



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	10369/1
Permit type:	Purpose Permit
Applicant name:	Northern Star Resources Limited
Application received:	5 October 2023
Application area:	2,500 hectares
Purpose of clearing:	Mineral production and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Leases 36/503, 36/504, 36/512, 36/525, 36/542, 36/582, 36/585, 37/339, 37/340, 37/356, 37/357, 37/358, 37/359, 37/360, 37/361, 37/367, 37/368, 37/437, 37/465, 37/493, 37/998 Miscellaneous Licences 36/158, 37/61, 37/73, 37/142, 37/166, 37/199, 37/215, 37/216
Location (LGA area):	Shire of Leonora
Colloquial name:	Thunderbox and Bannockburn projects

1.2. Description of clearing activities

Northern Star Resources Limited proposes to clear up to 2,500 hectares of native vegetation within a boundary of approximately 7,725 hectares, for the purpose of mineral production and associated activities (Northern Star Resources, 2024). The project is located approximately 38 kilometres south-east of Leinster, within the Shire of Leonora (GIS Database).

Previously, clearing for the Thunderbox and Bannockburn projects was approved under CPS 6259/4 (now expired), approximately 502 hectares of native vegetation was cleared under this permit. This application is to allow for the expansion of mining activities at the Thunderbox and Bannockburn projects (Northern Star Resources, 2024).

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	18 July 2024
Decision area:	2,500 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) on 5 October 2023. DEMIRS advertised the application for a public comment for a period of 21 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix E), supporting information provided by the applicant (Appendix A) including the results of a flora, vegetation and fauna surveys (Bamford, 2001; Biota, 2006; Botanica Consulting, 2014; 2023), the clearing principles set out in Schedule 5 of the EP Act (Appendix C), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- impacts to riparian vegetation;
- impacts to conservation significant flora;
- impacts to conservation significant fauna;
- the loss of native vegetation that is suitable habitat for malleefowl (*Leipoa ocellata*); and
- potential land degradation in the form of wind or water erosion.

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

unacceptable risk to environmental values.

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- staged clearing to minimise wind or water erosion;
- avoid clearing riparian vegetation and maintain surface water flow;
- undertake a targeted flora survey within the northern extent of the application area (shaded red in Figure 1);
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and
- pre-clearance inspection for Brush-tailed Mulgara and active Malleefowl mounds and placement of appropriate buffers.

