Department of Energy, Mines, Industry Regulation and Safety

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	8891/3
Permit type:	Purpose Permit
Applicant name:	Fenix Resources Ltd
Application received:	8 March 2024
Application area:	157.8 hectares
Purpose of clearing:	Mineral production and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 20/118
	General Purpose Leases 20/28 and 20/29
	Miscellaneous Licences 20/83, 20/84 and 20/85
Location (LGA area/s):	Shire of Cue
Colloquial name:	Iron Ridge Project

1.2. Description of clearing activities

Fenix Resources Ltd proposes to clear up to 157.8 hectares of native vegetation within a boundary of approximately 494 hectares, for the purpose of mineral production and associated activities (Fenix, 2024a). The project is located approximately 53 kilometres north-west of Cue, within the Shire of Cue.

The application is to allow for Stage 3 of the Iron Ridge Project to proceed. The additional clearing is necessary for further development of the pit and waste dump. The waste dump is proposed to extend slightly further south on General Purpose Lease 20/29 to divert waste from the northern side of the waste dump, closest to the pit (Fenix, 2024a).

Clearing permit CPS 8891/1 was granted by the Department of Mines, Industry Regulation and Safety (now the Department of Energy, Mines, Industry Regulation and Safety) on 20 August 2020 and is valid from 12 September 2020 to 31 December 2025. The permit authorised the clearing of up to 98.6 hectares of native vegetation within a boundary of approximately 462 hectares, for the purpose of mineral production.

CPS 8891/2 was granted on 1 July 2021, amending the permit to include additional tenure, increase the amount of approved clearing and amend the permit boundary.

On 8 March 2024, the Permit Holder submitted an application to amend CPS 8891/2 to extend the duration of the clearing permit by 2 years and increase the permit boundary and the amount of approved clearing by 17.7 hectares.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	22 August 2024
Decision area:	157.8 hectares of native vegetation

1.4. Reasons for decision

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

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix A), relevant datasets (Appendix E), supporting information provided by the applicant including the results of a flora and vegetation and fauna survey (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 into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- impacts to riparian vegetation and waterflows; and
- the loss of suitable habitat for northern shield-backed spider.

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

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- avoid clearing riparian vegetation where practicable and maintain water flows when watercourses and drainage lines are impacted; and
- avoid known locations of northern shield-backed spider and its burrows.

The assessment has not changed since the assessment for CPS 8891/2. The Delegated Officer determined that the proposed additional clearing of 17.7 hectares is not likely to lead to an unacceptable risk to environmental values.

