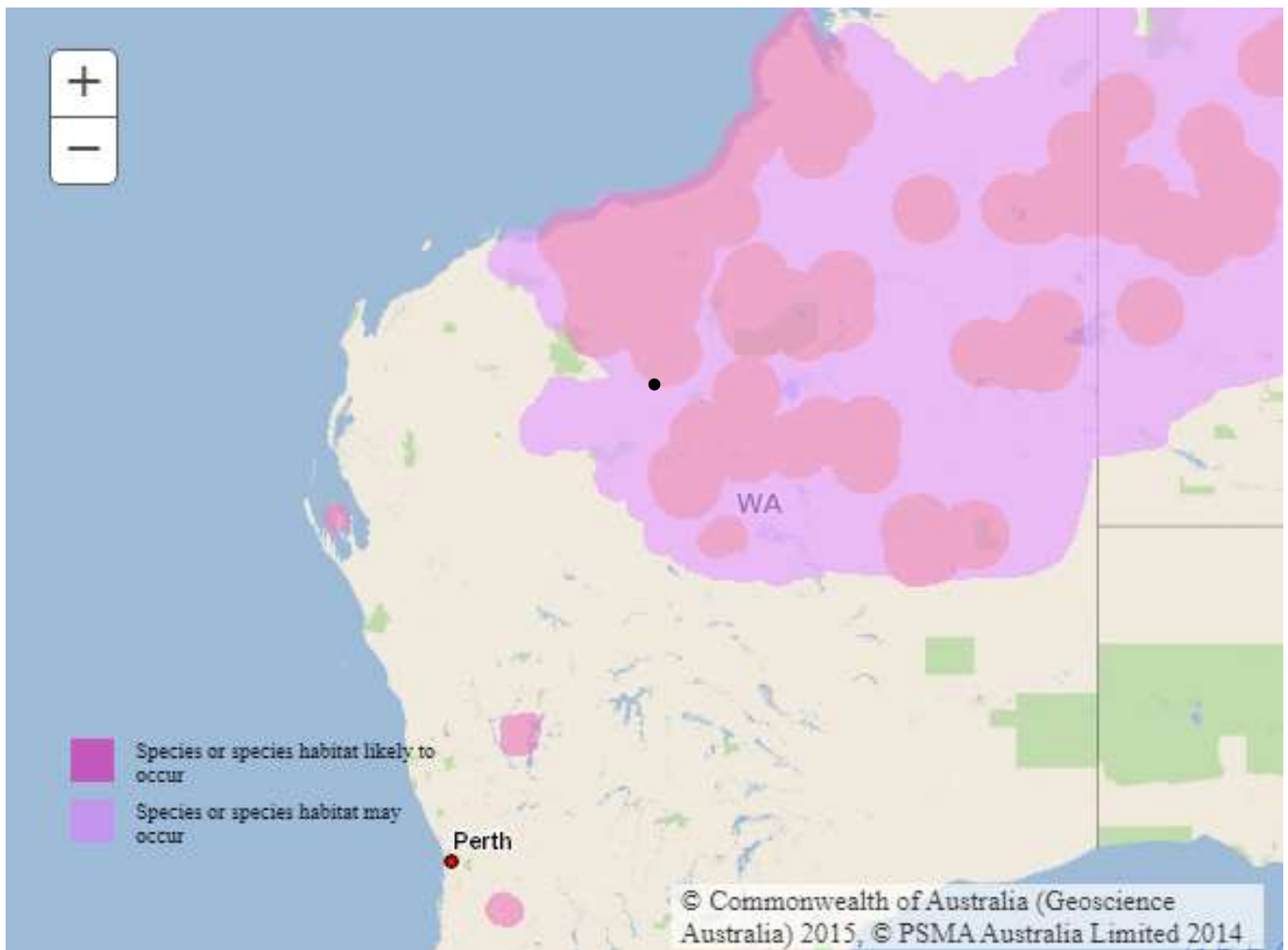


Figure 1. Map showing the modelled current distribution of the greater bilby (DCCEEW, 2023). The black dot shows the approximate location of the application area.

