



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	9992/1
Permit type:	Purpose Permit
Applicant name:	Element 25 Limited
Application received:	1 December 2022
Application area:	620.7 hectares
Purpose of clearing:	Mineral production and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 52/1074 Miscellaneous Licence 52/215, 52/218, 52/220, 52/221
Location (LGA area/s):	Shire of Meekatharra
Colloquial name:	Butcherbird Project

1.2. Description of clearing activities

Element 25 Limited proposes to clear up to 620.7 hectares of native vegetation within a boundary of approximately 1,123 hectares, for the purpose of mineral production and associated activities. The project is located approximately 115 kilometres south of Newman, within the Shire of Meekatharra.

The proponent was granted a clearing permit for the same location with equivalent boundary size (CPS 8991/2); however, the permit allowed the clearing of a smaller area (265 hectares) of native vegetation; hence the applicant submitted this new application encompassing a broader size. Four restriction zones were implemented in the previous permit; however, the current proposal excluded two of them from the permit boundary and requested to remove the two remaining zones. The application is to allow for an expansion of the Butcherbird manganese mine.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	23 March 2023
Decision area:	620.4 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 Mines, Industry Regulation and Safety (DMIRS) on 1 December 2022. DMIRS advertised the application for public comment for a period of 21 days on 16 December 2022, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix A) relevant datasets (Appendix D), 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 **Error! Reference source not found.**).

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- potential impacts to conservation significant flora;
- potential land degradation in the form of water erosion; and
- potential impacts to an ephemeral drainage lines, and consequently on surface water flow.

After consideration of the available information, the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on conservation significant flora and fauna and the impacts of the 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;
- restricted clearing to minimise potential impacts to *Eremophila appressa* (P1);
- staged clearing to minimise the risk of erosion; and
- avoid impacts to riparian vegetation and maintain surface water flow.

1.5. Site map

A site map of the proposed clearing is provided in Figure 1, and the “non-impacted area” and “borefield extension” locations in relation to the proposed clearing areas are illustrated in Figure 2 below.

