



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	9885/1
Permit type:	Area Permit
Applicant name:	Tronox Management Pty Ltd
Application received:	16 September 2022
Application area:	0.88 hectares
Purpose of clearing:	Mineral exploration
Method of clearing:	Driving an off-road vehicle or equipment over vegetation and using raised blade
Tenure:	Mining Lease 70/1413
Location (LGA area/s):	Shire of Dandaragan
Colloquial name:	Cooljarloo West Project

1.2. Description of clearing activities

Tronox Management Pty Ltd proposes to clear up to 0.88 hectares of native vegetation within a boundary of approximately 0.88 hectares, for the purpose of mineral exploration. The project is located approximately 30 kilometres southeast of Cervantes and 30 kilometres west of Dandaragan, within the Shire of Dandaragan. The application is to allow for a mineral exploration drill program.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	27 January 2023
Decision area:	0.88 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 16 September 2022. DMIRS advertised the application for a public comment for a period of 28 days, and no submissions were received.

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

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- potential impacts to conservation significant flora and threatened ecological community: and
- potential impacts to foraging habitats to Carnaby's Cockatoo's.

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 is unlikely to lead to have adverse impacts on the conservation of significant flora and fauna and the impacts of 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 and dieback;
- clearing undertaken during dry season;
- method of clearing consisting of driving over the vegetation, using raised blades on unavoidable patches of dense thickets; and

- clearing restricted to understorey vegetation - vegetation that has a diameter (measured at 130 centimetres from the base of the vegetation) less than 10 centimetres, for all species

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)
- Country Areas Water Supply Act 1947* (WA) (CAWS 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 2013)
- Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)

2. Detailed assessment of application

2.1. Avoidance and mitigation measures

The applicant has provided the following avoidance measure to support this clearing permit application (Umwelt, 2022a; Umwelt 2022b):

- No ground disturbance proposed, vegetation will be driven over by vehicles, not removed from the ground;
- Vegetation clearing will be completed using a raised blade and no topsoil will be stockpiled;
- No tree removal, temporary disturbance only, using existing tracks where available;
- Existing access tracks and firebreaks have been used to reduce the required clearing area;
- Where clearing is required (i.e. in areas of dense thicket or woodland), clearing approximately 3 metres width via loader with a raised blade/bucket avoiding disturbance of topsoil;
- The vegetation will be left to regrow after the program has been completed;
- The disturbance to vegetation is temporary and limited; and
- One of the drill lines was deviated slightly north (approximately 10 metres) to utilise an existing, cleared firebreak for as long as possible until the proposed alignment left the firebreak.

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.

2.2. 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 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.

2.2.1. Biological values - Clearing Principles (a) and (d)

Assessment

A desktop assessment identified 118 conservation significant flora species known to occur within the local area (approximately 20 kilometre radius within the Cooljarloo West area); however, the likelihood assessment identified 11 species as potentially occurring within the application area which may be impacted by the exploration drilling program (Umwelt 2022b).

A flora and vegetation survey was conducted over the application area by Umwelt (2022b) on 27 to 29 October 2021. A total of 11 Priority flora species were recorded within the application area or in close proximity (Umwelt, 2022b), consisting of: *Arnocrinum gracillimum* (P3), *Babingtonia urbana* (P3), *Beaufortia bicolor* (P3), *Chordifex reseminans* (P2), *Conostephium magnum* (P4), *Grevillea* sp. Cooljarloo (B.J. Keighery 28 B) (P1), *Isopogon panduratus* subsp. *palustris* (P3), *Poranthera asybosca* (P1), *Schoenus pennisetis* (P4), *Stylidium hymenocraspedum* (P3), *Verticordia lindleyi* Schauer subsp. *lindleyi* (P4).

