



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	11416/1
Permit type:	Purpose permit
Applicant name:	Mineral Mining Services Pty Ltd
Application received:	13 January 2026
Application area:	230 hectares
Purpose of clearing:	Mineral production and associated activities
Method of clearing:	Mechanical removal
Tenure:	Mining Lease 26/846 Miscellaneous Licence 26/295
Location (LGA area):	City of Kalgoorlie-Boulder
Colloquial name:	Think Big Project

1.2. Description of clearing activities

Mineral Mining Services Pty Ltd proposes to clear up to 230 hectares of native vegetation within a boundary of approximately 570 hectares, for the purpose of mining related infrastructure. The project is located approximately 25 kilometres south-east of Kalgoorlie, within the City of Kalgoorlie-Boulder.

The application is to allow for mineral production and associated activities.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	30 July 2026
Decision area:	230 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Mines, Petroleum and Exploration (DMPE) 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 D), supporting information provided by the applicant (including the results of a flora and vegetation survey), 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:

- spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- the loss of native vegetation that is suitable habitat for *Leipoa ocellata* (malleefowl);
- the loss of potentially suitable habitat for *Aphelocephala leucopsis* (southern whiteface);
- the loss of potentially suitable habitat for *Jalmenus aridus* (inland hairstreak butterfly); and
- potential land degradation in the form of water 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 weed;

- undertake slow, progressive clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity with a fauna spotter present to remove fauna at risk;
- fauna management *Aphelocephala leucopsis* (southern whiteface) condition requiring areas proposed to be cleared between 1 July and 31 October are inspected to identify active (in use) southern whiteface nests, and to maintain a 250 metre buffer around identified active nests;
- fauna management *Leipoa ocellata* (malleefowl) condition within potentially suitable breeding habitat requiring areas proposed to be cleared between 1 September and 31 January are inspected to identify active (in use) malleefowl mounds, and to maintain a 200 metre buffer around identified active mounds;
- fauna management *Jalmenus aridus* (inland hairstreak butterfly) condition requiring areas proposed to be cleared to be surveyed to identify potential critical habitat and inland hairstreak individuals, and no clearing within 50 metres of inland hairstreak host plants, if individuals are recorded; and
- commence construction no later than three months after undertaking clearing to reduce the risk of erosion.

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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)

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, 2014)
- Procedure: Native vegetation clearing permits (DWER, 2021)
- Technical guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016b)
- Technical guidance – Terrestrial Fauna Surveys for Environmental Impact Assessment (EPA, 2020)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

The proponent has outlined the following avoidance and mitigation measure to reduce impacts on native vegetation (Astill Consultants, 2026a):

The following management measures will be implemented to conserve land and soil resources:

- Regular inspections and maintenance of machinery including daily pre-starts;
- Spill kits closely available during clearing activities;
- Stripping topsoil up to 200 millimetres;
- Topsoil stripping to be undertaken as close as possible to commencement of activities; and
- Soils to be paddock-dumped into stockpiles of no greater than 2 meters in height and have adequate distance between them to create a series of mounds and troughs.

The following secondary management measures will be implemented to reduce the risk to fauna:

- Speed limits will be signed and enforced;
- Any injury or death of fauna will be recorded and investigated;
- Access to food wastes will be minimised by ensuring effective storage and disposal; and
- Personnel are prohibited from direct contact with fauna, including feeding.

Mitigation measures to reduce impact to significant fauna:

Aphelocephala leucopsis (Southern whiteface)

- If clearing is to be conducted between 1 April to 30 September (breeding season), an inspection will be performed by a suitably qualified person to identify any active Southern Whiteface nests.

- Should an active (in-use) Southern Whiteface nest be identified, a 250 meters buffer will be implemented in which no clearing activities shall occur until chicks have fledged.

The following management measures will be implemented to minimise vegetation clearing:

- Utilising existing disturbances where possible for mine infrastructure;
- Choosing paths of least resistance through vegetation when siting roads and other linear infrastructure (where practicable); and
- Retention of canopy trees where possible.

The following management measures will be implemented to manage weed impacts:

- All vehicles and equipment arriving on site will be free of soil, seeds, and vegetative matter;
- Movement of vehicles and equipment will be restricted to areas to be cleared; and
- Weed spray programs may be implemented on a seasonal basis to eradicate identified weed infestations.

Management measures to reduce impact to surface water flow:

- Site clearance will be phased as required by the development. Identified in the Native Vegetation Clearing Permit Application.
- Clearance will be restricted to required area. Identified in the Native Vegetation Clearing Permit Application.
- Upstream bunds will be constructed early in the project to divert up to a 1% AEP flood event round each site. Identified within the Surface Water Management Plan and included in the MDCP application.
- Downstream containment bunds with sediment traps will be installed to capture sediment laden contact runoff from infrastructure.

