



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

| | |
|------------------------------|---|
| Permit number: | 11447/1 |
| Permit type: | Purpose permit |
| Applicant name: | Norton Gold Fields Pty Ltd |
| Application received: | 30 January 2026 |
| Application area: | 580 hectares |
| Purpose of clearing: | Mineral production and associated activities |
| Method of clearing: | Mechanical removal |
| Tenure: | Mining Leases 26/115, 26/243, 26/387, 26/420, 26/430, 26/445, 26/468 and 26/474 |
| Location (LGA area): | City of Kalgoorlie-Boulder |
| Colloquial name: | Centurion Project |

1.2. Description of clearing activities

Norton Gold Fields Pty Ltd (Norton) proposes to clear up to 580 hectares of native vegetation within a boundary of approximately 1,001 hectares, for the purpose of mineral production and associated activities (Norton, 2026b). The project is located approximately nine kilometres southwest of Kalgoorlie, within the City of Kalgoorlie-Boulder (GIS Database).

The application is to allow for a cutback of Centurion open pit, located in the Binduli South project area (Norton, 2025).

The application area includes the CPS 10036/1 permit boundary (see Figure 1, Section 1.5). On 4 November 2025, Norton applied to amend CPS 10036/1 to increase the area of clearing authorised by 270 hectares, increase the permit boundary and extend the permit duration (Norton, 2025). Due to the large increase in authorised clearing and permit boundary requested, the amendment application was withdrawn and replaced with a new application (CPS 11447/1) (Norton, 2026a). CPS 10036/1 will be withdrawn after CPS 11447/1 has been granted (Norton, 2026a).

1.3. Decision on application and key considerations

| | |
|-----------------------|-----------------------------------|
| Decision: | Grant |
| Decision date: | 2 April 2026 |
| Decision area: | 580 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 one submission was received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix C), relevant datasets (Appendix G), supporting information provided by the applicant (Appendix A) including the results of a flora and vegetation survey (Appendix F), the clearing principles set out in Schedule 5 of the EP Act (Appendix D), proposed avoidance and minimisation measures (Section 3.1), 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;
- the clearing of native vegetation growing in association with watercourses and wetlands which may be suitable habitat for priority species, including *Calandrinia lefroyensis* and *Branchinella denticulata*;
- increased risk of malleefowl injury or mortality;
- potential land degradation in the form of water or wind erosion; and
- increased turbidity in local waterbodies.

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

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- at least once in each 12 month period for the term of this permit, the Permit Holder must remove or kill any weeds growing within areas cleared under this permit;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- a riparian vegetation and watercourse management condition; and
- a staged clearing condition to minimise erosion.

1.5. Site map

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

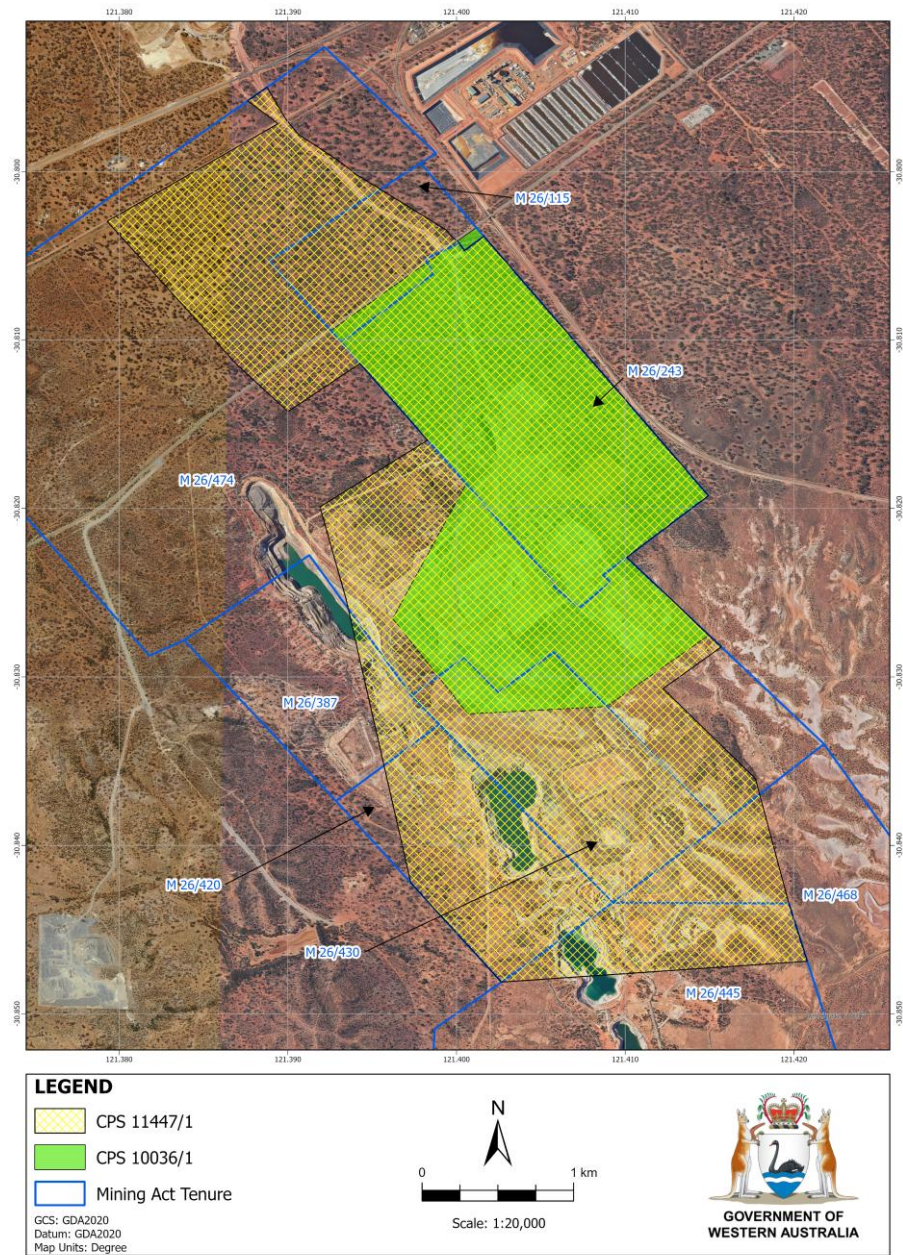


Figure 1. Map of the application area. The yellow cross-hatched area indicates the area within which conditional authorised clearing can occur under the granted clearing permit (CPS 11447/1). The green shaded area indicates the CPS 10036/1 permit boundary.

2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

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

Relevant agreements (treaties) considered during the assessment include:

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

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- *Guidance for the Assessment of Environmental Factors – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* (EPA, 2004)
- *Technical guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- *Technical guidance – Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant, submitted the following management measures to reduce the impacts of clearing (Astill Consultants, 2025):

- Clearing process:
 - Clearing areas will be kept to the minimum required for mine activities and undertaken progressively as required;
 - existing disturbances will be utilised where possible;
 - an internal Ground Disturbance Procedure will be adhered to for all clearing activities conducted;
 - clearing will be authorised under a clearing permit or valid clearing exemption;
 - proposed clearing will be demarcated by a surveyor using high visibility tape / survey pegs to ensure clear visual boundaries for operators prior to clearing commencement or alternatively a spotter with handheld GPS will guide clearing;
 - a meeting will be held between the supervisor and clearing operator to ensure awareness of clearing areas and any areas to be avoided;
 - where practicable, raised blade clearing will be used. Where this is not practicable, topsoil will be stripped to 150 mm depth and stockpiled for use in rehabilitation, along with removed vegetation; and
 - rehabilitation of cleared areas will occur in accordance with the Binduli South Centurion Operations MDCP.
- Air quality:
 - Weather conditions are monitored, and dust impacts are assessed during clearing;
 - topsoil stripping and spreading activities will be restricted if dust cannot be adequately controlled during periods of high winds; and
 - water carts are available and utilised for wetting down of soils as required.
- Land and soils:
 - Regular inspections and maintenance of machinery including daily pre-starts;
 - spill kits closely available during clearing activities;
 - stripping suitable topsoil to a depth of 150 millimetres, and subsoils from soil units D (up to 250 millimetres) and H (up to 400 millimetres) may be harvested to provide additional volume;
 - to preserve soil integrity as much as practicable, soils will only be stripped and moved during dry conditions;
 - topsoil stripping to be undertaken as close as possible to commencement of activities;
 - soils to be paddock-dumped into stockpiles or pushed into windrows of no greater than 2 metres in height, in designated locations and have adequate distance between them to create a series of mounds and troughs; and
 - vegetation and woody material will be collected and stockpiled separately for use in rehabilitation.
- Fauna:
 - Speed limits will be signed and enforced (including in malleefowl habitat areas);
 - conduct pre-disturbance surveys to locate active mounds in any potential malleefowl habitat identified during flora studies or by specialist consultants;
 - implement exclusion zones around any active malleefowl mounds during breeding season;