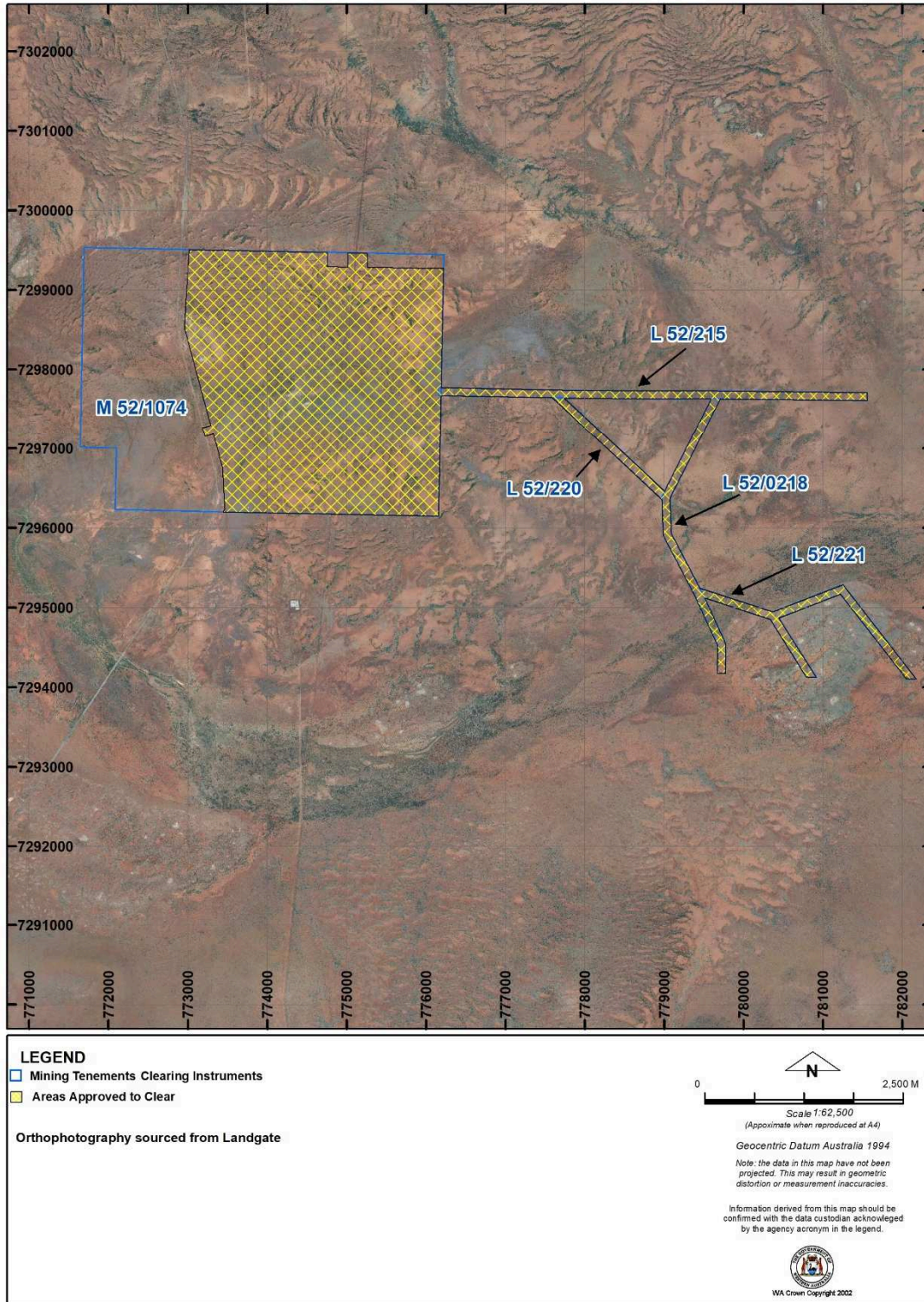


Figure 1. Map of the permit area. The yellow area indicates the area of authorised clearing under the granted clearing permit.

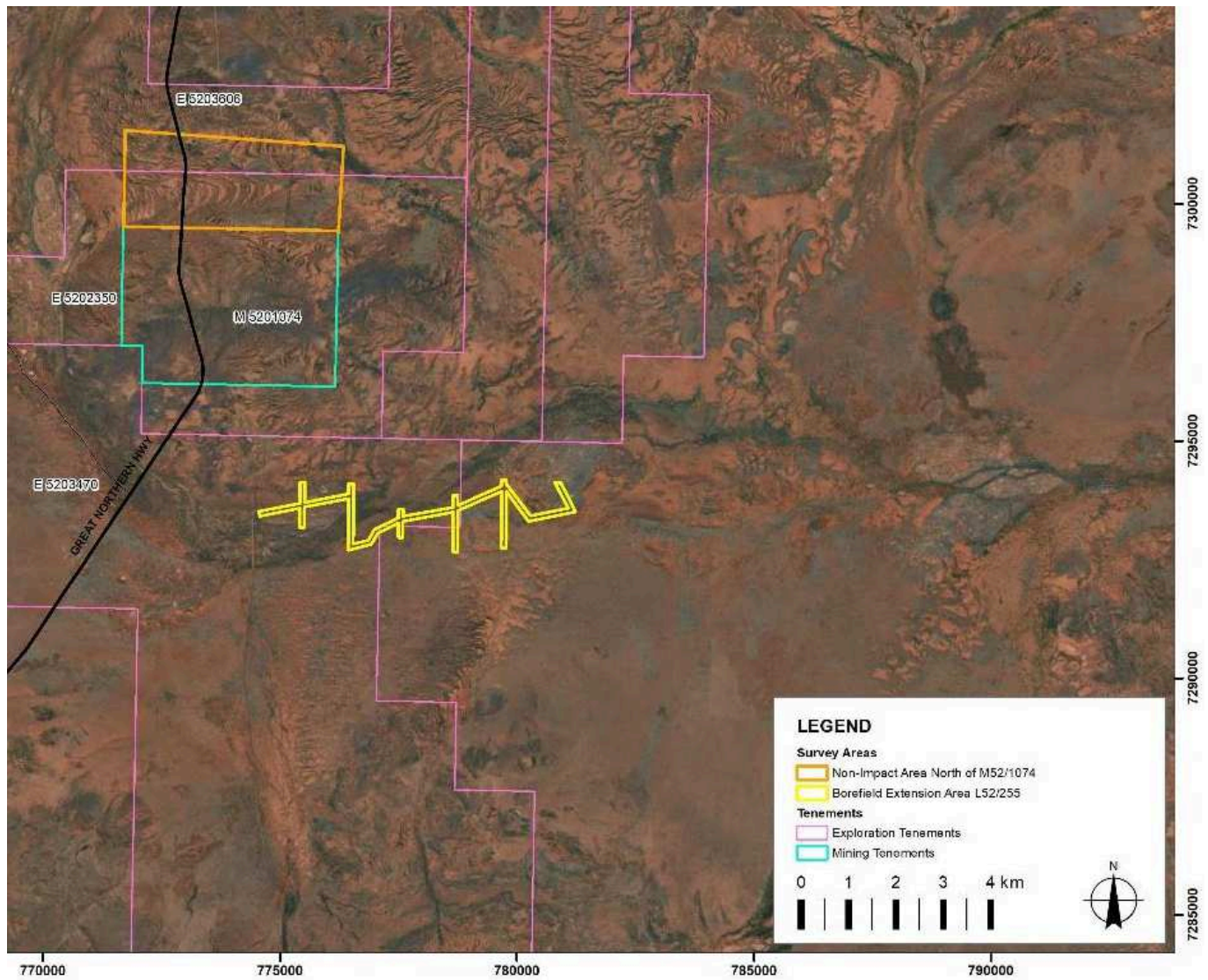


Figure 2. Map of the “non-impacted area” and “borefield extension” locations in relation to the mining tenement 52/1074, where most of the proposed clearing is situated.

