Department of Energy, Mines, Industry Regulation and Safety

GOVERNMENT OF WESTERN AUSTRALIA

# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

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| **Permit number:** | 8152/5 |
| **Permit type:** | Purpose Permit |
| **Applicant name:** | Karora (Higginsville) Pty Ltd |
| **Application received:** | 10 April 2024 |
| **Application area:** | 1,082.81 hectares |
| **Purpose of clearing:** | Mineral production and associated activities |
| **Method of clearing:** | Mechanical Removal |
| **Tenure:** | Mining Leases 15/31, 15/231, 15/338, 15/348, 15/351, 15/352, 15/375, 15/506, 15/507, 15/512, 15/528, 15/580, 15/581, 15/597, 15/610, 15/639, 15/640, 15/642, 15/665, 15/681, 15/748, 15/817, 15/1132, 15/1133, 15/1790, 15/1814<br>General Purpose Leases 15/19, 15/26, 15/27, 15/29<br>Miscellaneous Licence 15/346, 15/347, 15/368, 15/382, 15/386, 15/389 |
| **Location (LGA area):** | Shire of Coolgardie |
| **Colloquial name:** | Higginsville Gold Operations |

### 1.2. Description of clearing activities

Karora (Higginsville) Pty Ltd proposes to clear up to 1,082.81 hectares of native vegetation within a boundary of approximately 5,110.43 hectares, for the purpose of mineral production and associated activities (Karora, 2024a). The project is located approximately 50 kilometres north of Norseman, within the Shire of Coolgardie (GIS Database). The total cumulative area of land cleared under this permit to date is approximately 349.40 hectares (Karora Resources, 2024).

The amendment application is to allow for an increased boundary to capture Lake Cowan Mining Centre and associated haul road (Karora, 2024a; 2024b).

Clearing permit CPS 8152/1 was granted by the Department of Mines, Industry Regulation and Safety (now the Department of Energy, Mines, Industry Regulation and Safety) on 4 October 2018 and was valid from 27 October 2018 to 31 July 2023. The permit authorised the clearing of up to 200 hectares of native vegetation within a boundary of approximately 1,677 hectares, for the purpose of mineral production and associated activities.

CPS 8152/2 was granted on 26 September 2019, amending the permit to increase the area authorised to clear from 200 hectares to 270 hectares and to increase the permit boundary from 1,694 hectares to 1,789 hectares.

CPS 8152/3 was granted on 20 August 2020, amending the permit to increase the amount of approved clearing, increase the permit boundary, and amalgamate five pre-existing permits into one. Clearing permits CPS 6644/1, 7673/1, 7674/2, 8062/1 and 8152/2 were amalgamated into CPS 8152/3. The total combined approved clearing area under these permits became 1,190.66 hectares. Through this amendment the total disturbance footprint for the Higginsville Gold Operations was reduced from 1,190.66 hectares to 1,000 hectares.

CPS 8152/4 was granted on 23 March 2023, amending the permit to include additional tenure, increase the amount of approved clearing and increase the boundary by 82.81 hectares.

On 10 April 2024, the Permit Holder applied to amend CPS 8152/4 to increase the permit boundary by 464.18 hectares, update the Permit Holder name, and to extend the duration of the permit. The amount of clearing authorised remains unchanged.

### 1.3. Decision on application and key considerations

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| **Decision:** | Grant |
| **Decision date:** | 28 January 2025 |
| **Decision area:** | 1,082.81 hectares of native vegetation |

## 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51O and 51KA(1) of the *Environmental Protection Act 1986* (EP Act). The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) advertised the application for a public comment for a period of 21 days, and no submissions were received.

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

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- potential impacts to ephemeral drainage lines, and consequently on surface water flow;
- impacts to conservation significant flora;
- the loss of native vegetation that is potentially suitable habitat for malleefowl (*Leipoa ocellata*);
- potential impacts to arid bronze azure butterfly (*Ogyris petrina);*
- potential impacts to inland hairstreak butterfly (*Jalmenus aridus*);
- potential impacts to habitat that could be utlised by several conservation significant fauna; and
- land degradation in the form of wind and water erosion.

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

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- flora management condition to undertake a targeted flora survey prior to clearing areas that have not been surveyed within the past five years;
- no clearing within 30 metres of *Calandrinia lefroyensis,* unless first approved by the *CEO*;
- no clearing of more than 230 individuals of *Frankenia glomerata,* unless first approved by the *CEO;*
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- a fauna management (malleefowl) condition 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;
- a fauna management (ABAB) condition requiring areas proposed to be cleared to be surveyed to identify potential critical habitat, ant colonies and ABAB individuals and no clearing within 100 metres of ant colonies;
- a fauna management (inland hairstreak butterfly) condition requiring areas proposed to be cleared to be surveyed to identify potential critical habitat and inland hairstreak butterfly, and no clearing within 50 metres of associated host plants; and
- commence construction no later than six months after undertaking clearing to reduce the risk of erosion.

The assessment has not changed since the assessment for CPS 8152/4, except in the case of principle (a), principle (b) and principle (g) that have considered recently updated information on species, guidance documents and records:

- conservation significant flora are considered under principle (a);
- malleefowl listed as Vulnerable under the *Biodiversity Conservation Act 2016* and the *Environment Protection and Biodiversity Conservation Act 1999* considered under principle (b);
- arid bronze azure butterfly listed as Critically Endangered under the *Biodiversity Conservation Act 2016* and the *Environment Protection and Biodiversity Conservation Act 1999* considered under principle (b);
- inland hairstreak butterfly listed as Priority One under the Department of Biodiveristy, Conservation and Attractions Priority Fauna list considered under principle (b); and
- land degredation risk associated with clearing of perennial vegetation considered under principle (g).

The Delegated Officer determined that the proposed amendments to increase the permit boundary by 464.18 hectares, update the Permit Holder name, and to extend the duration of the permit is not likely to lead to an unacceptable risk to environmental values and can be managed by the permit conditions and avoidance and mitigation measures in place.

## 1.5. Site map

A site map of proposed clearing is provided in Figure 1 and Figure 2 below.