- every effort will be made to avoid disturbing malleefowl mounds during breeding season (September to January);
- when land clearing is conducted it shall be done in a slow, progressive manner, in one direction, to allow fauna opportunity to move into adjacent native vegetation ahead of the clearing activity;
- train personnel on fauna awareness;
- access to food wastes will be minimised by ensuring effective storage and disposal; and
- personnel are prohibited from direct contact with fauna, including feeding.
- Vegetation:
 - Utilising existing disturbances where possible for mine infrastructure;
 - prevent vegetation impacts of saline water spills via appropriate management of in-pit dewatering, raw water ponds and saline pipelines including placement of pipelines within v- drains, use of catch pits, visual inspections, maintaining freeboards;
 - areas to be cleared are demarcated using flagging, pegs etc. No clearing or disturbance is to occur outside marked area;
 - clearing is undertaken in accordance with design plans, site surveys, ground disturbance permits, and clearing permits; and
 - retention of canopy trees where possible.
- Weeds:
 - All vehicles and mobile 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 where necessary on a seasonal basis to eradicate identified weed infestations.
- Surface water:
 - External surface water flows are diverted around the mine footprint via drains/bunding to reduce the volume of water flowing through the site and the potential for sediment runoff;
 - no contamination of surface water as a result of mining activities; and
 - ensure surface water is managed so that it prevents detrimental impacts to hydrological and ecological function and uses of surrounding surface water features and land.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (Appendix C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

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

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

Assessment

The following eight priority flora species have been recorded within 50 kilometres of the application area and require further consideration in this assessment (Eco Logical, 2016; Spectrum, 2020; 2022a; WAH, 1998-; GIS Database). Weed species are also discussed.

Species recorded within the application area

Eremophila praecox, Priority 2, inhabits sandy loam soils on undulating plains (WAH, 1998-). There is one Western Australian Herbarium (1998-) record of *Eremophila praecox* within the application area, recorded north of the Great Eastern Highway in 2020 (GIS Database). This record consists of 16 individuals (GIS Database). *Eremophila praecox* is known from 52 Western Australian Herbarium (1998-) records within the Coolgardie, Murchison and Nullarbor bioregions. It has been recorded within the conservation estate, including the Kurrawang Nature Reserve, west of the application area (WAH, 1998-; GIS Database). The proposed clearing is unlikely to significantly impact *Eremophila praecox* at a local, regional or species level.

The flora survey by Spectrum (2022a) recorded 12 introduced flora taxa within the survey area, which represents 6.6 percent of the total floral diversity recorded. This included *Tamarix aphylla* (Athel pine), which is a Weed of National Significance (WoNS) and a Declared Pest in Western Australia (Spectrum, 2022a; WAH, 1998-). Athel pine can become a dominant species in the landscape by displacing *Eucalyptus* and other species (WAH, 1998-). Three weed species were recorded within the application area, not including Athel pine (Astill Consultants, 2025; Eco Logical, 2016). Weeds within the application area should be managed, and action taken to reduce the spread and introduction of weeds, to reduce the impact of weeds on biodiversity.

Species likely to occur within the application area

Alyxia tetanifolia, Priority 3, inhabits sandy-clay, loam or gravel soils on drainage lines near lakes (WAH, 1998-). Within the survey area, *Alyxia tetanifolia* has been recorded in vegetation types P2 and P5 (sandy plains close to salt pans) (Astill Consultants, 2025; Spectrum Ecology, 2022a). A total of 94 individuals were recorded in the survey area across both the Eco Logical (2016) and Spectrum Ecology (2022a) surveys, with duplicates accounted for. The applicant has designed the clearing footprint to avoid known locations of *Alyxia tetanifolia*, so there are no *Alyxia tetanifolia* individuals within the permit boundary (Astill Consultants, 2025; Eco Logical, 2016; Spectrum Ecology, 2022a).

Goodenia salina, Priority 2, inhabits saline loamy clay on low gypseous dunes near salt pans (WAH, 1998-). The flora survey by Eco Logical (2016) recorded approximately 45 *Goodenia salina* individuals in three locations approximately four kilometres southeast of the application area. *Goodenia salina* and its habitat are of high regional significance (Astill Consultants, 2025).

Vegetation type S2 (gypseous dunes between salt lakes) was considered significant for conservation, due to having a restricted distribution and as habitat for *Goodenia salina* (Astill Consultants, 2025). Vegetation type S2 does not occur within the application area, and therefore, will not be impacted by the proposed clearing. As no clearing of *Goodenia salina* or its critical habitat is anticipated, the proposed clearing is unlikely to be significant to the conservation of this species.

Isolepis australiensis, Priority 3, inhabits silty sand or sandy clay on the margins of lakes or pools (WAH, 1998-). The flora survey by Eco Logical (2016) recorded approximately 50 *Isolepis australiensis* individuals in one location approximately five kilometres southeast of the application area. As this species was searched for in the survey by Spectrum (2022a) and not located within the application area, it was assigned a low post-survey likelihood of occurrence (Astill Consultants, 2025). As surveys have not recorded this species within the application area, the proposed clearing is unlikely to be significant to the conservation of this species.

Lepidium fasciculatum, Priority 3, inhabits red loams or cracking clay, on lake beds, plains and flats (WAH, 1998-). As this species was searched for in the survey by Spectrum (2022a) and not located within the application area, it was assigned a low post-survey likelihood of occurrence (Astill Consultants, 2025). As surveys have not recorded this species within the application area, the proposed clearing is unlikely to be significant to the conservation of this species.

Species possibly occurring within the application area

Austrostipa turbinata, Priority 3, has been recorded in a variety of different habitats within its distribution, however, is primarily found on hills or slopes with brown loam or red-brown sandy clay loams, where eucalypt species are present (WAH, 1998-). Suitable habitat for this species occurs within the application area (Eco Logical, 2016; Spectrum Ecology, 2022a). *Austrostipa turbinata* is known from 25 Western Australian Herbarium (1998-) records within the Coolgardie, Avon Wheatbelt, Esperance Plains and Mallee bioregions. As this species has been recorded in a variety of different habitats and is represented across several bioregions and the conservation estate, the proposed clearing is unlikely to be significant to this species, if it were to occur undetected within the application area (GIS Database).

Calandrinia lefroyensis, Priority 1, has been recorded growing in association with *Tecticornia*, near salt lakes, in saline valleys and on undulating plains (WAH, 1998-). Suitable habitat for this species occurs within the application area (Spectrum Ecology, 2022a; GIS Database). *Calandrinia lefroyensis* is known from 11 Western Australian Herbarium (1998-) records within the Coolgardie bioregion, with the nearest record on a salt lake margin approximately 18 kilometres northwest of the application area (GIS Database). As habitat for this species is associated with wetlands, potential impacts can be managed through the implementation of a riparian vegetation management condition on the permit.

Eremophila caerulea subsp. merrallii, Priority 4, inhabits sand, clay or loam soils on undulating plains (WAH, 1998-). Suitable habitat for this species occurs within the application area (Spectrum Ecology, 2022a). *Eremophila caerulea subsp. merrallii* is known from 23 Western Australian Herbarium (1998-) records within the Coolgardie, Avon Wheatbelt and Mallee bioregions. As *Eremophila caerulea subsp. merrallii* inhabits a variety of soil types, is not regionally restricted, and has been recorded within the conservation estate, the proposed clearing is unlikely to be significant to this species, if it were to occur undetected within the application area (GIS Database).

Conclusion

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

- biodiversity loss from the spread and introduction of weeds; and
- clearing of riparian vegetation, which may be suitable habitat for priority species, including *Calandrinia lefroyensis*.

The proposed clearing is unlikely to significantly impact *Eremophila praecox*, *Alyxia tetanifolia*, *Goodenia salina*, *Isolepis australiensis*, *Lepidium fasciculatum*, *Austrostipa turbinata* or *Eremophila caerulea subsp. merrallii*.

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;
- at least once in each 12 month period for the term of this permit, the Permit Holder must remove or kill any weeds growing within areas cleared under this permit; and
- a riparian vegetation and watercourse management condition.

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

Assessment

Wetland birds

The following ten wetland bird species are considered possibly occurring within the application area due to the presence of suitable habitat (salt lakes) and nearby records (BirdLife Australia, 2026; Commonwealth of Australia, 2008; Spectrum, 2020; GIS Database):

- grey-tailed tattler (Priority 4, Migratory);
- sharp-tailed sandpiper (Migratory);
- glossy ibis (Migratory);
- wood sandpiper (Migratory);
- common greenshank (Migratory);
- sanderling (Migratory);
- common sandpiper (Migratory);
- hooded plover (Priority 4);
- curlew sandpiper (Critically Endangered, Migratory); and
- red-necked stint (Migratory).

None of the above listed species are expected to breed within the application area, and as similar supporting habitat is available outside of the application area, the proposed clearing is unlikely to significantly impact these species (BirdLife Australia, 2026; Commonwealth of Australia, 2008; Spectrum Ecology, 2022b; GIS Database).