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)*
- *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 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

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

The applicant has advised the following avoidance and mitigation measures to support this clearing permit application (Element 25 Limited, 2022; MBS Environmental, 2020b)

- Utilising existing disturbed area and locating infrastructure to avoid significant flora and vegetation.
- Managing clearing via an internal Land Clearing Procedure.
- Clearly delineating the clearing area with survey pegs and flagging tape to ensure only that required for a safe working area is cleared.
- Implement a procedure to record the amount of clearing undertaken and report the cumulative total in the Annual Environmental Report (AER).
- Weed hygiene practices will be implemented. Site weed control will be conducted as required
- Stockpiling stripped topsoil and vegetation for use in future rehabilitation activities.
- Rehabilitating disturbed areas on completion of Project activities.
- Excluded the restricted areas in the northern section of the permit area from the current clearing permit application (as advised in the clearing the permit).

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 A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix C) identified the impacts of the proposed clearing present a risk to biological values. 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 - Clearing Principles (a)

Assessment

Several flora and vegetation surveys have been undertaken within the application area and its surroundings since 2010. The most recent surveys include:

1. Ecoscape (2019a) - Reconnaissance and Detailed Flora and Vegetation Survey (survey conducted in April 2019);
2. Ecoscape (2020) - Eastern Borefield Biological Risk Assessment (survey conducted in November 2020); and
3. Ecoscape (2021) - Targeted Flora Survey (survey conducted in August - September 2021).

A total of 179 vascular flora species within 30 families and 74 genera were identified within the application area and surrounding study areas (Ecoscape, 2019a). A target flora survey, commissioned by Ecoscape (2021), was the most recent field survey undertaken in 30 August to 2 September 2021 which was within the flowering period of the main target species.

The targeted flora survey aimed to search and map the extents of the following four conservation significant taxa in two areas outside of the boundaries of the proposed clearing (named as "borefield extension" and "non-impact area"):

- *Eremophila appressa* (P1);
- *Eremophila rigida* (P3);
- *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3); and
- *Goodenia nuda* (P4) (Ecoscape, 2021).

The "non-impact area", located to the north of the application area, was surveyed to identify the distribution of local populations of Priority Flora species previously detected within clearing permit CPS 8991/2 (Ecoscape, 2021). Therefore, the proponent commissioned the recent target flora survey outside the permit boundary to assess the extent of their populations.

According to DBCA (2021), *Eremophila appressa* is known from four populations and has a range of approximately 50 kilometres north-south and approximately 30 kilometres east-west. Only one of these populations is located within Conservation Estate but its population data is unknown (DBCA, 2021). Ecoscape (2021) recorded approximately 500 plants of *Eremophila appressa* within the aforementioned survey area, which is outside the application area, and two of the three populations found extend outside the survey area. Additionally, the survey conducted in 2019 by Ecoscape recorded a total of 804 plants within the application area, with an additional three sub-populations recorded outside the survey areas that represent extensions to populations occurring within. Therefore, a total of 1,304 individuals of *Eremophila appressa* were recorded within and adjacent to the application area (MBS Environmental, 2022). However, the total number of individuals is likely to be underestimated, as the majority of the populations recorded extended outside the survey areas (Ecoscape, 2021).

Approximately 900 individuals of *Eremophila rigida* were recorded within the “borefield extension” and “non-impact area” and their populations also extended outside the surveyed area (Ecoscape, 2021). All suitable habitats within the surveyed area, which is outside of the application area, were observed and it is unlikely that a significant number of plants would have been overlooked during the survey (Ecoscape, 2021). A total of 1,413 individuals of *Eremophila rigida* were recorded in areas outside of the survey area during the field survey in 2019 (Ecoscape), and an addition of at least 900 plants were identified in the recent target survey (Ecoscape, 2021). Therefore, over 2,000 individuals were recorded outside the application area. Furthermore, EnviroWorks (2012) also recorded over 5,000 individual plants in the immediate vicinity of the application area (Ecoscape, 2019a). According to MBS Environmental (2022), only 37 locations of *Eremophila rigida* were recorded within the application area.

The proposed clearing activities estimate to impact approximately 183 individuals of the total 1,304 known plants of *Eremophila appressa* recorded locally, and 13 records of *Eremophila rigida*, which included some of the impacts previously approved in clearing permit CPS 8991/2 (MBS Environmental, 2022). However, the recent surveys identified significant populations of both *Eremophila appressa* (P1) and *Eremophila rigida* (P3) present outside of the application area that will not be directly or indirectly impacted by the proposed activities, and their populations extend well beyond the survey area (Ecoscape, 2021; MBS Environmental 2022). This indicates that the total number of individuals recorded is conservative. Therefore, the proposal is unlikely to significantly impact the local or regional populations of these species nor their conservation status (MBS Environmental, 2022).