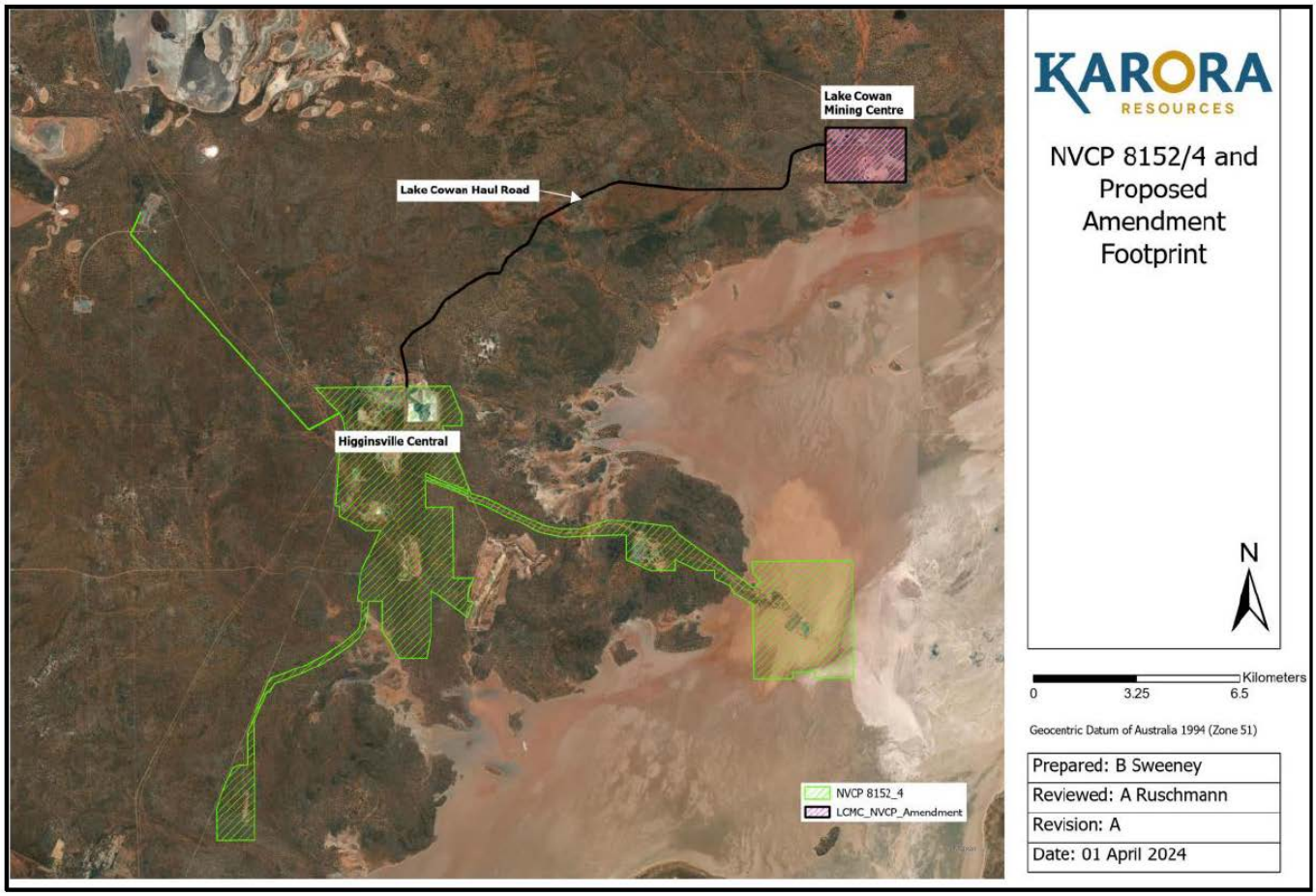


**Figure 1. Map of the application area. The green area indicates the area within which conditional authorised clearing can occur under the granted clearing permit. The pink area outlined in black indicates the amended boundary area (Karora, 2024b).**

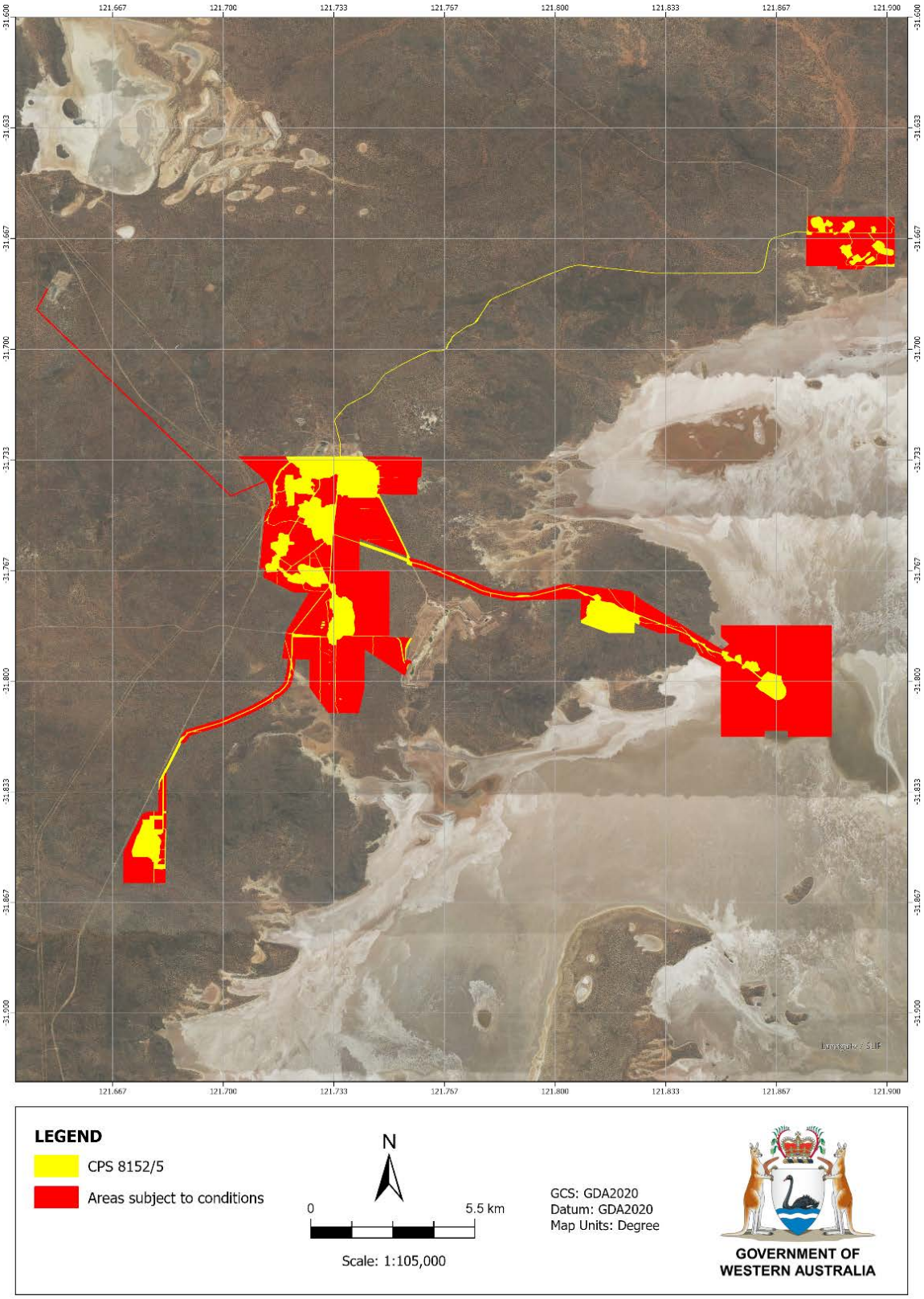


**Figure 2. Map of the application area. The yellow shaded area indicates the application area. The red shaded area indicates the areas subject to conditions.**

## 2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Biosecurity and Agriculture Management Act 2007* (BAM Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- *Mining Act 1978* (WA)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)
- Guideline for the survey of arid bronze azure butterfly (ABAB) in Western Australia (DBCA, 2020)
- Survey guidelines for Australia's threatened birds (DEWHA, 2017)

## 3. Detailed assessment of application

### 3.1. Avoidance and mitigation measures

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. The application to extend the boundary utilises previously disturbed areas to reduce the amount of new clearing required (Karora, 2024a). The amount of authorised clearing remains unchanged.

### 3.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix A) reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 8152/4, however updated information on flora and fauna species and a new rangeland survey has been incorporated into this assessment.

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

Assessment

A detailed vegetation and flora survey of Lake Cowan Mining Centre, including a targeted survey for *Frankenia georgei* was conducted over part of the application area and local surrounds by Jenny Borger Botanical Consulting during 12 to 15 November 2020, noting survey limitations due to dry conditions (Jenny Borger Botanical Consulting, 2021). A reconnaissance vegetation and flora survey and targeted flora survey over a separate part of the application area within the Lake Cowan Mining Centre conducted by Jenny Borger Botanical Consulting during 19 and 20 March 2024, noting survey limitations due to below average rainfall in 2023 (Jenny Borger Botanical Consulting, 2024b). Additionally, several flora and vegetation surveys have been conducted within the application area, but not limited to:

- Native Vegetation Solutions (2019a) Reconnaissance flora and vegetation survey of the Eundynie Gold Project, Higginsville (survey conducted 27 June 2019);
- Native Vegetation Solutions (2019b) Reconnaissance flora and vegetation survey of Pioneer Gold Project, Higginsville (survey conducted 8 and 9 April 2019, and 5 June 2019);
- Native Vegetation Solutions (2018) Reconnaissance flora and vegetation survey of Redross-Higginsville Powerline Corridor, Higginsville (survey conducted 4 December 2017);
- Native Vegetation Solutions (2017a) Level 1 flora and vegetation survey of the Mitchell Project Area, Higginsville (survey conducted 17, 18 and 21 April 2017);
- Native Vegetation Solutions (2017b) Level 1 flora and vegetation survey of the Two Boys and Fairplay project area, and proposed infrastructure corridors development, Higginsville (survey conducted 5 April 2017);
- Native Vegetation Solutions (2015a) Level 1 flora and vegetation survey of the Baloo gold prospect proposed access corridor (survey conducted 11 to 13 May 2015);
- Native Vegetation Solutions (2015b) Level 1 flora and vegetation survey of the proposed Fairplay pit and waste landform expansion and development, Higginsville (survey conducted 13 May 2015);
- GHD (2014) Lake Cowan Project Area, Desktop assessment and broadscale mapping (survey conducted 29 January 2014);
- Native Vegetation Solutions (2014) Level 1 flora and fauna survey of the proposed Lake Cowan haul road (survey conducted 28 January 2014);
- Native Vegetation Solutions (2011a) Level 1 flora and vegetation survey of the proposed Fairplay pit and waste landform expansion and development, Higginsville (survey conducted 8 December 2011);
- Native Vegetation Solutions (2011b) Level 1 flora and vegetation survey of the proposed vine waste landform expansion, Higginsville (survey conducted 20 November 2011); and
- GHD (2010) Higginsville Project Area – desktop biological assessment and broad scale vegetation mapping (survey conducted 15 December 2009).