1.5. Site map

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

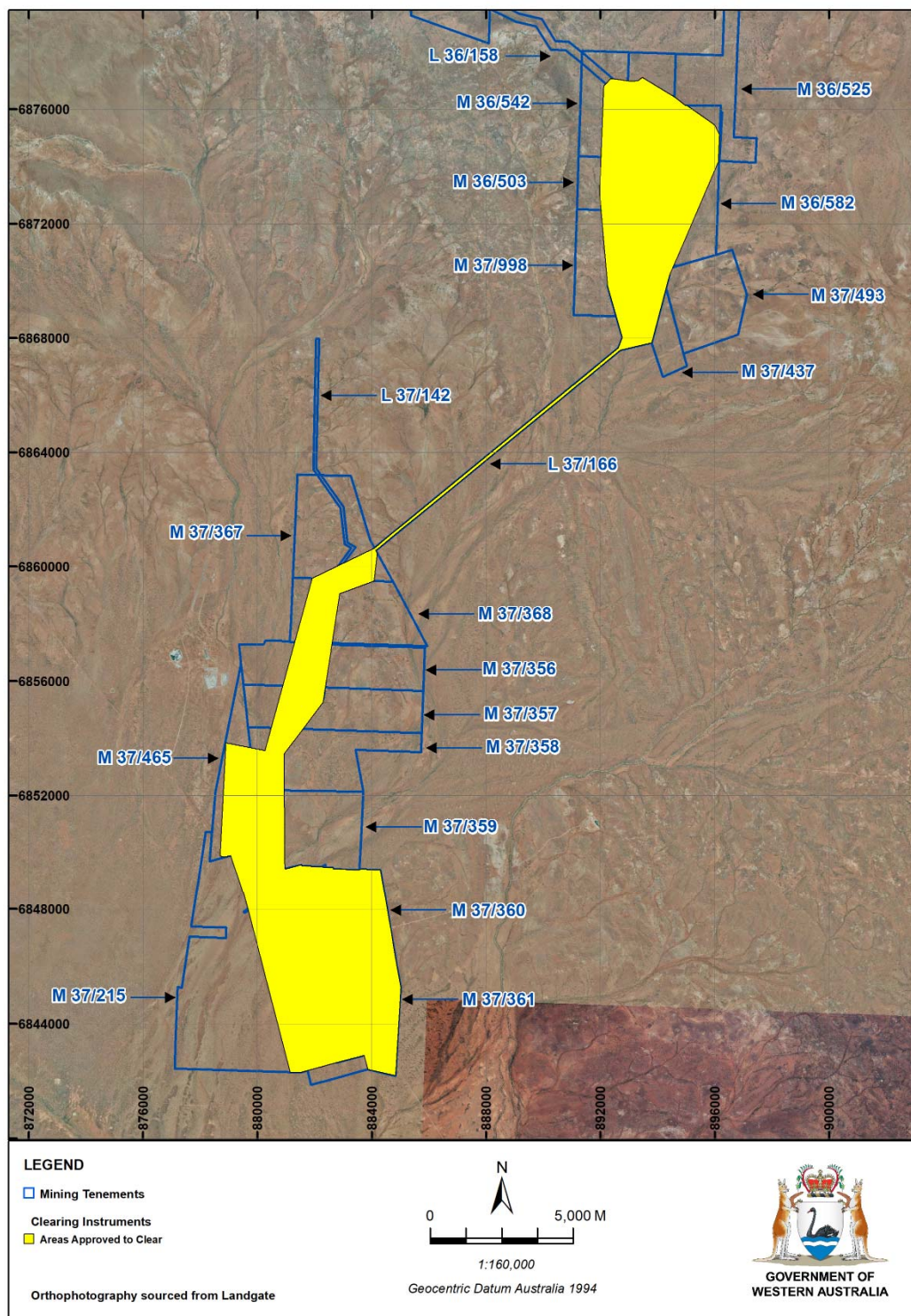


Figure 1. Map of the application area. The yellow area indicates the area within which conditional authorised clearing can occur under the granted clearing permit.

2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Terrestrial Fauna 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

Northern Star Resources (Saracen, 2014) have outlined they maintain the following internal databases, and avoidance and mitigation measures:

- the area to be cleared will be surveyed and pegs installed prior to commencement of clearing to ensure only the approved area is cleared;
- surface water will be managed in accordance with the Surface Water Management Plan;
- bunds will be constructed along haul roads to prevent saline water from draining into the surrounding environment;
- table drains and sumps will be constructed along haul roads to collect saline water runoff;
- dribble bars will be used on water trucks;
- water truck operators will be educated to avoid over spraying and report the need to repair bunding and drainage sumps; and
- the permit boundary was amended to excise the population of *Acacia* sp. Marshall Pool (G. Cockerton 3024) located in the southeast corner of the application area.

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

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) 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, vegetation 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 (vegetation and flora) - Clearing Principles (a)

Assessment

A flora and vegetation survey was conducted over the northern extent of the application area (5,543 hectares survey area) by Botanica Consulting during June and August of 2014 (Botanica Consulting, 2014), and the southern extent (3,402 hectares survey area) in June and November of 2023 (Botanica Consulting, 2023). The 2014 survey recorded 18 vegetation communities which was represented by 12 families, 16 genera and 25 taxa (Botanica Consulting, 2014), and the 2023 survey recorded four vegetation communities which was represented by 17 families, 30 genera and 65 taxa (Botanica Consulting, 2023). Floristic diversity within the application area is considered to be high, however Botanica Consulting (2014) advise that most species have wide distributions and occur in one or more subregions.

There are records of 12 priority flora within 30 kilometres of the application area (GIS Database), flora surveys have confirmed one priority flora located within the application area, *Calytrix uncinata* (Priority 3). During the 2014 flora survey, one population with approximately 20 individuals of *Calytrix uncinata* was recorded within the application area (Botanica Consulting, 2014). This species was the only conservation significant taxa recorded during the 2014 flora survey (Botanica Consulting, 2014). *Calytrix uncinata* has a relatively broad distribution, occurring across both the Murchison and Yalgoo bioregions (Western Australian Herbarium, 1998-). The application area contains suitable habitat for this species, however the habitat is common within the two bioregions. With consideration to the distribution of this species and the area of suitable habitat within the application area, the proposed clearing is not likely to impact the conservation of this species. Given the age of the survey, there is potential for several conservation significant flora species to occur within the application area and potential impacts may be managed by

implementing a flora condition, requiring targeted flora surveys to be undertaken prior to clearing within the extent of the 2014 survey area.

