



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	4249/7
Permit type:	Purpose Permit
Applicant name:	BHP Iron Ore Pty Ltd
Application received:	10 December 2025
Application area:	21 hectares
Purpose of clearing:	Decommissioning and rehabilitation of the airstrip and associated infrastructure
Method of clearing:	Mechanical removal
Tenure:	<i>Iron Ore (Mount Goldsworthy) Agreement Act 1964</i> , Special Lease for Mining Operations 3116/5661 (I 123405L), Lot 303 on Deposited Plan 42124
Location (LGA area):	Shire of East Pilbara
Colloquial name:	Shay Gap Airport

1.2. Description of clearing activities

BHP Iron Ore Pty Ltd proposes to clear up to 21 hectares of native vegetation within a boundary of approximately 72.91 hectares, for the purpose of decommissioning and rehabilitation of the airstrip and associated infrastructure (BHP, 2025b; 2025c; 2026). The project is located approximately 92 kilometres northeast of Marble Bar, within the Shire of East Pilbara (GIS Database).

Clearing and rehabilitation reported

Based on the most recent annual clearing report, a total of 14.58 hectares of native vegetation has been cleared under CPS 4249/6, as of 30 June 2025 (BHP, 2025a).

Approval history

The clearing permit CPS 4249/1 was granted by the Department of Mines and Petroleum (DMP) on 21 April 2011 and was valid from 14 May 2011 to 31 May 2016 (DMP, 2011a; 2011b). The clearing permit authorised the clearing of 20 hectares of native vegetation for the purpose of upgrade of an airstrip and installation of associated infrastructure (DMP, 2011a).

On 10 June 2011, DMP received an application from the permit holder to amend CPS 4249/1 to change the annual reporting date from 1 September to 1 October and change the definition for 'local provenance' to extend the distance from which vegetative seeds and propagation materials can be collected from within 50 kilometres to within 100 kilometres of the permit area (DMP, 2011c). CPS 4249/2 was granted on 14 July 2011 (DMP, 2011c).

On 5 July 2012, DMP granted an amendment to CPS 4249/2 to increase the permit boundary and increase the area approved to clear from 20 to 21 hectares (DMP, 2012a). The granted permit was CPS 4249/4 (DMP, 2012a).

On 17 July 2012, DMP received an application from the permit holder to amend clearing permit CPS 4249/4 to increase the boundary of the clearing permit from 71.6 hectares to 163.5 hectares (DMP, 2012b). There was no change to the total area approved for clearing (21 hectares) (DMP, 2012b). CPS 4249/5 was granted with the proposed amendment on 6 August 2012 (DMP, 2012b).

On 11 January 2021, the Department of Mines, Industry Regulation and Safety (DMIRS) received an application from the permit holder to amend CPS 4249/5 for the purpose of extending the permit duration, extending the period in which clearing is authorised, and updating the final reporting date to 30 November 2031 (DMIRS, 2021). CPS 4249/6 was granted on 27 May 2021 (DMIRS, 2021).

Current amendment application

On 10 December 2025, the permit holder applied to amend CPS 4249/6 to amend the permit purpose to "decommissioning and rehabilitation of the airstrip and associated infrastructure"; extend the clearing authorised period to 30 November 2031; extend the permit duration to 30 November 2036; and; change the final reporting date to 30 November 2036 (BHP, 2025b; 2025c). No changes to the area approved to clear have been requested (BHP, 2025b; 2025c).

During the assessment, the applicant decided to reduce the permit boundary to avoid areas that are not required under the amended clearing purpose (BHP, 2026). A map of the proposed change to the permit boundary is shown in Figure 1 of Section 1.5. The original boundary had an area of approximately 163.54 hectares and the revised boundary has an area of approximately 72.91 hectares (BHP, 2025b; 2025c; 2026).

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	27 August 2026
Decision area:	21 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51KA(1) and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Energy, Mines, Industry Regulation and Safety (now the Department of Mines, Petroleum and Exploration) advertised the application for a public comment for a period of seven days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix E), supporting information provided by the applicant (Appendix A), the clearing principles set out in Schedule 5 of the EP Act (Appendix C), proposed avoidance and minimisation measures (Section 3.1), and any other matters considered relevant to the assessment (Section 3.3). The Delegated Officer also took into consideration the purpose of the clearing to allow for decommissioning and rehabilitation of the airstrip and associated infrastructure.

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;
- clearing habitat that is considered critical for the greater bilby, and potentially critical for the brush-tailed mulgara;
- increased risk of terrestrial fauna injury or mortality from mechanical clearing; and
- exacerbated wind erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (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;
- undertake slow, progressive clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- restrict clearing activities to daylight hours to reduce the risk of injury to fauna;
- engage a fauna specialist to detect active greater bilby and brush-tailed mulgara burrows, and avoid identified active burrows with relevant buffers;
- a staged clearing condition to minimise erosion; and
- retain cleared vegetation and topsoil and rehabilitate cleared areas within 12 months of clearing to ensure native vegetation is not permanently lost.

The assessment has not changed since the assessment for CPS 4249/6, except in the case of principle (b). The change in variance of principle (b) was based on the definition of critical bilby habitat from the DCCEEW (2023) Recovery Plan for the Greater Bilby (*Macrotis lagotis*).

The Delegated Officer determined that the proposed change of permit purpose and extension of duration is not likely to lead to an unacceptable risk to environmental values.