There are a number of priority flora records (listed in Appendix A) within the local surrounds (20 kilometres) that potentially occur within the application area based on broad scale soil and vegetation mapping (DPIRD, 2024; RNC, 2020; GIS Database). While field surveys have been conducted progressively over the application area during expansion of the project, there are some areas that remain unsurveyed and lack ground-truth information for threatened or priority flora species, including some recent records that may not have been considered in past field surveys. Given the size of the application area and habitat suitability, there is a higher likelihood of species occurrence and associated risk to species. The applicant provided details of previously cleared areas with a 15 metre buffer (1.5 Site map) indicative of areas that are unlikely to contain suitable habitat for

conservation significant flora (Karora, 2025). Potential impacts to threatened or priority flora can be minimised with the implementation of a targeted flora survey condition prior to undertaking clearing for areas that have not undergone a flora and vegetation survey within the past five years.

**Priority flora**
*Ptilotus rigidus* is a Priority 1 flora species that occurs in the Coolgardie and Murchison bioregions within an area of 100 kilometres north-east, and south of Kalgoorlie, between Jubilee and Widgiemooltha with habitat associated with salt lakes (Lally, 2009). There is a medium likelihood of *Ptilotus rigidus* to occur within the application area (Jenny Borger Botanical Consulting, 2024b). One population was recorded within one kilometre of the application area with a population of 10 individuals occurring on rocky banks along drainage lines (Jenny Borger Botanical Consulting, 2021). Suitable habitat occurs within the application area, however the habitat within the Lake Cowan Mining Centre area was searched with no individuals observed (Jenny Borger Botanical Consulting, 2024b). The proposed clearing is unlikely to significantly impact the conservation status of this species.

*Calandrinia lefroyensis* is a Priority 1 flora species that occurs in the Eastern Goldfields within the Coolgardie bioregion (Western Australian Herbarium, 1998-). This species is known from three lakes south of Kalgoorlie, inhabiting areas on salt-lake flats amongst samphire communities, with soil types described as brown silty loams or brown-grey sandy clays (Obbens, 2018). There are 21 individuals of *Calandrinia lefroyensis* recorded within the application area from 11 locations (Jenny Borger Botanical Consulting, 2021; 2024a; 2024b). The applicant has proposed a 30 metre buffer surrounding Priority 1 flora species (Karora, 2024b). Impacts to *Calandrinia lefroyensis* can be minimised with the implementation of a flora management condition to avoid individuals by 30 metres.

*Frankenia glomerata* is a Priority 4 flora species that occurs across eight IBRA regions with habitat generally described as white sandy soil on the edge of salt lakes (Western Australian Herbarium, 1998-). Many records note the species to be locally common with populations of over 5,000 individuals (Western Australian Herbarium, 1998-). There are approximately 3,914 records of *Frankenia glomerata* within the application area and 9,535 individuals outside the application area (Jenny Borger Botanical Consulting, 2021; 2024a; 2024b). The proposed clearing for Harkonnen pit, topsoil stockpile and abandonment bund is estimated to impact approximately 230 individuals within an estimated local population of approximately 3,500 individuals (Jenny Borger Botanical Consulting, 2024a). The proposed clearing is unlikely to significantly impact this species at a regional scale. Local impacts can be minimised with the implementation of a flora management condition to not clear more than 230 individuals of *Frankenia glomerata.*

The flora taxon *Eremophila acutifolia* (formerly Priority 3) had previously been recorded within the application area, however this species has been delisted from the DBCA priority list due to numerous sites consisting of large populations and it no longer meeting the criteria for Threatened or Priority (Western Australian Herbarium, 1998-).

Several other priority flora species occur in the Coolgardie bioregion occurring on margins or dunes of salt lakes (Bennelongia, 2016). These species were identified to potentially occur within the application area:
- *Asteridea archeri* (P1);
- *Bossiaea arcuata* (P1);
- *Scaevola tortuosa* (P1);
- *Cryptandra crispula* (P1);
- *Bossiaea simulata* (P2);
- *Pultenaea daena* (P3);
- *Eremophila biserrata* (P4); and
- *Eremophila serpens* (P4*).*

While none of the above species have been recorded within the application area, potential impacts to priority flora can be minimised with the implementation of a targeted flora survey condition prior to undertaking clearing for areas that have not undergone a flora and vegetation survey within the past five years.

**Introduced flora**
Several weed species have been recorded within the application area (Karora; 2024b; RNC, 2020). None of the species are listed as Weeds of National Significance or declared pest plants in Western Australia under the *Biosecurity and Agriculture Management Act 2007*, however weeds have potential to outcompete native flora and reduce biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by maintaining the weed management condition.

Conclusion
For the reasons set out above, it is considered that the impacts of the proposed clearing on conservation significant flora can be managed by taking steps to minimise the risk of the introduction and spread of weeds, undertake a targeted flora survey prior to clearing, no clearing within 30 metres of Priority 1 flora species *Calandrinia lefroyensis* and no clearing of more than 230 individuals of Priority 4 *Frankenia glomerata*.

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

- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- flora management condition to undertaken a targeted flora survey prior to clearing areas that have not been surveyed within the past five years;
- no clearing within 30 metres of *Calandrinia lefroyensis,* unless first approved by the *CEO*; and
- no clearing of more than 230 individuals of *Frankenia glomerata,* unless first approved by the *CEO.*

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

Assessment

No new fauna surveys have been conducted over the application area since 2019. Several fauna surveys have been conducted within the application area, but not limited to:

- Terrestrial Ecosystems (2019) Level 1 vertebrate fauna risk assessment for the Eundynie project (survey conducted on 27 June 2019);
- Terrestrial Ecosystems (2018) Level 1 vertebrate fauna risk assessment for the proposed Higginsville powerline (survey conducted 4 December 2017);
- Terrestrial Ecosystems (2017a) Level 1 vertebrate fauna risk assessment for the proposed Higginsville infrastructure corridor development (survey conducted 18 April 2017);
- Terrestrial Ecosystems (2017b) Level 1 vertebrate fauna risk assessment for the proposed Mitchell project area (survey conducted (survey conducted 18 April 2017);
- Bennelongia Environmental Consultants (2016) Baloo Project: Salt Lake ecology survey (survey conducted 4 to 5 February 2016);
- Terrestrial Ecosystems (2015a) Level 1 vertebrate fauna risk assessment for the Baloo Project area (survey conducted 13 May 2015); and
- Terrestrial Ecosystems (2015b) Level 1 vertebrate fauna risk assessment for the Fairplay Pit and waste landform expansion and development (survey conducted 13 May 2015).