Botanica Consulting (2023) recorded up to 500 individuals of Priority 3 *Acacia* sp. Marshall Pool (G. Cockerton 3024) within the original application area. This area was excised from the original application area and therefore avoiding potential impacts to this species. The remaining 10 priority flora which have been recorded within 30 kilometres of the application area (B.3) were not recorded during the flora surveys, however due to the age of the survey (Botanica Consulting, 2014) and the presence of suitable habitat, it is possible for individuals of these species to occur within the application area. The northern section of the application area will be conditioned and will require a targeted flora survey to be carried out prior to clearing within this area.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on conservation significant flora can be managed by undertaking a targeted flora survey, avoiding and minimising disturbance and by taking steps to minimise the risk of the introduction and spread of weeds.

Conditions

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds; and
- undertake a targeted flora survey within the northern extent of the application area.

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

Assessment

A vertebrate fauna assessment was conducted over the Thunderbox project area in February of 2001 by Bamford Consulting Ecologists (Bamford, 2001). A total of five habitat types were recorded within this portion of the application area, including (Bamford, 2001):

- mulga woodland on loam;
- mulga woodland on low, rocky hills;
- shrub land on rocky hills and breakaways, including seasonal watercourses;
- spinifex on sand; and
- woodland and shrubland on sandy loam.

Botanica Consulting (2023) undertook a basic fauna assessment of the southern extent of the application area (Bannockburn project area) in June and November of 2023. Based on vegetation and associated landforms identified during the flora and vegetation assessment, the following four broad scale terrestrial fauna habitats were recorded within the application area (Botanica Consulting, 2023):

- *Acacia* woodland/shrubland on clay-loam plain;
- *Acacia* woodland/shrubland in drainage line;
- *Acacia* woodland on rocky plain; and
- *Acacia* woodland on rocky slope.

Based on aerial imagery, the habitat types within the application boundary are widespread in the surrounding region (GIS Database). The application area is not likely to contain significant habitat features which are restricted on a local or regional scale.

A fauna assessment was conducted within the northern extent of the application area (Thunderbox project area) in February of 2001 by Bamford Consulting Ecologists (Bamford, 2001). A total of 98 avian, 50 reptile, five amphibian and 25 mammal species were considered likely or known to occur within the application area, including six introduced species (Bamford, 2001). A fauna habitat and assemblage survey was conducted adjacent to the Bannockburn project by Biota in October/November of 2006 (Biota, 2007), and identified 43 avian, 23 reptile, one amphibian and 12 mammal species, of which three were introduced. Both fauna surveys by Bamford (2001) and Biota (2006) advised that the local area was not likely to represent an area of unusually high fauna diversity for the Goldfields region. Furthermore, large areas of the application area have been previously cleared for mining and associated infrastructure, and the remaining fauna community is unlikely to represent an area of high biodiversity.

Six conservation significant species have been recorded within 50 kilometres of the application area (B.4) (GIS Database):

- Striated grasswren (sandplain) (*Amytornis striatus striatus*) – Priority 4 – has been recorded within 25 kilometres of the application area (GIS Database). This species is a habitat specialist, confined to mature spinifex *Triodia* spp. with an overstorey of mallee eucalypts (DCCEEW, 2024). Suitable habitat is found within the application area and surrounding region, this species may occur intermittently when moving through the area, but are not likely to be dependent on habitat within the application area.
- Brush-tailed mulgara (*Dasyercus blythi*) – Priority 4 – has been recorded within 25 kilometres of the application area (GIS Database). Individuals of this species are mostly found in areas with mature hummock (spinifex) grasslands (DCCEEW, 2024). They also use other vegetation types next to hummock grasslands, or paleo-drainage systems or drainage lines in sandplain or sand dune habitats (DCCEEW, 2024). Given suitable habitat is present within the application area (Bamford, 2001), this species could potentially occur intermittently when moving through the area, but are not likely to be dependent on habitat within the application area. Given the large area proposed to clear (2,500

hectares), impacts to this species may be managed by implementing a fauna management condition, requiring a fauna specialist to undertake clearance surveys for this species.