Other birds

Malleefowl (*Leipoa ocellata*), Vulnerable, inhabit a range of habitats in arid and semi-arid areas, mainly in woodlands and shrublands (CALM, n.d.). Malleefowl require a sandy substrate and a dense shrub layer to produce sufficient leaf litter to construct their incubator nest mounds (DCCEEW, 2024). A historic malleefowl mound has been recorded within FHab7, approximately 1.2 kilometres west of the application area (Spectrum, 2022b). FHab7 does not occur within the application area, and surveys consider that habitat within the application area is marginal for malleefowl breeding, but suitable for malleefowl foraging (Spectrum, 2020; 2022b). The application area is unlikely to represent critical habitat for malleefowl, but malleefowl may be at risk of injury or mortality from mechanical clearing if they occur within the application area.

Southern whiteface (*Aphelocephala leucopsis*), Vulnerable, live in a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both (DCCEEW, 2023). These areas are usually in habitats dominated by *Acacia* or eucalypts on ranges, foothills and lowlands, and plains (DCCEEW, 2023). Although suitable habitat occurs within the application area, the Coolgardie bioregion is the southern extent of this species' range (Botanica, 2026b; Menkhorst et al., 2019; Simpson & Day, 2010). As the application area is at the extent of this species' range, habitat for this species is widespread, and no evidence of southern whiteface has been recorded in surveys of the application area, the proposed clearing is unlikely to be significant to southern whiteface (Botanica, 2026b; Commonwealth of Australia, 2008; DCCEEW, 2023; Spectrum, 2022b).

Carnaby's cockatoo (*Zanda latirostris*), Endangered, usually occurs in the Southwest, Swan Coastal Plain, Southern Coast and Wheatbelt, with most records occurring south of 29°S and west of 120°E (Commonwealth of Australia, 2008; IUCN, 2022). However, there have been four recent (2016-2018) records of Carnaby's cockatoos in Kalgoorlie (GIS Database). The distribution of Carnaby's cockatoos has become more restricted in the past 50 years, with the distribution moving further southwest (Commonwealth of Australia, 2008). As there are only four other Carnaby's cockatoo records within the Coolgardie bioregion (all being greater than 25 years old), it is believed that the aforementioned occurrences of Carnaby's cockatoos in Kalgoorlie were extraordinary (GIS Database). Therefore, it is unlikely that Carnaby's cockatoos occur within the application area, despite the presence of suitable habitat.

Invertebrates

Arid bronze azure butterfly (ABAB)

Arid bronze azure butterfly (ABAB) (*Ogyris petrina*), Critically Endangered, is threatened by clearing and habitat degradation (DBCA, 2026). The ABAB has an obligate association with a sugar ant *Camponotus* sp. nr. *terebrans*, so critical breeding habitat for ABAB are areas which have colonies of the host ant (DBCA, 2026). The host ant creates nests at the base of smooth-barked *Eucalyptus* trees (DBCA, 2026). Suitable habitat trees for the host ant occur within the application area (DBCA, 2025b; Eco Logical, 2016; Spectrum, 2022a).

The survey guidance for ABAB recommends that prior to surveying for the butterfly, an ant survey is first conducted (DBCA, 2020). Terrestrial Ecosystems (2025) has conducted a survey for *Camponotus* sp. nr. *terebrans* in the Binduli South Project area. This survey was conducted in accordance with the *Camponotus* sp. nr. *terebrans* survey guidelines and did not detect the species (DBCA, 2020; Terrestrial Ecosystems, 2025). Therefore, ABAB is unlikely to occur in the Terrestrial Ecosystems (2025) survey area.

Approximately 95 hectares in the north of the application area was not surveyed by Terrestrial Ecosystems (2025). Approximately 93 hectares of this area is described as 'open woodland of mixed Eucalypts over mixed shrub layer on clay loam plain' – potentially suitable habitat for ABAB – with the remaining area being cleared land (Botanica, 2026b; DBCA, 2026). Botanica (2025) conducted a survey over this area in September of 2025. The site was not considered suitable for ABAB, as it was dissected by watercourses supporting denser vegetation, whereas ABAB habitat is described as open woodland with an open understory (Botanica, 2026a; DBCA, 2020). Suitable ABAB habitat was only present within this area in small patches (Botanica, 2026a). Additionally, the site was prone to flooding and had rocky substrate, making it less likely to support *Camponotus* sp. nr. *terebrans* (Botanica, 2025; 2026a). Searching for *Camponotus* sp. nr. *terebrans* was conducted in areas of suitable habitat, but the species was not identified (Botanica, 2026a).

As *Camponotus* sp. nr. *terebrans* surveys have been conducted over the application area and *Camponotus* sp. nr. *terebrans* was not recorded, the application area is not considered critical habitat for ABAB (DBCA, 2026).

Inland hairstreak

The inland hairstreak (*Jalmenus aridus*), Priority 2, is associated with two host plants, being *Senna artemisioides* subsp. *filifolia* and *Acacia tetragonophylla*, and this species forms an obligate association with ant species, *Froggattella kirbii* (Eastwood et al., 2023). Both host plants are known to occur within the application area (Eco Logical, 2016; Spectrum, 2022a). Terrestrial Ecosystems (2025) has conducted a survey for inland hairstreak in the Binduli South Project area. This survey was a butterfly transect survey conducted in accordance with the ABAB survey guidelines, as there are no specific guidelines for the survey of inland hairstreak (DBCA, 2020; Eastwood et al., 2023; Terrestrial Ecosystems, 2025). As no signs of inland hairstreak were detected, it is considered unlikely to occur within the Terrestrial Ecosystems (2025) survey area.

Approximately 95 hectares in the north of the application area was not surveyed by Terrestrial Ecosystems (2025). Approximately 93 hectares of this area is described as 'mid open woodland of *Eucalyptus salmonophloia* over mid open shrubland of *Eremophila scoparia* and *Senna artemisioides* subsp. *filifolia* over low open shrubland of *Olearia muelleri* and *Maireana sedifolia* on clay loam plain' – potentially suitable for inland hairstreak – with the remaining area being cleared land (Botanica, 2026b; Eastwood et al., 2023). However, a survey of this area found that identified patches of *Senna artemisioides* subsp. *filifolia* were too small to support an inland hairstreak population, and the woodland was too closed when compared to preferred habitat for the species (Botanica, 2026a; Eastwood et al., 2023). Additionally, this area was low-lying and had standing water at the time of survey. The *Froggattella kirbii* ant prefers well-drained sites, so the site was considered unsuitable (Botanica, 2026a; Eastwood et al., 2023).

As no signs of inland hairstreak were detected in the surveys of the application area, and the northern part of the application area was considered unsuitable for inland hairstreak, inland hairstreak is considered unlikely to occur within the application area (Botanica, 2025; 2026a; Terrestrial Ecosystems, 2025).

Fairy shrimp

Fairy shrimp species *Branchinella denticulata* (Priority 3), is known to occur in an unnamed lake, approximately 22 kilometres north of the application area (GIS Database). This record is from 1937 (GIS Database). *Branchinella denticulata* is endemic to Western Australia, and occurs in turbid, temporary inland waters, including salt lakes (La Trobe University, n.d.; Timms, 2008). The lack of recent nearby records may be due to the lack of survey effort for this species in the Goldfields region, rather than the absence of the species (Spectrum, 2022b). The salt lake which intercepts the application area has a total area of 185 hectares, and an area of 18.7 hectares intercepting the application area (GIS Database). The potential impact to up to 10.1 percent of the mapped extent of this lake is unlikely to be significant to a fairy shrimp population, if it were to occur there. Potential impacts to fairy shrimp habitat can be further managed through a riparian vegetation and watercourse management condition.

Potential short-range endemic (SRE) invertebrates

Lycosidae 'Bi01' (wolf spider) and *Aname* 'Bi01' (open hole trapdoor spider) were identified from specimens collected in pitfall traps in chenopod shrubland habitat on the edge of salt lakes (Alacran, n.d.; Spectrum, 2022b). These specimens are considered potential SREs due to taxonomic data deficiency, and may be salt lake specialists (Alacran, n.d.; Spectrum, 2022b). DNA sequence comparison is required to determine whether these specimens represent SREs (Alacran, n.d.; Spectrum, 2022b). As all records of these specimens were outside of the application area, it is unlikely that the proposed clearing would represent a significant impact.

Bothriembryon sp. (snail) was recorded from four specimens within three habitats in the Spectrum (2022b) survey. As only dead specimens were collected, DNA was unable to be sequenced, and therefore *Bothriembryon* sp. was considered a potential SRE due to taxonomic data deficiency (Alacran, n.d.; Spectrum, 2022b). As *Bothriembryon* sp. was recorded in multiple habitats, and all records were outside of the application area, it is unlikely that the proposed clearing would represent a significant impact.

Mammals

The central long-eared bat (*Nyctophilus major tor*), Priority 3, inhabits mixed eucalypt woodlands with prominent shrub strata in arid and semi-arid regions (DBCA, 2024; McKenzie & Parnaby, 2008; Menkhorst & Knight, 2011). The central long-eared bat is widespread in the Coolgardie bioregion (ALA, n.d.; McKenzie & Parnaby, 2008; GIS Database). As the central long-eared bat and its habitat is widespread in the region, and has secure populations within the conservation estate, the proposed clearing of suitable habitat is unlikely to result in a significant impact to the species (DBCA, 2024; McKenzie & Parnaby, 2008).