1.5. Site map

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



Figure 1. Map of the application area. The red and yellow cross-hatched areas represent the original application area for CPS 4249/7. The yellow cross-hatched area represents the revised clearing permit boundary, as decided 14 July 2026, and indicates the area within which conditional authorised clearing can occur under the granted clearing permit. Clearing cannot occur within the area shaded red.

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 (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)
- *Biosecurity and Agriculture Management Act 2007* (BAM Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)
- *Iron Ore (Mount Goldsworthy) Agreement Act 1964*

The key guidance documents which inform this assessment are:

- A guide to the assessment of applications to clear native vegetation (DER, 2014)
- Procedure: Native vegetation clearing permits (DWER, 2021)
- Guidance for the Assessment of Environmental Factors – Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia (EPA, 2004a)
- Guidance for the Assessment of Environmental Factors – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (EPA, 2004b)
- 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

The applicant submitted the following mitigation hierarchy and associated commitments (BHP, 2025b):

- Avoid:
 - Areas beyond those required for rehabilitation activities will not be cleared; and
 - in the event that any active mulgara or greater bilby burrows are identified during rehabilitation works these will be avoided by a ten metre buffer, where practicable, until the burrow is vacated.
- Minimise:
 - New ground disturbance will only be undertaken to achieve the rehabilitation requirements of CPS 4249 and will typically be immediately adjacent to previously disturbed areas.
- Mitigate:
 - Activities under this permit will be restricted to the decommissioning and rehabilitation of the airstrip and associated facilities; and
 - control of established weed populations will be carried out according to the *BHP Iron Ore Weed Control and Management Procedure* (or subsequent revisions).
- Offset:
 - Based on the low level of potential impacts associated with this application no offsets are proposed.

During the assessment of this application, the applicant decided to reduce the clearing permit boundary applied for as an additional avoidance and minimisation measure (BHP, 2026). The change to the permit boundary is shown in Figure 1 of Section 1.5.

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

A review of current environmental information (Appendix B) reveals that the assessment against the clearing principles has not changed significantly from previous decision reports, except in the case of principle (b). The change in variance of principle (b) was based on the definition of critical bilby habitat from the DCCEEW (2023) Recovery Plan for the Greater Bilby (*Macrotis lagotis*).

Potential impacts of the proposed clearing to flora and fauna are discussed in Sections 3.2.1 and 3.2.2.

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

Assessment

Croton aridus (Priority 3) inhabits deep red sand or pindan soil on sandplains, ridges or spinifex sandplains (WAH, 1998-). *Croton aridus* is known from the Great Sandy Desert, Dampierland, Northern Kimberley and Tanami bioregions of Western Australia, and is also known from the Northern Territory and Queensland, but the populations in Western Australia are disjunct (Forster, 2003; WAH, 1998-). As *Croton aridus* would have been detectable at the time of survey, the likelihood of occurrence is reduced (Onshore & Biologic, 2010; WAH, 1998-). It is unlikely that the proposed clearing would significantly impact *Croton aridus*, given the number of records, including records in the conservation estate, and widespread distribution of the species (WAH, 1998-).

Rothia indica subsp. *australis* (Priority 3) inhabits sandy soils on sandhills and sandy flats (WAH, 1998-). This species is known from 23 specimens at the WA Herbarium and is recorded in the Great Sandy Desert, Dampierland, Pilbara and Victoria Bonaparte bioregions (WAH, 1998-). The nearest record of this species is to the west of the application area, within the Pilbara bioregion (GIS Database). There are three records of this species within the Great Sandy Desert bioregion, with all these records being recorded along drainage lines near Lake Mackay (GIS Database). There are no drainage lines or waterbodies within the application area (GIS Database). As this species is more commonly recorded in the Pilbara or Kimberley, and in the Great Sandy Desert records are associated with drainage lines, the proposed clearing is unlikely to significantly impact the species.

Eremophila maculata subsp. *filifolia* (Priority 1) occurs on spinifex plains (WAH, 1998-). This subspecies is known from three records, all on Muccan Station, south of the De Grey River (Chinnock, 2007; WAH, 1998-; GIS Database). *Eremophila maculata*, at a species level, is associated with rivers, drainage lines, and areas subject to inundation (Chinnock, 2007). Considering the location of the known records and the habitat of the application area, it is unlikely that *Eremophila maculata* subsp. *filifolia* occurs within the application area (GIS Database).

Euploca parviantrum (Priority 1) occurs on spinifex plains (WAH, 1998-). The species is known from five records within the Dampierland and Pilbara bioregions (WAH, 1998-; GIS Database). The nearest record is southwest of the application area on Muccan Station, south of the De Grey River (GIS Database). As all records of this species have been associated with drainage lines, and no drainage lines occur within the application area, it is unlikely that this species occurs (GIS Database).

Conclusion

The area proposed to be cleared is not known to contain conservation significant flora (Onshore & Biologic, 2010; GIS Database). Potential impacts to priority flora that may occur within the application area are unlikely to be significant.

Conditions

No flora management conditions required.