Two conservation significant species (*Caladenia denticulate* subsp. *albicans* – P1 and *Thelymitra pulcherrima* – P2) potentially occurring in the application area could not be surveyed due to timing constraints (Umwelt, 2022b). The timing of the survey did not coincide with the flowering period of these species, which is the only time where these taxa can be identified (Umwelt, 2022b). Both species are tuberous and summer dormant species, hence, if the proposed clearing occurs outside of the period when plants will be present, then any plants potentially occurring in areas to be impacted are less likely to be affected by clearing that does not include soil disturbance (DBCA, 2023). If soil disturbance is minimal, then impacts are likely to be minor, noting that impacts may be slightly greater for *Caladenia denticulate* subsp. *albicans* as it is poorly known (DBCA, 2023). As the clearing mainly consists of driving over vegetation, only using raised blades/buckets in areas with dense thickets, there will be no ground disturbance and the raised blade will avoid disturbance of the topsoil (Umwelt, 2022a; Umwelt 2022b).

Babingtonia urbana is known from 8 locations over a range of 200 kilometres north-south by 50 kilometres east-west, and the nearest known record is 6 kilometres South-West of the application area (DBCA, 2023). The total number of plants at all locations is unknown, and part of the species subpopulations has since been taken through approved mining activities (DBCA, 2023). Given the restricted nature of the proposed clearing, the proposed impacts are unlikely to be significant at the regional or species level but may be considered locally significant (DBCA, 2023). However, as some of the records occur outside the application area, and the method used for the clearing may not impose a permanent loss of the plants (minimal to no disturbance of the topsoil) (Umwelt, 2022b), it is considered that the impacts are unlikely to be significant at any level.

Chordifex reseminans is known from 7 locations over a range of 125 north-south kilometres by 30 kilometres east-west. The nearest confirmed record is within 5 kilometres of the application area. Impacts are therefore unlikely to be significant at the regional or species level (DBCA, 2023).

Grevillea sp. Cooljarloo is known from 5 locations over range of 50 kilometres north-south and 15 kilometres east-west with substantial numbers of individuals (approximately 3,200), and the nearest confirmed record is approximately 6 kilometres from the application area (DBCA, 2023). Due to the restricted nature of the proposed clearing, impacts to this species are unlikely to be significant (DBCA, 2023).

Isopogon panduratus subsp. *palustris* is known from several locations over a range 30 kilometres north-south by 20 east-west, and it has predominantly been recorded in the Colljaroo area with a few locations to the north (DBCA, 2023). Impacts are unlikely to be significant due to the restricted nature of the clearing, but as most known locations occur in areas subject to mining activities, the cumulative impact of continued habitat loss has the potential to be significant in the future (DBCA, 2023). Considering the method of clearing previously mentioned, the potential impact to this species is not likely to be significant as it provides opportunity to plants re-growth (Umwelt, 2022b).

Poranthera asybosca was opportunistically found adjacent to one of the drill lines application areas during the field survey (Umwelt, 2022b). As this species is very poorly known, impacts have the potential to be significant (DBCA, 2023). To avoid potential impacts to this species, the proponent relocated the drill line to approximately 5 meters south of the initial proposed drill line area.

The species *Verticordia lindleyi* Schauer subsp. *lindleyi* is known from several locations over a relatively large range, with the nearest known record 2.6 kilometres south of the application area. Impacts from the proposed clearing are unlikely to be significant (DBCA, 2023).

Results from the flora survey undertaken by Umwelt (2022b), as well as records from the Western Australian Herbarium (1998-), presented relatively high numbers of records, and individuals within these records, for *Arnocrinum gracillimum*, *Beaufortia bicolor*, *Conostephium magnum*, and *Stylidium hymenocraspedum* species. However, given that the impacts to these species is likely to be temporary as rootstock will remain in-situ after the clearing activities given that the vegetation will not be completely removed (Umwelt, 2022a), it is considered that impacts to these species are unlikely to be significant.

Given that *Schoenus pennisetis* was identified outside the proposed drill line (Umwelt, 2022b), it is unlikely to be impacted by the clearing activities.

Access to certain wetland areas could result in risk of weed invasion (Umwelt, 2022b). Weeds have the potential to out-compete native flora and reduce the biodiversity of an area. Therefore, the implementation of dieback and weed control may minimise potential impacts to the application area (Umwelt, 2022b).