Chuditch (*Dasyurus geoffroii*), Vulnerable, previously occurred throughout arid and semi-arid Australia, but is now restricted to south-west Western Australia (Commonwealth of Australia, 2008). Within their current range chuditch occur within jarrah forests and woodlands in the south-western corner of Western Australia, woodlands, mallee shrublands and heaths along the south coast of Western Australia east to Ravensthorpe, and drier woodlands and mallee shrubland within the Wheatbelt and Goldfields region (DEC, 2012). The application area is located at the edge of this species' known distribution and suitable habitat range (Commonwealth of Australia, 2008). As the only local record of this species was located 44 kilometres south of the application area in 1974, it is unlikely that chuditch occurs in the application area (GIS Database).

Conclusion

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

- increased risk of malleefowl injury or mortality;
- potential impacts to suitable habitat for fairy shrimp (*Branchinella denticulata*);

The proposed clearing is unlikely to significantly impact wetland birds, southern whiteface, Carnaby's cockatoo, ABAB, inland hairstreak, potential short-range endemic (SRE) invertebrates, central long-eared bat or chuditch.

The applicant may have notification responsibilities under the EPBC Act for impacts to malleefowl (*Leipoa ocellata*) and their habitats, as set out in the EPBC Act. The applicant has been advised to contact the federal Department of Climate Change, Energy, the Environment and Water (DCCEEW) to discuss EPBC Act referral requirements.

Conditions

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

- slow directional clearing to allow malleefowl to move into adjacent vegetation ahead of the clearing activity; and
- a riparian vegetation and watercourse management condition

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 10 February 2026 by the Department of Mines, Petroleum and Exploration inviting submissions from the public. One submission was received in relation to this application (Appendix B).

There is one native title claim (WC2017/007 - Marlinyu Ghoorlie) over the area under application (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 are no registered Aboriginal Sites of Significance within the application area (DPLH, 2026). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is noted that the proposed clearing may impact on malleefowl (*Leipoa ocellata*) and their habitats, which are protected matters under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Commonwealth) Department of Climate Change, Energy, the Environment and Water for environmental

impact assessment under the EPBC Act. The proponent is advised to contact the Department of Climate Change, Energy, the Environment and Water for further information regarding notification and referral responsibilities under the EPBC Act.

Other relevant authorisations required for the proposed land use include:

- 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. Additional information provided by applicant

| Summary of comments | Consideration of comment |
|--|--|
| On 5 March 2026, the applicant submitted additional surveys for arid bronze azure butterfly (ABAB) and inland hairstreak (Botanica, 2025; Terrestrial Ecosystems, 2025). | This information was considered in the assessment of principles (a) and (b). |
| On 19 March 2026, the applicant submitted an additional flora, vegetation and fauna survey (Botanica, 2026b). | This information was considered in the assessment of principles (a) and (b). |
| On 26 March 2026, the applicant provided additional information, prepared by Botanica (2026a), regarding surveys for arid bronze azure butterfly (ABAB) and inland hairstreak. | This information was considered in the assessment of principles (a) and (b). |

Appendix B. Details of public submissions

| Summary of comments | Consideration of comment |
|---|--|
| The City of Kalgoorlie-Boulder raised concerns regarding dust and noise emissions (Kalgoorlie-Boulder, 2026). | We acknowledge the concerns raised however this is outside the scope of this assessment, and where relevant, can be addressed under the <i>Mining Act 1978</i> . |

Appendix C. Site characteristics

C.1. Site characteristics

| Characteristic | Details |
|------------------------|--|
| Local context | The area proposed to be cleared is located approximately nine kilometres southwest of Kalgoorlie (GIS Database). The area proposed to be cleared is located in the Eastern Goldfields subregion of the Coolgardie bioregion and forms part of an expansive tract of native vegetation in the extensive land use zone of Western Australia (GIS Database). The application area is also surrounded by predominantly gold mining operations, as well as industrial use to the northeast (GIS Database). |
| 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 is the Kurrawang Nature Reserve located approximately 1.6 kilometres west of the application area (GIS Database). |
| Vegetation description | <p>The vegetation of the application area is broadly mapped as the following Beard vegetation associations:</p> <p>9: Woodland, other; gimlet, redwood etc. (<i>E. salubris</i>, <i>E. oleosa</i>);</p> <p>123: Saltbush and/or bluebush with low scattered trees;</p> <p>125: Salt lake, lagoon, clay pan; and</p> <p>1294: Woodland, other; gimlet, redwood etc. (<i>E. salubris</i>, <i>E. oleosa</i>) (GIS Database).</p> <p>A flora and vegetation survey was conducted over the majority of the application area by Spectrum (2022a) during October 2021. The following vegetation associations were recorded within the application area (Spectrum, 2022a):</p> <ul style="list-style-type: none"> • D1 - <i>Eucalyptus salubris</i> and/or <i>Eucalyptus longissima</i> low open woodland in drainage lines; • D2 - <i>Tecticornia indica</i> subsp. <i>bidens</i> and <i>Tecticornia disarticulata</i> low sparse chenopod shrubland on salt lakes and salt pans; • D3 - <i>Cratystylis subspinescens</i>, <i>Frankenia interioris</i>, and <i>Surreya diandra</i> low open shrubland on salt pan margins; • P1 - <i>Eucalyptus griffithsii</i>, <i>Eucalyptus lesouefii</i>, and <i>Eucalyptus oleosa</i> subsp. <i>oleosa</i> mid open woodland on undulating plains; • P2 - <i>Eucalyptus flocktoniae</i> subsp. <i>flocktoniae</i> and <i>Eucalyptus cylindrocarpa</i> low woodland on sandplains; • P3 - <i>Allocasuarina corniculata</i> low isolated trees, over <i>Acacia tetragonophylla</i>, <i>Dodonaea lobulata</i> and <i>Eremophila oldfieldii</i> subsp. <i>angustifolia</i> tall open shrubland on rocky plains and rises; • P4 - <i>Eremophila scoparia</i> and <i>Acacia densiflora</i> mid to tall sparse shrubland on Sandy-clay floodplains surrounding lake bed; • P5 - <i>Acacia masliniana</i> and <i>Eremophila miniata</i> tall open shrubland on sand plain between salt pans; • S1 - <i>Acacia acuminata</i> tall open shrubland on rocky granitic hill slopes; and • completely degraded. |

| Characteristic | Details | | | | | | | | | | |
|--------------------------|---|-------------|-------------|------------------------|---|------------------------|---|--------------------------|--|-----------------------|--|
| | <p>The remaining part of the application area was surveyed by Eco Logical (2016) during May 2016. The following vegetation association was recorded within the application area (Eco Logical 2016):</p> <ul style="list-style-type: none"> • 2 – Mixed <i>Eucalyptus</i> spp. open woodland on red-brown loam plains and rocky rises. <p>Full descriptions and representative photographs of vegetation associations within the application area are provided in Appendix F.</p> | | | | | | | | | | |
| Vegetation condition | <p>Vegetation surveys of the application area found the vegetation to be in Excellent to Completely Degraded condition (Eco Logical, 2016; Keighery, 1994; Spectrum, 2022a).</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix E.</p> | | | | | | | | | | |
| Climate and landform | <p>The climate of the Eastern Goldfields subregion is described as arid to semi-arid, with the nearest weather station recording an average rainfall of approximately 265 millimetres per year (BoM, 2026; CALM, 2002).</p> <p>The application area is mapped at elevations of 340-370 metres Australian height datum (GIS Database). Land system mapping broadly describes the application area as plains and low hills (DPIRD, 2026).</p> | | | | | | | | | | |
| Soil description | <p>The soils within the application area are broadly mapped as the following (DPIRD, 2026):</p> <table border="1"> <thead> <tr> <th>Land system</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Gumland system (265Gm)</td> <td>Extensive pedepains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys</td> </tr> <tr> <td>Kanowna system (265Kw)</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>Kurrawang system (265Ku)</td> <td>Low hills and ridges, with occasional plateaus and scarps, and undulating stony plains, on metasedimentary and felsic volcaniclastic rocks, supporting scattered eucalypt or casuarina woodlands</td> </tr> <tr> <td>Lefroy system (265Lf)</td> <td>Salt lakes and fringing saline plains, sandy plains and dunes with chenopod low shrublands</td> </tr> </tbody> </table> | Land system | Description | Gumland system (265Gm) | Extensive pedepains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys | Kanowna system (265Kw) | Level to gently inclined pedepains, gently undulating stony plains and prominent drainage foci supporting eucalypt woodlands with saltbush low shrubs | Kurrawang system (265Ku) | Low hills and ridges, with occasional plateaus and scarps, and undulating stony plains, on metasedimentary and felsic volcaniclastic rocks, supporting scattered eucalypt or casuarina woodlands | Lefroy system (265Lf) | Salt lakes and fringing saline plains, sandy plains and dunes with chenopod low shrublands |
| Land system | Description | | | | | | | | | | |
| Gumland system (265Gm) | Extensive pedepains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys | | | | | | | | | | |
| Kanowna system (265Kw) | Level to gently inclined pedepains, gently undulating stony plains and prominent drainage foci supporting eucalypt woodlands with saltbush low shrubs | | | | | | | | | | |
| Kurrawang system (265Ku) | Low hills and ridges, with occasional plateaus and scarps, and undulating stony plains, on metasedimentary and felsic volcaniclastic rocks, supporting scattered eucalypt or casuarina woodlands | | | | | | | | | | |
| Lefroy system (265Lf) | Salt lakes and fringing saline plains, sandy plains and dunes with chenopod low shrublands | | | | | | | | | | |
| Land degradation risk | <p>The Gumland system, Kanowna system and valley floors in the Kurrawang system are susceptible to water erosion, particularly in areas where perennial shrub cover has been substantially reduced (Waddell & Galloway, 2023; Waddell et al., 2023). The Lefroy system may be susceptible to wind erosion (Waddell & Galloway, 2023).</p> | | | | | | | | | | |
| Waterbodies | <p>The desktop assessment and aerial imagery indicated that two minor, non-perennial watercourses transect the area proposed to be cleared (GIS Database). These watercourses drain to an unnamed non-perennial lake, which also intercepts the application area (GIS Database).</p> <p>This unnamed non-perennial lake is part of a system of lakes which includes Brown Lake, Red Lake and Douglas Lake (GIS Database).</p> | | | | | | | | | | |
| Hydrogeography | <p>The nearest Public Drinking Water Source Area is the Broad Arrow Dam Catchment Area located approximately 38 kilometres north of the application area (GIS Database).</p> <p>The application area is located within the Goldfields Groundwater Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (GIS Database).</p> <p>The groundwater salinity is mapped as 14,000 to 35,000 milligrams per litre total dissolved solids which is described as saline (BoM, 2019; GIS Database).</p> | | | | | | | | | | |
| Flora | <p>62 conservation significant flora species have been recorded in the local area (50 kilometre radius of the application area (GIS Database). This includes 60 priority species and two threatened species (<i>Gastrolobium graniticum</i> and <i>Tetratheca spenceri</i>) (GIS Database).</p> <p>Two species, being <i>Eremophila praecox</i> (P2) and <i>Alyxia tetanifolia</i> (P3) have been recorded within or adjacent to the application area (GIS Database).</p> | | | | | | | | | | |
| Ecological communities | <p>Surveys of the application area did not identify any vegetation representative of a threatened ecological community (TEC) or priority ecological community (PEC) (Eco Logical, 2016; Spectrum, 2022a).</p> <p>The Emu Land System PEC is known to occur approximately 40 kilometres from the application area (GIS Database).</p> | | | | | | | | | | |
| Fauna | <p>17 conservation significant fauna species have been recorded in the local area (50 kilometre radius of the application area (GIS Database). This includes 12 birds, three invertebrates and two mammals (GIS Database).</p> | | | | | | | | | | |