- Peregrine falcon (*Falco peregrinus*) – Other Specially Protected – has been recorded within 26 kilometres of the application area (GIS Database). This species lives mostly along mountain ranges, river valleys, coastlines, and increasingly in cities (DCCEEW, 2024). There is potential for individuals to occur aerially over the application area however suitable breeding habitat is unlikely to be present.
- Malleefowl (*Leipoa ocellata*) – Vulnerable – has been recorded within one kilometre of the application area (GIS Database). Targeted surveys have been undertaken in 2015, 2017, 2022 and 2023 over some extents of the application area (Botanica Consulting, 2015; 2017; 2023). No Malleefowl sightings were made and there was no evidence of Malleefowl activity (mounds, tracks, feathers etc.) identified within these survey areas (Botanica Consulting, 2015; 2017; 2023). Further to this, Botanica Consulting (2015; 2017; 2023) advised that no critical habitat was identified within these survey areas. Whilst Malleefowl were not detected in these survey areas, it is possible the species may utilise the application area for foraging or breeding. A fauna management condition is recommended to minimise impacts to this species, should clearing occur during the breeding season. Vegetation within the application area is consistent with habitat suitable for this species, and therefore there is a high likelihood for Malleefowl to use the area for breeding. Impacts to Malleefowl may be minimised by the implementation of a fauna management condition which requires targeted searches be conducted prior to clearing activity.
- The Greater Bilby (*Macrotis lagotis*) – Vulnerable - was recorded in 1981 within two kilometres of the application area (GIS Database). The remaining populations of the Greater Bilby occupy three main habitats: open tussock grassland on uplands and hills, *Acacia aneura* (mulga) woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas (DCCEEW, 2024). Suitable habitat occurs within the application area; however, this species is considered locally extinct (Botanica Consulting, 2023).
- Common greenshank (*Tringa nebularia*) – Migratory – has been recorded within 13 kilometres of the application area (GIS Database). This species occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass (DCCEEW, 2024). This species may occur intermittently when moving through the area, but are not likely to be dependent on habitat within the application area.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on conservation significant fauna can be managed by undertaking a pre-clearance survey for Brush-tailed mulgara and active Malleefowl mounds and slow progressive clearing.

Conditions

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

- fauna Management – Malleefowl: inspection for active Malleefowl mounds and placement of appropriate buffers;
- fauna management - Brush-tailed mulgara clearance survey; and
- undertake slow progressive clearing to allow fauna to move into adjacent environments.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 1 March 2024 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (Darlot - WAD142/2018) over the area under application (DPLH, 2024). This claim has been determined by the Federal Court on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

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

Other relevant authorisations required for the proposed land use include:

- A Mining Proposal / Mine Closure Plan approved under the *Mining Act 1978*.

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

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Two IBSA numbers (IBSA-2024-0084 and IBSA-2024-0083) were provided following submission.	IBSA packages and associated surveys were used during this assessment.