1.5. Site map

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

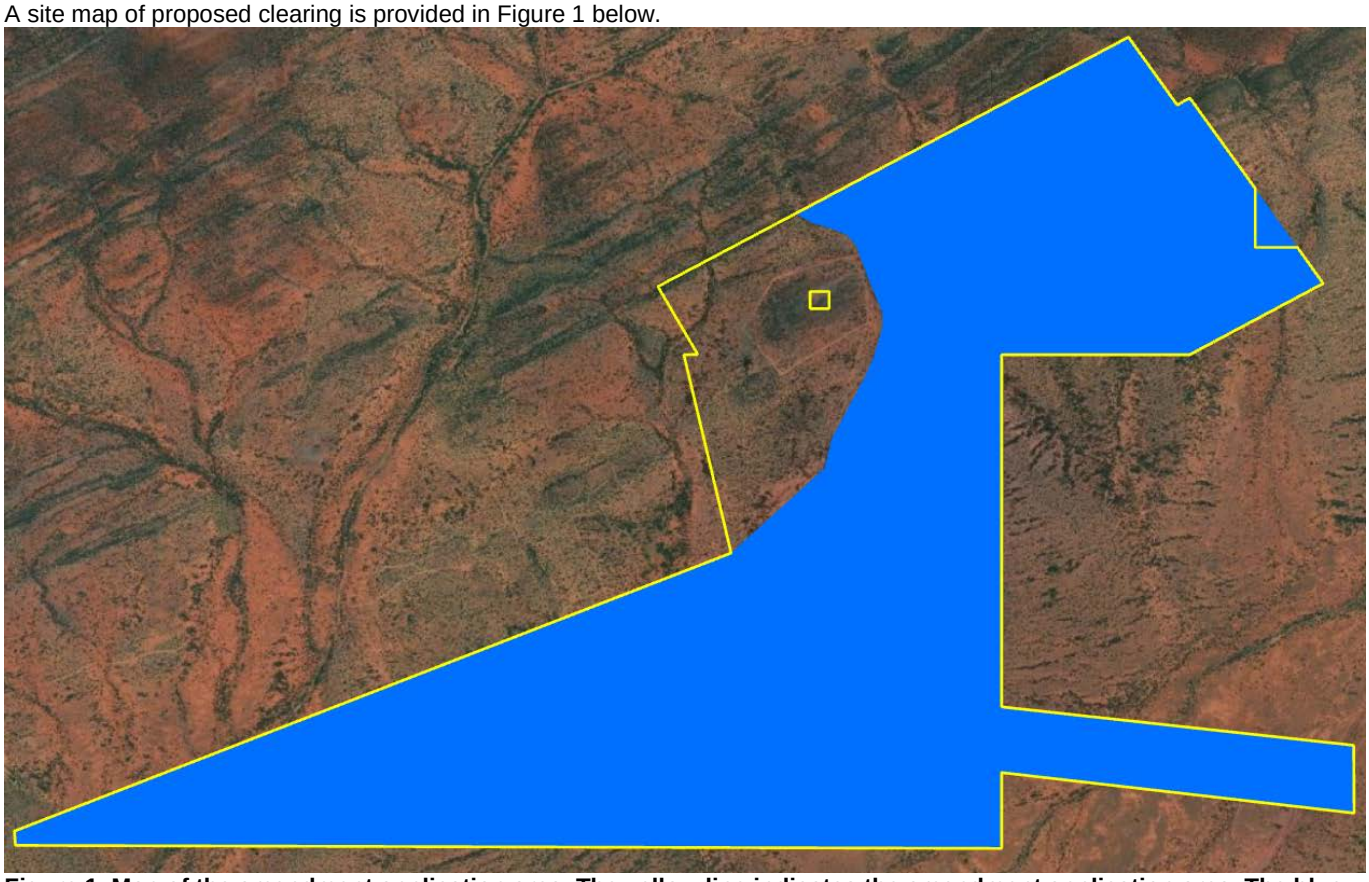

Figure 1. Map of the amendment application area. The yellow line indicates the amendment application area. The blue polygon indicates the previous permit area (CPS 8891/2).

2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)

- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)

The key guidance documents which inform this assessment are:
- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Fenix Resources Ltd has submitted a supporting document which includes the management actions listed below (Fenix, 2024b):

To offset the impact to *Micromyrtus placoides*, Fenix proposes to:
- stockpile vegetation and growth media from areas known to support *M. placoides* separately from other stockpiled material and provide signage to delineate this material as "Priority Topsoil". This material is likely to contain *M. placoides* seed and will be used in rehabilitation.
- undertake rehabilitation trials using the growth media containing *M. placoides* seed as soon as practical to determine whether the species will regenerate in disturbed areas, and the best methods to facilitate this.
- undertake periodic surveys of suitable habitat in the surrounding area to determine the size and extent of the *M. placoides* population.

To minimise further impact to *M. placoides* and other Priority flora species, Fenix will:
- implement a Site Disturbance Permit system with strict survey controls and requiring sign off by the Registered Manager prior to clearing commencing.
- clearly delineate areas to be cleared using survey pegs and coloured flagging tape and record ("pick up") cleared areas on completion.
- maintain records of clearing undertaken.
- provide information to site personnel by way of an induction and specific training where necessary to identify conservation significant species and highlight the importance of clearing protocols.

To minimise further impact to vegetation associated with the Weld Range PEC, Fenix will:
- implement a Site Disturbance Permit system with strict survey controls and requiring sign off by the Registered Manager prior to clearing commencing.
- clearly delineate areas to be cleared using survey pegs and coloured flagging tape and record ("pick up") cleared areas on completion.
- maintain records of clearing undertaken.
- provide information to site personnel by way of an induction and specific training where necessary to identify conservation significant vegetation and highlight the importance of clearing protocols.

To minimise the potential for new (and potentially invasive) weed species to be introduced to the site, Fenix will require that:
- machinery and equipment are thoroughly cleaned prior to being mobilised to site.
- contractors provide a weed hygiene certificate for each item of machinery bought to site.
- machinery and equipment that arrives on site will be inspected. Machinery that does not meet the hygiene requirements will require removal and additional cleaning in an appropriate location.

The potential spread of weed species and establishment of new weed populations will be minimised by:
- regular monitoring of disturbed areas and road verges to identify weeds
- identifying weeds species, abundance and cover during rehabilitation monitoring
- control of weed outbreaks using herbicide or manual removal
- preventing stock access to rehabilitated areas
- educating site personnel by way of the site induction.

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

As of 30 June 2023, a total 108.26 hectares of native vegetation have been cleared under CPS 8891/1 and CPS 8891/2 (Fenix, 2024c). The proposed amendment includes increasing the clearing permit boundary and the amount allowed to clear by 17.7 hectares and extending the permit duration by two years, until 31 December 2027.