3.2.2. *Biological values (fauna) - Clearing principles (a) and (b)*

Assessment

Greater bilby and brush-tailed mulgara

Both the greater bilby (Vulnerable) and the brush-tailed mulgara (Priority 4) dig burrows in sandy soils, for shelter (DCCEEW, 2023; NESP, 2021; Pavey et al., 2012). A potential mulgara burrow was detected within the application area in the survey by Onshore & Biologic (2010). The detected burrow was old and decayed, but there have been recent records of the brush-tailed mulgara within ten kilometres of the application area (Onshore & Biologic, 2010; GIS Database). Suitable habitat for bilby burrowing occurs, and there are 480 bilby records in the local area (50 kilometre radius of the application area) (DCCEEW, 2023; Onshore & Biologic, 2010; GIS Database). The application area represents critical habitat for the greater bilby, and potentially critical habitat for the brush-tailed mulgara (Commonwealth of Australia, 2008; DCCEEW, 2023; NESP, 2021; Pavey et al., 2012).

Other mammals

Spectacled hare-wallaby (Priority 4) inhabits spinifex grasslands in the Great Sandy Desert, Pilbara and Little Sandy Desert, and tussock grasslands in the Kimberley (Burbidge, 1992). The spectacled hare-wallaby has significantly declined in the Great Sandy Desert (Menkhorst & Knight, 2011). There are three records of the spectacled hare-wallaby in the local area (50 kilometre radius of the application area), with the most recent record from 1990 (GIS Database). Considering the scale and purpose of the proposed clearing, the clearing of suitable spectacled hare-wallaby habitat is unlikely to significantly impact the species.

Both the Pilbara leaf-nosed bat (PLNB) and the ghost bat (Vulnerable) roost in caves, and forage in a range of habitats (Bat Call WA, 2021; Cramer et al., 2022; Northover et al., 2023). Caves do not occur within the application area (Onshore & Biologic, 2010). A known PLNB roost cave is located approximately 17 kilometres southeast of the application area (GIS Database). PLNBs are known to travel up to 45 kilometres from roosts to forage, but are most commonly recorded foraging in the proximity of water (Bat Call WA, 2021). Preferred ghost bat foraging habitat occurs along drainage lines and riparian corridors, as well as ridges and cave entrances (Cramer et al., 2022). As critical roosting and preferred foraging habitats do not occur within the application area, the proposed clearing is unlikely to be significant to the PLNB or ghost bat.

The northern quoll (Endangered) is an opportunist which can inhabit a range of habitats includes sandy plains (Hill & Ward, 2010). Habitat critical for the survival of this species is described as rocky areas and offshore islands (Hill & Ward, 2010). The application area does not contain critical habitat for this species.

Birds

The fork-tailed swift (Migratory) is an aerial species (Commonwealth of Australia, 2008). It may occur in the airspace above the application area.

Both the peregrine falcon (Other specially protected) and the grey falcon (Vulnerable) are widespread species, which may occasionally occur within the application area (Australian Museum, 2019; BirdLife International, 2022). Breeding habitat is considered critical for both these species, which peregrines nesting on cliffs, and grey falcons nesting in tall trees (Australian Museum, 2019; Garnett & Crowley, 2000). The application area does not contain critical breeding habitat for either species (Onshore & Biologic, 2010).

The night parrot (Critically endangered) inhabits mature spinifex habitat in arid and semi-arid region (DCCEEW, 2026). The application area is located within a high-priority survey bioregion for the night parrot, and the nearest night parrot record is located approximately 67 kilometres west of the application area (GIS Database). The night parrot was not considered in the survey by Onshore & Biologic (2010). Considering the purpose of clearing, the extent of clearing, and the proposed reduction to the clearing permit boundary exclude undisturbed areas, it is considered that the proposed clearing is unlikely to include habitat that is significant for the conservation of the night parrot (BHP, 2026).

Reptiles

The Dampierland plain slider (Priority 2), inhabits sand dunes and sandy areas of the northwestern Great Sandy Desert and the Kimberley (IUCN, 2017; Wilson & Swan, 2021; GIS Database). This species is more closely associated with consolidated coastal dunes, however, the nearest record of the species is from the Nita land system, to the west of the application area (Cogger, 2018; GIS Database). The application area contains suitable habitat for this species (Onshore & Biologic, 2010; Wilson & Swan, 2021; GIS Database). However, suitable habitat is widespread, and the Dampierland plain slider should move to new habitat, provided slow-directional clearing is undertaken (DBCA, 2024; GIS Database).

Conclusion

The proposed clearing represents critical habitat for the greater bilby, and potentially critical habitat for the brush-tailed mulgara. To reduce potential impacts to these species, it is recommended that a fauna specialist conducts a survey to detect burrows utilised by these species, prior to clearing.

The habitat proposed to be cleared is unlikely to be critical for any other of the potentially occurring conservation significant fauna species.

Impacts to species potentially occurring within the application area can be managed by undertaking slow, progressive clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and restricting clearing activities to daylight hours to reduce the risk of injury to fauna.

Conditions

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

- avoid, minimise to reduce the impacts and extent of clearing;
- undertake slow, progressive clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;

- restrict clearing activities to daylight hours to reduce the risk of injury to fauna; and
- engage a fauna specialist to detect active greater bilby and brush-tailed mulgara burrows, and avoid identified active burrows with relevant buffers.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 20 February 2026 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 (WCD2019/010 - Nyamal People #1) over the area under application (DPLH, 2026). This claim has been determined by the Federal Court on behalf of the claimant group. 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, 2026). 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 greater bilby (*Macrotis lagotis*) which is a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Commonwealth) Department of Climate Change, Energy, the 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 for further information regarding notification and referral responsibilities under the EPBC Act.