While field surveys have been conducted progressively over the application area during expansion of the project, there are some areas that remain unsurveyed and lack ground-truth information for threatened or priority fauna species, including updated information and guidelines for species that may not have been considered in past field surveys. The applicant provided details of previously cleared areas with a 15 metre buffer (1.5 Site map) indicative of areas that are unlikely to contain suitable habitat for conservation significant fauna (Karora, 2025). A desktop assessment has identified species that may potentially occur within the application area (Karora, 2024b; GIS Database):

**Mammals**

- chuditch/Western quoll (*Dasyurus geoffroi,* VU)
- central long-eared bat (*Nyctophilus major tor*, P3)

**Reptiles**

- southern death adder (*Acanthophis antarcticus*, P3)

**Birds**

- malleefowl (*Leipoa ocellata*, VU)
- grey falcon (*Falco hypoleucos,* VU)
- western rosella (inland) (*Platycercus icterotis xanthogenys*, P4)
- peregrine falcon (*Falco peregrinus,* OS)
- oriental plover (*Charadrius veredus,* MI)
- fork-tailed swift (*Apus pacificus,* MI)

**Invertebrates**

- arid bronze azure butterfly (*Ogyris petrina, formerly Ogyris subterrestris petrina,* CR)
- inland hairstreak butterfly (*Jalmenus aridus,* P1)
- fairy shrimp (Balladonia-Norseman) (*Branchinella basispina*, P3)

**Malleefowl**

Malleefowl (*Leipoa ocellata*, VU) is a large ground-dwelling bird that occurs in a range of habitat types, primarily found in semi-arid to arid shrublands and low woodlands (3-8 metres in height) dominated by mallee and associated habitats, such as broombush (*Melaleuca uncinata)* and native pine (*Callitris* spp) scrub (DCCEEW, 2024). The nest is constructed in sandy soils and leaflitter by building a large mound for egg incubation (DCCEEW, 2024). This species favours mallee that has been long unburnt and ungrazed (DCCEEW, 2024). While the application area consists of historical disturbances, there are areas that remain uncleared and in very good condition with no recent signs of fire (over 20 years) (Jenny Borger Botanical Consulting, 2021; 2024b). There are 14 records of malleefowl within the local surrounds (20 kilometres) (GIS Database). A large portion of the application area is mapped with mallee woodland; species such as *Eucalyptus salubris, Eucalyptus oleosa* subsp*. oleosa*, *Eucalyptus lesouefii, Eucalyptus transcontinentalis* and *Eucalyptus griffithsii* (RNC, 2020). Basic fauna habitat assessments previously noted no evidence of malleefowl (i.e. mounds, tracks or other signs) (Karora, 2024b). Given potentially suitable foraging and breeding habitat may occur within the application area, impacts can be minimised with the implementation of a pre-clearance survey during breeding season and directional clearing conditions.

**Arid bronze azure and inland hairstreak butterflies**

Arid bronze azure butterfly (ABAB) (*Ogyris petrina*) is listed as Critically Endangered under the BC Act and the EPBC Act. ABAB populations are severely fragmented, restricted in geographic range and sensitive to clearing and habitat disturbance (DBCA, 2020). The preferred habitat is described as vegetation of mature mixed gimlet (*Eucalyptus salubris*), salmon gum (*Eucalyptus salmonophloia*) woodlands on red-brown loam soils, with an open understorey (DBCA, 2020). The application area occurs within mapped potential habitat area for ABAB with potentially suitable habitat occurring in the form of Eucalypt open woodlands containing mixed gimlet and salmon gum (Karora, 2024b; RNC, 2020). ABAB has an obligate association with a sugar ant *Camponotus* sp. nr. *terebrans* (DBCA, 2020). While some of the surveys previously considered ABAB, the species information and guidelines has been updated since the last fauna survey was conducted over the application area. Potential impacts to ABAB can be minimised with the implementation of a pre-clearance fauna survey condition.

Inland hairstreak butterfly (*Jalmenus aridus*) is listed as Priority 1 and is data deficient. This species was previously only known to two locations near Kalgoorlie, however, has been recorded from another 10 locations within an area of extending approximately 121 kilometres north to south by 42 kilometres east to west (Eastwood *et al*., 2023). The preferred habitat for this species is summarised as open woodland, *Senna artemisioides* subsp. *filifolia*, variety of flowering shrubs (*Eremophila*, *Scaveola*, and *Maireana*) and open areas of well drained exposed ground adjoining the hostplants (Eastwood *et al*., 2023). Inland hairstreak caterpillars feed on flowers of *Senna artemisioides* subsp. *filifolia* and this species forms an obligate association with ant species, *Froggattella kirbii* (Eastwood *et al*., 2023). While some of the surveys previously considered inland hairstreak butterfly, the information relating this species has been updated since the last fauna survey was conducted over the application area. Potential impacts to inland hairstreak butterfly can be minimised with the implementation of a pre-clearance fauna survey condition.

**Chuditch**
The chuditch (*Dasyurus geoffroii,* VU) is listed as Vulnerable under the BC Act and the EPBC Act. Chuditch have disappeared from approximately 95 percent of their former range where they were previously found across all mainland Australian States (DEC, 2012). Most chuditch are now found in varying densities throughout the jarrah forest, south coast Western Australia and at lower densities in the goldfields and wheatbelt (DEC, 2012). This species utilised a range of habitats including forest, mallee shrublands, woodland and desert, with dense populations found in riparian jarrah forest (DEC, 2012). While records are limited, there is potential for this species to occur within the application area or surrounding area. Impacts can be minimised with the implementation of a slow directional clearing condition to allow fauna to move into adjacent vegetation.

**Peregrine Falcon and Grey Falcon**
The peregrine falcon (*Falco peregrinus*, OS) occurs across Australia typically nesting on rocky ledges in tall, vertical cliff faces and gorges, or in trees associated with drainage lines and forages in a range of habitat types (Australian Museum, 2019). The grey falcon (*Falco hypoleucos*, VU) occurs in arid and semi-arid Australia frequenting timbered lowland plains, particularly acacia shrublands crossed by tree-lined watercourses (TSSC, 2020). The grey falcon generally roosts and nests in the tallest trees along watercourses, particularly River Red Gum (*Eucalyptus camaldulensis*) and Coolibah (*Eucalyptus coolabah*) (TSSC, 2020). There are three records (prior to 2000) of peregrine falcon and one record (1979) of grey falcon within 20 kilometres of the application area (GIS Database). There is potential for both these species to occur within the application area as transient visitors, however there are no permanent major watercourses that intersect the application area and unlikely to contain cliff or gorge habitat (GIS Database). It is unlikely either of these species will be significantly impacted by the proposed cleared, however it is recommended that large trees be inspected prior to clearing to avoid clearing any potential nesting habitat.

**Other priority fauna**
Several species have the potential to occur within the application area, however there is a low likelihood of occurrence for the following species; southern death adder, central long-eared bat, western rosella, oriental plover and fork-tailed swift (Karora, 2024b). While the application area contains some potentially suitable habitat for these species, it is unlikely these species will be significantly impacted, however it is recommended that trees containing hollows be inspected prior to clearing to avoid clearing any potential roosting or nesting habitat.

Conclusion
For the reasons set out above, it is considered that the impacts of the proposed clearing of potential habitat for several conservation significant fauna species can be managed by slow directional clearing to allow fauna to move into adjacent vegetation and pre-clearance survey condition for malleefowl, ABAB and inland hairstreak butterfly.

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

- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- a fauna management (malleefowl) condition 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;
- a fauna management (ABAB) condition requiring areas proposed to be cleared to be surveyed to identify potential critical habitat, ant colonies and ABAB individuals and no clearing within 100 metres of ant colonies; and
- a fauna management (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 butterfly host plants.