The vegetation types (VT) within the application area are considered to have moderate to very high local conservation significance, particularly VT 6 and VT 9b for being part of wetland associations (Umwelt, 2022b). However, these vegetation types account for 0.0108% of the mapped vegetation within the application area, and the method of clearing further minimises potential impacts to these vegetation types (Umwelt, 2022a).

The application area covers 0.6 hectares of the 'Banksia Woodlands of the Swan Coastal Plain' Threatened Ecological Community (TEC) (Umwelt, 2022b). This TEC is mostly represented by vegetation types 17 and 18, and small portion of vegetation 6, which possess key diagnostic characteristics of this community (TSSC, 2016; Umwelt, 2022b).

The area under application is part of a much larger, continuous patch of the TEC which extends to the north and south and therefore has significant conservation value (DBCA, 2023). However, the extent of the impact (0.6 hectares) within the TEC is relatively low as this TEC extends over 22,000 hectares, based on mapping of VT 17 and 18 within the survey area (Cooljarloo West – CLW) (Umwelt, 2022a). In addition, the method of clearing is likely to result in short-term impacts as the vegetation is generally driven over rather than cleared, and many large trees (including *Banksia* species) will be avoided (Umwelt, 2022). Therefore, restricted clearing conditions aligned with the aforementioned mitigation measures will be implemented on the permit.

The application area sits within a dieback risk zone (GIS Database). Dieback poses a significant threat to the Banksia Woodland TEC (DBCA, 2023). The proponent has committed to prevent the introduction of dieback and weeds within the TEC through the implementation of their Environmental Management Plan (EMP) regarding controls of clearing methods (Tronox, 2023; Umwelt, 2022a).

To minimise potential impacts, it is recommended that the clearing should be undertaken during dry season, consisting of driving over the vegetation, only using raised blades for dense thickets when necessary, and restricting the clearing of large trees, as proposed by Tronox Management Pty Ltd via Umwelt report (2022a, 2022b).

Conclusion

Based on the above assessment, it is considered that the impacts of the proposed clearing can be managed to be environmentally acceptable 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 and ecological community can be managed with conditions to be environmentally acceptable. The proposed clearing has the potential to exacerbate the spread of weeds and dieback.

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 dieback;
- method of clearing consisting of driving over the vegetation, using raised blades on unavoidable patches of dense thickets; and
- clearing undertaken during dry season to avoid further impacts on potential wetland dependent flora and fauna.

2.2.2. Biological values - Clearing Principle (b)

The areas proposed to be cleared contain foraging habitat for Carnaby's Cockatoo (*Zanda latirostris* – formerly *Calyptorhynchus latirostris*) listed as Endangered under both state and federal legislation (DBCA, 2023, Umwelt, 2022b). The loss of feeding habitat has been identified as a leading cause of the decline of these species. However, the small area of the proposed clearing for mineral exploration is unlikely to have any significant impact on the foraging habitat for the cockatoo. No blade down clearing is proposed, and the proposed methods of clearing (blade-up clearing, pruning, walking over vegetation, and driving an off-road vehicle or equipment over vegetation) will most likely result in no topsoil disturbance, reducing the risk of erosion and impacts on water filtration into the thin topsoil layer containing the seed resource, in turn reducing the potential for weed invasion and establishment, and the rootstock is more likely to stay in place.

All large trees which may support breeding or roosting habitat will be avoided, which will ensure that the impacts to Carnaby's cockatoo are not significant (Umwelt, 2022a). The avoidance of felling mature trees, particularly Banksia species is supported as it may minimise impacts to Carnaby's Cockatoo foraging habitat (DBCA, 2023).

A condition restricting the clearing only to understorey vegetation (avoiding trees felling) will prevent possible impacts to the potential foraging habitat for this fauna species.