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia (GIS Database). The area is located within the East Murchison subregion of the Murchison Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). The dominant land uses of the Eastern Murchison subregion include grazing native pastures, unallocated crown reserves, conservation and mining (Botanica Consulting, 2023). The proposed area is surrounded by native vegetation (GIS Database). There is existing mining infrastructure within the application area from the current Thunderbox and Bannockburn mining projects (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 closest conservation area is the ex Bulga Downs pastoral lease approximately 56 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> <ul style="list-style-type: none"> • 18: Low woodland; mulga (<i>Acacia aneura</i>); • 28: Open low woodland; mulga; and • 39: Shrublands; mulga scrub (GIS Database). <p>A flora and vegetation survey was conducted over the northern extent of the application area by Botanica Consulting during June and August of 2014 and the southern extent in June and November of 2023.</p> <p>The following vegetation associations were recorded within the northern extent of the application area from Thunderbox to Bannockburn Project area (Botanica Consulting, 2014):</p> <ul style="list-style-type: none"> • TB_01: Low woodland of <i>Acacia aptaneura</i> over open low scrub of <i>Thryptomene decussata</i> and open dwarf scrub of <i>Dodonaea microzyga</i>, dwarf scrub of <i>Ptilotus obovatus</i>, very open low grass of <i>Monachather paradoxus</i> on breakaway; • TB_02: Open low woodland of <i>Acacia aptaneura</i>, <i>Acacia mulganeura</i> over open dwarf scrub of <i>Eremophila conglomerata</i> and very open low grass of <i>Monachather paradoxus</i> on hill slope; • TB_03: Open low woodland of <i>Acacia aptaneura</i>, <i>Acacia mulganeura</i> over open scrub of <i>Acacia ramulosa</i> and very open low grass of <i>Monachather paradoxus</i>; • TB_04: Open low woodland of <i>Acacia aptaneura</i>, <i>Acacia mulganeura</i> over dwarf scrub of <i>Eremophila spectabilis</i> subsp. <i>brevis</i> and low grass of <i>Monachather paradoxus</i>; • SY_01: Open low woodland of <i>Acacia aptaneura</i>, <i>Acacia mulganeura</i> over dwarf scrub of <i>Eremophila margarethae</i> and low grass of <i>Monachather paradoxus</i>; • SY_02: Open low woodland of <i>Hakea preissii</i> over open low scrub of <i>Senna</i> sp. <i>Meekatharra</i> (E. Bailey 1-26) and dwarf scrub of <i>Maireana glomerifolia</i> and <i>Tecticornia disarticulate</i>; • SY_03: Open low woodland of <i>Acacia aptaneura</i> over low scrub of <i>Hakea preissii</i> and open dwarf scrub of <i>Maireana triptera</i>; • SY_04: Open low woodland of <i>Acacia aptaneura</i> over low scrub of <i>Senna artemisioides</i> subsp. <i>helmsii</i> and open dwarf shrub <i>Ptilotus obovatus</i>, <i>Maireana triptera</i> on hill slope; • SY_05: Thicket of <i>Acacia burkittii</i> over open low scrub of <i>Senna artemisioides</i> subsp. <i>filifolia</i> and open dwarf scrub of <i>Ptilotus obovatus</i> and <i>Sida</i> sp. <i>Excedentifolia</i>; • SY_06: Open low woodland of <i>Acacia aptaneura</i> over open low scrub of <i>Senna artemisioides</i> subsp. <i>filifolia</i> and open low grass of <i>Enneapogon caeruleus</i>, open dwarf scrub of <i>Ptilotus obovatus</i> and <i>Solanum lasiophyllum</i>; • PHR_01: Open low woodland of <i>Acacia aptaneura</i>, <i>Acacia mulganeura</i> over open scrub of <i>Acacia tetragonophylla</i>, <i>Acacia craspedocarpa</i> and open dwarf scrub of <i>Ptilotus obovatus</i>, open low grass <i>Aristida contorta</i>; • WS_01: Low woodland of <i>Acacia aptaneura</i> over open low scrub of <i>Eremophila platycalyx</i>, <i>Senna</i> sp. <i>Meekatharra</i> (E. Bailey 1-26) and open low grass <i>Aristida contorta</i>, very open herbs of <i>Cheilanthes sieberi</i> subsp. <i>Sieberi</i>; • WS_02: Low woodland of <i>Acacia aptaneura</i>, <i>Acacia mulganeura</i> over low scrub <i>Acacia tetragonophylla</i> and very open low grass of <i>Monachather paradoxus</i> in creekline; • WS_03: Open low woodland of <i>Acacia aptaneura</i> over open dwarf scrub of <i>Eremophila pantonii</i> and herbs of <i>Sclerolaena densiflora</i>;