## 3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 6 September 2024 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There are two native title claims (WCD2017/002 and WCD2014/004) over the area under application (DPLH, 2024). These claims have been determined by the Federal Court on behalf of the claimant groups; Ngadju and Ngadju Part B. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2024). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

- A Mining Proposal / Mine Closure Plan 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 (GIS Database). The predominant land use in the region is Crown reserves, grazing of native pastures, conservation and mining activity (CALM, 2002) |
| Ecological linkage | According to available databases, the application does not contain any known or mapped ecological linkages (GIS Database). |
| Conservation areas | Binaronca Nature Reserve located approximately 1.75 kilometres northeast (GIS Database). A proposed un-named Nature Reserve located approximately 7.75 kilometres southwest (GIS Database). Dordie Rocks Nature Reserve located approximately 10.63 kilometres northwest (GIS Database) |
| Vegetation description | The application area occurs within the Eastern Goldfields subregion of Coolgardie (COO03) (GIS Database). The vegetation of the application area is broadly mapped as the following Beard vegetation associations:<br>• **Binneringe (8):** medium woodland; salmon gum and gimlet (3,016.27 ha);<br>• **Binneringe (125):** bare areas; salt lakes (1,108.27 ha);<br>• **Binneringe (9):** medium woodland; coral gum (*Eucalyptus torquata*) and goldfields blackbutt (*Eucalyptus lesouefii*) (445.61 ha);<br>• **Binneringe (501):** medium woodland; goldfields blackbutt (432.30 ha);<br>• **Binneringe (522):** medium woodland; redwood (*Eucalyptus transcontinentalis)* and merrit (*E. floctoniae*) (100.57 ha); and<br>• **Binneringe (936):** medium woodland; salmon gum (7.41 ha) (GIS Database).<br><br>Several flora and vegetation surveys have been conducted over the application area by GHD, Native Vegetation Solutions and Jenny Borger Botanical Consulting between 2010 to 2024 (RNC, 2020; Karora, 2024b). There are 30 vegetation types that have been described in CPS 8152/4, with an additional 18 vegetation types described in the amended boundary area (Jenny Borger Botanical Consulting, 2021; 2024b):<br><br>***Eucalyptus woodland***<br>• *Eucalyptus salubris*, *E. salmonophloia*, *E. oleosa* woodland over *Santalum acuminatum*, *Eremophila scoparia, Exocarpos aphyllus* open shrubland over *Cratystylis conocephala, Olearia muelleri, Atriplex vesicaria, Santalum acuminatum* low open shrubland;<br>• *Eucalyptus griffithsii, E. lesouefii, E. salubris* low woodland over *Acacia acuminata* tall shrubland over *Eremophila ionantha*, *Senna artemisioides* subsp. *filifolia*, *Dodonaea viscosa* subsp. *angustissima* shrubland over *Atriplex codonocarpa*, *A. vesicaria* low open shrubland; and<br>• *Eucalyptus virella* (9 – 12 m) open woodland over open shrubland over *Eremophila scoparia*, *Exocarpos aphyllus*, *Olearia muelleri, Atriplex vesicaria*, *Cratystylis conocephala* low open shrubland.<br>***Acacia tall shrubland***<br>• *Acacia acuminata, Eucalyptus oleosa* subsp. *oleosa* low open forest or tall shrubland over *Ptilotus aervoides, Solanum lasiophyllum, Cheilanthes sieberi* subsp. *sieberi, Euphorbia drummondii, Solanum hoplopetalum* low isolated forbs and shrubs.<br>***Shrubland***<br>• *Myoporum platycarpum* subsp. platycarpum isolated low trees over *Cratystylis subspinescens, Senna artemisioides* subsp*. filifolia, Scaevola spinescens, Eremophila scoparia, Lycium australe* open shrubland over *Maireana sedifolia, Senna artemisioides* subsp. *filifolia, Cratystylis subspinescens, Atriplex vesicaria, Westringia rigida* low open shrubland.<br>***Chenopod and eremophila shrubland***<br>• *Rhagodia drummondii, Eremophila scoparia, E. alternifolia, Exocarpos aphyllus, Dodonaea viscosa* subsp. *angustissima* isolated shrubs over *E. scoparia, E. decipiens* subsp*. decipiens, Rhagodia drummondii, Maireana amoena, Atriplex* vesicaria low open chenopod shrubland over *Frankenia glomerata, F. cinerea, F. pauciflora, Maireana glomerifolia, M. amoena, Tecticornia triandra* low shrubland.<br>***Melaleuca open to sparse shrubland***<br>• *Melaleuca lateriflora* sparse to open shrubland over *Frankenia glomerata, F. pauciflora, Maireana glomerifolia, Frankenia cinerea, Eremophila ionantha, Grevillea acuaria, Tecticornia triandra, T. pergranulata, Disphyma crassifolium* low sparse shrubland.<br>***Alluvial plain***<br>• *Myoporum platycarpum* subsp. *platycarpum* low isolated trees or *Dodonaea viscosa* subsp. *angustissima* tall, isolated shrubs over *Eremophila scoparia* isolated shrubs over *Cratystylis subspinescens, Maireana erioclada, Lycium australe* low open shrubland over a mixed low chenopod shrubland (*Atriplex vesicaria, Maireana amoena, Cratystylis subspinescens, Frankenia glomerata, Maireana glomerifolia*). |

| | |
|---|---|
| | ***Alluvial plain/ephemeral drainage line***<br>• *Cratystylis subspinescens, Eremophila scoparia, Lycium australe* low open shrubland over *Tecticornia* spp., *Disphyma crassifolium, Atriplex vesicaria, Maireana amoena, M. glomerifolia, Frankenia glomerata* low open to sparse chenopod shrubland with occasional stands of *Alyxia buxifolia, Pimelea microcephala* subsp. *microcephala, Grevillea acuaria, Exocarpos aphyllus, Dodonaea viscosa* subsp. *angustissima, Senna artemisioides* subsp*. filifolia* shrubland.<br>***Dune***<br>• *Myoporum platycarpum* subsp. *platycarpum* low open woodland *over Melaleuca lateriflora, Acacia donaldsonii, A. kalgoorliensis, Exocarpos aphyllus* tall sparse shrubland over *Exocarpos aphyllus, Eremophila scoparia, Grevillea acuaria, Bossiaea walkeri* open shrubland over *Eremophila decipiens* subsp. *decipiens, Frankenia glomerata, Rhagodia drummondii* low isolated shrubs; and<br>• Small stands of *Eucalyptus virella* open woodland over *Bossiaea walkeri* sparse shrubland over *Lomandra effusa, Atriplex vesicaria, Austrostipa* sp. open forbland.<br>***Interchannel banks***<br>• *Melaleuca lateriflora* tall open shrubland over *Tecticornia disarticulata, Maireana triptera, M. glomerifolia, Frankenia glomerata*, *Maireana sedifolia* low sparse chenopod shrubland.<br>***Plain***<br>• *Eucalyptus salubris* open woodland over *Eremophila scoparia, Exocarpos aphyllus, Pimelea microcephala* subsp. *microcephala* sparse shrubland over *Lycium australe, Alyxia buxifolia, Tecticornia disarticulata* low sparse shrubland over *Tecticornia disarticulata, Solanum nummularium, Atriplex vesicaria, Olearia muelleri* low open chenopod shrubland;<br>• *Eremophila scoparia, Myoporum platycarpum* subsp. *platycarpum* tall isolated shrubs over *Eremophila scoparia* shrubland over *mixed Lycium australe, Eremophila scoparia, Atriplex vesicaria* low open shrubland over *Maireana sedifolia, Eremophila parvifolia subsp. auricampi, E. scoparia* low sparse chenopod shrubland; and<br>• *Eucalyptus salmonophloia, E. salubris* woodland *over Myoporum platycarpum subsp. platycarpum, Santalum spicatum, Eucalyptus salmonophloia, Santalum acuminatum* low isolated trees over *Eremophila scoparia, Santalum acuminatum, Acacia hemiteles* shrubland over *Eremophila scoparia, Scaevola spinescens, Exocarpos aphyllus* low shrubland over *Olearia muelleri, Cratystylis conocephala, Austrostipa elegantissima* low sparse shrubland.<br>***Low hills***<br>• Mixed woodlands *Eucalyptus lesouefii, E. salubris, E. oleosa* subsp. *oleosa* woodland over *Cratystylis conocephala, Eremophila scoparia, Acacia hemiteles, Atriplex nummularia* open shrubland over *Eremophila parvifolia* subsp. *auricampi, Olearia muelleri, Cratystylis conocephala, Roepera aurantiaca* subsp*. aurantiaca, Solanum nummularium* low sparse shrubland;<br>• *Eucalyptus griffithsii* mallee woodland with patches of *Eucalyptus torquata* woodland over *Eremophila alternifolia, Acacia hemiteles, Exocarpos aphyllus* tall sparse shrubland over *Acacia hemiteles, Exocarpos aphyllus, Senna artemisioides* subsp. *filifolia* sparse shrubland over *Scaevola spinescens, Senna artemisioides* subsp. *filifolia, Exocarpos aphyllus* low shrubland; and<br>• *Eremophila alternifolia, Alyxia buxifolia, Pimelea microcephala* tall closed shrubland over *Eremophila alternifolia, Olearia* sp. *Eremicola, Pimelea microcephala, Acacia hemiteles, A. tetragonophylla* shrubland over *Olearia muelleri, Austrostipa* sp., *Senna artemisioides* subsp. *filifolia, Euphorbia drummondii* low open shrubland.<br>***Rehabilitation/regrowth***<br>• *Eucalyptus salubris* low open woodland over *Tecticornia disarticulata, Eucalyptus salubris* low sparse shrubland over *Atriplex vesicaria, Sclerolaena diacantha, Maireana georgei* low isolated chenopod shrubs and *Atriplex nummularia* isolated chenopod shrubs (1 -2 m) over *Maireana triptera, M. brevifolia, Sclerolaena diacantha* low chenopod shrubland.<br>**Cleared areas** |
| Vegetation condition | The vegetation survey and aerial imagery indicate the vegetation within the proposed clearing area is in Excellent to Completely Degraded (Keighery, 1994) condition (Jenny Borger Botanical Consulting, 2021; 2024b; GIS Database).<br><br>The full Keighery (1994) condition rating scale is provided in Appendix C.<br><br>The application area is located within Karora's Higginville mining operation that has been previously disturbed by mining activities, tracks, erosion, invasive weeds and cattle tracks (Jenny Borger Botanical Consulting, 2021; 2024b). |
| Climate and landform | The application area is mapped within the elevations of 300 to 350 Australian Height Datum (GIS Database). The climate of the region is semi-arid, with an annual rainfall of approximately 281.6 millimetres recorded at Norseman Aero (BoM, 2024; CALM, 2002). |