Brush-tailed mulgara (Priority 4)

Secondary evidence (scats and burrows) of the brush-tailed mulgara was recorded in the Sand Plain habitat type which is ideal for burrowing and foraging (GHD, 2022). This habitat makes up the majority of the application area however, all of the records of this species were from habitat east of Jimblebar Creek. Whilst the habitat is common in the local area, the proposed clearing is likely to have a significant impact on this species and its habitat particularly if individuals are killed during the clearing process.

Western pebble-mound mouse (Priority 4)

One inactive mound for this species was recorded in the application area within the Hillcrest/Hillslope habitat (GHD, 2022). This habitat type also contained foraging habitat for the western pebble-mound mouse (GHD, 2022). The Hillcrest/Hillslope habitat covers 92.4 hectares out of the approximately 38,898 hectares of the application area (GIS Database). This habitat type represents approximately 0.238 per cent of the entire application area. Habitat for the western pebble-mound mouse is more common and widespread in the region outside of the application area. Therefore, the relatively smaller proposed clearing is unlikely to have a significant impact on the local population of this species or its habitat.

Fork-tailed swift (Migratory species)

A fork-tailed swift call was recorded from one location in the application area (Biota, 2022). This species is almost entirely aerial when in Australia and may visit the application area sporadically (Biota, 2022). It is unlikely that the proposed clearing will have a significant impact on this species or its habitat.

Peregrine falcon (Other Specially Protected species)

The peregrine falcon has been previously recorded in the application area surrounding the Major Drainage Lines habitat type (GHD, 2022; GIS Database). This species has a wide range of habitats, and the proposed clearing is unlikely to have a significant impact on the peregrine falcon or its habitat.

Conclusion

The proposed clearing is likely to have a significant impact on the grey falcon and the brush-tailed mulgara and may have a significant impact on the greater bilby and its habitat.

The applicant may have notification responsibilities under the EPBC Act for impacts to greater bilby, grey falcon, fork-tailed swift, peregrine falcon, and their habitats, as set out in the EPBC Act. The applicant has been advised to contact the federal Department of Climate Change, Energy, the Environment and Water (DCCEEW) to discuss EPBC Act referral requirements.

Conditions

In order to avoid and minimise the potential impacts to conservation significant fauna and their habitats from the proposed clearing, the following conditions will be placed on the clearing permit:

- Fauna management condition requiring the implementation of a 10 metre buffer zone around the identified brush-tailed mulgara burrows;
- fauna management condition requiring the implementation of a 50 metre buffer zone around the identified greater bilby burrows;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- engage a fauna spotter to traverse the clearing area ahead of machinery to alert operators if fauna is present;
- trees of four metres or higher shall not be cleared within the Major Drainage Line; and
- clearing within the habitat mapped as Major Drainage Line will be limited five hectares and clearing will be limited to the dry season.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 15 March 2024 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WCD2018/008) over the area under application (DPLH, 2024). This claim has been determined by the Federal Court on behalf of the claimant group (Niyiyaparli People). However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2024). 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 noted that the proposed clearing may impact on bilby, fork-tailed swift, and peregrine falcon, which are protected matters 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 Climate Change, Environment and Water for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of Climate Change, Energy, the Environment and Water and the Environment for further information regarding notification and referral responsibilities under the EPBC Act.

Other relevant authorisations required for the proposed land use include:

- A Programme of Work 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.