Characteristic	Details
	<ul style="list-style-type: none"> • WS_04: Low woodland of <i>Acacia aptaneura</i> over open low scrub of <i>Eremophila platycalyx</i> and very open low grass <i>Aristida contorta</i> in flood plain; • WS_05: Forest of <i>Acacia aptaneura</i> over heath of <i>Eremophila forrestii</i>, low scrub of <i>Eremophila conglomerata</i> and low grass of <i>Monachather paradoxus</i>; • WS_06: Open low woodland of <i>Acacia incurvaneura</i>, <i>Acacia aptaneura</i>, / <i>Acacia mulganeura</i> and open scrub of <i>Acacia ramulosa</i> and low grass of <i>Aristida contorta</i>; and • WS_07: Open low woodland <i>Acacia aptaneura</i> over scrub of <i>Eremophila fraseri</i> and open dwarf scrub <i>Ptilotus obovatus</i>/ very open low grass of <i>Aristida contorta</i>. <p>The following vegetation associations were recorded within the southern section of the application area within the Bannockburn Project area (Botanica Consulting, 2023):</p> <ul style="list-style-type: none"> • CLP-AOW: Acacia open woodland (MVG 13) <i>Acacia incurvaneura</i> and <i>A. mulganeura</i> open woodland over <i>Eremophila platycalyx</i> subsp. Leonora tall open shrubland over <i>Eremophila forrestii</i> open shrubland (no dominant under storey); • DD-AOW: Acacia open woodland (MVG 13) <i>Acacia incurvaneura</i>, <i>A. ramulosa</i> and <i>A. oswaldii</i> open woodland over <i>Acacia tetragonophylla</i> open shrubland (no dominant under storey); • RP-AOW: Acacia open woodland (MVG 13) <i>Acacia pteraneura</i> sparse tall shrubland over <i>Eremophila galeata</i>, <i>Acacia tetragonophylla</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> open shrubland over <i>Ptilotus obovatus</i> low open shrubland; and • RHS -AOW: Acacia open woodland (MVG 13) <i>Acacia incurvaneura</i> open woodland over <i>Eremophila galeata</i>, <i>Senna artemisioides</i> subsp. <i>helmsii</i> and <i>Acacia</i> sp. Marshall Pool (G. Cockerton 3024) open shrubland over <i>Ptilotus obovatus</i> low open shrubland.
Vegetation condition	<p>The vegetation survey (Botanica Consulting, 2014; 2023) indicates the vegetation within the proposed clearing area is in Completely Degraded to Very Good (Trudgen, 1991) condition, described as</p> <ul style="list-style-type: none"> • Very good: Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks. • Good: More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds. <p>Poor: Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.</p> <p>Completely degraded: Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix D.</p>
Climate and landform	The climate of the East Murchison subregion is characterised as arid (Botanica Consulting, 2014). The area experiences an average rainfall of 236.7 millimetres (BoM, 2024).
Soil description	The application area lies over 14 land systems, including the Bevon, Duketon, Gransal, Gundockerta, Jundee, Laverton, Leonora, Monitor, Monk, Nubev, Rainbow, Tiger, Violet, and Wilson land systems (GIS Database).
Land degradation risk	Of the 14 land systems, 10 are moderately to highly susceptible to soil erosion (Pringle et al., 1994; Saracen, 2014). Water erosion within these land systems is a particular risk when areas of surface water drainage are disturbed (Pringle et al., 1994; Saracen, 2014).
Waterbodies	The application area covers a large number of minor, non-perennial watercourses (GIS Database). The northern Thunderbox Mining Area occurs upstream over second and third order tributaries of Wilson Creek (Saracen, 2014). The creek and associated drainage lines become inundated and form small temporary pools following rainfall, which is highest during the months of December to March (Saracen, 2014). The southern Bannockburn Mining Area occurs within floodplains and minor drainage lines associated with two creeks which flow in a south westerly direction (Saracen, 2014; GIS Database)
Hydrogeography	The application area is not mapped within a proclaimed public drinking water area (GIS Database). The area is mapped within the Goldfields Groundwater Area, proclaimed under the Rights in Water Irrigation (RIWI) Act (GIS Database).
Flora	No threatened flora have been recorded within the application area (Botanica Consulting, 2014; 2023; GIS Database). One priority flora is recorded within the application area (Botanica Consulting, 2014).
Ecological communities	The application area is not located within any known or mapped Threatened Ecological Community (TEC) (Botanica Consulting, 2014; 2023; GIS Database).

Characteristic	Details
Fauna	There are records of six conservation significant fauna species within 50 kilometres of the application area (GIS Database).