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. Additionally, further management conditions have been placed on the clearing permit to mitigate and minimise potential impacts to environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (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 (fauna and fauna habitat). 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 principle (a)

Assessment

***Austrostipa turbinata* (P3)**

Austrostipa turbinata, a Priority Three flora species, has previously been recorded within the application area (GIS Database). However, the flora and vegetation survey undertaken by Native Vegetation Solutions (NVS, 2025) in December 2024 did not identify the species within the application area. Although the species typically flowers between September and October (Terratree, 2017) and may therefore be less readily identifiable outside its peak flowering period, *Austrostipa turbinata* is known to be widely distributed across the Avon Wheatbelt, Coolgardie, Esperance Plains and Mallee IBRA bioregions, with numerous records throughout its range (WAH, 1998–). Given its broad distribution and representation across multiple IBRA bioregions, any potential impact associated with the proposed clearing is unlikely to affect the species at a bioregional level. Accordingly, the Delegated Officer determined that the proposed clearing is unlikely to result in a significant negative effect on *Austrostipa turbinata* populations within the relevant IBRA regions, and any impacts are expected to be limited and unlikely to lead to an unacceptable risk to this priority flora species.

***Alyxia tetanifolia* (P3)**

Alyxia tetanifolia, a Priority Three flora species, has been recorded approximately 20 kilometres from the application area and is known from the Coolgardie and Murchison bioregions. The species typically occurs on sandy clay, loamy and concretionary gravel soils, often in drainage lines and near lake systems, and flowers mainly from May to June, with occasional flowering recorded in November.

While some habitat characteristics within the application area may be broadly consistent with those associated with *Alyxia tetanifolia*, the species was not recorded during the targeted flora survey undertaken by NVS (2025). The survey was conducted following above average rainfall conditions in 2024, which would be expected to improve detectability of flora species present within the application area. *Alyxia tetanifolia* was specifically targeted during the survey and no individuals were identified (NVS, 2025).

Given the absence of records within the application area despite targeted survey effort, and the distance to the nearest known occurrence, the Delegated Officer has considered that *Alyxia tetanifolia* is unlikely to occur within the application area. Accordingly, the proposed clearing is unlikely to result in a significant impact on the species.

***Frankenia glomerata* (P4)**

Frankenia glomerata, a Priority Four flora species, was recorded approximately five kilometres from the application area (GIS Database). Native Vegetation Solutions (2025) did not record this species within the application area. *Frankenia glomerata* is a prostrate shrub, with pink or white flowers and flowers in November. Usually found on white sand. This species is broadly mapped throughout multiple IBRA Regions. The Delegated Officer determined that any impacts associated with the proposed clearing are limited and can be minimised and managed to be unlikely to lead to an unacceptable risk to this priority flora species.

***Eremophila praecox* (P2)**

Eremophila praecox, a Priority Two flora species, was recorded about 10 kilometres from the application area (GIS Database). This species has been listed as unlikely to occur within the application area (NVS, 2025). The application area was extensively searched, and although suitable habitat has been recorded, there was no records of this species within the application area or within the surrounding survey area (NVS, 2025).

***Goodenia salina* (P2)**

Goodenia salina, a Priority Two flora species, has been recorded approximately 15 kilometres from the application area (GIS Database). The species flowers between September and October and produces fruit in December (WAH, 2018–). As the flora survey was undertaken in December, it was conducted during a period when *Goodenia salina* would be expected to be easily identifiable if present. The survey timing is considered appropriate for the detection of this species within the application area.

***Isolepis australiensis* (P3)**

Isolepis australiensis, a Priority Three flora species, has been recorded approximately 15 kilometres from the application area (GIS Database). The species typically occurs on silty sands, sandy clays, lake margins and pools (WAH, 2018–), and while it is widespread in South Australia it is considered uncommon in Western Australia, where it is listed as a Priority Three species (DEW, 2024). Although potentially suitable habitat may occur within the application area, *Isolepis australiensis* was not recorded during the December 2024 flora survey undertaken by Native Vegetation Solutions (2025). The survey timing was considered appropriate, as the species has been reported to flower in June and September (WAH, 2018–), with observations from South Australia indicating flowering may occur throughout the year (DEW, 2024). Given the absence of records within the application area, the distance to the nearest known occurrence, and the broader distribution of the species outside the application area, the proposed clearing is unlikely to result in a significant impact on the species at either a local or regional scale. Therefore, any impacts associated with the proposed clearing are considered limited.

***Melaleuca coccinea* (P3)**

Melaleuca coccinea, a Priority Three flora species, has been recorded approximately 15 kilometres from the application area (GIS Database). The species typically occurs on sandy loam over granite, granite outcrops, sandplains and river valleys. While some potentially suitable habitat may be present within the application area, the species was not recorded during the flora survey undertaken by Native Vegetation Solutions (2025). The survey timing was considered appropriate, as *Melaleuca coccinea* is known to flower from September to November and may continue flowering into January (WAH, 2018–). Given the absence of records within the application area, the distance to the nearest known occurrence, and the occurrence of the species outside the application area, the proposed clearing is unlikely to impact known populations or affect the conservation status of the species. Therefore, any impacts associated with the proposed clearing are expected to be limited and unlikely to result in a significant impact on *Melaleuca coccinea* at either a local or regional scale.