| Characteristic | Details |
|----------------|---|
| Fauna habitat | <p>A fauna habitat assessment was conducted over the majority of the application area by Spectrum (2022b) during October 2021. The following fauna habitats were recorded within the application area (Spectrum, 2022b):</p> <ul style="list-style-type: none"> • FHab1 - Mixed Eucalypt open woodland over mixed shrubland on undulating plains on red-orange sandy clay soils; • FHab2 - Mixed Eucalypt low woodland with sparse shrubs over low hummock grassland on orange sandplains; • FHab3 - <i>Allocasuarina</i> over mixed shrubland on rocky plains and rises; • FHab4 - <i>Acacia</i> and <i>Eremophila</i> shrubland on sandplains and floodplains on orange clay loam to sand; • FHab5 - <i>Acacia</i> shrubland on rocky granitic slopes; • FHab8 - Eucalypt woodland over mixed shrubland in drainage lines on red-orange sandy-clay-loam; • FHab9 - Low sparse chenopod shrubland on salt lakes and salt pans; and • cleared/disturbed. <p>The remaining part of the application area was surveyed by Eco Logical (2016). The following habitat was recorded within the application area (Eco Logical, 2016):</p> <ul style="list-style-type: none"> • 2 – Mixed <i>Eucalyptus</i> spp. open woodland on red-brown loam plains and rocky rises. |

C.2. Vegetation extent

| | Pre-European area (ha) | Current extent (ha) | Extent remaining (%) | Current extent in all DBCA managed land (ha) | Current extent in all DBCA Managed Land (proportion of pre-European extent) (%) |
|--|------------------------|---------------------|----------------------|--|---|
| IBRA Bioregion - Coolgardie | 12,912,204.35 | 12,648,491.39 | ~98 | 2,114,349.37 | 16.37 |
| Beard vegetation associations - State | | | | | |
| 9 | 240,509.33 | 235,161.94 | ~98 | 18,984.28 | 7.89 |
| 123 | 9,090.22 | 8,902.02 | ~98 | 0 | 0 |
| 125 | 3,485,785.49 | 3,146,487.22 | ~90 | 265,740.10 | 7.62 |
| 1294 | 6,295.55 | 6,047.45 | ~96 | 114.97 | 1.83 |
| Beard vegetation associations - Bioregion (Coolgardie) | | | | | |
| 9 | 240,441.99 | 235,100.97 | ~98 | 18,984.28 | 7.90 |
| 123 | 9,090.22 | 8,902.02 | ~98 | 0 | 0 |
| 125 | 545,717.86 | 506,802.71 | ~93 | 35,661.49 | 6.53 |
| 1294 | 6,295.55 | 6,047.45 | ~96 | 114.97 | 1.83 |

Government of Western Australia (2019)

C.3. Flora analysis table

The following conservation significant flora species have been recorded within 50 kilometres of the application area, and required further consideration in this assessment (GIS Database). The remaining 53 conservation significant flora species recorded within 50 kilometres of the application area were considered unlikely to occur.

The likelihood of occurrence for these species were determined by potentially suitable habitat within the application area, species distribution, biological survey information and known regional records (Eco Logical, 2016; Maslin, 2014; 2018; Spectrum, 2020; 2022a; WAH, 1998-; GIS Database).

| Species name | Conservation status | Suitable habitat features? [Y/N] | Distance of closest record to application area (km) | Likelihood of occurrence |
|---------------------------|---------------------|----------------------------------|---|---------------------------------------|
| <i>Eremophila praecox</i> | P2 | Y | 0 | Recorded – discussed in Section 3.2.1 |
| <i>Alyxia tetanifolia</i> | P3 | Y | <0.01 | Likely – discussed in Section 3.2.1 |

| Species name | Conservation status | Suitable habitat features? [Y/N] | Distance of closest record to application area (km) | Likelihood of occurrence |
|--|---------------------|----------------------------------|---|---------------------------------------|
| <i>Goodenia salina</i> | P2 | Y | <5 | Likely – discussed in Section 3.2.1 |
| <i>Isolepis australiensis</i> | P3 | Y | <6 | Likely – discussed in Section 3.2.1 |
| <i>Lepidium fasciculatum</i> | P3 | Y | <10 | Likely – discussed in Section 3.2.1 |
| <i>Austrostipa turbinata</i> | P3 | Y | <20 | Possible – discussed in Section 3.2.1 |
| <i>Calandrinia lefroyensis</i> | P1 | Y | <20 | Possible – discussed in Section 3.2.1 |
| <i>Eremophila caerulea</i> subsp. <i>merrallii</i> | P4 | Y | <20 | Possible – discussed in Section 3.2.1 |

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

C.4. Fauna analysis table

The following conservation significant fauna species have been recorded within 50 kilometres of the application area, or were considered possibly occurring based on habitat preferences and known distribution, and required consideration in this assessment (Botanica, 2026b; Commonwealth of Australia, 2008; DCCEEW, 2023; GIS Database).

The likelihood of occurrence for these species were determined by potentially suitable habitat within the application area, species distribution, biological survey information and known regional records (Alacran, n.d.; BirdLife Australia, 2026; CALM, n.d.; Commonwealth of Australia, 2008; 2022; DBCA, 2026; DCCEEW, 2023; 2024; DEC, 2012; Eastwood et al., 2023; Eco Logical, 2016; EPA, 2019; IUCN, 1996; Menkhorst & Knight, 2011; Spectrum, 2020; 2022b; Timms, 2008; GIS Database).