B.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent Remaining %	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA Managed Lands
IBRA Bioregion Murchison	28,120,586.77	28,044,823.42	99.73	2,185,987.96	7.77
Beard vegetation associations - State					
Veg Assoc No. 18	19,892,306.46	19,843,148.07	99.75	1,317,179.00	6.62
Veg Assoc No. 28	395,895.08	392,171.83	99.06	0.00	0.00
Veg Assoc No. 39	6,613,567.48	6,602,578.44	99.83	795,070.69	12.02
Beard vegetation associations - Bioregion					
Veg Assoc No. 18	12,403,172.30	12,363,252.47	99.68	614,964.13	4.96
Veg Assoc No. 28	224,291.84	220,583.71	98.35	0.00	0.00
Veg Assoc No. 39	1,148,400.30	1,138,064.63	99.10	40,834.41	3.56

Government of Western Australia (2019)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and biological survey information (Botanica Consulting 2014; 2023, GIS Database), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)
<i>Acacia</i> sp. Marshall Pool (G. Cockerton 3024)	3	Y	2	10
<i>Baeckea</i> sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963)	3	Y	<15	8
<i>Calytrix praecipua</i>	3	Y	<26	28
<i>Calytrix uncinata</i>	3	Y	0	47
<i>Grevillea inconspicua</i>	4	Y	<7	61
<i>Hemigenia exilis</i>	4	Y	<3	45
<i>Korthalsella leucothrix</i>	1	Y	<5	14
<i>Lysiandra baeckeoides</i>	3	Y	<19	31
<i>Philothea tubiflora</i>	1	Y	<26	14
<i>Sauropus</i> sp. Woolgorong (M. Officer s.n. 10/8/94)	3	Y	<3	36
<i>Stenanthemum patens</i>	1	Y	<6	11
<i>Thryptomene</i> sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	Y	<5	25

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

B.4. Fauna analysis table

Species name	Common Name	Conservation status	Distance of closest record to application area (km)	Suitable habitat features? [Y/N]
<i>Amytornis striatus striatus</i>	striated grasswren (sandplain)	P4	<25	Y
<i>Dasyercus blythi</i>	brush-tailed mulgara	P4	<25	Y
<i>Falco peregrinus</i>	peregrine falcon	OS	<26	Y
<i>Leipoa ocellata</i>	malleefowl	VU	<1	Y
<i>Macrotis lagotis</i>	bilby, dalgyte, ninu	VU	<2	N
<i>Tringa nebularia</i>	common greenshank	MI	<13	N

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

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared may contain vegetation which supports conservation significant flora and fauna. (Bamford, 2001; Botanica Consulting 2014; 2023; GIS Database). Floristic diversity within the application area is considered to be high (Botanica Consulting, 2014)</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared may contain foraging habitat for several conservation significant fauna species (Bamford, 2001, Botanica Consulting 2023; GIS Database).</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area did not record any species of Threatened flora (Botanica Consulting 2014; 2023).</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> <p>There are no known Threatened Ecological Communities (TECs) located within the application area and the flora and vegetation survey did not identify any TECs (Botanica Consulting 2014; 2023; GIS Database).</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> "Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."</p> <p><u>Assessment:</u></p> <p>The extent of the native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2001). The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	Not at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (h):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas (GIS Database).</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> “Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</p> <p><u>Assessment:</u></p> <p>Several ephemeral watercourses transect the application area (GIS Database). Two vegetation communities within the application area were recorded in association with ephemeral watercourses and are considered to be riparian in nature, including:</p> <ul style="list-style-type: none"> • WS_02: Low woodland of <i>Acacia aptaneura</i> / <i>A. mulganeura</i> over low scrub <i>A. tetragonophylla</i> & very open low grass of <i>Monachather paradoxus</i> in creekline; and • WS_04: Low woodland of <i>A. aptaneura</i> over open low scrub of <i>Eremophila platycalyx</i> & very open low grass <i>Aristida contorta</i> in flood plain (Botanica Consulting, 2014). <p>Neither of the two riparian vegetation communities had a high floristic diversity or provided habitat for conservation significant flora (Botanica Consulting, 2014). Therefore, neither vegetation community is likely to be of conservation significance on a local or regional scale. Further impacts to riparian vegetation may be minimised by the implementation of a watercourse management condition.</p>	At variance	No
<p><u>Principle (g):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</p> <p><u>Assessment:</u></p> <p>The application area lies over 14 land systems (GIS Database). Of these land systems, ten are moderately to highly susceptible to soil erosion. Water erosion within these land systems is a particular risk when areas of surface water drainage are disturbed (Pringle et al., 1994; Saracen, 2014). The removal of vegetation on a large scale leads to an increased potential for topsoil erosion and water erosion following heavy rainfall. Land degradation as a result of wind or water erosion may be minimised by the implementation of a staged clearing condition.</p>	May be at variance	No
<p><u>Principle (i):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</p> <p><u>Assessment:</u></p> <p>The application area covers a large number of minor, non-perennial watercourses (GIS Database). The clearing of native vegetation also has the potential to destabilise soils and cause temporary sedimentation to watercourses, especially within many of the land systems which occur within the application area (Pringle et al., 1994; GIS Database). Impacts to surface water within and adjacent to the application area may be minimised by the implementation of a watercourse management condition.</p>	May be at variance	No
<p><u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding (GIS Database).</p>	Not likely to be at variance	No