***Ptilotus procumbens* (P1)**

Ptilotus procumbens, a Priority One perennial or annual herb, has been recorded approximately 20 kilometres from the application area (GIS Database). The species is typically associated with red clay soils within the Coolgardie and Murchison bioregions and is known to flower in November (WAH, 2018–). As the flora survey was undertaken in December, shortly after the peak flowering period, plants would be expected to remain identifiable through the presence of reproductive structures. The survey timing is therefore considered suitable for detecting the species if present within the application area. Despite the potential occurrence of suitable habitat in the application area, *Ptilotus procumbens* was not recorded during the survey (NVS, 2025). Given the absence of the species from the application area, and its occurrence across the wider Coolgardie and Murchison bioregions, the proposed clearing is unlikely to have a significant impact on the species. Any potential impacts associated with the proposed clearing would be limited and are unlikely to result in a significant impact on *Ptilotus procumbens*.

***Thryptomene planiflora* (P1)**

Thryptomene planiflora is a Priority One flora species with a highly restricted distribution in the Goldfields region of Western Australia (WAH, 2018–). The nearest known record is approximately 20 kilometres from the application area (GIS Database), and the species was not recorded during the flora and vegetation survey (NVS, 2025). The application area does not contain habitat consistent with the species known habitat preferences, which is made up of sandy plains supporting Acacia dominated shrublands (Rye, 2020). Instead, the area is characterised by eucalypt woodlands, chenopod shrublands, saline environments and stony landscapes, which are considered unsuitable habitat for *Thryptomene planiflora*. Therefore, the application area is considered unlikely to support the species, the proposed clearing is not expected to impact *Thryptomene planiflora*.

***Xanthoparmelia dayiana* (P3)**

Xanthoparmelia dayiana is a Priority Three lichen species that has been recorded approximately 15 kilometres from the application area (GIS Database). This species is rare and occurs on exposed rock in inland Western Australia (DER, 2007), particularly in the Coolgardie, Murchison, and Yalgoo IBRA Regions. *Xanthoparmelia dayiana* was not recorded during the flora and vegetation survey (NVS, 2025). Although the limited rocky hill landforms within the application area may provide potential habitat in the form of exposed rock substrates (Rye, 2020), the species was not observed during field surveys and the majority of the application area comprises habitats that are not typically associated with the species (Terrestrial Ecosystems, 2024). The likelihood of *Xanthoparmelia dayiana* occurring within the application area is considered low, the proposed clearing is unlikely to result in a significant impact on the species.

Conclusion

No priority species were recorded within the application area. Any species considered to potentially occur within the application area are unlikely to be present or be significantly impacted by the proposed clearing at either a regional or local level.

Conditions

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

- commence construction no later than three months after undertaking clearing to reduce the risk of erosion;
- staged clearing to minimise water erosion;
- avoid, minimise to reduce the impacts and extent of clearing; and
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

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

Assessment

***Jalmenus aridus* (Inland Hairstreak Butterfly)**

Jalmenus aridus (Inland Hairstreak) (Priority Two) is a poorly known species with limited information available on its distribution and ecology. Preferred habitat includes open woodland containing *Senna artemisioides* subsp. *filifolia*, along with flowering shrubs such as *Eremophila*, *Scaevola* and *Maireana* species, and nearby areas of well-drained, exposed ground (Eastwood et al., 2023). Biological surveys indicate that potentially suitable habitat occurs within the application area (NVS, 2025; Terrestrial Ecosystems, 2025).

The species uses *Senna artemisioides* subsp. *filifolia* and *Acacia tetragonophylla* as host plants, both of which are widespread across Western Australia (Eastwood et al., 2023). It also has an obligate relationship with the ant *Froggattella kirbii*, which is common throughout open woodland habitats across much of Australia (Eastwood et al., 2023).

Surveying for the Inland Hairstreak can be difficult because there are currently no established survey guidelines and adults are only present for a short period each year. Most records have been made in October, suggesting the species is only detectable for a few weeks during its annual flight period (Eastwood et al., 2023). As a result, the species can be easily overlooked during surveys conducted outside this timeframe.

Six of the ten known Inland Hairstreak records occur within the Eastern Goldfields IBRA subregion (Eastwood et al., 2023). In addition, a recorded occurrence of the species is located within 20 kilometres of the application area (Database, 2026).

The Inland Hairstreak was not specifically considered in any of the biological surveys provided by the proponent and was not discussed in the fauna survey undertaken by Terrestrial Ecosystems (2024). Given that the species is considered data deficient (Eastwood et al., 2023), its absence cannot be assumed from the available survey information. Furthermore, both known host plant species, *Senna artemisioides* subsp. *filifolia* and *Acacia tetragonophylla*, were recorded within the application area, indicating that potentially suitable habitat is present.

The Inland Hairstreak has also been assessed as being at risk of extinction in the wild without appropriate management actions, including habitat protection (Geyle et al., 2021). Considering the proximity of a known record, the presence of host plants, the lack of targeted assessment, and the species' conservation significance, a targeted survey for Inland Hairstreak and an assessment of potential breeding habitat are required to determine whether the species occurs within the application area and whether it may be impacted by the proposed clearing.