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. Additional information provided by applicant

Summary of comments	Consideration of comment
On 14 July 2026, the Delegated Officer discussed additional avoidance measures with the applicant (BHP, 2026).	This information was considered as an additional avoidance measure, listed in Section 3.1.
The applicant agreed to reduce the application area boundary to exclude undisturbed areas (BHP, 2026).	The updated boundary was considered throughout the assessment.
They provided a shapefile of the updated boundary, which was produced by mapping disturbed areas with a buffer of 20 metres (BHP, 2026).	A map showing the proposed change to the clearing permit boundary is shown in Figure 1 of Section 1.5.

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is located within the McLarty subregion of the Great Sandy Desert Bioregion (GIS Database). The Shay Gap Airport serviced BHP's Goldsworthy mining operations, but is no longer in use and is being decommissioned and the area rehabilitated (BHP, 2025b; DMIRS, 2021).
Ecological linkage	The application area is not considered a significant ecological linkage. The vegetation immediately surrounding the application area and the majority of the region remains uncleared (GIS Database).
Conservation areas	The nearest conservation area is the Nyangumarta Warrarn Indigenous Protected Area (IPA) located approximately 55 kilometres north of the application area (GIS Database).
Vegetation description	The vegetation of the application area is broadly mapped as the following Beard vegetation association: 117: Hummock grasslands, grass steppe; soft spinifex (GIS Database). A flora and vegetation survey was conducted over the application area by during September 2010 (Onshore & Biologic, 2010). Eight vegetation associations were described (Onshore & Biologic, 2010): • 1. Acacia low open heath (regrowth): Low open heath of <i>Acacia tumida</i> var. <i>pilbarensis</i> (regrowth), <i>Bonamia rosea</i> and <i>Senna notabilis</i> over very open tussock grassland of <i>Aristida holathera</i> and <i>Chrysopogon fallax</i>; • 2a. Acacia low scattered shrubs: Low scattered shrubs of <i>Acacia bivenosa</i> over open hummock grassland of <i>Triodia epactia</i>; • 2b. Acacia low scattered shrubs: Low scattered shrubs of <i>Bonamia rosea</i> and <i>Acacia tumida</i> var. <i>pilbarensis</i> over scattered tussock grasses of <i>Aristida holathera</i>, <i>Aristida inaequiglumis</i> and <i>Eriachne aristidea</i> over scattered hummock grasses of <i>Triodia epactia</i>; • 3. Triodia closed hummock grassland: Closed hummock grassland of <i>Triodia epactia</i> over scattered climbers of <i>Cassytha capillaris</i>; • 4a. Triodia hummock grassland: Hummock grassland of <i>Triodia epactia</i> with low shrubland of <i>Acacia hillianiana</i> over scattered climbers of <i>Cassytha capillaris</i>; • 4b. Triodia hummock grassland: Hummock grassland of <i>Triodia epactia</i> with low shrubland of <i>Acacia tumida</i> var. <i>pilbarensis</i>, <i>Acacia ancistrocarpa</i> and <i>Bonamia rosea</i> with low open woodland of <i>Corymbia zygophylla</i> and <i>Erythrophleum chlorostachys</i>; • 4c. Triodia hummock grassland: Hummock grassland of <i>Triodia epactia</i> with low open shrubland of <i>Acacia tumida</i> var. <i>pilbarensis</i>, <i>Acacia ancistrocarpa</i> and <i>Bonamia rosea</i> with scattered trees of <i>Corymbia zygophylla</i>; and • 5. Tracks: No vegetation.
Vegetation condition	Vegetation surveys of the application area found the vegetation to be in excellent to completely degraded Keighery (1994) condition (Onshore & Biologic, 2010). As the proposed clearing is located within the Eremaean Botanical Province, these condition ratings have been converted to the Trudgen (1991) condition rating scale (GIS Database). Therefore, the vegetation within the proposed clearing area ranges from very good to completely degraded Trudgen (1991) condition. The full Trudgen (1991) condition rating scale is provided in Appendix D.