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| Soil description and land degradation risk | The application area falls within the following land systems from the Department of Primary Industries and Regional Development's rangeland survey information (DPIRD, 2024):<br>• **Coolgardie:** described as uplands and undulating plains associated with ultramafic greenstones supporting eucalypt woodlands and halophytic shrublands. Erosional surfaces: deeply weathered uplands and rises with occasional low rounded hills of up to 40 metres relief, but commonly 20 metres; very gently inclined footslopes and gently undulating plains with pebble mantles common; narrow drainage tracts receiving tributary flow off higher units; drainage foci associated with seeplines at the change of slope from rises to alluvial plains. Where not protected by a stony mantle, footslopes and valley floors are susceptible to water erosion, particularly in areas where perennial shrub cover is substantially reduced and/or the soil surface is disturbed.<br>• **Doney:** described as calcareous sheetwash plains with eucalypt woodlands and a sclerophyllous shrub understory. The landform is dominated by erosional and depositional surfaces; infrequent upland pediments, footslopes and very gentle to gently colluvial slopes. Very gently inclined to level sheetwash plains that form broad drainage tracks with negligible surface drainage development. Not generally susceptible to soil erosion except the drainage tracts that are susceptible if the perennial shrub cover is removed.<br>• **Dundas:** described as gently undulating calcareous plains with occasional stony rises supporting eucalypt and melaleuca woodlands over false bluebush shrublands. Erosional and depositional surfaces, occasional low rises (<15 metres), extensive gently undulating to level plains with negligible surface drainage development. Level drainage tracks approximate 200 metres wide receiving concentrated through flow; occasional shallow channels and gullies. Soils are mainly calcareous gravelly shallow loams, calcareous gravelly loamy earth, calcareous shallow loam and calcareous loamy earths. This system is generally not susceptible to erosion, although drainage tracts may become vulnerable when perennial shrub cover is substantially reduced.<br>• **Graves:** described as basalt and greenstone low hills supporting acacia shrublands and/or eucalypt woodlands with saltbush and bluebush understoreys. Erosional surfaces with weathered, low rounded hills and rises, moderately to gently inclined footslopes with coarse gravelly to stony mantles; narrow alluvial tracts receiving tributary flow off higher units. Relief up to 40 metres. This system is not generally prone to erosion, unless the protective stone mantle is disturbed. Alluvial plains in valley floors are susceptible to water erosion where perennial shrub cover is substantially reduced, or the soil surface is disturbed.<br>• **Gumland:** described as alluvial plains and drainage tracts with foci that are susceptible to erosion if perennial shrub cover is removed or substantially reduced. The footslopes are also susceptible to erosion if the protective mantles are disturbed.<br>• **Lefroy:** described as salt lakes and fringing saline plains, sand sheets and dunes with halophytic shrubland. Salt lakes and fringing alluvial plains with localised eolian reworking, vegetated by halophytic shrublands. Depositional surfaces; lake beds, drainage foci and claypans; fringing level plains of saline alluvium; sandy banks, lunettes, low sand dunes and undulating kopi dunes above and surrounding saline plains; alluvial plains on margin of system subject to sheet flow; minor saline stony plains typically adjacent bordering uplands. A high salinity regime makes the Lefroy system prone to high erosion rates in its natural state, but a lack of slope causes erosion and deposition to be very localised. This results in the whole system being in dynamic equilibrium. Minor areas receiving concentrated run-on (i.e. alluvial plains) are susceptible to rilling when shrub cover is reduced, or surface flows from degraded areas upslope impact flow regimes below. Wind erosion of landforms derived from eolian deposits and lake margins may be exacerbated by loss of stabilising perennial shrubs.<br>• **Monga:** described as low rises, breakaways and very gently undulating plains with ironstone gravel mantles, supporting eucalypt woodlands, dissected by saline alluvial tracts, supporting halophytic shrublands. Erosional and depositional surfaces with infrequent low rises and breakaway back slopes grading into very gently undulating plains with abundant ironstone gravel mantles. This system is not generally susceptible to erosion.<br>• **Kanowna:** this system is susceptible to water erosion, except for the loamy plain landforms. Mostly where weathered felsic volcaniclastic rocks underlie saline soils, particularly in areas where perennial shrub cover is substantially reduced and/or the soil surface is disturbed.<br>• **Woolibar:** described as gently undulating calcareous gravelly plains, supporting bluebush shrublands and eucalypt woodlands. Erosional and depositional surfaces; occasional low rises, relief usually less than 15 metres; gently inclined footslopes and extensive gently undulating plains; minor saline plains and alluvial fans between interfluves; narrow (<500 metres) integrated, tributary drainage tracts converging into wider (<1 kilometre) level alluvial plains, that may become channelised in central parts where flows are concentrated. Where not protected by a gravelly mantle, and especially when corresponding with occurrence of weathered felsic volcaniclastic rocks, the saline plains and lower alluvial plains are very susceptible to water erosion, particularly in areas where perennial shrub cover is substantially reduced and/or the soil surface is disturbed. |

| | |
|---|---|
| | DPIRD soil mapping indicates that the Doney, Dundas, Graves, Mongers and Gumland land systems are generally not prone to soil erosion unless perennial shrub cover is substantially reduced, or the soil surface is disturbed (DPIRD, 2024). |
| Waterbodies | The desktop assessment and aerial imagery indicated that there are no permanent watercourses that intersect the application area, however there are records of numerous minor ephemeral watercourses that transect the area proposed to be cleared (GIS Database). The application area intersects Lake Cowan, which is a non-perennial lake (GIS Database). |
| Hydrogeography | The application area is located within the Goldfields Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (GIS Database). There are no Public Drinking Water Source areas, Wetlands of International Importance or Nationally Important Wetlands that occur within the application area or in the local surrounds (20 kilometres) (GIS Database). The groundwater salinity recorded from monitoring bores is between approximately 60,000 and 230,000 milligrams per litre total dissolved solids which is described as hypersaline (Karora, 2024b). |
| Flora | There are records of three priority flora within the application area and 28 priority flora that occur in the local surrounds (Karora, 2024b; GIS Database). |
| Ecological communities | There are no records of Threatened or Priority Ecological Communities within the application area or local surrounds (20 kilometres) (Karora, 2024b; GIS Database). |
| Fauna | There are 12 conservation significant fauna species that potentially occur within the application area (Karora, 2024b; GIS Database). |

## A.2. Flora analysis table

Conservation significant flora species within 20 kilometres of the application area (Western Australian Herbarium, 1998-; GIS Database).