***Leipoa ocellata* (malleefowl)**

Multiple records of Malleefowl exist within a 20 kilometre radius of the application area, with the closest record being approximately five kilometres (GIS Database). Malleefowl are known to inhabit mulga, *Acacia aneura* and associated habitats such as *Melaleuca uncinata* (broombush) complex and *Callitris verrucosa* (Scrub Pine) (DCCEEW, 2024; Gould, 1840). Malleefowl breeding habitat requires sandy or gravel substrate, abundant leaf litter and a dense canopy cover for the building of a large mound for egg incubation (DCCEEW, 2024).

Some vegetation groups recorded during the survey are considered to have elevated potential habitat value for malleefowl due to the presence of *Eucalyptus oleosa* (Red Mallee), a mallee forming eucalypt associated with the malleefowl's preferred habitat. Malleefowl predominantly occupy shrublands and low woodlands dominated by *mallee eucalypts*, particularly where sandy soils and abundant litter are available for mound construction (DCCEEW, 2024). Dense shrub understoreys also provide important food resources, shelter and nesting material (DCCEEW, 2024). Vegetation groups recorded to contain well developed sclerophyll shrub layers are likely to provide suitable foraging habitat and potentially breeding habitat where adequate litter accumulation occurs (DCCEEW, 2024). Parts of the application area consist of mixed eucalypt woodland with shrubs and, to a lesser extent, mixed eucalypt woodland with shrubs on rocky hills, both of which may provide potential for Malleefowl nesting and mound-building habitat due to the likely presence of woody litter and woodland structure (BHA, 2026). Although no malleefowl or active mounds were recorded during the survey, the species cannot be ruled out from the application area given the presence of potentially suitable habitat and multiple records in the surrounding area.

***Camponotus terebrans* (Arid Bronze Azure Butterfly)**

Terrestrial Ecosystems completed a targeted ant survey for the Arid Bronze Azure Butterfly (ABAB) in accordance with DBCA (2020) guidelines. The targeted survey was undertaken on 17 September 2024, with supplementary fauna habitat assessments completed between 9 and 10 September 2024. These surveys were conducted within the optimal survey period for the species, which extends from mid-September to late October (Terrestrial Ecosystems, 2025). No individuals of the host ant *Camponotus terebrans* were detected during the surveys, and no Arid Bronze Azure Butterflies were recorded.

***Calidris acuminata* (sharp-tailed sandpiper)**

The sharp-tailed sandpiper is listed as a Vulnerable Migratory wading bird, which prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation (DCEEW, 2026b). As the application area does not have a permanent wetland or water features, and the sharp-tailed sandpiper is not dependent on this area for breeding or foraging, it is unlikely that the proposed clearing will have an impact on this species.

***Idiosoma* sp.**

Several records of unidentified *Idiosoma* species occur within 20 kilometres of the application area, with records dating to 2021 (GIS Database). However, no *Idiosoma* species were recorded within the application area during field surveys (Terrestrial Ecosystems, 2024). Accordingly, the likelihood of *Idiosoma* species occurring within the proposed disturbance footprint is considered low (Terrestrial Ecosystems, 2024), and the proposed clearing is unlikely to result in a significant impact on these species.

***Tringa brevipes* (grey-tailed tattler)**

The grey-tailed tattler is a Priority Four Protected Migratory shorebird recorded approximately 20 kilometres from the application area (GIS Database). They are known to spend their non-breeding season in Australia where they are widely distributed along the northern, eastern, and western coasts (Birdlife, 2026). As the application area does not have a permanent wetland or water features and is found more inland, the clearing associated with the application is unlikely to have an impact on this species.

***Tringa glareola* (wood sandpiper)**

The wood sandpiper is an internationally protected Migratory shorebird. Known to use shallow, freshwater inland wetlands as habitat within Australia (DCCEEW, 2026a). As the application area does not have a permanent wetland and the wood sandpiper is not dependent on this area for breeding or foraging, it is unlikely that the proposed clearing will have an impact on this species.

***Aphelocephala leucopsis* (Southern whiteface)**

A small number of *Aphelocephala leucopsis* (Southern Whiteface) (Vulnerable under the EPBC Act) may occasionally utilise the application area, as the mature eucalypt woodland present is likely to provide suitable nesting habitat (Terrestrial Ecosystems, 2025).

Around 60 records of Southern Whiteface have been recorded within 100 kilometres of the application area (Terrestrial Ecosystems, 2025), indicating that the species occurs in the surrounding region and may use habitat within and surrounding the application area. Although Terrestrial Ecosystems (2025) concluded that the application area does not support an important population and that the proposed clearing is unlikely to significantly affect the species' overall distribution, individual birds may still move through the area or breed in suitable woodland habitat. Potential impacts from the proposed clearing to individual birds, including disturbance during nesting or the loss of active nests may occur.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of:

- potentially suitable foraging and breeding habitat for *Leipoa ocellata* (malleefowl);
- suitable breeding and foraging habitat for *Aphelocephala leucopsis* (southern whiteface); and
- potentially suitable habitat for *Jalmenus aridus* (inland hairstreak butterfly).