Rhagodia sp. Hamersley (M. Trudgen 17794) records were identified as isolated plants adjacent to the application area, close to the southern boundary of the “non-impact area” (Ecoscape, 2021). Therefore, no adverse impacts are expected to this species. Nonetheless, the *Rhagodia* species were thoroughly observed and it was noticed that it was a preferred species for cattle grazing and generally lacked foliage to enable accurate identification between the more common *Rhagodia eremaea* and the conservation-listed species (Ecoscape, 2021). All plants with remaining foliage in the survey areas were identified as *Rhagodia eremaea* (Ecoscape, 2021). Furthermore, the proposal estimates the loss of one population of *Goodenia nuda*; however, this species is no longer considered a conservation significant species (Western Australian Herbarium, 1998-).

Four weed species (*Bidens subalternans*, *Cenchrus ciliaris*, *Citrullus amarus*, and *Malvastrum americanum*) were identified within the survey area. Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Conclusion

Based on the above assessment, it is considered that the impacts of the proposed clearing on potential habitats for Priority flora are not likely to be significant if avoidance, mitigation and management measures are implemented.

For the reasons set out above, it is considered that the impacts of the proposed clearing on potential habitats for conservation significant flora species can be managed with conditions to be environmentally acceptable. There is potential for weeds being present within the application area and the proposed clearing has the potential to exacerbate the 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
- no clearing of more than 183 individuals of *Eremophila appressa* (P1).

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 16 December 2022 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There are two native title claims (WC2005/003 and WC2005/006) over the area under application (DPLH, 2023). These claims have been determined by the Federal Court on behalf of the claimant groups. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2023). It is the proponent’s responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

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

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

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The project is located approximately 115 kilometres south of Newman, within the Shire of Meekatharra in the extensive land use zone. The predominant land use in the region is grazing of native pastures, conservation and mining activity.
Ecological linkage & Conservation areas	The nearest conservation area is the Collier Range National Park which is located approximately six kilometres southwest of the application area (GIS Database). As the application area is located adjacent to an existing mine and is to allow for the expansion of mining activities, it is not considered to be an ecological linkage to other areas of vegetation.
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation association (GIS Database):</p> <p>29: Sparse low woodland; mulga, discontinuous in scattered group.</p> <p>Several flora and vegetation surveys were conducted over the application area since 2010. The most recent survey was conducted by Ecoscape during 30 August to 2 September 2021 (Ecoscape, 2021) and vegetation mapping by MBS Environmental (2022). The following updated vegetation associations are (MBS Environmental, 2022):</p> <p>Clay Flat</p> <p>AanAapAcrLW <i>Acacia aneura</i>, <i>A. aptaneura</i> and <i>A. craspedocarpa</i> low woodland over <i>Eremophila galeata</i> and <i>A. tetragonophylla</i> mid sparse shrubland over <i>Aristida inaequiglumis</i> and <i>*Bidens subalternans</i> low scattered tussock grasses/forbs</p> <p>AanAapLOW <i>Acacia aneura</i> and <i>Acacia aptaneura</i> low open woodland over <i>Eremophila rigida</i> mid sparse shrubland over <i>Sida ectogama</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> low scattered shrubs</p> <p>AapHILW <i>Acacia aptaneura</i> and <i>Hakea lorea</i> subsp. <i>lorea</i> low woodland over <i>Eremophila gilesii</i> subsp. <i>Variabilis</i> low open shrubland</p> <p>AapLOF <i>Acacia aptaneura</i> low open forest over <i>Eremophila lanceolata</i> low scattered shrubs</p> <p>AcrAsuEfrTOS <i>Acacia craspedocarpa</i>, <i>A. subcontorta</i> and <i>Eremophila fraseri</i> subsp. <i>fraseri</i> tall to mid open shrubland over <i>Eremophila rigida</i>, <i>Ptilotus obovatus</i> and <i>Eragrostis eriopoda</i> low scattered shrubs/tussock grasses</p> <p>AscAtMOS <i>Acacia sclerosperma</i> subsp. <i>Sclerosperma</i> and <i>Acacia tetragonophylla</i> mid open shrubland over <i>Eragrostis xerophila</i> low sparse tussock grassland</p> <p>EiPsPoLSS <i>Eremophila incisa</i>, <i>Ptilotus schwartzii</i> and <i>Ptilotus obovatus</i> low sparse to scattered shrubs/forbs</p> <p>EmSsmLSS <i>Eremophila maculata</i> subsp. <i>Brevifolia</i> and <i>Senna sp. Meekatharra</i> (E. Bailey 1–26) low sparse shrubland</p> <p>ErEfrSaMSS <i>Eremophila rigida</i>, <i>Eremophila fraseri</i> subsp. <i>fraseri</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> mid sparse shrubland over <i>Eremophila incisa</i> low scattered shrubs</p> <p>ScLSCS <i>Sclerolaena cuneata</i> low sparse chenopod shrubland with <i>Hakea preissii</i> and <i>Eremophila lachnocalyx</i> mid scattered shrubs</p> <p>Flat</p> <p>AanGbLW <i>Acacia aneura</i> and <i>Grevillea berryana</i> low woodland over <i>Eremophila forrestii</i> subsp. <i>Forrestii</i> and <i>E. glutinosa</i> mid sparse shrubland over <i>Triodia basedowii</i>, <i>Eragrostis eriopoda</i> and <i>Eriachne helmsii</i> low open hummock grassland/tussock grassland</p> <p>AapAptApaLOW <i>Acacia aptaneura</i>, <i>Acacia pteraneura</i> and <i>Acacia paraneura</i> low open woodland over <i>Eremophila tietkensisii</i> and <i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i> mid sparse shrubland over <i>Senna sp. Meekatharra</i> (E. Bailey 1–26) and <i>Ptilotus obovatus</i> sparse shrubland</p> <p>AapCcLW <i>Acacia aptaneura</i> and <i>Corymbia candida</i> low woodland over <i>Eremophila margarethae</i>, <i>Acacia tetragonophylla</i> and <i>Sida ectogama</i> mid sparse shrubland over <i>Ptilotus obovatus</i> and <i>Eriachne helmsii</i> low scattered shrubs/tussock grass</p> <p>AapExLOF <i>Acacia aptaneura</i> and <i>Eucalyptus xerothermica</i> low open forest over <i>Sida ectogama</i> and <i>Eremophila forrestii</i> subsp. <i>Forrestii</i> mid sparse shrubland</p> <p>AapLW <i>Acacia aptaneura</i> low woodland over <i>Eremophila galeata</i>, <i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i> and <i>Acacia tetragonophylla</i> tall</p>