There are no other conservation significant fauna species mapped within the application area (GIS Database). The Jewelled southwest Ctenotus (Swan Coastal Plain subpopulation) (*Ctenotus gemmula* (Swan Coastal Plain subpopulation) – P3, black-striped snake (*Neelaps calanotos*) – P3, western brush wallaby (*Notamacropus Irma*) - P4 and Glossy ibis (*Plegadis falcinellus*) – M1, were identified within 10 kilometres of the application area (GIS Database). Given the low impact of the associated method of clearing activities, the extent of the clearing and its shape (small strips of drill lines distributed 100 meters apart), it is unlikely that the proposed clearing will have any significant impact to these fauna species as the application area does not comprise restrict habitat for them.

Conclusion

Based on the above assessment, it is considered that the impacts of the proposed clearing can be managed to be environmentally acceptable 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.

Conditions

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

- method of clearing consisting of pruning and driving over the vegetation, and using raised blades on unavoidable patches of dense thickets; and
- clearing restricted to the understorey vegetation, which only allows native vegetation that has a diameter (measured at 130 centimetres from the base of the vegetation) less than 10 centimetres, to be cleared.

2.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 1 November 2022 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. The application was readvertised on 25 November 2022 after changes to the application area. No submissions were received in relation to this application.

The permit area is within the South West Native Title Settlement area (DPLH, 2022). This settlement resolves Native Title rights and interests over an area of approximately 200,000 square kilometres within the south west of Western Australia. 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, 2022). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

- A Programme of Work approved under the *Mining Act 1978*.

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 30 kilometres southeast of Cervantes, within the Shire of Dandaragan in the intensive land use zone. The proposed clearing area is a small part of the Banksia Woodland of the Swan Coastal Plan Threatened Ecological Community (TEC) under the EPBC Act (GIS Database).
Ecological linkage & Conservation areas	The nearest conservation area is the Conservation Park which is located approximately 5.7 kilometres northeast of the application area (GIS Database). The application area is not considered an ecological linkage due to the shape and size of the clearing within an existing TEC. The application area consists of a number of lines with maximum 3 metres width spaced approximately 100 metres apart from each other, refer to site map on section Error! Reference source not found.
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation association: Bassendean 1030: Low woodland; <i>Banksia attenuata</i> & <i>B. menziesii</i> (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area by Umwelt Environmental and Social Consultants during March, 2022 (Umwelt, 2022). The following vegetation associations were recorded within the application area (Umwelt, 2022):</p> <ul style="list-style-type: none"> • VT 1: Low Open Heathland to Mid Closed Heathland of <i>Acacia lasiocarpa</i> var. <i>lasiocarpa</i>, <i>Banksia telmatiaea</i>, <i>Melaleuca seriata</i>, <i>Hakea obliqua</i> subsp. <i>parviflora</i>, <i>Regelia ciliata</i> and/or <i>Verticordia densiflora</i> var. <i>densiflora</i>, often with Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland of <i>Melaleuca raphiophylla</i> on white-grey to grey-brown sand, sandy loam or sandy clay in broad damp depressions on flat to gently undulating plains. (0.4075 ha); • VT 5: Low Heathland to Mid Closed Heathland of <i>Banksia telmatiaea</i>, <i>Hakea obliqua</i> subsp. <i>parviflora</i>, <i>Melaleuca seriata</i> and/or <i>Regelia ciliata</i> on white-grey to grey-brown sand, sandy loam, sandy clay or clay loam in broad damp depressions on flat to gently undulating plains. (0.0396 ha); • VT 6: Low Isolated Clumps of Trees to Low Woodland of <i>Banksia attenuata</i>, <i>Banksia menziesii</i> and/or <i>Banksia ilicifolia</i> over Low Sparse Shrubland to Mid Closed Shrubland of <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>, <i>Banksia telmatiaea</i>, <i>Beaufortia squarrosa</i>, <i>Hypocalymma angustifolium</i>, <i>Jacksonia nutans</i> and/or <i>Melaleuca seriata</i> over Low Isolated Clumps of Sedges to Mid Sedgeland of <i>Anarthria laevis</i> and/or Low Isolated Clumps of Rushes of <i>Chordifex sinuosus</i> on white-grey to grey-brown sand in damp depressions. (0.0458 ha); • VT 9b: Low Woodland to Mid Open Forest of <i>Eucalyptus rudis</i> subsp. <i>rudis</i> over Low Isolated Clumps of Trees to Low Closed Forest of <i>Melaleuca raphiophylla</i>, often with Tall Sparse Shrubland to Tall Shrubland of <i>Acacia saligna</i> subsp. <i>lindleyi</i>, over Low