Conditions

- The Permit Holder shall engage a fauna spotter to traverse the application area ahead of clearing machinery at the time of clearing and alert machinery operators to avoid fauna;
- Fauna management pre-clearance survey to identify any potential *Leipoa ocellata* (malleefowl); mounds within the application area;
- Fauna management *Jalmenus aridus* (inland hairstreak butterfly) condition requiring areas proposed to be cleared to be surveyed to identify potential critical habitat and inland hairstreak individuals, and no clearing within 50 metres of inland hairstreak host plants, if individuals are recorded); and
- fauna management *Aphelocephala leucopsis* (southern whiteface) condition requiring areas proposed to be cleared between 1 July and 31 October are inspected to identify active (in use) southern whiteface nests, and to maintain a 250 metre buffer around identified active nests).

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 21 April 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 within in the application area (WA2025/0043) (DPLH, 2026). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. The mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993*, and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There is one registered Aboriginal Site 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.

Other relevant authorisations required for the proposed land use include:

- A Programme of Work approved under the *Mining Act 1978*
- A Mining Development and Closure Proposal approved under the *Mining Act 1978*

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

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 occurs within the Coolgardie bioregion and Eastern Goldfields subregion and in close to proximity to the north lies the Murchison bioregion.																		
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages (GIS Database).																		
Conservation areas	The nearest conservation area to the application area is Lakeside Timber Reserve, located approximately six kilometres to the north (GIS Database). Karamindie Forest is situated approximately 15 kilometres south-west of the application area, while Kurrawang Nature Reserve lies around 23 kilometres to the north-west (GIS Database). Yallari Timber Reserve is also located approximately 23 kilometres south-west of the application area, and Majestic Timber Reserve is situated about 27 kilometres away from the application area (GIS Database).																		
Vegetation description	The vegetation of the application area is broadly mapped as the following Beard vegetation associations: 9: Wheatbelt; York gum, salmon gum etc. <i>Eucalyptus loxophleba</i>, <i>E. salmonophloia</i>. Goldfields; gimlet, redwood etc. <i>E. salubris</i>, <i>E. oleosa</i>. Riverine; rivergum <i>E. camaldulensis</i>. Tropical; messmate, woolybush; and 540: Mulga, other wattle, casuarina <i>Atriplex</i> spp. <i>Maireana</i> spp. with <i>Acacia aneura</i>, <i>A. papyrocarpa</i>, <i>Allocasuarina cristata</i> (GIS Database). A flora and vegetation survey was conducted over the application area by Native Vegetation Solutions (NVS) during December 2024. The following vegetation associations were recorded within the application area (NVS, 2025): <table> <tr> <th>Vegetation Association</th><th>Description of Vegetation Types</th></tr> <tr> <td>9</td><td>Medium woodland; coral gum (<i>E. torquata</i>) & Goldfields blackbutt (<i>E. lesouefii</i>)</td></tr> <tr> <td>540</td><td>Succulent steppe with open low woodland; sheoak over saltbush</td></tr> </table>	Vegetation Association	Description of Vegetation Types	9	Medium woodland; coral gum (<i>E. torquata</i>) & Goldfields blackbutt (<i>E. lesouefii</i>)	540	Succulent steppe with open low woodland; sheoak over saltbush												
Vegetation Association	Description of Vegetation Types																		
9	Medium woodland; coral gum (<i>E. torquata</i>) & Goldfields blackbutt (<i>E. lesouefii</i>)																		
540	Succulent steppe with open low woodland; sheoak over saltbush																		
Vegetation condition	The vegetation survey (NVS, 2025) and aerial imagery indicate the vegetation within the proposed clearing area ranges from completely degraded to very good (NVS, 2025). The full Keighery (1994) condition rating scale is provided in Appendix C.																		
Climate and landform	The application area is located in a semi-arid zone with hot dry summers and mild winters, and an annual average rainfall of approximately 266 millimetres (BoM, 2026).																		
Soil description	The soil found in the application area is mapped as (DPIRD, 2026): <table> <tr> <th>Land System</th><th>Description</th></tr> <tr> <td>Graves system</td><td>Basalt and greenstone rises and low hills supporting eucalypt woodlands with prominent saltbush and bluebush understoreys.</td></tr> <tr> <td>Gumland System</td><td>Extensive pedepains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys.</td></tr> <tr> <td>Lefroy System</td><td>Salt lakes and fringing saline plains, sandy plains and dunes with chenopod low shrublands.</td></tr> <tr> <td>Moriarty System</td><td>Low greenstone rises and stony plains supporting chenopod shrublands with patchy eucalypt overstoreys.</td></tr> <tr> <td>Doney system</td><td>Calcareous alluvial plains with eucalypt woodlands adjacent to salt lake systems</td></tr> <tr> <td>Kanowna system</td><td>Level to gently inclined pedepains, gently undulating stony plains and prominent drainage foci supporting eucalypt woodlands with saltbush low shrubs</td></tr> <tr> <td>Coolgardie System</td><td>Uplands and undulating plains associated with ultramafic greenstones, supporting eucalypt woodlands and halophytic shrublands</td></tr> <tr> <td>Monger System</td><td>Low rises, breakaways and very gently undulating plains with ironstone gravel mantles, supporting eucalypt woodlands, dissected by saline alluvial tracts, supporting halophytic shrublands</td></tr> </table>	Land System	Description	Graves system	Basalt and greenstone rises and low hills supporting eucalypt woodlands with prominent saltbush and bluebush understoreys.	Gumland System	Extensive pedepains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys.	Lefroy System	Salt lakes and fringing saline plains, sandy plains and dunes with chenopod low shrublands.	Moriarty System	Low greenstone rises and stony plains supporting chenopod shrublands with patchy eucalypt overstoreys.	Doney system	Calcareous alluvial plains with eucalypt woodlands adjacent to salt lake systems	Kanowna system	Level to gently inclined pedepains, gently undulating stony plains and prominent drainage foci supporting eucalypt woodlands with saltbush low shrubs	Coolgardie System	Uplands and undulating plains associated with ultramafic greenstones, supporting eucalypt woodlands and halophytic shrublands	Monger System	Low rises, breakaways and very gently undulating plains with ironstone gravel mantles, supporting eucalypt woodlands, dissected by saline alluvial tracts, supporting halophytic shrublands
Land System	Description																		
Graves system	Basalt and greenstone rises and low hills supporting eucalypt woodlands with prominent saltbush and bluebush understoreys.																		
Gumland System	Extensive pedepains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys.																		
Lefroy System	Salt lakes and fringing saline plains, sandy plains and dunes with chenopod low shrublands.																		
Moriarty System	Low greenstone rises and stony plains supporting chenopod shrublands with patchy eucalypt overstoreys.																		
Doney system	Calcareous alluvial plains with eucalypt woodlands adjacent to salt lake systems																		
Kanowna system	Level to gently inclined pedepains, gently undulating stony plains and prominent drainage foci supporting eucalypt woodlands with saltbush low shrubs																		
Coolgardie System	Uplands and undulating plains associated with ultramafic greenstones, supporting eucalypt woodlands and halophytic shrublands																		
Monger System	Low rises, breakaways and very gently undulating plains with ironstone gravel mantles, supporting eucalypt woodlands, dissected by saline alluvial tracts, supporting halophytic shrublands																		