End

Appendix A. Site characteristics

A.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 the landscape of the Pilbara bioregion and various mining developing to the south of the application area (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 record is Unallocated Crown Land with Department Interest located 38 kilometres northwest of the application area (GIS Database).
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation associations:</p> <p>29: Sparse low woodland; mulga, discontinuous in scattered groups; 111: Hummock grasslands, shrub steppe; <i>Eucalyptus gamophylla</i> over hard spinifex; and 166: Low woodland; mulga & <i>Acacia victoriae</i> (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area by GHD Pty Ltd during May 2020. The following vegetation types were recorded in the application area (GHD, 2022):</p> <ul style="list-style-type: none"> • Sand Plain (SA HIAs): Scattered low trees of <i>Hakea lorea</i> subsp. <i>lorea</i> and <i>Acacia sericophylla</i> on red sand on flat sandplain; • Sand Plain (SA ApApCaCh): Low woodland of <i>Acacia aptaneura</i> and <i>Acacia paraneura</i> with occasional <i>Corymbia aspera</i> and <i>Corymbia hamersleyana</i> scattered trees on sandy loam Mulga plains; • Major Drainage Line (MA EvEc): Open Forest of <i>Eucalyptus victrix</i> and <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> on silty clay loam on major drainage line; and • Other (OT ApApAc): Low woodland of <i>Acacia paraneura</i>, <i>Acacia pruinocarpa</i> and <i>Acacia citrinoviridis</i> on low rocky hill. <p>Representative photos are available in Appendix D.</p>
Vegetation condition	<p>The vegetation survey (GHD, 2022) and aerial imagery indicate the vegetation within the proposed clearing area is in Excellent to Poor (Trudgen, 1991) condition.</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix C.</p>
Climate	The application area is located in an arid zone with an average annual rainfall (Newman Aero) of 321.8 millimetres (BoM, 2024).
Soil description	<p>The soil within the application area is mapped as soil units MM16 and Mz25 (GIS Database). These soil units are described by Northcote et al. (1960-68) as follows:</p> <p>MM16: Alluvial plains dominated by deep cracking clays. Mz25: Plains associated with the Fortescue valley; there is a surface cover of stony gravels close to the ranges and hills: chief soils are acid red earths with some neutral red earths; red-brown hardpan is absent. Associated are areas of calcareous earths and loams on calcrete (kunkar) and some hard red soils around creek lines.</p>
Land systems and erosion risk	<p>The application area falls within the Adrian, Divide, Fan, Fortescue, River, and Washplain land systems (GIS Database). These land systems are described by Van Vreeswyk et al. (2004) as follows:</p> <p>Adrian land system: Stony plains and low silcrete hills supporting hard spinifex grasslands. The system has a low risk of erosion.</p> <p>Divide land system: Sandplains and occasional dunes supporting shrubby hard spinifex grasslands. Some susceptibility to wind erosion immediately following burning but stabilisation occurs rapidly after rain.</p> <p>Fan land system: Washplains and gilgai plains supporting groved mulga shrublands and minor tussock grasslands. Washplains and drainage tracts are moderately susceptible to soil erosion if vegetative cover is depleted.</p> <p>Fortescue land system: Alluvial plains and flood plains supporting patchy grassy woodlands and shrublands and tussock grasslands. Alluvial plains and levees are highly susceptible to erosion if vegetative cover is lost.</p> <p>River land system: Active flood plains and major rivers supporting grassy eucalypt woodlands, tussock grasslands and soft spinifex grasslands. However, susceptibility to erosion is high or very high if vegetative cover is removed.</p>