Characteristic	Details
	<p>sparse shrubland over <i>Ptilotus obovatus</i> and <i>Senna</i> sp. <i>Meekatharra</i> (E. Bailey 1–26) low scattered shrubs</p> <p>ApaLOW <i>Acacia paraneura</i> low open woodland over <i>Eremophila galeata</i> and <i>Senna glutinosa</i> subsp. <i>X luerssenii</i> mid scattered shrubs over <i>Senna artemisioides</i> subsp. <i>helmsii</i>, <i>Solanum lasiophyllum</i> and <i>Sida platycalyx</i> low scattered shrubs</p> <p>EcuHpSgMOS <i>Eremophila cuneifolia</i>, <i>Hakea preissii</i> and <i>Senna glutinosa</i> subsp. <i>X luerssenii</i> mid open to sparse shrubland over <i>Senna</i> sp. <i>Meekatharra</i> (E. Bailey 1–26), <i>Sclerolaena cuneata</i> and <i>Frankenia setosa</i> low sparse shrubland/chenopod shrubland</p> <p>EmSIScLSS <i>Eremophila maculata</i> subsp. <i>Brevifolia</i>, <i>Solanum lasiophyllum</i> and <i>Sclerolaena cuneata</i> low scattered shrubs/chenopod shrubs</p>
	<p>Sandy Flat</p>
	<p>AapAanLW <i>Acacia aptaneura</i> and <i>A. aneura</i> low woodland over <i>Eremophila forrestii</i> subsp. <i>forrestii</i>, <i>E. margarethae</i> and <i>Acacia kempeana</i> mid sparse shrubland over <i>Triodia basedowii</i> low hummock grassland</p>
	<p>Flat/ Gentle Slopes</p>
	<p>AapAcaAanLOF (Grove)/ AapAayGbLOW (Intergrove) <i>Acacia aptaneura</i>, <i>A. ?catenulata</i> and <i>A. aneura</i> low open forest over <i>Eremophila forrestii</i> subsp. <i>forrestii</i>, <i>E. glutinosa</i> and <i>Sida ectogama</i> mid sparse shrubland over <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i> and <i>Triodia basedowii</i> low sparse ferns/hummock grasses</p>
	<p><i>Acacia aptaneura</i>, <i>A. ayersiana</i> and <i>Grevillea berryana</i> low open woodland/scattered trees over <i>Eremophila forrestii</i> subsp. <i>forrestii</i>, <i>E. glutinosa</i> and <i>Senna glaucifolia</i> low scattered shrubs over <i>Eragrostis eriopoda</i> and <i>Ptilotus schwartzii</i> low scattered tussock grasses/shrubs</p> <p>AapAiAprLOW <i>Acacia aptaneura</i>, <i>A. incurvaneura</i> and <i>A. pruinocarpa</i> low open woodland over <i>Senna glutinosa</i> subsp. <i>X luerssenii</i>, <i>Eremophila citrina</i> and <i>E. glutinosa</i> mid sparse shrubland over <i>Triodia basedowii</i>, <i>Ptilotus schwartzii</i> and <i>P. obovatus</i> low scattered hummock grassland/forbland/shrubland</p>
	<p>Flats/ Low Rises</p>
	<p>AprAsuGbLOW <i>Acacia pruinocarpa</i>, <i>Acacia ?subcontorta</i> and <i>Grevillea berryana</i> low scattered to open woodland over <i>Eremophila citrina</i>, <i>E. latrobei</i> and <i>Acacia kempeana</i> mid sparse shrubland over <i>Triodia basedowii</i> low hummock grassland</p>
	<p>Calcrete</p>
	<p>AapGsHLOW <i>Acacia aptaneura</i>, <i>Grevillea striata</i> and <i>Hakea lorea</i> subsp. <i>Lorea</i> low open woodland over <i>Eremophila margarethae</i>, <i>Senna artemisioides</i> subsp. <i>Helmsii</i> and <i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i> mid open shrubland over <i>Ptilotus obovatus</i> and <i>Eremophea spinosa</i> low scattered shrubs/chenopod shrubs</p>
	<p>EvLW <i>Eucalyptus victrix</i> low woodland over <i>Acacia tetragonophylla</i>, <i>Senna artemisioides</i> subsp. <i>oligophylla</i> and <i>Rhagodia eremaea</i> mid sparse shrubland/chenopod shrubland over <i>Eremophila maculata</i> subsp. <i>brevifolia</i> and <i>Ptilotus obovatus</i> low scattered shrubs</p>
	<p>ExAanLOW <i>Eucalyptus xerothermica</i> and <i>Acacia aneura</i> low open woodland over <i>A. tetragonophylla</i>, <i>A. sclerosperma</i> subsp. <i>sclerosperma</i> and <i>Senna artemisioides</i> subsp. <i>oligophylla</i> tall-mid open shrubland over <i>Ptilotus obovatus</i> low sparse shrubland</p>
	<p>Sand/ Calcrete</p>
	<p>TbLHG <i>Triodia basedowii</i> low hummock grassland with <i>Acacia sibirica</i>, <i>Petalostylis cassioides</i> and <i>Acacia pachyacra</i> mid scattered shrubs</p>
	<p>Crests and Gentle Slopes</p>
	<p>AiAapGbLOW <i>Acacia incurvaneura</i>, <i>A. aptaneura</i> and <i>Grevillea berryana</i> low open woodland over <i>Eremophila citrina</i>, <i>E. appressa</i> and <i>E. glutinosa</i> mid sparse shrubland over <i>Triodia basedowii</i> low open hummock grassland</p>
	<p>Minor Creek</p>
	<p>AptLW <i>Acacia pteraneura</i> low woodland over <i>Acacia tetragonophylla</i>, <i>Eremophila galeata</i> and <i>Sida ectogama</i> mid sparse shrubland over <i>Solanum lasiophyllum</i> and <i>Ptilotus obovatus</i> low isolated shrubs</p>
	<p>Outwash Plain/ Flat</p>