Characteristic	Details
	<p>Isolated Clumps of Forbs to Low Closed Forbland of <i>*Galium murale</i>, <i>*Hypochaeris glabra</i>, <i>*Lysimachia arvensis</i> and <i>Trachymene pilosa</i> on grey to grey-black sand, sandy loam, sandy clay or clayey sand in wetlands, broad shallow basins/depressions and drainage lines. (0.4746 ha);</p> <ul style="list-style-type: none"> • VT 17: Low Isolated Clumps of Trees to Low Open Forest of <i>Banksia attenuata</i>, <i>Banksia menziesii</i> and <i>Eucalyptus todtiana</i> over Mid Isolated Clumps of Shrubs to Mid Shrubland of <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>, <i>Eremaea pauciflora</i>, <i>Jacksonia floribunda</i>, <i>Jacksonia nutans</i>, <i>Stirlingia latifolia</i> and <i>Xanthorrhoea preissii</i> over Low Isolated Clumps of Shrubs to Low Shrubland of <i>Bossiaea eriocarpa</i>, <i>Dasyopogon obliquifolius</i>, <i>Eremaea asterocarpa</i> subsp. <i>asterocarpa</i>, <i>Eremaea pauciflora</i>, <i>Hibbertia crassifolia</i>, <i>Hibbertia hypericoides</i>, <i>Jacksonia nutans</i>, <i>Melaleuca clavifolia</i>, <i>Patersonia occidentalis</i> var. <i>occidentalis</i> and <i>Petrophile linearis</i> over Low Isolated Clumps of Sedges to Mid Open Sedgeland of <i>Mesomelaena pseudostygia</i> on white or grey sand on undulating plains and low dunes. (0.079 ha); and • VT 18: Low Isolated Clumps of Trees to Low Open Forest of <i>Banksia attenuata</i> and <i>Banksia menziesii</i> over Mid Isolated Clumps of Shrubs to Mid Shrubland of <i>Allocasuarina humilis</i>, <i>Conospermum stoechadis</i> subsp. <i>stoechadis</i>, <i>Eremaea pauciflora</i>, <i>Hakea costata</i> and/or <i>Xanthorrhoea preissii</i> over Low Isolated Clumps of Shrubs to Low Closed Shrubland of <i>Bossiaea eriocarpa</i>, <i>Calothamnus sanguineus</i>, <i>Dasyopogon obliquifolius</i>, <i>Eremaea pauciflora</i>, <i>Hibbertia hypericoides</i>, <i>Jacksonia nutans</i> and/or <i>Melaleuca clavifolia</i> over Low Isolated Clumps of Sedges to Mid Open Sedgeland of <i>Mesomelaena pseudostygia</i> on grey to yellow-grey sand on undulating plains and low dunes or white-grey to grey-brown sand, sandy loam or sandy clay loam on simple slopes, open depressions or flats within undulating plains (0.021 ha).
Vegetation condition	<p>The vegetation survey (Umwelt, 2022b) adapted Keighery scale indicate the vegetation within the proposed clearing area is in very good to higher condition, interpreted as excellent through Keighery scale (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"> • 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. <p>The full Keighery (1994) condition rating scale is provided in Appendix C.</p>
Climate and landform	<p>The application area is mapped within elevations of 70 meters AHD (GIS Database). The climate of the region is subtropical, and the annual rainfall average of approximately 594.4 millimetres (BoM, 2022).</p>
Soil description & Land degradation risk	<p>The soil is mapped as part of the Bassendean 5 Subsystem, described as complex pattern of dunes or low sandy rises, poorly drained plains, (Complex of Bs1, Bs4 and Bs6; Bs4 or Bs6 dominant); saline depressions and swamps (DPIRD, 2022). The soil type mapped within the application area has a potentially high to extreme risk of wind erosion (GIS Database).</p>
Waterbodies & Hydrogeography	<p>There are no permanent watercourses within the application area (GIS Database). Part of the application area falls within the Lancelin Defence Training Area Directory of Important Wetlands in Australia (DIWA) WA119 (GIS Database). The application area is located within the Jurien Proclaimed Groundwater Area and the Gingin Proclaimed Groundwater Area (RIWI Act); however, it is not within a Public Drinking Water Source Area (GIS Database). Groundwater salinity ranges between 500 to 1,000 milligrams per litre total dissolved solids (GIS Database).</p>
Flora	<p>A total of 118 significant flora taxa are known to occur within the local area (approximately 20 kilometre radius), of which 11 Priority species have been recorded within the application area or in close proximity during the field survey conducted by Umwelt (2022).</p>
Ecological communities	<p>The application area lies within the 'Banksia Woodlands of the Swan Coastal Plain' Threatened Ecological Communities (TEC) (Umwelt, 2022; GIS Database).</p>
Fauna	<p>The application area may provide foraging habitat for the Camaby's Cockatoo (<i>Zanda latirostris</i>); however, no fauna surveys have been undertaken over the application area (GIS Database). Four conservation significant fauna were recorded within 10 kilometres radius of the application area (GIS Database). The proposed project committed to avoid large trees of <i>Banksia</i> and <i>Eucalyptus</i> species and dense patches (Umwelt, 2022a).</p>