Characteristic	Details
	Washplain land system: Hardpan plains supporting groved mulga shrublands. Some parts of alluvial plains, groves and tracts receiving more concentrated flow are moderately susceptible to erosion.
Waterbodies	The desktop assessment and aerial imagery indicated that two minor, non-perennial watercourses and two major, non-perennial watercourses, transect the area proposed to be cleared (GIS Database).
Hydrogeography	The application area falls within the Pilbara Groundwater Area which contains a mapped groundwater salinity of 500-3,000 milligrams per litre total dissolved solids which is described as marginal to brackish (GIS Database).
Flora	There were no Threatened flora species recorded within the application area (GHD, 2022; Spectrum Ecology, 2022). There are records of four Priority flora species within the application area (Spectrum Ecology, 2022; GIS Database). Six Priority flora species are considered possible to occur within the application area (see section A.2) (GHD, 2022).
Ecological communities	The application area does not fall within any known or mapped Threatened or Priority Ecological Communities (BHP, 2024a; GIS Database).
Fauna	There are records of five conservation significant fauna species within the application area (Biota, 2022; GHD, 2022; GIS Database).
Fauna habitat	<p>A fauna survey was conducted over the application area by GHD Pty Ltd during May 2020. The following habitat types were recorded in the application area (GHD, 2022):</p> <p>Sand Plain: The sand plain habitat made up the majority of the survey site. Several species of reptiles, including snakes and lizards will utilise this habitat for foraging, burrowing and dispersal. Evidence of goanna diggings was prevalent over the entirety of the site. Small rodents and mammals will also utilise this habitat as a foraging and dispersal area. The sand plain habitat is ideal burrowing and foraging habitat for the bilby and brush-tailed mulgara. Secondary evidence (scats and burrows) of the mulgara was located in this habitat type, in the easternmost portion of the survey area. The sandy substrate and protection of the spinifex hummocks provides the burrowing habitat.</p> <p>Mulga Woodland: There were several large patches of Mulga Woodland habitat across the whole of the site, and long sections that corresponded to the drainage lines, particularly the major drainage line (Fortescue River) that stretches northeast to southwest of the survey area. This habitat provides large tree-lined water courses (<i>Corymbia hamersleyana</i> and <i>Corymbia aspera</i>) suitable for several birds. The understory provides litter and debris as microhabitats suitable for burrowing reptiles and potentially frogs. Some areas contained a sandplain understory (with less influence of drainage areas), providing foraging plant species and suitable substrate for burrowing for the bilby.</p> <p>Major Drainage Line: Running water was evident during the survey (Fortescue River). However, this section of the Fortescue River is typically dry and only flows after large weather events. Several species of birds and frogs will utilise this habitat type. Snakes and mammals may also be attracted to this area. The dingo was recorded in this habitat type. Some migratory and non-migratory wetland birds may be attracted to these areas, however use would be opportunistic and rare. No conservation significant wetland birds were recorded during the survey.</p> <p>Medium Drainage Line: This habitat type will attract species similar to the Major Drainage Line habitat but is unlikely to attract as much species diversity. The smaller drainage lines were not filled with water during the survey. Some migratory and non-migratory wetland birds may be attracted to these areas when water is present however use would be opportunistic and rare.</p> <p>Hillcrest/Hillslope: Certain species of reptiles adapted to rocky substrates will utilise this habitat-type, including <i>Ctenophorus</i> spp. and <i>Ctenotus</i> spp. such as <i>Ctenophorus caudicinctus</i> and <i>Ctenotus pantherinus</i>. Small rodents and mammals will also utilise this habitat as a foraging and dispersal area. The western pebble-mound mouse will utilise this habitat type for building its mounds and intricate burrow systems underground. The habitat provides foraging area as well. There was one recently inactive mound located in this habitat-type.</p> <p>Representative photos are available in Appendix D.</p>

A.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.

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]
<i>Amaranthus centralis</i>	P3	Y	0 km	7	Y
<i>Crotalaria smithiana</i>	P3	Y	0 km	5	Y

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]
<i>Eremophila capricornica</i>	P1	Y	10.1 km	20	Y
<i>Eremophila pilosa</i>	P1	Y	16.6 km	9	Y
<i>Goodenia berringbinensis</i>	P4	Y	24 km	31	N
<i>Goodenia hartiana</i>	P2	Y	14.1 km	26	Y
<i>Gymnanthera cunninghamii</i>	P3	Y	21 km	42	Y
<i>Indigofera rivularis</i>	P3	Y	0 km	61	Y
<i>Ipomoea racemigera</i>	P2	Y	0 km	18	Y
<i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794)	P3	Y	10.5 km	75	N

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority (Spectrum, 2022; GHD, 2022; Western Australian Herbarium, 1998-; GIS Database)

A.3. Fauna analysis table

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]
Brush-tailed mulgara	P4	Y	0 km	1,216	Y
Ghost bat	VU	Y	12.6 km	2,315	Y
Greater bilby	VU	Y	13.8 km	4,798	Y
Grey falcon	VU	Y	0 km	198	Y
Fork-tailed swift	MI	Y	0 km	424	Y
Peregrine falcon	OS	Y	0 km	1,786	Y
Pilbara leaf-nosed bat	VU	Y	18.1 km	3,887	Y
Pilbara olive python	VU	Y	17.3 km	302	Y
Western pebble-mound mouse	P4	Y	0 km	2,028	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority (Biota, 2022; GHD, 2022; GIS Database)