Characteristic	Details
	<p>EIHpMpMSS <i>Eremophila lachnocalyx</i>, <i>Hakea preissii</i> and <i>Maireana pyramidata</i> mid sparse shrubland/chenopod shrubland over <i>Sclerolaena cuneata</i> low sparse to scattered chenopod shrubs</p> <p>Creekline</p> <p>EvMW <i>Eucalyptus victrix</i> mid woodland over <i>Senna artemisioides</i> subsp. <i>filifolia</i>, <i>Acacia tetragonophylla</i> and <i>Acacia sclerosperma</i> subsp. <i>Sclerosperma</i> mid open shrubland over <i>Rhagodia eremaea</i> low scattered shrubs</p>
Vegetation condition	<p>The vegetation survey (MBS Environmental, 2020a) indicates the vegetation within the proposed clearing area is in excellent condition to completely degraded (Keighery, 1994), described as:</p> <ul style="list-style-type: none"> • Excellent: Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species. <p>To:</p> <ul style="list-style-type: none"> • Completely Degraded: No longer intact; completely/almost completely without native species. <p>The full Keighery (1994) condition rating scale is provided in Appendix C.</p>
Climate and landform	<p>The application area is mapped at the elevation of 600 to 620 meters (GIS Database). The climate of the region is desert, and the annual rainfall average of approximately 323 millimetres (BoM, 2023).</p>
Soil description & Land degradation risk	<p>The soil is mapped as part of the following soil systems (DPIRD, 2023):</p> <ul style="list-style-type: none"> • Jamindie system: Stony hardpan plains and rises supporting groved mulga shrublands, occasionally with spinifex understorey • Nooingnin system: Hardpan plains with very large groves and sandy banks supporting mulga shrublands and wanderrie grasses <p>Part of the application area has been previously disturbed by mining activities and access road (GIS Database).</p>
Waterbodies & Hydrogeography	<p>The application area is located on a broad floodplain/wash area associated with the ephemeral Ilgarari Creek and associated drainage lines (MBS Environmental, 2022; GIS Database). The application area is located within the East Murchison Groundwater Area (RIWI Act); however, it is not within a Public Drinking Water Source Area (GIS Database). The mapped groundwater salinity is 500-1,000 milligrams per litre total dissolved solids which is described as marginal (GIS Database).</p>
Flora	<p>Four Priority flora species were recorded within the application area and surroundings (MBS Environmental, 2022).</p>
Ecological communities	<p>There are no mapped Threatened or Priority Ecological Communities (TEC/PEC) within the application area or within 50 kilometres radius (MBS Environmental, 2022; GIS Database).</p>
Fauna	<p>There are four fauna habitats identified within the application area and one conservation significance fauna species recorded; however, the habitat types within the application area are common and widespread both locally and regionally (MBS Environmental, 2022).</p>