Characteristic	Details
Climate and landform	The climate of the McLarty subregion is described as arid tropical with summer rain and is influenced by monsoonal activity (CALM, 2002). The nearest weather station records an average rainfall of approximately 303 millimetres per year (BoM, 2026). The application area is flat to gently-sloping and mapped at elevations of 160 to 180 metres Australian Height Datum (GIS Database). Two landforms were recorded in the survey of the Shay Gap Airport, drainage flats/zones and sandplains (Onshore & Biologic, 2010).
Soil description	The application area is mapped within the Nita land system, described as sandplains supporting shrubby spinifex grasslands with occasional trees (DPIRD, 2026).
Land degradation risk	Within the Nita system, wind erosion is known to occur after fires, however it is usually stabilised rapidly following rain and consequent regeneration of vegetation (van Vreeswyk et al., 2004). Therefore, should the land be left cleared for a prolonged period of time, wind erosion may occur.
Waterbodies	The desktop assessment and aerial imagery indicated that no watercourses or waterbodies occur within the application area (GIS Database).
Hydrogeography	The nearest Public Drinking Water Source Area is the De Grey River Water Reserve, located approximately 78 kilometres west-northwest of the application area (GIS Database). The application area is located within the Pilbara Groundwater Area and Pilbara Surface Water Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (GIS Database). The groundwater salinity is mapped as 500 to 3,000 milligrams per litre total dissolved solids which is described as fresh to brackish (BoM, 2019; GIS Database).
Flora	No Threatened or priority flora have been recorded within the application area (Onshore & Biologic, 2010; GIS Database). Thirteen priority flora species have been recorded within 50 kilometres of the application area, with the closest record approximately six kilometres from the application area (GIS Database).
Ecological communities	No recorded Threatened Ecological Communities (TECs) are recorded within the application area or within a 50 kilometre radius of the application area (Onshore & Biologic, 2010; GIS Database). The survey of the application area did not detect any vegetation representative of a Priority Ecological Community (PEC) (Onshore & Biologic, 2010). The nearest PECs are the Priority 3 listed Gregory Land System, approximately 21 kilometres from the application area, and the Priority 3 listed Lime Land System, approximately 44 kilometres from the application area (GIS Database).
Fauna	A potential mulgara (<i>Dasycercus blythi</i>) burrow was detected in the Shay Gap Airport survey area (Onshore & Biologic, 2010). No other conservation significant fauna that have been recorded within the application area (Onshore & Biologic, 2010; GIS Database). Twenty-six conservation significant fauna species have been recorded within 50 kilometres of the application area, with the closest record less than one kilometre from the application area, being the greater bilby (<i>Macrotis lagotis</i>) (GIS Database).
Fauna habitat	Onshore & Biologic (2010) determined that there was one vertebrate fauna habitat, sandy plain, within the application area. Remaining areas have been degraded (Onshore & Biologic, 2010).

B.2. Flora analysis table

The following priority flora species have been recorded within 50 kilometres of the application area (GIS Database). The likelihood of occurrence for these species were determined by potentially suitable habitat within the application area, species distribution, biological survey information and known regional records (Onshore & Biologic, 2010; WAH, 1998-; GIS Database).

Species name	Conservation status	Does suitable habitat occur? [Y, N]	Distance of closest record to application area (km)	Likelihood of occurrence
<i>Croton aridus</i>	P3	Y	<10	Possible – discussed in Section 3.2.1
<i>Rothia indica</i> subsp. <i>australis</i>	P3	Y	<15	Possible – discussed in Section 3.2.1
<i>Eremophila maculata</i> subsp. <i>filifolia</i>	P1	Y	<25	Unlikely – discussed in Section 3.2.1
<i>Euploca parviantrum</i>	P1	Y	<25	Unlikely – discussed in Section 3.2.1
<i>Fimbristylis</i> sp. Shay Gap	P1	N	<10	Unlikely
<i>Euphorbia clementii</i>	P3	N	<15	Unlikely
<i>Nicotiana umbratica</i>	P3	N	<15	Unlikely

<i>Bulbostylis burbridgeae</i>	P4	N	<20	Unlikely
<i>Indigofera ammobia</i>	P3	N	<25	Unlikely
<i>Goodenia hartiana</i>	P2	N	<25	Unlikely
<i>Aponogeton queenslandicus</i>	P1	N	<30	Unlikely
<i>Corchorus</i> sp. Yarrie	P1	N	<30	Unlikely
<i>Acacia monticola</i> x <i>tumida</i> var. <i>kulparn</i>	P3	N	<50	Unlikely

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

B.3. Fauna analysis table

The following conservation significant fauna species have been recorded within 50 kilometres of the application area (GIS Database). The likelihood of occurrence for these species were determined by potentially suitable habitat within the application area, species distribution, biological survey information and known regional records (Australian Museum, 2019; Bat Call WA, 2021; Burbidge, 1992; 2016; Commonwealth of Australia, 2008; Cramer et al., 2022; DCCEEW, 2023; 2026; Dziminski & Carpenter, 2018; Garnett & Crowley, 2000; Hill & Ward, 2010; NESP, 2021; Onshore & Biologic, 2010; Pavey et al., 2012; Wilson & Swan, 2021; GIS Database).

Night parrot was not recorded in the 50 kilometre desktop search, but requires further discussion (DCCEEW, 2026; Onshore & Biologic, 2010; GIS Database).