Appendix D. Vegetation condition rating scale

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

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

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

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

Appendix E. Sources of information

E.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Contours (DPIRD-073)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Interim Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

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

E.2. References

- Bamford (2001) Vertebrate Fauna of the Wildara (Thunderbox) Project Area. Unpublished report prepared for Keith Lindbeck and Associates, 2021.
- Biota (2007) Bannockburn Fauna Habitat and Assemblage Survey. Unpublished report prepared for Jubilee Mines NL by Biota Environmental Science Pty Ltd, February 2007.

- Botanica Consulting (2014) Level 1 Flora and Vegetation Survey of the Thunderbox to Bannockburn Project. Unpublished report prepared for Saracen Metals Pty Ltd, August 2014.
- Botanica Consulting (2015) Thunderbox Project Malleefowl Survey 2015. Unpublished report prepared by Botanica Consulting for Saracen Metals Pty Ltd, January 2017.
- Botanica Consulting (2017) Bannockburn Haul Road Malleefowl Survey 2017. Unpublished report prepared by Botanica Consulting for Saracen Metals Pty Ltd, March 2015.
- Botanica Consulting (2023) Bannockburn Project. Reconnaissance Flora and Basic Fauna Assessment. Unpublished report prepared for Northern Star Resources Limited, November 2023.
- Bureau of Meteorology (BoM) (2024) Bureau of Meteorology Website – Climate Data Online, Weather Station: 012046. Bureau of Meteorology. <https://reg.bom.gov.au/climate/data/> (Accessed 19 June 2024).
- Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2024) Species Profile and Threats Database (SPRAT). Available from <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl> (Accessed 19 June 2024).
- 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) (2024) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 19 June 2024).
- Department of Primary Industries and Regional Development (DPIRD) (2024) 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 19 June 2024).
- Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.pdf
- Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf
- Environmental Protection Authority (EPA) (2020) Technical Guidance – Terrestrial Fauna Surveys. https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf
- 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>
- Northern Star Resources (2024) Clearing permit application form, CPS 10369/1, received 5 October 2023.
- Pringle, H.J.R., Van Vreeswyk, A.M.E and Gilligan, S.A (1994) An inventory and condition survey of rangelands in the northeastern Goldfields, Western Australia. Department of Agriculture, South Perth.
- Saracen (2014) North Eastern Goldfields Operations. Clearing Permit Application Supporting Information. Unpublished report prepared by Saracen Metals Pty Ltd, August 2014.
- Trudgen, M.E. (1991) Vegetation condition scale in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 2 July 2024).

4. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016</i> , Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DCCEEW	Department of Climate Change, Energy, the Environment and Water, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DEMIRS)
DMP	Department of Mines and Petroleum, Western Australia (now DEMIRS)
DoEE	Department of the Environment and Energy (now DCCEEW)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, Western Australia

EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

T **Threatened species:**

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

Threatened fauna is that subset of ‘Specially Protected Fauna’ listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of ‘Rare Flora’ listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be “*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**

Threatened species considered to be “*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**

Threatened species considered to be “*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species:

EX **Extinct species**

Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW **Extinct in the wild species**

Species that “*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species:

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI

Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD

Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS

Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P

Priority species:

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1

Priority One - Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2

Priority Two - Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3

Priority Three - Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4

Priority Four - Rare, Near Threatened and other species in need of monitoring

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Principles for clearing native vegetation:

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.
- (d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.
- (e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.
- (i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.
- (j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.