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains Priority flora, and conservation significant fauna species. The application area does not contain vegetation types representative of a Priority Ecological Community nor is it mapped within one (BHP, 2024; GIS Database).</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> "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."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains suitable foraging and burrowing habitat for conservation significant fauna of the region (see section A.3).</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>There were no records of Threatened flora species within the application area (Spectrum Ecology, 2022; GIS Database).</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain vegetation that can indicate the presence of a Threatened Ecological Community (TEC) (BHP, 2024a). The application are does not fall within any known or mapped TECs (GIS Database).</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>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 vegetations 29, 111, and 166 (GIS Database). These vegetation associations have not been extensively cleared as over 99 per cent of the pre-European extent of these vegetation associations remain uncleared at both the state and bioregional level (Government of Western Australia).</p>	Not at variance	No
<p><u>Principle (h):</u> <i>“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></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of mapped conservation areas (GIS Database).</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>The application area is intersected by two minor and two major non-perennial watercourses, the Fortescue River and the Jimblebar Creek (GIS Database). Given minor and major water courses are recorded within the application area, the proposed clearing is likely to impact vegetation growing in, or in association with, an environment associated with a watercourse. To mitigate the impacts to vegetation growing in association with a watercourse from the proposed clearing, a condition will be placed on the clearing permit to avoid riparian vegetation where possible and to maintain water flows.</p>	At variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils are moderately to highly susceptible to erosion, especially within washplains, drainage tracts, alluvial plains and levees (Van Vreeswyk et al., 2004). Noting the extent and location of the application area, the proposed clearing is likely to cause appreciable land degradation.</p> <p>To mitigate the impacts to land degradation from the proposed clearing, a staged clearing condition will be placed on the clearing permit to avoid leaving cleared areas exposed for long periods of time. Additionally, the watercourse management condition placed on the clearing permit will limit clearing within major drainage lines to five hectares which will help minimise disturbance in areas of greater erosion potential.</p>	At variance	No
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>Given there are no permanent water courses, wetlands, or Public Drinking Water Source Areas recorded within the application area (GIS Database), the proposed clearing is unlikely to cause deterioration in the quality of surface or underground water as long as the clearing is conducted during dry periods. To mitigate potential</p>	May be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
impacts to surface water quality, a condition will be placed on the clearing permit to allow clearing to be conducted only outside of the wet season.		
<p><u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</p> <p><u>Assessment:</u></p> <p>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.</p>	Not likely to be at variance	No

Appendix C. 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.
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.



Figure 1. Sand Plain (SA HIAs) vegetation type (GHD, 2022).



Figure 2. Sand Plain (SA ApApCaCh) vegetation type (GHD, 2022).



Figure 3. Major Drainage Line (MA EvEc) vegetation type (GHD, 2022).



Figure 4. Other (OT ApApAc) vegetation type (GHD, 2022).



Figure 5. Sand Plain fauna habitat (GHD, 2022).



Figure 6. Mulga Woodland fauna habitat (GHD, 2022).



Figure 7. Major Drainage Line fauna habitat (GHD, 2022).