Species name		Conservation status		Does suitable habitat occur? [Y, N]	Distance of closest record to application area (km)	Likelihood of occurrence
Common	Scientific	WA	EPBC			
Greater bilby	<i>Macrotis lagotis</i>	VU	VU	Y	0.9	Likely – discussed in Section 3.2.2
Brush-tailed mulgara	<i>Dasycercus blythi</i>	P4	-	Y	7.8	Likely – discussed in Section 3.2.2
Spectacled hare-wallaby (mainland)	<i>Lagorchestes conspicillatus leichardti</i>	P4	-	Y	1.2	Possible – discussed in Section 3.2.2
Pilbara leaf-nosed bat	<i>Rhinonicteris aurantia</i> (Pilbara form)	VU	VU	Y	3.7	Possible – discussed in Section 3.2.2
Northern quoll	<i>Dasyurus hallucatus</i>	EN	EN	Y	5.4	Possible – discussed in Section 3.2.2
Ghost bat	<i>Macroderma gigas</i>	VU	VU	Y	5.8	Possible – discussed in Section 3.2.2
Fork-tailed swift	<i>Apus pacificus</i>	MI	MI	Y	20.1	Possible – discussed in Section 3.2.2
Dampierland plain slider	<i>Lerista separanda</i>	P2	-	Y	20.9	Possible – discussed in Section 3.2.2
Peregrine falcon	<i>Falco peregrinus</i>	OS	-	Y	21.9	Possible – discussed in Section 3.2.2
Grey falcon	<i>Falco hypoleucos</i>	VU	-	Y	22.4	Possible – discussed in Section 3.2.2
Night parrot	<i>Pezoporus occidentalis</i>	CR	CR	Y	~67	Possible – discussed in Section 3.2.2
Western pebble-mound mouse	<i>Pseudomys chapmani</i>	P4	-	N	3.9	Unlikely
Swinhoe's snipe	<i>Gallinago megala</i>	MI	MI	N	8.0	Unlikely
Pin-tailed snipe	<i>Gallinago stenura</i>	MI	MI	N	8.0	Unlikely
Oriental plover	<i>Charadrius veredus</i>	MI	MI	N	19.2	Unlikely
Glossy ibis	<i>Plegadis falcinellus</i>	MI	MI	N	19.2	Unlikely
Sharp-tailed sandpiper	<i>Calidris acuminata</i>	MI	MI	N	22.4	Unlikely
Common sandpiper	<i>Actitis hypoleucos</i>	MI	MI	N	22.5	Unlikely
Common greenshank	<i>Tringa nebularia</i>	MI	MI	N	22.5	Unlikely
Northern short-tailed mouse	<i>Leggadina lakedownensis</i>	P4	-	N	24.4	Unlikely
Caspian tern	<i>Hydroprogne caspia</i>	MI	MI	N	28.2	Unlikely

Wood sandpiper	<i>Tringa glareola</i>	MI	MI	N	28.2	Unlikely
Curlew sandpiper	<i>Calidris ferruginea</i>	CR	CR & MI	N	29.0	Unlikely
Red-necked stint	<i>Calidris ruficollis</i>	MI	MI	N	29.0	Unlikely
Marsh sandpiper	<i>Tringa stagnatilis</i>	MI	MI	N	29.0	Unlikely
Red knot	<i>Calidris canutus</i>	EN	EN & MI	N	45.0	Unlikely
Greater sand plover	<i>Charadrius leschenaultii</i>	VU	VU & MI	N	48.3	Unlikely

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, MI: migratory, CD: conservation dependent, OS: other specially protected, P: priority

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity." <u>Assessment:</u> The area proposed to be cleared is not known to contain conservation significant flora (Onshore & Biologic, 2010; GIS Database). Potential impacts to priority flora that may occur within the application area are unlikely to be significant. The biodiversity and species richness of the Shay Gap survey area was found to be similar of that of the broader Pilbara area (Onshore & Biologic, 2010).	Not likely to be at variance (as per CPS 4249/6)	Yes <i>Refer to Section 3.2.1 and Section 3.2.2, above.</i>
<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." <u>Assessment:</u> The application area represents critical habitat for the greater bilby, and may represent critical habitat for the brush-tailed mulgara.	At variance (changed from CPS 4249/6)	Yes <i>Refer to Section 3.2.2, above.</i>
<u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora." <u>Assessment:</u> There are no known records of threatened flora within a 50 kilometre radius of the application area (GIS Database). The flora survey of the application area did not record any species of threatened flora (Onshore & Biologic, 2010).	Not likely to be at variance (as per CPS 4249/6)	No
<u>Principle (d):</u> "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." <u>Assessment:</u> No recorded Threatened Ecological Communities (TECs) are recorded within the application area or within a 50 kilometre radius of the application area (Onshore & Biologic, 2010; GIS Database).	Not likely to be at variance (as per CPS 4249/6)	No
Environmental value: significant remnant vegetation and conservation areas		
<u>Principle (e):</u> "Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared." <u>Assessment:</u> Beard vegetation association 117 retains over 90 percent of its pre-European extent at a state and bioregional scale, and is therefore consistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2001; Government of Western Australia, 2019). The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area (GIS Database).	Not at variance (as per CPS 4249/6)	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<u>Principle (h):</u> “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.” <u>Assessment:</u> Given the distance (55 kilometres) to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas (GIS Database).	Not likely to be at variance (as per CPS 4249/6)	No
Environmental value: land and water resources		
<u>Principle (f):</u> “Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.” <u>Assessment:</u> Given no watercourses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact any vegetation growing within association with a watercourse or wetland (GIS Database).	Not likely to be at variance (as per CPS 4249/6)	No
<u>Principle (g):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.” <u>Assessment:</u> The mapped soils within the application area are susceptible to wind erosion, where vegetation cover is removed (DPIRD, 2026; van Vreeswyk et al., 2004). Noting the extent of the proposed clearing, the proposed clearing may exacerbate erosion, but this is unlikely to have an appreciable impact on land degradation. <u>Condition:</u> To address the above impact, the following management measure will be required as a condition on the clearing permit: a staged clearing condition to minimise erosion.	Not likely to be at variance (as per CPS 4249/6)	No
<u>Principle (i):</u> “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.” <u>Assessment:</u> According to available databases the application area is not located within a Public Drinking Water Source Area (PDWSA). The nearest Public Drinking Water Source Area is the De Grey River Water Reserve, located approximately 78 kilometres west-northwest of the application area (GIS Database). Considering the scale of the proposed clearing, the proposed clearing is unlikely to cause deterioration in the quality of underground water. There are no wetlands or watercourses within the application area (GIS Database). The proposed clearing is unlikely to cause deterioration in the quality of surface water in the local area.	Not likely to be at variance (as per CPS 4249/6)	No
<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.” <u>Assessment:</u> There are no wetlands or watercourses within the application area (GIS Database). The application area is located on the border of the Lake Dora catchment area and the De Grey River catchment area (GIS Database). Given the size of the area to be cleared (21 hectares) in relation to the size of the intercepted catchments (29,276,950 hectares and 845,936 hectares, respectively) the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale (GIS Database).	Not likely to be at variance (as per CPS 4249/6)	No