Characteristic	Details	
Land degradation risk	The land and soil systems within the application area exhibit a range of susceptibility to erosion, varying from low to moderate depending on specific landscape characteristics (Waddell & Galloway, 2023):	
	Land system	Erosion Risk
	Coolgardie	Susceptible to erosion where perennial shrub cover is reduced or where the soil surface is disturbed.
	Graves, Moriarty and Kanowna	Prone to water erosion, particularly where disturbance results in the breakdown of soil structure or reduced ground cover.
	Gumland	Moderately susceptible to wind erosion, especially following vegetation clearing or prolonged surface disturbance.
	Lefroy	Highly susceptible to wind erosion due to its sandy soil characteristics and limited surface stability when disturbed.
	Doney and Monger	Generally, exhibit a low susceptibility to wind erosion; however, they possess a moderate risk of water erosion, particularly in areas where vegetation cover has been removed or concentrated runoff occurs.
Waterbodies	The desktop assessment and aerial imagery indicated that two minor, non-perennial watercourses transect the application area. A non-perennial lake covers a large portion of the application area (GIS Database).	
Hydrogeography	The application area falls within the Goldfields groundwater area which is legislated by the <i>R/VI Act 1914</i> (GIS Database). The groundwater salinity is measured to be hypersaline, ranging from 14,000 to 35,000 milligrams per litre total dissolved solids (GIS Database).	
Flora	Database records indicate one record of a Priority Three flora species within the application area. The same species is found within 400 metres of the application area. Another Priority Four flora species is found within three kilometres to the northwest of the application area. No Priority and Threatened flora species were identified within the application area during the flora and vegetation survey (NVS, 2025).	
Ecological communities	No Threatened or Priority Ecological Communities have been recorded within the application area (GIS Database). The nearest Threatened Ecological Community is the Mount Belches <i>Acacia quadrimarginea/Ptilotus obovatus</i> (banded ironstone formation), which is situated approximately 50 kilometres to the southeast of the application area. The Emu Land System (Priority Three) is situated approximately 40 kilometres northeast of the application area (GIS Database).	
Fauna	Terrestrial Ecosystems (2025) identified four threatened fauna species and three migratory bird species listed under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) as having the potential to occur within the application area or surrounding region. Database searches also identified four specially protected migratory bird species within a 20 kilometre radius of the application area. In addition, records indicate the presence of one Threatened invertebrate species, one Critically Endangered invertebrate species, one Priority Two invertebrate species, and one Threatened fauna species within 20 kilometres of the application area.	
Fauna habitat	Broad scale terrestrial fauna habitats within the survey area listed by Terrestrial Ecosystems (2025) are listed below: - Chenopod and Tecticornia samphire - Mixed Eucalypt woodland with shrubs - Mixed shrubland - Rehabilitation	