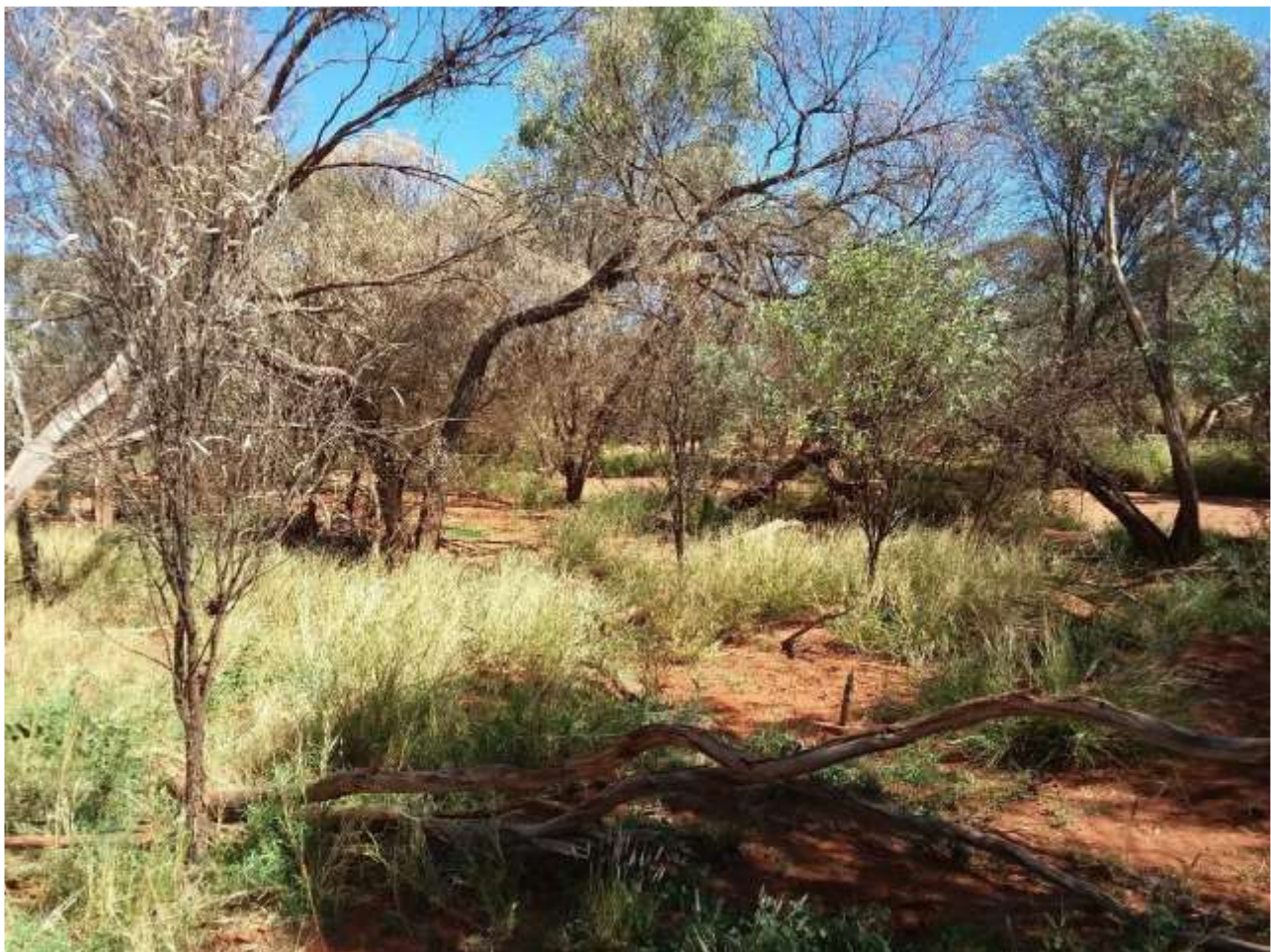


Figure 8. Medium Drainage Line fauna habitat (GHD, 2022).



Figure 9. Records of *Indigofera rivularis* from the Western Australian Herbarium (1998-) are shown in light blue and the individuals recorded inside the application area (blue boundary) are represented by pink stars (Spectrum, 2022; GIS Database).