Appendix B. 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> <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 contain conservation significant flora and vegetation. A portion of the application area is mapped as the ‘Banksia Woodlands of the Swan Coastal Plain’ threatened ecological community (TEC), listed as Endangered under the <i>Environmental Protection and Biodiversity Conservation Act 1999</i> and a Priority 3 Ecological Community under the BC Act.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</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 significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The areas proposed to be cleared contain foraging habitats for conservation significant fauna.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There are no known records of Threatened flora within the application area (GIS Database). Despite the results from the flora likelihood assessment and significance of impacts indicating that some Threatened flora species had the potential to be present within the application area based on similar habitat types, the flora survey did not record any species of Threatened flora (Umwelt, 2022a; 2022b).</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<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>The application area is located within the “Banksia Woodlands of the Swan Coastal Plain” Threatened Ecological Community (TEC), listed as Endangered under the <i>Environmental Protection and Biodiversity Conservation Act 1999</i> and a Priority 3 Ecological Community under the BC Act.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
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 Swan Coastal Plain Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 38% of the pre-European vegetation still exists in the Swan Coastal Plain IBRA Bioregion (Government of Western Australia, 2019).</p> <p>The application area is broadly mapped as Beard vegetation associations 1030 (GIS Database; Umwelt, 2022a; 2022b). Over 63% of the pre-European extent of the 1030 vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019).</p> <p>The vegetation within the application area it is part of a larger remnant. However, the temporary nature of disturbances on a relatively small area (0.88 hectares) resulted from driving over vegetation instead of stripping the topsoil, and avoiding larger trees (Umwelt, 2022a) are unlikely to result in significant and permanent impacts to the remaining native vegetation associations.</p> <p>The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area (GIS Database).</p>	May be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>Principle (h): <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 conservation area is the Conservation Park which is located approximately 5.7 kilometres northeast of the application area (GIS Database).</p> <p>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>Principle (f): <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>The application area lies within 0.5218 hectares of Lancelin Defence Training Area – Directory of Important Wetlands (Umwelt, 2022a; GIS Database).</p> <p>Lancelin Defence Training Area covers a total area of 2,000 hectares and it is registered within the Directory of Important Wetlands under Criteria 1 and 2 (DBCA, 2023; DCCEEW, 2021).</p> <p>Umwelt (2022a) have identified that the proposed clearing of this vegetation is unlikely to significantly affect this wetland as it represents only a relatively small proportion of the local vegetation association. In addition, the proposed clearing is unlikely to cause any impacts on surface or ground water hydrology, with no surface water present at the time of survey and exploration activities to be completed during the summer months (Umwelt, 2022a). However, the application area is likely to support a relatively high diversity of wetland biota due to its proximity to surrounding nature reserves and national parks, and the large area of freshwater wetlands on the site (DBCA, 2023). Umwelt (2022b) reports that VT 6 and 9b are wetland vegetation and classed the vegetation as having “very high significance”. Therefore, despite the potential low impact due to the small scale of clearing, it is recommended the clearing to be undertaken on dry season, to avoid further impacts on potential wetland dependent flora and fauna, and also the spread of dieback (DBCA, 2023).</p> <p>Given the low impact of the associated method of clearing activities and that the vegetation types within the application area are well represented locally, it is unlikely that the proposed clearing will have any significant environmental impact on riparian vegetation. However, a dieback management condition which requires clearing during dry conditions has been placed on the permit, which aligns with the mitigation measures mentioned above proposed by Tronox (Umwelt, 2022a).</p>	May be at variance	No
<p>Principle (g): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soil is highly susceptible to wind erosion (GIS Database). However, noting the extent of the application area (0.88 hectares) and that the clearing consists of driving over a vegetation and using raised blade instead of stripping of topsoil (Umwelt, 2022b), the risks to cause wind erosion are extremely low. Therefore, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	No
<p>Principle (i): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database).</p> <p>The wetland vegetation within the application area are likely to be seasonally moist, with surface water generally unlikely to be present (Umwelt, 2022a). The proposed clearing is unlikely to cause any significant impacts on surface or ground water hydrology provided that drilling is conducted during dry soil conditions where there is no risk of surface water being present in the intersected wetland areas (Umwelt, 2022a; 2022b). Surface water flow is unlikely to be obstructed due to the minimal</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
ground disturbance being resulted of vehicle tracks, and erosion or any significant change to the hydrological regime are unlikely to occur as the vegetation will not be completely removed (Umwelt, 2022a).		
<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>According to available databases, the mapped soils, the extent of the clearing and its shape (small strips of drill lines distributed 100 meters apart) (Umwelt, 2022b), the proposed clearing present low risk to flooding (GIS Database). Therefore, these factors do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given a small portion of the application area intersects with an ephemeral wetland, and the clearing does not consists of topsoil removal (Umwelt, 2022a; 2022b), the proposed clearing is unlikely to contribute to waterlogging.</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.
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)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography, Linear (DWER-031)