| Species name | | Conservation status | | Suitable habitat features? [Y/N] | Distance of closest record to application area (km) | Likelihood of occurrence |
|--|--------------------------------|---------------------|---------|----------------------------------|---|---------------------------------------|
| Common | Scientific | WA | EPBC | | | |
| Wetland birds | | | | | | |
| Grey-tailed tattler | <i>Tringa brevipes</i> | P4 & MI | MI | Y | 0.5 | Possible – discussed in Section 3.2.2 |
| Sharp-tailed sandpiper | <i>Calidris acuminata</i> | MI | MI | Y | 5.9 | Possible – discussed in Section 3.2.2 |
| Glossy ibis | <i>Plegadis falcinellus</i> | MI | MI | Y | 5.9 | Possible – discussed in Section 3.2.2 |
| Wood sandpiper | <i>Tringa glareola</i> | MI | MI | Y | 5.9 | Possible – discussed in Section 3.2.2 |
| Common greenshank | <i>Tringa nebularia</i> | MI | MI | Y | 12.3 | Possible – discussed in Section 3.2.2 |
| Sanderling | <i>Calidris alba</i> | MI | MI | Y | 12.6 | Possible – discussed in Section 3.2.2 |
| Common sandpiper | <i>Actitis hypoleucos</i> | MI | MI | Y | 23.6 | Possible – discussed in Section 3.2.2 |
| Hooded plover | <i>Charadrius cucullatus</i> | P4 | - | Y | 29.0 | Possible – discussed in Section 3.2.2 |
| Curlew sandpiper | <i>Calidris ferruginea</i> | CR | CR & MI | Y | 32.2 | Possible – discussed in Section 3.2.2 |
| Red-necked stint | <i>Calidris ruficollis</i> | MI | MI | Y | 32.2 | Possible – discussed in Section 3.2.2 |
| Other birds | | | | | | |
| Malleefowl | <i>Leipoa ocellata</i> | VU | VU | Y | 1.2 | Likely – discussed in Section 3.2.2 |
| Southern whiteface | <i>Aphelocephala leucopsis</i> | VU | VU | Y | ~400 | Possible – discussed in Section 3.2.2 |
| Carnaby's cockatoo | <i>Zanda latirostris</i> | EN | EN | Y | 6.8 | Unlikely – discussed in Section 3.2.2 |
| Invertebrates (including potential short-range endemic (SRE) invertebrates) | | | | | | |
| Arid bronze azure butterfly | <i>Ogyris petrina</i> | CR | CR | Y | 0.7 | Unlikely – discussed in Section 3.2.2 |
| Inland hairstreak | <i>Jalmenus aridus</i> | P2 | - | Y | 1.1 | Unlikely – discussed in Section 3.2.2 |

| Species name | | Conservation status | | Suitable habitat features? [Y/N] | Distance of closest record to application area (km) | Likelihood of occurrence |
|---------------------------|---|---------------------|------|----------------------------------|---|---------------------------------------|
| Common | Scientific | WA | EPBC | | | |
| Fairy shrimp | <i>Branchinella denticulata</i> | P3 | - | Y | 21.6 | Possible – discussed in Section 3.2.2 |
| Wolf spider | Lycosidae 'Bi01' | Potential SRE | | Y | 0.5 | Possible – discussed in Section 3.2.2 |
| Open hole trapdoor spider | <i>Aname</i> 'Bi01' | Potential SRE | | Y | 1.0 | Possible – discussed in Section 3.2.2 |
| Snail | <i>Bothriembryon</i> sp. | Potential SRE | | Y | 1.1 | Possible – discussed in Section 3.2.2 |
| Centipede | <i>Cryptops</i> sp. | Potential SRE | | N | 0.8 | Unlikely |
| Pseudocentipede | <i>Symphyla</i> sp. | Potential SRE | | N | 1.0 | Unlikely |
| Centipede | <i>Sepedonophilus</i> sp. | Potential SRE | | N | 1.1 | Unlikely |
| Pseudoscorpion | Chernetidae 'Bi01' | Potential SRE | | N | 2.2 | Unlikely |
| Pseudoscorpion | <i>Beierolpium</i> '8/4-Bi01' | Potential SRE | | N | 2.2 | Unlikely |
| Millipede | <i>Paradoxosomatidae (Antichiropus)</i> sp. | Potential SRE | | N | 2.9 | Unlikely |
| Mammals | | | | | | |
| Central long-eared bat | <i>Nyctophilus major tor</i> | P3 | - | Y | 25.1 | Possible – discussed in Section 3.2.2 |
| Chuditch | <i>Dasyurus geoffroii</i> | VU | VU | Y | 44.0 | Unlikely – discussed in Section 3.2.2 |

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

Appendix D. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|--|------------------------------|--|
| Environmental value: biological values | | |
| <p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The local area contains priority flora species requiring further discussion and weed that may impact local biodiversity. Priority ecological communities (PECs) and other significant vegetation are unlikely to be impacted by the proposed clearing (Eco Logical, 2016; Spectrum, 2022a).</p> <p>The area proposed to be cleared is unlikely to contain critical habitat for conservation significant fauna.</p> | May be at variance | Yes <i>Refer to Section 3.2.1 and Section 3.2.2, above.</i> |
| <p><u>Principle (b):</u> "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain critical habitat for conservation significant fauna.</p> | Not likely to be at variance | Yes <i>Refer to Section 3.2.2, above.</i> |
| <p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>Threatened flora species are considered unlikely to occur within the application area, due to the distance of the nearest records (GIS Database).</p> | Not likely to be at variance | No |
| <p><u>Principle (d):</u> "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."</p> <p><u>Assessment:</u></p> | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|-------------------------------------|------------------------------------|
| <p>Surveys of the application area did not detect any threatened ecological communities (TECs) (Eco Logical, 2016; Spectrum, 2022a). Additionally, there are no TECs known to occur within the Coolgardie bioregion (DBCA, 2025). Therefore, TECs are unlikely to occur within the application area.</p> | | |
| <p>Environmental value: significant remnant vegetation and conservation areas</p> | | |
| <p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2001; Appendix C.2). The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p> | <p>Not at variance</p> | <p>No</p> |
| <p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given native vegetation is continuous surrounding the nearest conservation area (the Kurrawang Nature Reserve), the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas (GIS Database).</p> | <p>Not likely to be at variance</p> | <p>No</p> |
| <p>Environmental value: land and water resources</p> | | |
| <p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Given the application area contains two watercourses and a lake, native vegetation growing in association with watercourses and wetlands is likely to be cleared.</p> <p><u>Conditions:</u></p> <p>To address the above impact, the following management measures will be required as conditions on the clearing permit:</p> <ul style="list-style-type: none"> • a riparian vegetation and watercourse management condition. | <p>At variance</p> | <p>No</p> |
| <p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils are susceptible to water or wind erosion (DPIRD, 2026; Waddell & Galloway, 2023; Waddell et al., 2023). Noting the extent of the application area, the proposed clearing may have an appreciable impact on land degradation.</p> <p><u>Conditions:</u></p> <p>To address the above impact, the following management measures will be required as conditions on the clearing permit:</p> <ul style="list-style-type: none"> • a riparian vegetation and watercourse management condition; and • a staged clearing condition to minimise erosion. | <p>May be at variance</p> | <p>No</p> |
| <p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>The application area is not located in a Public Drinking Water Source Area (GIS Database). Given there is a series of small, interconnected salt basins with and directly south of the application area and two minor non-perennial water courses transect the application area, the proposed clearing has potential to impact on- or off-site hydrology and water quality (GIS Database). As soils mapped within the application area are susceptible to water erosion, the proposed clearing may increase turbidity of waterbodies, following rainfall events.</p> <p><u>Conditions:</u></p> <p>To address the above impact, the following management measures will be required as conditions on the clearing permit:</p> | <p>May be at variance</p> | <p>No</p> |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|--|------------------------------|------------------------------------|
| <ul style="list-style-type: none"> a riparian vegetation and watercourse management condition; and a staged clearing condition to minimise erosion. | | |
| <p><u>Principle (i):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>As the climate is arid to semi-arid, with an average annual rainfall of less than 300 millimetres, and an average annual evaporation of over 2,400 millimetres, the proposed clearing is unlikely to increase the incidence or intensity of flooding (Astill Consultants, 2025; BoM, 2006; 2026; CALM, 2002).</p> | Not likely to be at variance | No |

Appendix E. 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 F. Vegetation associations

| Vegetation code | Vegetation description | Associated species | Landform and location | Representative photograph | Source |
|-----------------|---|--|--|--|------------------|
| D1 | <i>Eucalyptus salubris</i> and/or <i>Eucalyptus longissima</i> low open woodland, over <i>Acacia acuminata</i> , <i>Acacia tetragonophylla</i> , and <i>Alyxia buxifolia</i> tall shrubland, over <i>Dodonaea lobulata</i> and <i>Scaevola subspinescens</i> mid opens shrubland. | <ul style="list-style-type: none"> <i>Ptilotus obovatus</i> | Drainage lines. Few scattered ironstone rocks. Red-orange sandy-clay loam. Scattered drainage lines through the Survey Area. |  | Spectrum (2022a) |