A.2. Flora analysis table

Flora analysis table of the proposed impacts on priority species (MBS Environmental, 2022).

Table 8: Proposed Loss of Priority Flora Species

	<i>Eremophila appressa</i> (P1)	<i>Eremophila rigida</i> (P3)	<i>Rhagodia sp. Hamersley (M. Trudgen 17794)</i> (P3)	<i>Goodenia nuda</i> (P4)
Known Locations of Plants	246	217	20	5
Locations Within Purpose Permit Area	63	37	0	2
Locations in Removed Exclusion Areas	36	0	0	0
Locations in Retained Exclusion Areas	12	3	0	0
Approved Loss Locations	6	3	0	0
Additional Loss Locations	25	10	0	1
Total Proposed Loss Locations	31	13	0	1

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>Principle (a): <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains habitats for four Priority flora species. No Threatened or Priority Ecological Communities were identified within the application area.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p>Principle (b): <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>A detailed fauna survey, conducted in April 2019, identified four habitats types within the application area, which were considered widespread and regionally common (Ecoscape, 2019b):</p> <ul style="list-style-type: none"> • Low Stony Hills/Hillslopes; • Mulga/Mixed Acacia Woodland; • Stony Clay Plain; and • Stony Hammock Grassland. <p>A total of 80 fauna species were recorded including 13 species of native mammals (including seven bats), 32 bird species and 29 reptile species as well as six feral mammals (Ecoscape, 2019b). Only one fauna species of significance, the brush-tailed mulgara (<i>Dasymercus blythi</i>, DBCA Priority 4), was recorded associated with Stony Hammock Grassland habitat (MBS Environmental, 2022).</p> <p>As individuals of brush-tailed mulgara may be impacted by the proposed clearing, the impact to this fauna species, and potentially others, may be minimised by the implementation of a directional clearing condition on the permit, which requires slow, progressive, one directional clearing to allow terrestrial fauna to disperse ahead of the clearing activity should they occur on site at the time of clearing.</p>	Not likely to be at variance	No
<p>Principle (c): <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There are no known records of Threatened flora within the application area (GIS Database). A flora and vegetation survey of the application area did not record any species of Threatened flora and the vegetation proposed to be cleared is not expected to support any species of Threatened flora (MBS Environmental, 2022; GIS Database).</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database).</p> <p>A flora and vegetation survey of the application area did not identify any TECs (MBS Environmental, 2022).</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<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 application area falls within the Gascoyne Coolgardie IBRA bioregion (GIS Database). The broad vegetation associations have not been extensively cleared as approximately 99% of the pre-European extent of the vegetation associations remains uncleared at both the state and bioregional level (Government of Western Australia, 2019). The vegetation within the application area is not significant as a remnant of native vegetation (GIS Database).</p>	Not likely to be at variance	No
<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>There are no conservation areas in the vicinity of the application area. The nearest DBCA managed land is Collier Range National Park which is located approximately six kilometres southwest of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<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>Aerial imagery reveals that sparse <i>Eucalyptus victrix</i> assemblages are found within this application area along the edges of the creek lines within the application area, suggesting it has a riparian nature (Ecoscape, 2020). However the species is considered to be common locally and regionally in association with waterways (Ecoscape, 2020). While the riparian band occurring within the south-eastern section of the application area is relatively dense compared to that of the nearby surroundings, the vegetation is still considered to be sparse, and the clearing required to cross the creek lines is minor (~10 meters wide) and will be able to utilise pre-disturbed and areas of lower vegetation density (MBS Environmental, 2020a). Potential impacts to vegetation growing in association with the watercourses may be minimised by the implementation of a watercourse management condition.</p>	May be at variance	No
<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 application area intersects the Jamindie and Nooingnin land systems (DPIRD, 2023).</p> <p>The Jamindie system is comprised of stony hardpan plains and rises (DPIRD, 2023), and this land system has generally low risk of wind or water erosion due to stony mantle and rock outcrop on these land systems (van Vreeswyk et al., 1994).</p> <p>The Nooingnin System is made up of Hardpan plains with very large groves and sandy banks supporting mulga shrublands and wanderrie grasses (DPIRD, 2023). This system is generally not susceptible to wind erosion but it presents</p>	May be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>moderate risk to water erosion (dependant on slope, stone hazard mantle and cryptogam cover) (van Vreeswyk et al., 1994). The south-eastern section of application area lies almost solely within the Noonungin Land System (GIS Database). However, the relatively small amount (up to 15 hectares) of narrow clearing footprint (approximately 10 meters wide) proposed within this section of application area is not likely to result in any appreciable land degradation (MBS Environmental, 2020b). There may be some risk of localised land degradation at creek crossings, which can be minimised by continued implementation of a staged clearing condition and implementation of a watercourse management condition.</p>		
<p>Principle (i): “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</p> <p>Assessment:</p> <p>There are no Public Drinking Water Source Areas within or in close proximity to the application area. There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database).</p> <p>Surface water flows across the application area at generally low velocities (0.5 m/s) in the form of sheet flows and shallow drainage lines that run toward Ilgarari Creek (MBS Environmental, 2022). Rainfall events are irregular due to the arid climate and surface water is infrequently present, but it is expected to be similar to rainwater (MBS Environmental, 2022).</p> <p>Therefore, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p>Principle (j): “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p>Assessment:</p> <p>Ephemeral drainage lines run through the application area; however, the application area is located within an arid climate region with annual rainfall averaging approximately 323 millimetres (BoM, 2023). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall.</p> <p>The removal of riparian vegetation (e.g. <i>Eucalyptus victrix</i>) may reduce the volume of water being actively taken up by vegetation from surface water bodies and groundwater storage, thereby increasing the risk of pooling in water bodies (MBS Environmental, 2020a; Water Technology, 2012). However, due to the limited extent of riparian vegetation to be removed within the south-eastern section of application area, it is considered unlikely that flooding will either be exacerbated or increase in frequency (MBS Environmental, 2020a; Water Technology, 2012).</p> <p>Therefore, the application area is unlikely to cause, or significantly exacerbate, the incidence or intensity of flooding.</p>	Not likely to be at variance	No