A.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (Appendix D.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
<i>Austrostipa turbinata</i>	P3	Y	Y	Y	5 km	Y
<i>Frankenia glomerata</i>	P4	Y	Y	Y	5 km	Y
<i>Eremophila praecox</i>	P2	Y	Y	Y	10 km	Y
<i>Alyxia tetanifolia</i>	P3	Y	Y	Y	20km	Y
<i>Goodenia salina</i>	P2	Y	Y	Y	15 km	Y
<i>Isolepis australiensis</i>	P3	Y	Y	Y	15 km	Y
<i>Melaleuca coccinea</i>	P3	Y	Y	Y	20 km	Y
<i>Ptilotus procumbens</i>	P1	Y	Y	Y	20 km	Y
<i>Thryptomene planiflora</i>	P1	N	N	N	20 km	Y
<i>Xanthoparmelia dayiana</i>	P3	N	Y	N	15 km	Y

A.3. Fauna analysis table

The following conservation significant fauna species have been recorded within 20 kilometres of the application area (GIS Database).

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
<i>Calidris acuminata</i> (sharp-tailed sandpiper)	OS MI	Y	Y	5 km	Y
<i>Leipoa ocellata</i> (malleefowl)	VU	Y	Y	5 km	Y
<i>Jalmenus aridus</i> (inland hairstreak, desert blue butterfly)	P2	Y	Y	20 km	N
<i>Ogyris subterrestris petrina</i> (arid bronze azure butterfly)	T	Y	Y	20 km	Y
<i>Idiosoma</i> sp.	T	Y	Y	20 km	Y
<i>Tringa brevipes</i> (grey-tailed tattler)	OS MI	N	Y	20 km	Y
<i>Tringa glareola</i> (wood sandpiper)	OS MI	N	Y	20 km	Y

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

Appendix B. 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 likely to contain suitable habitat for significant flora and fauna.	May be at variance	Yes <i>Refer to Section 3.2.1, 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 area proposed to be cleared may contain foraging and breeding habitat for both <i>Leipoa ocellata</i> (malleefowl) (VU) and <i>Aphelocephala leucopsis</i> (southern whiteface) (VU).	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<u>Principle (c):</u> <i>"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</i> <u>Assessment:</u> The area proposed to be cleared does not contain flora species listed under the BC Act.	Not likely to be at variance	No
<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> <u>Assessment:</u> There are no known Threatened Ecological Communities (TECs) located within or the local surrounds (20 kilometres) (GIS Database).	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<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> <u>Assessment:</u> The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2001). 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	No
<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> <u>Assessment:</u> Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not at variance	No
Environmental value: land and water resources		
<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> <u>Assessment:</u> The application area contains minor, low-lying samphire zones that only hold water briefly following significant rainfall events (Astill, 2026a). These features are highly ephemeral and do not provide critical or permanent wetland habitat. The proposed clearing is unlikely to impact on or off-site hydrology and water quality.	Not likely to be at variance	No
<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> <u>Assessment:</u> The mapped soils are susceptible to water erosion. However, the proposed clearing footprint is small relative to the overall catchment and is unlikely to significantly alter local hydrology or downstream surface water values. Environmental management measures, including staged clearing, sediment controls, surface water diversion bunds, dust suppression and progressive rehabilitation, are expected to maintain soil stability and minimise erosion and sediment transport during clearing (Astill, 2026b). Therefore, the clearing is not likely to cause appreciable land degradation or adversely affect the environmental values of receiving environments.	Not likely to be at variance	No
<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> <u>Assessment:</u> The application area is located within an ephemeral salt lake system and may be subject to inundation during significant rainfall events (Astill, 2026b). Flood modelling indicates that the site can experience ponding; however, the area proposed to be cleared represents approximately 0.05 percent of the upstream catchment and is therefore unlikely to alter local flood behaviour or downstream hydrological processes (Astill, 2026b). The likelihood of impacts to surface water quantity, quality and downstream environmental values are expected to be minimal (Astill, 2026b). The	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
implementation of staged clearing, diversion bunds, sediment controls and other surface water management measures is expected to minimise potential impacts on flood flows and downstream environments (Astill, 2026b). Therefore, the proposed clearing is not likely to cause appreciable flooding or significantly increase flood risk within the receiving catchment.		
<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> The application area is located within an ephemeral salt lake system that experiences occasional flooding following significant rainfall events. While floodwaters can pond within the application area, the proposed clearing footprint is small relative to the overall catchment and is unlikely to significantly alter flood flows or downstream hydrology (Astill, 2026b). Surface water management measures, including diversion bunds and sediment controls, will further minimise potential impacts. Therefore, the proposed clearing is not likely to cause or exacerbate flooding.	May 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 Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix D. Sources of information

D.1. GIS datasets

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

- 10 metre contours (DPIRD-073)
- 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)
- IBRA Vegetation Statistics

- IBSA Survey Details (DWER-118)
- Local Government Area (LGA) Boundaries (LGATE-233)
- Localities (LGATE-234)
- Mineral Field Boundaries (DMIRS-005)
- Native Title (Determination) (LGATE-066)
- Native Title (Fed Court) (LGATE-005)
- Native Title (NNTT) (LGATE-004)
- Native Vegetation Extent (DPIRD-005)
- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Regional Parks (DBCA-026)
- Reserves (LGATE-227)
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Rivers (DWER-036)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping - Best Available (DPIRD-027)
- Soil Landscape Mapping - Project Areas (DPIRD-070)
- Townsites (LGATE-248)
- WA Now Aerial Imagery
- WRIMS - Surface Water Areas (DWER-082)