Appendix D. Vegetation condition rating scale

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

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

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

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E. Sources of information**E.1. GIS datasets**

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

- Cadastre (Polygon) (LGATE-217)
- Clearing Instruments Activities (Areas Approved to Clear) (DWER-076)
- 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)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments - Catchments (DWER-028)
- IBRA Vegetation Statistics
- IBSA Survey Details (DWER-118)
- Local Government Area (LGA) Boundaries (LGATE-233)
- Localities (LGATE-234)
- Medium Scale Topo Contour (Line) (LGATE-015)
- Medium Scale Topo Water (Line) (LGATE-018)
- Medium Scale Topo Water (Polygon) (LGATE-016)
- Native Vegetation Extent (DPIRD-005)
- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- 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)
- Townsites (LGATE-248)
- WA Now Aerial Imagery

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)

E.2. References

Australian Museum (2019) Peregrine Falcon. Australian Museum, March 2019.
<https://australian.museum/learn/animals/birds/peregrine-falcon/> (Accessed 10 July 2026).

- Bat Call WA (2021) A review of Pilbara leaf-nosed bat ecology, threats and survey requirements. Report prepared for the Department of Agriculture, Water and the Environment, Canberra. Available from: <https://www.dcceew.gov.au/sites/default/files/documents/review-pilbara-leaf-nosed-bat-ecology-threats.pdf>
- BHP Iron Ore Pty Ltd (BHP) (2025a) BHP Iron Ore Annual Environmental Report, July 2024 – June 2025. Received 24 September 2025.
- BHP Iron Ore Pty Ltd (BHP) (2025b) BHP Iron Ore Mining Operations: Application to Amend Native Vegetation Clearing Permit –CPS 4249/6 – Shay Gap Airport. Received 10 December 2025.
- BHP Iron Ore Pty Ltd (BHP) (2025c) Clearing permit application form, CPS 4249/7, received 10 December 2025.
- BHP Iron Ore Pty Ltd (BHP) (2026) Information received via email, 14 July 2026.
- BirdLife International (2022) Species factsheet: Grey Falcon *Falco hypoleucos*. <https://datazone.birdlife.org/species/factsheet/grey-falcon-falco-hypoleucos> (Accessed 13 July 2026).
- Burbidge, A. (1992) Endangered: Spectacled hare-wallaby. Landscape, 7(3), 48. Department of Conservation and Land Management, Perth. [080052-07.044.pdf](https://www.dclm.wa.gov.au/publications/080052-07.044.pdf)
- Burbidge, A. A. (2016) *Pseudomys chapmani*. The IUCN Red List of Threatened Species 2016: e.T42648A115198963. Available from: <https://www.iucnredlist.org/species/42648/115198963> (Accessed 10 July 2026).
- Bureau of Meteorology (BoM) (2019) Bureau of Meteorology Website – Groundwater Information – Average Salinity. Bureau of Meteorology. <https://www.bom.gov.au/water/groundwater/insight/metadata.shtml> (Accessed 10 July 2026).
- Bureau of Meteorology (BoM) (2026) Bureau of Meteorology Website – Climate Data Online, Muccan (Number 4022). Bureau of Meteorology. <https://reg.bom.gov.au/climate/data/> (Accessed 10 July 2026).
- Chinnock, R. J. (2007) *Eremophila* and allied genera: a monograph of the Myoporaceae. Rosenberg Publishing, New South Wales, April 2007.
- Cogger, H. G. (2018) Reptiles and amphibians of Australia: Updated Seventh Edition. CSIRO Publishing, Victoria, 2018.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Commonwealth of Australia (2008) Species Profile and Threats Database. Department of Climate Change, Energy, the Environment and Water, Australia. <https://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl> (Accessed 10 July 2026).
- Cramer, V. A., Armstrong, K. N., Bullen, R. D., Cross, S. L., Gibson, L., Hanrahan, N., Knuckey, C. G., Ottewell, K., Reiffer, S., Ruykys, L., Shaw, R. E., Thavornkanlapachai, R., Thompson, S. A., Wild, S. and van Leeuwen, S. (2022) Research priorities for the ghost bat (*Macroderma gigas*) in the Pilbara region of Western Australia. Australian Mammalogy 45: 1-12. <https://doi.org/10.1071/AM21042>
- Department of Biodiversity, Conservation and Attractions (DBCA) (2024) Advice for clearing permit application CPS 10326/1, received 2 May 2024. Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, Western Australia.
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2023) Recovery Plan for the Greater Bilby (*Macrotis lagotis*). Department of Climate Change, Energy, the Environment and Water, Canberra. <https://www.dcceew.gov.au/sites/default/files/documents/recovery-plan-greater-bilby-2023.pdf>
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2025) Conservation Advice for *Pezoporus occidentalis* (night parrot). Department of Climate Change, Energy, the Environment and Water, Canberra, September 2025. [Conservation Advice for *Pezoporus occidentalis* \(night parrot\)](#)
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2026) Night Parrot. Department of Climate Change, Energy, the Environment and Water, Canberra. April 2026. [Night parrot - DCCEEW](#) (Accessed 10 July 2026).
- Department of Conservation and Land Management (CALM) (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- Department of Environment Regulation (DER) (2014) A guide to the assessment of applications to clear native vegetation. Perth. https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf
- Department of Mines and Petroleum (DMP) (2011a) Clearing permit CPS 4249/1, BHP Billiton Iron Ore Pty Ltd, granted 21 April 2011. Available from: [Index of /permit/4249/Permit](#)
- Department of Mines and Petroleum (DMP) (2011b) Clearing permit decision report, CPS 4249/1, permit granted 21 April 2011. Available from: [Index of /permit/4249/Permit](#)
- Department of Mines and Petroleum (DMP) (2011c) Clearing permit decision report, CPS 4249/2, permit granted 14 July 2011. Available from: [Index of /permit/4249/Permit](#)
- Department of Mines and Petroleum (DMP) (2012a) Clearing permit decision report, CPS 4249/4, permit granted 5 July 2012. Available from: [Index of /permit/4249/Permit](#)
- Department of Mines and Petroleum (DMP) (2012a) Clearing permit decision report, CPS 4249/5, permit granted 6 August 2012. Available from: [Index of /permit/4249/Permit](#)
- Department of Mines, Industry Regulation and Safety (DMIRS) (2021) Clearing permit decision report, CPS 4249/6, permit granted 27 May 2021. Available from: [Index of /permit/4249/Permit](#)