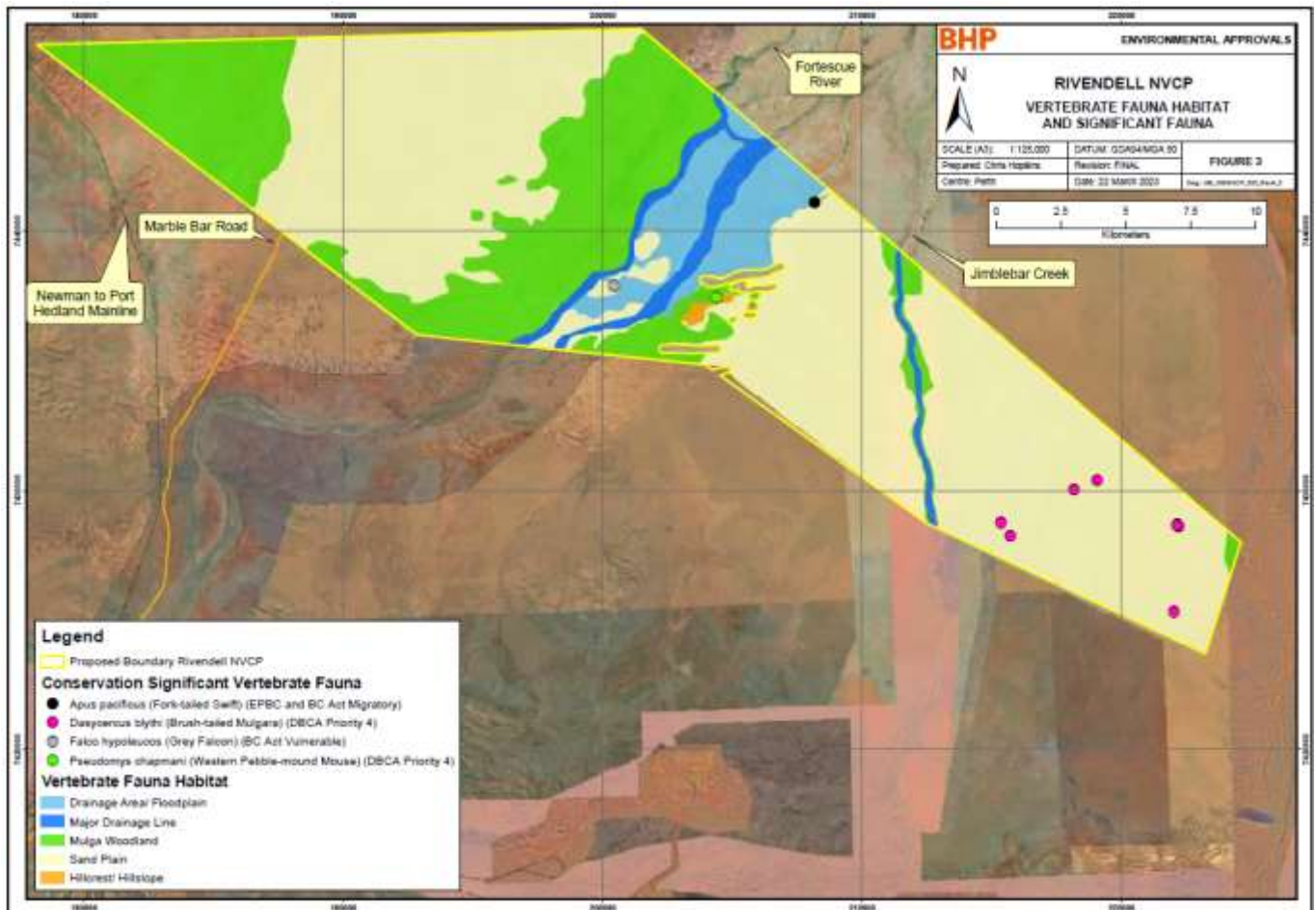


Figure 10. Map showing the records of conservation significant fauna identified during fauna surveys (BHP, 2024a).

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

- BHP Iron Ore Pty Ltd (BHP) (2024a) Application for a new NVCP for Rivendell / Fanghorn – Native Vegetation Clearing Permit Application Supporting Document, February 2024.
- BHP Iron Ore Pty Ltd (BHP) (2024b) Clearing permit application form, CPS 10533/1, received 22 February 2024.
- Biota Environmental Sciences (Biota) (2022) Orebody 32 Surplus Water Targeted MNES Vertebrate Fauna Survey. Unpublished report prepared for BHP Pty Ltd.
- Bureau of Meteorology (BoM) (2024) Bureau of Meteorology Website – Climate Data Online, Newman Aero. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 25 March 2024).
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2023) Recovery Plan for the Greater Bilby (Macrotis lagotis), Canberra. Available from: <http://www.environment.gov.au/cgi-bin/sprat/public/publicshowallrps.pl>
- Department of Environment Regulation (DER) (2014) *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf
- Department of Planning, Lands and Heritage (DPLH) (2024) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 16 April 2024).
- Department of Primary Industries and Regional Development (DPIRD) (2024) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://dpiird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f> (Accessed 14 March 2024).
- Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.pdf
- Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. Available from: 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) (2020) Technical Guidance – Terrestrial Fauna Surveys. Available from: 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
- GHD Pty Ltd (GHD) (2022) BHP Poonda MAR Reconnaissance Flora and Level 1 Fauna survey. Prepared for BHP Western Australia Iron Ore, February 2022.
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- 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 & Spatial (Spectrum) (2022) OB32 Surplus Water & Homestead Creek Wetting Front Detailed Flora & Vegetation Assessment. Unpublished report prepared for BHP Pty Ltd.
- 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.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 17 March 2024).

4. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016</i> , 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
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DEMIRS)
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	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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	<i>Rights in Water and Irrigation Act 1914</i> , 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.