- IBRA 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)
- 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)
- 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

D.2. References

- BoM (2022) Bureau of Meteorology Website – Climate Data Online, Dandaragan West. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 25 November 2022).
- Department of Biodiversity, Conservation and Attractions (DBCA) (2023) Advice received in relation to Clearing Permit Application CPS 9885/1. Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, January 2023.
- 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) (2022) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 9 December 2022).
- Department of Primary Industries and Regional Development (DPIRD) (2022) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (Accessed 15 January 2023).
- 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.
- 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.
- Threatened Species Scientific Committee (TSSC) (2016) Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain Ecological Community. Canberra: Department of the Environment and Energy. Available: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/131-conservation-advice.pdf>.
- Tronox (2023) Additional information received in relation to Clearing Permit Application CPS 9885/1. Tronox Management Pty Ltd Pty Ltd, Western Australia.
- Umwelt (2022a) Cooljarloo West 2022 Drilling Program NVCP Clearing Principle Assessment. Supporting document prepared for Tronox Management Pty Ltd by Umwelt Australia Pty Limited, August 2022.
- Umwelt (2022b) Cooljarloo Exploration Area Exploration Environmental Assessment 2022. Report prepared for Tronox Management Pty Ltd by Umwelt Australia Pty Limited, March 2022.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 16 January 2023).

3. 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.