Appendix C. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.

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

Appendix D. Sources of information

D.1. GIS databases

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

- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Pre-European Vegetation Statistics
- 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)

D.2. References

- BoM (2023) Bureau of Meteorology Website – Climate Data Online, Newman Aero. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 9 March 2023).
- DBCA (2021) Advice received in relation to Clearing Permit Application CPS 8991/2. Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, February 2021.
- Department of Environment Regulation (DER) (2013) *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: 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) (2023) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (13 February 2023).
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- Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.pdf
- Ecoscape (2019a) Butcherbird Manganese Project Flora and Vegetation Assessment. Report prepared for MBS Environmental by Ecoscape Australia Pty Ltd, August 2019.
- Ecoscape (2019b) Butcherbird Manganese Project Fauna Assessment. Report prepared for Element 25 Limited by Ecoscape Australia Pty Ltd, August 2019.
- Ecoscape (2020) Butcherbird Manganese Project: Eastern Borefield Biological Risk Assessment. Report prepared for Element 25 Limited by Ecoscape Australia Pty Ltd, November 2020.

- Ecoscope (2021) Butcherbird Targeted Flora Surveys. Report prepared for Element 25 Limited by Ecoscope Australia Pty Ltd, October 2021.
- Element 25 Limited (2022) Application for Purpose Permit CPS 9992/1 (Butcherbird Manganese Project) – Form NV-F01, December 2022.
- Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. Available from: 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. Available from: [2020.09.17 - EPA Technical Guidance - Vertebrate Fauna Surveys - Final.pdf](https://www.epa.wa.gov.au/sites/default/files/2020-09/17-EPA_Technical_Guidance_-_Vertebrate_Fauna_Surveys_-_Final.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>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- MBS Environmental (2020a) Native Vegetation Clearing Permit Butcherbird Manganese Project Stage 1. Report prepared for Element 25 Limited, by Martinik Bosch Sell Pty Ltd, July 2020.
- MBS Environmental (2020b) CPS 8991_1 NVCP Amendment Cover Letter Final. Report prepared for Element 25 Limited, by Martinik Bosch Sell Pty Ltd, July 2020
- MBS Environmental (2022) Native Vegetation Clearing Permit Butcherbird Manganese Project. Report prepared for Element 25 Limited, by Martinik Bosch Sell Pty Ltd, December 2022.
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- EnviroWorks Consulting 2012, Level 2 Flora and Vegetation Survey: Illgararie, Unpublished report for Montezuma Mining Company Ltd, by EnviroWorks Consulting, June 2012.

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)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DoEE	Department of the Environment and Energy (now DAWE)
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.