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)

D.2. References

- Astill Consultants (Astill) (2026a) Native Vegetation Clearing Permit – Think Big Project Mineral Mining Services
- Astill Consultants (Astill) (2026b) Native Vegetation Clearing Permit Surface Water Management RFI. Received 2 July 2026
- Birdlife (2026) DataZone by BirdLife, Grey-tailed Tattler [Grey-tailed Tattler *Tringa brevipes* Species Factsheet | BirdLife DataZone](#) (Accessed 2 July 2026)
- Bush Heritage Australia (BHA, 2026) Malleefowl, Scientific name *Leipoa ocellata*. [Malleefowl Conservation | Bush Heritage Australia](#). (Accessed 16 July 2026)
- Bureau of Meteorology (BoM) (2026) Bureau of Meteorology Website – Climate Data Online, Kalgoorlie-Boulder Airport weather station (#12038) Bureau of Meteorology. <https://reg.bom.gov.au/climate/data/> (Accessed 1 July 2026).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2020) Guideline for the survey of arid bronze azure butterfly (ABAB) in Western Australia. Species and Communities Branch, DBCA, Western Australia.
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2024) National Recovery Plan for the malleefowl (*Leipoa ocellata*). Department of Climate Change, Energy, the Environment and Water, Canberra. <https://www.dcceew.gov.au/sites/default/files/documents/national-recovery-plan-malleefowl.pdf>
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2026a) Species Profile and Threats Database – *Tringa glareola* – Wood Sandpiper. [Tringa glareola — Wood Sandpiper](#)
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2026b) Species Profile and Threats Database – *Calidris acuminata* – Sharp-tailed Sandpiper. [Calidris acuminata — Sharp-tailed Sandpiper](#)
- 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 the Environment and Water Resourcesv (DER) (2007) Australian Government. Checklist of the Lichens of Australia and its Inland Territories. [Xanthop dayiana](#) (Accessed 15 July 2026)
- Department of Environment and Water (DEW) (Government of South Australia) (2024) *Isolepis australiensis* (Cyperaceae) Southern Club Sedge [Seeds of South Australia - Species Information](#) (Accessed 14 July 2026)
- Department of Planning, Lands and Heritage (DPLH) (2026) Aboriginal Cultural Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dph.wa.gov.au/ACHIS/index.html?viewer=ACHIS> (Accessed 1 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 1 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>
- Eastwood, R., Jacks, A., Williams, A. A. E., Petersen, L. and Cameron, J. (2023) Current distribution, preferred habitat, behaviour, and biology of the Inland Hairstreak, *Jamnena aridus* Graham & Moulds, 1988 (Lepidoptera: Lycaenidae) in the Eastern Goldfields region of Western Australia. Records of the Western Australian Museum, 38(1):68-75. <http://doi.org/10.18195/issn.0312-3162.38.2023.068-075>
- Environmental Protection Authority (EPA) (2016a) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf
- Environmental Protection Authority (EPA) (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
- Geyle, H.M., Braby, M.F., Andren, M., Beaver, E.P., Bell, P., Byrne, C., Castles, M., Douglas, F., Glatz, R.V., Haywood, B., Hendry, P., Kitching, R.L., Lambkin, T.A., Meyer, C.E., Moore, M.D., Moss, J.T., Nally, S., New, T.R., Palmer, C.M., Petrie, E., Potter-Craven, J., Richards, K., Sanderson, C., Stolarski, A., Taylor, G.S., Williams, M.R., Woinarski, J.C.Z. & Garnett, S.T. (2021). *Butterflies on the brink: identifying the Australian butterflies (Lepidoptera) most at risk of extinction*. Austral Entomology, 60(1), 98–110. <https://doi.org/10.1111/aen.12525>
- Gould (1840) Malleefowl, *Leipoa ocellata*. Department of Biodiversity, Conservation and Attractions (DBCA) library. Available from: <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://library.dbca.wa.gov.au/FullTextFiles/071554.pdf>.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Native Vegetation Solutions (NVS) (2025) Reconnaissance Flora and Vegetation Survey of the Feysville Gold Project. Prepared for Astral Resources NL. October 2025
- Rye, B.L. (2020) Description of the rare Goldfields Laceflower, *Thryptomene planiflora*. *Nuytsia* 31: 141–145.
- Terratree (2017) Bonnievale Flora and Vegetation Assessment. Prepared for Focus Minerals Ltd
- Terrestrial Ecosystems (2025) Basic Vertebrate Fauna Survey and Assessment – Feysville Project – Prepared for Astral Resources NL. April 2025
- 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.
- Waddell, P. A. and Galloway, P. D. (2023) Land systems, soils and vegetation of the southern Goldfields and Great Western Woodlands of Western Australia. Technical Bulletin No. 99, Volume 2. Department of Primary Industries and Regional Development, 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/> (July 2026).

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:

DBCAs (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.