| Species name | Suitable habitat features? | Distance of closest record to application area (km) | Number of known records (total) |
|---|---|---|---|
| **Priority 1** | | | |
| *Acacia dorsenna* | Y | <6 | 14 |
| *Bossiaea aurantiaca* | Y | <16 | 13 |
| *Bossiaea saxosa* | Y | <13 | 11 |
| *Calandrinia lefroyensis* | Y | 0 | 11 |
| *Eremophila lucida* | Y | <15 | 19 |
| *Grevillea phillipsiana* | Y | <10 | 21 |
| *Lepidosperma lyonsii* | Y | <15 | 72 |
| *Prostanthera splendens* | Y | <8 | 13 |
| *Pterostylis xerampelina* | N | <3 | 15 |
| *Ptilotus rigidus* | Y | <1 | 21 |
| *Senecio microbasis* | unknown | <3 | 1 |
| **Priority 2** | | | |
| *Apatelantha insignis* | Y | <16 | 30 |
| *Eremophila praecox* | Y | <15 | 50 |
| **Priority 3** | | | |
| *Acacia dissona* var. *indoloria* | Y | <13 | 23 |
| *Allocasuarina eriochlamys* subsp. *grossa* | Y | 0 | 29 |
| *Chrysocephalum apiculatum* subsp. *norsemanense* | Y | <6 | 18 |
| *Cyathostemon* sp. Salmon Gums (B. Archer 769) | Y | <12 | 19 |
| *Eremophila annosicaulis* | N | <18 | 5 |
| *Eremophila purpurascens* | Y | <16 | 37 |
| *Eucalyptus brockwayi* | Y | <16 | 79 |
| *Melaleuca coccinea* | Y | <1 | 35 |
| *Phlegmatospermum eremaeum* | Y | <19 | 18 |
| *Pityrodia scabra* subsp. *dendrotricha* | N | <2 | 27 |
| *Stylidium choreanthum* | N | <15 | 30 |

| Species name | Suitable habitat features? | Distance of closest record to application area (km) | Number of known records (total) |
|---|---|---|---|
| **Priority 4** | | | |
| *Eucalyptus kruseana* | Y | <5 | 27 |
| *Eucalyptus x brachyphylla* | N | <15 | 24 |
| *Frankenia glomerata* | Y | 0 | 69 |
| *Myriophyllum petraeum* | N | <9 | 58 |

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

## Appendix B. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| **Environmental value: biological values** | | |
| Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."*<br>Assessment:<br>The area proposed to be cleared contains conservation significant flora and potential habitat for conservation significant flora. | At variance<br>(changed from CPS 8152/4) | Yes<br>*Refer to Section 3.2.1, above.* |
| Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."*<br>Assessment:<br>The area proposed to be cleared contains potential foraging and breeding habitat for conservation significant fauna. | May be at variance<br>(changed from CPS 8152/4) | Yes<br>*Refer to Section 3.2.2, above.* |
| Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."*<br>Assessment:<br>The area proposed to be cleared is unlikely to contain flora species listed under the BC Act, however four species have been recorded within the 50 kilometres of the application area (Jenny Borger Botanical Consulting, 2021; GIS Database). | Not likely to be at variance<br>(as per CPS 8152/4) | No |
| Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."*<br>Assessment:<br>There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (Karora, 2024b; GIS Database). | Not likely to be at variance<br>(as per CPS 8152/4) | No |
| **Environmental value: significant remnant vegetation and conservation areas** | | |
| Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."*<br>Assessment:<br>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 current extent of vegetation associations remaining (Government of Western Australia, 2019):<br>• Binneringe (8): 98.34% (275,589 ha)<br>• Binneringe (125): 92.87% (506,802 ha)<br>• Binneringe (9): 97.78% (235,101 ha)<br>• Binneringe (501): 99.70% (43,805 ha)<br>• Binneringe (522): 99.93% (687,920 ha)<br>• Binneringe (936): 99.58% (584,336 ha)<br>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<br>(as per CPS 8152/4) | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."*<br><br>Assessment:<br><br>Given the distance to the nearest conservation area (GIS Database), the proposed clearing is not likely to have an impact on the environmental values of conservation areas. | Not likely to be at variance<br><br>(as per CPS 8152/4) | No |
| **Environmental value: land and water resources** | | |
| Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."*<br><br>Assessment:<br><br>There are no permanent water courses recorded within the application area, however, several ephemeral drainage lines pass through the application area (GIS Database). The application area intersects Lake Cowan, which is one of the larger lakes in the Goldfields bioregion (Karora, 2024b). Potential impacts to the vegetation growing in association with watercourses may be minimised by maintaining the watercourse management condition. | At variance<br><br>(as per CPS 8152/4) | No |
| Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."*<br><br>Assessment:<br><br>The mapped soils are susceptible to wind and water erosion when perennial vegetation is removed (DPIRD, 2024). Noting the extent of the application area, the proposed clearing is likely to have an appreciable impact on land degradation. The applicant noted areas will be ripped, covered with topsoil, and revegetated post mining activities (Karora, 2024b). Impacts can be minimised by maintaining the staged clearing condition on the permit. | At variance<br><br>(changed from CPS 8152/4) | No |
| Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."*<br><br>Assessment:<br><br>Given no Public Drinking Water Sources Areas are recorded within the application area (GIS Database), the proposed clearing is unlikely to impact surface or ground water quality. The applicant noted drainage and runoff from mining areas are controlled by drains and bunds to minimise impact on local surface water flows (Karora, 2024b). | Not likely to be at variance<br><br>(as per CPS 8152/4) | No |
| Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."*<br><br>Assessment:<br><br>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. The applicant noted maintenance measures for flood mitigation and drainage control (Karora, 2024b). | Not likely to be at variance<br><br>(as per CPS 8152/4) | 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. |

| Condition | Description |
|---|---|
| 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 databases

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

- Aboriginal Heritage Places (DPLH-001)
- Bush Forever (Regional Scheme) (DPLH-022)
- Contours (DPIRD-073)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Interim Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

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

## D.2. References


Australian Museum (2019) Peregrine falcon (*Falco peregrinus*). The Australian Museum, New South Wales. Available from: https://australian.museum/learn/animals/birds/peregrine-falcon/ (Accessed November 2024).

Bennelongia (2016) Baloo Project: Salt Lake Ecological Survey. Report prepared for S2 Resources Ltd, April 2016.

Bureau of Meteorology (BoM) (2024) Bureau of Meteorology Website – Climate Data Online, Norseman Aero (Station 12009). Bureau of Meteorology. https://reg.bom.gov.au/climate/data/ (Accessed 1 November 2024).

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.

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. Available from: Threatened and priority fauna resources | Department of Biodiversity, Conservation and Attractions

Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2024) National recovery plan for the Malleefowl (*Leipoa ocellata*). Available from: https://www.dcceew.gov.au/environment/biodiversity/threatened/publications/recovery/malleefowl

Department of Environment and Conservation (DEC) (2012) Chuditch *Dasyurus geoffroii* Recovery Plan. Western Australian Wildlife Management Program No. 54. Department of Environment and Conservation, Perth, 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 the Environment, Water, Heritage and the Arts (DEWHA) (2017) Survey guidelines for Australia's threatened birds. Available from: Survey guidelines for Australia's threatened birds

Department of Planning, Lands and Heritage (DPLH) (2024) Aboriginal Cultural Heritage Inquiry System. Department of Planning, Lands and Heritage. https://espatial.dplh.wa.gov.au/ACHIS/index.html?viewer=ACHIS (Accessed 1 November 2024).

Department of Primary Industries and Regional Development (DPIRD) (2024) Advice received in relation to Clearing Permit Application CPS 8152/5. Office of the Commissioner of Soil and Land Conservation, Department of Primary Industries and Regional Development, Western Australia, November 2024.

Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. https://www.wa.gov.au/system/files/2023-06/procedure-native-vegetation-clearing-permits.pdf

Eastwood, R. Jacks, A. Williams, A.A.E. Petersen. L, Cameron, J. (2023) Current distribution, preferred habitat, behaviour, and biology of the Inland Hairstreak, *Jalmenus aridus* Graham & Moulds, 1988 (Lepidoptera: Lycaenidae) in the Eastern Goldfields region of Western Australia. Records of the Western Australian Museum.