| | | | | | |
|----|---|---|--|--|------------------|
| D2 | <i>Tecticornia indica</i> subsp. <i>bidens</i> and <i>Tecticornia disarticulata</i> (+/- <i>Atriplex vesicaria</i>) low sparse chenopod shrubland. | <ul style="list-style-type: none"> • <i>Maireana appressa</i> • <i>Eragrostis pergracilis</i> • <i>Enteropogon ramosus</i> • <i>Enneapogon polyphyllus</i> • <i>Disphyma crassifolium</i> subsp. <i>clavellatum</i> • <i>Brachyscome ciliaris</i> • <i>Senecio lacustrinus</i> • <i>Frankenia desertorum</i> | Salt lake, salt pans. Brown-orange clay. A large area in the south of the Study Area. Some smaller clay pans in the south-west. |  | Spectrum (2022a) |
| D3 | <i>Cratystylis subspinescens</i> , <i>Frankenia interioris</i> , and <i>Surreya diandra</i> low open shrubland. | <ul style="list-style-type: none"> • <i>Lawrenzia squamata</i> • <i>Maireana glomerifolia</i> • <i>Tecticornia undulata</i> • <i>Atriplex vesicaria</i> • <i>Maireana amoena</i> • <i>Maireana appressa</i> • <i>Frankenia fecunda</i> • <i>Minuria cunninghamii</i> • <i>Gunniiopsis quadrifida</i> | Margins of salt pans. Orange-cream clay. Interzone between D2 (<i>Tecticornia</i> shrubland) and P5 (sand plains). Mapped as a mosaic with D2 in salt pan area to the south-west. |  | Spectrum (2022a) |
| P1 | <i>Eucalyptus griffithsii</i> , <i>Eucalyptus lesouefii</i> , and <i>Eucalyptus oleosa</i> subsp. <i>oleosa</i> mid open woodland, over <i>Eremophila scoparia</i> , <i>Senna artemisioides</i> subsp. <i>filifolia</i> , and <i>Scaevola spinescens</i> mid to tall sparse shrubland, over <i>Atriplex vesicaria</i> and <i>Maireana sedifolia</i> low open shrubland. | <ul style="list-style-type: none"> • <i>Eucalyptus horistes</i> • <i>Exocarpos aphyllus</i> • <i>Enchylaena tomentosa</i> • <i>Sclerolaena gardneri</i> • <i>Olearia muelleri</i> • <i>Ptilotus obovatus</i> • <i>Westringia rigida</i> • <i>Tecticornia</i> spp. (close to salt lakes) | Undulating plains. Red-orange, sandy-clay. Widespread throughout northern area of Survey Area. |  | Spectrum (2022a) |
| P2 | <i>Eucalyptus flocktoniae</i> subsp. <i>flocktoniae</i> and <i>Eucalyptus cylindrocarpa</i> low woodland, over <i>Acacia hemiteles</i> , <i>Grevillea sarissa</i> subsp. <i>bicolor</i> , +/- <i>Melaleuca hamata</i> , tall sparse shrubland, over <i>Triodia scariosa</i> | <ul style="list-style-type: none"> • <i>Eucalyptus gracilis</i>; • <i>Eremophila parvifolia</i> subsp. <i>auricampa</i> • <i>Halgania andromedifolia</i> • <i>Santalum acuminatum</i> | Sandplains. Orange sand. In some sections in the centre of the Survey Area, near the salt lakes. |  | Spectrum (2022a) |

| | | | | | |
|----|---|---|--|--|------------------|
| | low open hummock grassland. | <ul style="list-style-type: none"> • <i>Lomandra effuse</i> • <i>Melaleuca eleuterostachya</i> • <i>Alyxia tetanifolia</i> (P3) | | | |
| P3 | <i>Allocasuarina corniculata</i> low isolated trees, over <i>Acacia tetragonophylla</i> , <i>Dodonaea lobulata</i> and <i>Eremophila oldfieldii</i> subsp. <i>angustifolia</i> tall open shrubland, over <i>Scaevola spinescences</i> and <i>Senna artemisioides</i> subsp. <i>filifolia</i> and <i>Ptilotus obovatus</i> low sparse shrubland. | - | Rocky plains and rises. Abundant ironstone rocks and red-orange sandy-clay. In one small section in the west of the Survey Area. |  | Spectrum (2022a) |
| P4 | <i>Eremophila scoparia</i> and <i>Acacia densiflora</i> mid to tall sparse shrubland, over <i>Cratystylis subspinescens</i> , <i>Scaevola spinescens</i> , and <i>Exocarpos aphyllus</i> low open shrubland. | <ul style="list-style-type: none"> • <i>Surreya diandra</i> • <i>Acacia masliniana</i> • <i>Rhagodia drummondii</i> • <i>Cratystylis microphylla</i> • <i>Maireana triptera</i> • <i>Frankenia fecunda</i> • <i>Maireana appressa</i> • <i>Dodonaea viscosa</i> subsp. <i>angustissima</i> | Sandy-clay floodplains surrounding lake bed. Orange clay-loam. In the southern areas of the Survey Area surrounding the salt lake. |  | Spectrum (2022a) |
| P5 | <i>Acacia masliniana</i> and <i>Eremophila miniata</i> tall open shrubland, over <i>Alyxia buxifolia</i> , <i>Scaevola spinescens</i> and <i>Cratystylis subspinescens</i> mid open shrubland, over <i>Frankenia fecunda</i> and <i>Eremophila glabra</i> subsp. <i>glabra</i> low sparse shrubland. | <ul style="list-style-type: none"> • <i>Dodonaea viscosa</i> subsp. <i>angustissima</i> • <i>Santalum acuminatum</i> • <i>Alyxia tetanifolia</i> (P3) • <i>Jacksonia arida</i> • <i>Atriplex vesicaria</i> • <i>Enchylaena tomentosa</i> var. <i>tomentosa</i> • <i>Enneapogon polyphyllus</i> • <i>Dianella revoluta</i> | Sand plain between salt pans. Orange sand. In areas to the south-east of the Survey Area in between the salt pans. |  | Spectrum (2022a) |

| | | | | | |
|----|---|---|--|--|--------------------|
| S1 | <i>Acacia acuminata</i> (+/- <i>Melaleuca hamata</i>) tall open shrubland, over <i>Eremophila granitica</i> , <i>Exocarpos aphyllus</i> , and <i>Scaevola spinescens</i> mid sparse shrubland. | <ul style="list-style-type: none"> • <i>Austrostipa elegantissima</i> • <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i> • <i>Prostanthera grylloana</i> • <i>Prostanthera althoferi</i> | Rocky granitic hill slopes. Large common granite stones. Red-orange sandy-clay. Few scattered locations through the Survey Area. |  | Spectrum (2022a) |
| 2 | Mixed <i>Eucalyptus</i> spp. woodland comprising predominantly <i>E. griffithsii</i> , <i>E. horistes</i> and <i>E. lesouefii</i> open woodland over <i>Eremophila scoparia</i> , <i>Exocarpos aphyllus</i> and <i>Senna artemisioides</i> subsp. <i>filifolia</i> sparse shrubland over <i>Atriplex vesicaria</i> , <i>Enchylaena tomentosa</i> var. <i>tomentosa</i> and <i>Sclerolaena gardneri</i> sparse chenopod shrubland over <i>Austrostipa elegantissima</i> isolated grasses. This community occasionally grades into pockets dominated by <i>E. salmonophloia</i> . | <ul style="list-style-type: none"> • <i>Scaevola spinescens</i> • <i>Olearia muelleri</i> • <i>Ptilotus obovatus</i> • <i>Eremophila parvifolia</i> subsp. <i>auricampa</i> • <i>Dodonaea lobulata</i> • <i>Westringia rigida</i> • <i>Maireana sedifolia</i> • <i>Maireana triptera</i> • <i>Rhagodia drummondii</i> • <i>Eremophila oldfieldii</i> subsp. <i>angustifolia</i> • <i>Santalum acuminatum</i> • <i>Solanum nummularium</i> • <i>Marsdenia australis</i> | Red-brown loam plains and rocky rises. Widespread in the study area. |  | Eco Logical (2016) |

Appendix G. Sources of information

G.1. GIS datasets

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

- Bush Forever Areas 2000 (DPLH-019)
- Clearing Instruments Activities (Areas Approved to Clear) (DWER-076)
- Clearing Instruments Conditions (Areas Subject to Conditions) (DWER-077)
- Clearing Instruments Proposals (Areas Applied to Clear) (DWER-075)
- Clearing Referral Proposal (DWER-116)
- Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
- Clearing Regulations - Schedule One Areas (DWER-057)
- Consanguineous Wetlands Suites (DBCA-020)
- Contaminated Sites Database (DWER-059)
- Contaminated Sites Database - Restricted (DWER-073)
- DBCA - Lands of Interest (DBCA-012)
- DBCA - Legislated Lands and Waters (DBCA-011)
- DBCA Fire History (DBCA-060)
- Directory of Important Wetlands in Australia - Western Australia (DBCA-045)
- EPA Redbook Recommended Conservation Reserves 1976-1991 (DBCA-029)
- EPA Referred Schemes Pending (DWER-121)
- EPA Referred Significant Proposals (DWER-120)
- EPA Referred Significant Proposals Pending (DWER-103)

- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- IBSA Survey Details (DWER-118)
- Local Government Area (LGA) Boundaries (LGATE-233)
- Localities (LGATE-234)
- Medium Scale Topo Contour (Line) (LGATE-015)
- Medium Scale Topo Water (Line) (LGATE-018)
- Medium Scale Topo Water (Polygon) (LGATE-016)
- Native Vegetation Extent (DPIRD-005)
- Offsets Register - Offsets (DWER-078)
- Offsets Register - Projects (DWER-079)
- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Referral - Permit Application Not Required (DWER-117)
- 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)
- Townsites (LGATE-248)
- WA Now Aerial Imagery

Restricted GIS Databases used:

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

G.2. References

- Alacran Environmental Science (Alacran) (n.d.) Identification and short-range endemic invertebrate assessment of invertebrates from the Binduli South Project. Prepared for Spectrum Ecology, by Alacran Environmental Science.
- Astill Consultants (2025) Binduli South application to amend CPS 10036/1, supporting document. Prepared for Norton Gold Fields Pty Ltd, by Astill Consultants, October 2025.
- Atlas of Living Australia (ALA) (n.d.) *Nyctophilus major tor* Parnaby, 2009. Atlas of Living Australia. [Nyctophilus major tor : Central Long-Eared Bat | Atlas of Living Australia](#) (Accessed 4 March 2026).
- BirdLife Australia (2026) Hooded Plover. BirdLife Australia. [Hooded Plover - BirdLife Australia](#) (Accessed 27 February 2026).
- Botanica Consulting Pty Ltd (Botanica) (2025) Binduli, Mt Jewell, Racetrack, Rose Dam South, Solar Farm and Wattlebird targeted surveys for the arid bronze azure butterfly and inland hairstreak butterfly. Prepared for Norton Gold Fields Pty Ltd, by Botanica Consulting Pty Ltd, December 2025.
- Botanica Consulting Pty Ltd (Botanica) (2026a) Binduli flora and fauna survey, additional information. Prepared by Botanica Consulting Pty Ltd, March 2026.
- Botanica Consulting Pty Ltd (Botanica) (2026b) Binduli North Operations Reconnaissance Flora/Vegetation and Basic Fauna Survey. Prepared for Norton Gold Fields, by Botanica Consulting Pty Ltd, March 2026.
- Bureau of Meteorology (BoM) (2006) Map of average pan evaporation – Annual. Bureau of Meteorology. [Average annual, monthly and seasonal evaporation maps, Bureau of Meteorology](#) (Accessed 27 February 2026).
- Bureau of Meteorology (BoM) (2019) Bureau of Meteorology Website – Groundwater Information – Average Salinity. Bureau of Meteorology. <https://www.bom.gov.au/water/groundwater/insight/metadatas.html> (Accessed 27 February 2026).
- Bureau of Meteorology (BoM) (2026) Bureau of Meteorology Website – Climate Data Online, Kalgoorlie-Boulder Airport (Number 12038). Bureau of Meteorology. <https://reg.bom.gov.au/climate/data/> (Accessed 27 February 2026).
- City of Kalgoorlie-Boulder (Kalgoorlie-Boulder) (2026) Public submission in relation to clearing permit application CPS 11447/1, received 17 February 2026.
- Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.
- Commonwealth of Australia (2008) Species Profile and Threats Database. Department of Climate Change, Energy, the Environment and Water, Australia. <https://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl> (Accessed 27 February 2026).

- Commonwealth of Australia (2022) Referral guideline for 3 WA threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and the Forest Red-tailed Black- cockatoo, Department of Agriculture, Water and the Environment, Canberra.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2020) Guideline for the survey of arid bronze azure butterfly (ABAB) in Western Australia. Department of Biodiversity, Conservation and Attractions.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2024) Advice received in relation to Clearing Permit Application CPS 10572/1. Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, September 2024.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2025) Threatened Ecological Communities List November 2025. Department of Biodiversity, Conservation and Attractions. [List of threatened and priority ecological communities | Department of Biodiversity, Conservation and Attractions](#) (Accessed 27 February 2025).
- Department of Biodiversity, Conservation and Attractions (DBCA) (2026) Threatened and priority fauna resources: Arid bronze azure butterfly. Department of Biodiversity, Conservation and Attractions. [Threatened and priority fauna resources | Department of Biodiversity, Conservation and Attractions](#) (Accessed 27 February 2026).
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2023) Conservation Advice for *Aphelocephala leucopsis* (southern whiteface). Department of Climate Change, Energy, the Environment and Water, Canberra. [Conservation advice Aphelocephala leucopsis \(southern whiteface\)](#)
- 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 Conservation and Land Management (CALM) (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- Department of Conservation and Land Management (CALM) (n.d.) Malleefowl species factsheet. Department of Conservation and Land Management, Western Australia. [Malleefowl.doc](#)
- Department of Environment and Conservation (DEC) (2012) Chuditch (*Dasyurus geoffroii*) National Recovery Plan, Wildlife Management Program No. 54, Department of Environment and Conservation, Perth.
- 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 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 26 February 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 26 February 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, *Jalmenus aridus* Graham & Moulds, 1988 (Lepidoptera: Lycaenidae) in the Eastern Goldfields region of Western Australia.
- Eco Logical Australia Pty Ltd (Eco Logical) (2016) Biological assessment – Binduli Expansion Project, Flora and Vegetation. Prepared for Norton Gold Fields Limited, by Eco Logical Australia Pty Ltd, July 2016.
- Environmental Protection Authority (EPA) (2004) Guidance for the Assessment of Environmental Factors - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia, No. 51, June 2004.
- Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf
- Environmental Protection Authority (EPA) (2019) EPA Technical Report: Carnaby's Cockatoo in Environmental Impact Assessment in the Perth and Peel Region. Advice of the Environmental Protection Authority under Section 16(j) of the *Environmental Protection Act 1986*.
- 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
- 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>
- IUCN (1996) Fairy shrimp *Branchinella denticulata*. The IUCN Red List of Threatened Species. [Branchinella denticulata \(Fairy Shrimp\)](#) (Accessed 27 February 2026).

- IUCN (2022) Carnaby's Black-cockatoo *Zanda latirostris*. The IUCN Red List of Threatened Species. [Zanda latirostris \(Carnaby's Black-cockatoo\)](#) (Accessed 27 February 2026).
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- La Trobe University (n.d.) Anostraca (fairy shrimp). La Trobe University, Centre for Freshwater Ecosystems. <https://www.mdfrc.org.au/bugguide/display.asp?type=9&class=18&subclass=36&couplet=0> (Accessed 3 March 2026).
- Maslin, B. R. (2014) Miscellaneous new species of *Acacia* (Fabaceae: Mimosoideae) from south-west Western Australia. Nuytsia: Journal of the Western Australian Herbarium, 24, 142-145. <https://doi.org/10.58828/nuy00722>
- Maslin, B. R. (2018) Wattle Acacias of Australia; *Acacia coatesii* Maslin. Department of the Environment and Energy; Department of Biodiversity, Conservation and Attractions; Australian Biological Resources Study. Available from: https://apps.lucidcentral.org/wattle/text/entities/acacia_coatesii.htm (Accessed 3 March 2026).
- McKenzie, N. L. and Parnaby, H. (2008) Central long-eared bat (*Nyctophilus* sp.). The Mammals of Australia, 525-526. Reed New Holland, Sydney, 2008.
- Menkhorst, P. and Knight, F. (2011) A Field Guide to the Mammals of Australia, Third Edition. Oxford University Press, Victoria, Australia.
- Menkhorst, P., Rogers, D., Clarke, R., Davies, J., Marsack, P. and Franklin, K. (2019) The Australian bird guide: Revised Edition. CSIRO Publishing, Victoria, 2019.
- Norton Gold Fields Pty Ltd (Norton) (2025) Application to amend Native Vegetation Clearing Permit CPS 10036/1, covering letter, received 28 October 2025.
- Norton Gold Fields Pty Ltd (Norton) (2026a) Additional information received via email, 17 February 2026.
- Norton Gold Fields Pty Ltd (Norton) (2026b) Clearing permit application form, CPS 11447/1, received 30 January 2026.
- Simpson, K. and Day, N. (2010) Field Guide to the Birds of Australia: Eighth edition. Penguin Australia, 2010.
- Spectrum Ecology Pty Ltd (Spectrum) (2020) Binduli North Expansion Project, desktop report review. Prepared for Talis Consulting and Norton Gold Fields, by Spectrum Ecology Pty Ltd, June 2020.
- Spectrum Ecology Pty Ltd (Spectrum) (2022a) Binduli South Project flora & vegetation assessment. Prepared for Talis Consulting and Norton Gold Fields, by Spectrum Ecology Pty Ltd, January 2022.
- Spectrum Ecology Pty Ltd (Spectrum) (2022b) Binduli South Project terrestrial fauna and SRE assessment. Prepared for Talis Consulting and Norton Gold Fields, by Spectrum Ecology Pty Ltd, March 2022.
- Terrestrial Ecosystems (2025) Arid bronze azure and inland hairstreak butterfly survey for the Norton Binduli South Project. Prepared for Astill Consulting, by Terrestrial Ecosystems, October 2025.
- Timms, B. V. (2008) Further studies on the fairy shrimp genus *Branchinella* (Crustacea, Anostraca, Thamnocephalidae) in Western Australia, with descriptions of new species. Records of the Western Australian Museum, 24: 289-306. [Further studies on the fairy shrimp genus Branchinella](#)
- 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.
- Waddell, P. A., Thomas, P. W. E., Fletcher, W. J., Ryan, K. G., Foster, J. E., Stretch, J. K. and Addison, J. S. (2023) Pasture condition guides for the southern rangelands, including the Gascoyne, Murchison and Goldfields-Nullarbor, Bulletin 4913. Department of Primary Industries and Regional Development, Western Australian Government.
- Western Australian Herbarium (WAH) (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dbca.wa.gov.au/> (Accessed 3 March 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.