- Department of Planning, Lands and Heritage (DPLH) (2026) Aboriginal Cultural Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/ACHIS/index.html?viewer=ACHIS> (Accessed 10 July 2026).
- Department of Primary Industries and Regional Development (DPIRD) (2026) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. <https://dpiird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f> (Accessed 10 July 2026).
- 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>
- Dziminski, M. A. and Carpenter, F. (2018) The conservation and management of the bilby (*Macrotis lagotis*) in the Pilbara, Annual Report 2017-18. Department of Biodiversity, Conservation and Attractions, Perth. [The conservation and management of the bilby \(*Macrotis lagotis*\) in the Pilbara Progress Report 2018 FINAL](#)
- Environmental Protection Authority (EPA) (2004a) Guidance for the Assessment of Environmental Factors - Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia, No. 56, June 2004.
- Environmental Protection Authority (EPA) (2004b) Guidance for the Assessment of Environmental Factors - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia, No. 51, June 2004.
- Environmental Protection Authority (EPA) (2016) 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) (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
- Forster, P. I. (2003) A taxonomic revision of *Croton* L. (Euphorbiaceae) in Australia. *Austrobaileya: A Journal of Plant Systematics*, Queensland Herbarium, 6(3), 349-436. [Austrobaileya](#)
- Garnett, S. T. and Crowley, G. M. (2000) Action Plan for Australian Birds 2000. Environment Australia, Canberra.
- 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>
- Hill, B. M. and Ward, S. J. (2010) National Recovery Plan for the Northern Quoll *Dasyurus hallucatus*. Department of Natural Resources, Environment, The Arts and Sport, Darwin. Available from: [National Recovery Plan for the Northern Quoll \(*Dasyurus hallucatus*\) - DCCFEW](#)
- IUCN (2017) The IUCN Red List of Threatened Species: Dampierland Plain Slider. [Lerista separanda \(Dampierland Plain Slider\)](#) (Accessed 13 July 2026).
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Menkhorst, P. and Knight, F. (2011) A field guide to the mammals of Australia: Third Edition. Oxford University Press, Victoria, 2011
- NESP Threatened Species Recovery Hub (NESP) (2021) Arid Zone Monitoring Species Profile: Brush-tailed mulgara, Project 3.2.5 findings factsheet.
- Northover, A., Palmer, R., Burbidge, A. H., Pearson, D., Dziminski, M., Ottewell, K., Prada, D., Umbrello, L. and Gibson, L. (2023) Summary of knowledge for six faunal species that are Matters of National Environmental Significance in the Pilbara, Western Australia. Department of Biodiversity, Conservation and Attractions, Perth.
- Onshore Environmental Consultants Pty Ltd and Biologic Environmental Survey (Onshore & Biologic) (2010) Level 2 flora & vegetation survey, level 1 fauna survey - Shay Gap Aerodrome, Yarrie Area A, Yarrie Area B. Prepared for BHP Billiton Iron Ore, by Onshore Environmental Consultants Pty Ltd and Biologic Environmental Survey, November 2010.
- Pavey, C. R., Nano, C. E. M., Cooper, S. J. B., Cole, J. R. and McDonald, P. J. (2012) Habitat use, population dynamics and species identification of mulgara, *Dasyurus blythi* and *D. cristicauda*, in a zone of sympatry in central Australia. *Australian Journal of Zoology*, 59(3), 156-169. <https://doi.org/10.1071/ZO11053>
- 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 (WAH) (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dbca.wa.gov.au/> (Accessed 10 July 2026).
- Wilson, S. and Swan, G. (2021) A complete guide to reptiles of Australia: Sixth Edition. Reed New Holland, Sydney, 2021.

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 (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	<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> (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	<i>Rights in Water and Irrigation Act 1914</i> , 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.