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

GHD (2010) Higginsville Project Area, Desktop Biological Assessment and Broad Scale Vegetation Mapping. Prepared for Avoca Resources Limited, February 2010.

GHD (2014) Lake Cowan Project Area Desktop assessment and broadscale mapping. Prepared for Metals X Limited, February 2014.

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

Jenny Borger Botanical Consulting (2021) Detailed vegetation and flora survey of Lake Cowan Mining Centre and Harkonnen areas for Karora Resources, including a targeted survey for *Frankenia georgei* P1.

Jenny Borger Botanical Consulting (2024a) Atreides Project – impacted conservation significant flora memo, prepared for Karora Resources, June 2024.

Jenny Borger Botanical Consulting (2024b) Reconnaissance vegetation and flora survey and targeted flora survey of the Atreides Project area for Karora Resources Higginsville Mining Operation – Tenement M15/1132.

Karora (Higginsville) Pty Ltd (Karora) (2025) Clearing permit additional information, CPS 8152/5, received 10 January 2025.

Karora (Higginsville) Pty Ltd (Karora) (2024a) Clearing permit application form, CPS 8152/5, received 10 April 2024.

Karora (Higginsville) Pty Ltd (Karora) (2024b) Supporting Information for an application to amend CPS 8152/4 for inclusion of Lake Cowan Mining Centre Higginsville Gold Operation, April 2024.

Karora Resources (2024) Annual clearing report for the Higginsville Gold Operations – 1 July to 30 June 2024.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Lally, T. R. (2009) New taxa of *Ptilotus* (Amaranthaceae) from Western Australia. (19(1): 53-62) Nuytsia; Western Australia's Journal of Systematic Botany. Department of Environment and Conservation.

Native Vegetation Solutions (NVS) (2011a) Level 1 flora and vegetation survey of the proposed fairplay pit and waste landform expansion and development Higginsville. Prepared for Alacer Gold, December 2011.

Native Vegetation Solutions (NVS) (2011b) Level 1 flora and vegetation survey of the proposed vine waste landform expansion Higginsville. Prepared for Alacer Gold, November 2011.

Native Vegetation Solutions (NVS) (2014) Level 1 flora and fauna survey of the proposed Lake Cowan haul road. Prepared for Avoca Mining Pty Ltd, February 2014.

Native Vegetation Solutions (NVS) (2015a) Level 1 Flora and vegetation survey of the Baloo Gold Prospect Proposed Access Corridor. Report prepared for Polar Metals Pty Ltd, August 2015.

Native Vegetation Solutions (NVS) (2015b) Level 1 Flora and vegetation survey of the Proposed Fairplay Pit and Waste Landform Expansion and Development – Higginsville (M15/031, M15/231, M15/348, M15/352, M15/375, M15/610 and M15/748).

Native Vegetation Solutions (NVS) (2017a) Level 1 Flora and vegetation survey of the Mitchell Project Area, Higginsville (M15/338, M15/639, M15/640, M15/1790 and G15/29). Report prepared for Avoca Mining Pty Ltd, June 2017.

Native Vegetation Solutions (NVS) (2017b) Level 1 flora and vegetation survey of the two boys and fairplay project area, and proposed infrastructure corridors development Higginsville. Prepared for Avoca Mining Pty Ltd, July 2017.

Native Vegetation Solutions (NVS) (2018) Reconnaissance Flora and Vegetation Survey of the Redross-Higginsville Powerline Corridor, Higginsville (L15/368 and L15/377). Report prepared for Avoca Mining Pty Ltd, January 2018.

Native Vegetation Solutions (NVS) (2019a) Reconnaissance Flora and Vegetation Survey of the Eundynie Gold Project, Higginsville - June 2019. Report prepared for Avoca Mining Pty Ltd, July 2019.

Native Vegetation Solutions (NVS) (2019b) Reconnaissance Flora and Vegetation Survey of Pioneer Gold Project, Higginsville – April 2019. Report prepared for Avoca Mining Pty Ltd, June 2019.

Obbens, F. J. (2018) Three new perennial species of *Calandrinia* (Montiaceae) from southern Western Australia. (29: 193-204) Nuytsia; The journal of Western Australian Herbarium. Botanic Gardens and Parks Authority, Kings Park and Botanic Garden, Western Australian Herbarium and Department of Parks and Wildlife.

RNC (2020) Supporting information for an application to amend CPS 8152/2 – Higginsville Gold Operations. Prepared for Avoca Mining Pty Ltd, May 2020.

Terrestrial Ecosystems (2015a) Level 1 Vertebrate Fauna Risk Assessment for the Baloo Project Area. Report prepared for Polar Metals Pty Ltd, by Terrestrial Ecosystems, June 2015.

Terrestrial Ecosystems (2015b) Level 1 Vertebrate Fauna Risk Assessment for the Fairplay Pit and Waste Landform Expansion and Development. Unpublished report prepared for Native Vegetation Solutions.

Terrestrial Ecosystems (2017a) Level 1 vertebrate fauna risk assessment for the proposed Higginsville infrastructure corridor development. Prepared for Avoca Mining Pty Ltd, July 2017.

Terrestrial Ecosystems (2017b) Level 1 Vertebrate Fauna Risk Assessment for the proposed Mitchell project area. Unpublished report prepared for Native Vegetation Solutions.

Terrestrial Ecosystems (2018) Level 1 Vertebrate Fauna risk Assessment for the proposed Higginsville powerline. Report prepared for Native Vegetation Solutions by Terrestrial Ecosystems, January 2018.

Terrestrial Ecosystems (2019) Level 1 Vertebrate Fauna Risk Assessment for the Eundynie Project. Report prepared for Avoca Mining Pty Ltd, by Terrestrial Ecosystems, July 2019.

Threatened Species Scientific Committee (TSSC) (2020) Conservation Advice *Falco hypoleucos*, Grey Falcon. Department of the Environment, Canberra.

Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed November 2024).

## 4. Glossary

### Acronyms:

| | |
|---|---|
| **BC Act** | *Biodiversity Conservation Act 2016,* Western Australia |
| **BoM** | Bureau of Meteorology, Australian Government |
| **DAA** | Department of Aboriginal Affairs, Western Australia (now DPLH) |
| **DAFWA** | Department of Agriculture and Food, Western Australia (now DPIRD) |
| **DCCEEW** | Department of Climate Change, Energy, the Environment and Water, Australian Government |
| **DBCA** | Department of Biodiversity, Conservation and Attractions, Western Australia |
| **DEMIRS** | Department of Energy, Mines, Industry Regulation and Safety |
| **DER** | Department of Environment Regulation, Western Australia (now DWER) |
| **DMIRS** | Department of Mines, Industry Regulation and Safety, Western Australia (now DEMIRS) |
| **DMP** | Department of Mines and Petroleum, Western Australia (now DEMIRS) |
| **DoEE** | Department of the Environment and Energy (now DCCEEW) |
| **DoW** | Department of Water, Western Australia (now DWER) |
| **DPaW** | Department of Parks and Wildlife, Western Australia (now DBCA) |
| **DPIRD** | Department of Primary Industries and Regional Development, Western Australia |
| **DPLH** | Department of Planning, Lands and Heritage, Western Australia |
| **DRF** | Declared Rare Flora (now known as Threatened Flora) |
| **DWER** | Department of Water and Environmental Regulation, Western Australia |
| **EP Act** | *Environmental Protection Act 1986*, Western Australia |
| **EPA** | Environmental Protection Authority, Western Australia |
| **EPBC Act** | *Environment Protection and Biodiversity Conservation Act 1999* (Federal Act) |
| **GIS** | Geographical Information System |
| **ha** | Hectare (10,000 square metres) |
| **IBRA** | Interim Biogeographic Regionalisation for Australia |
| **IUCN** | International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union |
| **PEC** | Priority Ecological Community, Western Australia |
| **RIWI Act** | *Rights in Water and Irrigation Act 1914*, Western Australia |
| **TEC** | Threatened Ecological Community |

### Definitions:

**{DBCA (2023) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-**

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

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

***Threatened fauna*** is 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:**

**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:**

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.

**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.