The amendment application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*. Environmental information has been reviewed, and the assessment of the proposed clearing against the clearing principles remains consistent with the assessment contained in previous versions of the decision report. Increasing the permit boundary and the amount allowed to clear as well as extending the permit duration by a further two years is unlikely to change the environmental impacts of the proposed clearing.

3.2.1. Biological values - Clearing Principles (a) and (b)

Assessment

The application area intersects 208.11 hectares (55.08 hectares are within the additional area) of the Priority 1 Ecological Community 'Weld Range vegetation complexes (banded ironstone formation)' and its buffer (GIS Database). Approximately 76 hectares of disturbance are proposed to occur in total within the buffered PEC (Fenix, 2024b). Boundaries of the PEC are approximate only, and the total area covered appears to be an under estimation (DBCA, 2020). Based on recent survey of the application area (Ecologia, 2020), the boundary of the PEC is likely to extend beyond the mapped boundary as currently recorded in online databases (DBCA, 2020). Less than 0.3 per cent of the buffered PEC will be impacted by the proposed clearing (Fenix, 2024b). Given the small amount of disturbance proposed within the PEC, it is unlikely that the proposed clearing will have a significant impact on this PEC.

Vegetation types SH02, SH05 and SH07 correspond to PEC vegetation previously identified in other surveys and are found only within the PEC boundary. Vegetation types SH03 and SH04 (associated with creek lines) are found within the PEC boundary but are also widespread and well represented in the surrounding area away from the PEC. These vegetation types are not exclusive to the Weld Range PEC (Ecologia, 2020).

Six Priority flora were recorded in the application area (Ecologia, 2020) and Priority 4 flora species (*Grevillea inconspicua)* has been previously recorded in the application area, including within the additional area (GIS Database) (see Appendix A.2). Previous assessments determined that the proposed local impacts are considered to be negligible, with both Priority 1 species having less than 0.4 per cent impact, and for the other Priority species (excluding *Micromyrtus placoides*), the local impact being less than 6 per cent (DMIRS, 2020).

A restrictive clearing condition was placed on clearing permit CPS 8891/1 given the proposed impact to *Micromyrtus placoides* was calculated to be 32.6 per cent. However, following identification of a high number of individuals of *Micromyrtus placoides* to be impacted by the proposed waste dump, additional work was undertaken by Ecologia Environment to determine the population in the wider area. The local population has increased by more than 20,000 individuals since the initial survey work was completed. This has resulted in the Iron Ridge Project's impact to the species decreasing significantly (Fenix, 2024b). Approximately 10.6 per cent of the known *Micromyrtus placoides* (P3) local population will be impacted by the project, with no additional impact resulting from the proposed additional area (Fenix, 2024b). On 17 September 2020, a secondary approval was granted for Fenix Resources Ltd to clear within this area and clearing has already been undertaken. For this reason, Condition 4 of the native vegetation clearing permit CPS 8891/2 was removed for this amended permit. No additional impacts to Priority flora will occur as part of the Stage 3 operation.

The following fauna habitats have been mapped within the permit area (Ecologia, 2020):

Acacia sp. Weld Range (A. Markey & S. Dillon 2994) and Acacia speckii shrubland on mid and lower slopes habitat occurs predominantly on the lower slopes and valleys on the northern margins of the study area. Associated soils include basalt-like rocks on stony slopes and loams on valley floors. This habitat type provides suitable substrates, vegetation and habitat to support the Priority 3 northern shield-backed trapdoor spider. This habitat is confined to the Weld Range where it is considered widespread. After analysing datasets within similar plant communities within and surrounding Mining Lease 20/118, it was estimated the population size of *Idiosoma clypeatum* to be 14,907 individuals. It was estimated that 27 per cent of this population is within tenement Mining Lease 20/118 (Ecologia, 2020). The project will result in minimal impact to this habitat as known locations of the species have been avoided (Fenix, 2024b). This habitat is likely to occur within the proposed additional area of the application. However, none of the known locations of the northern shield-backed trapdoor spider or its burrows are located within the additional area of this amendment.

Mulga woodland over ironstone ridge crests and slopes habitat is dominated by *Acacia aneura* shrublands over rocky banded ironstone ridges and slopes. The long-tailed dunnart has been recorded from widely scattered localities in the arid zone where it inhabits rugged, rocky areas, such as this habitat type. It typically occurs on plateaus near breakaways and scree slopes, and on rugged boulder-strewn scree slopes. The species was once considered rare but has recently been shown to be relatively common and widespread within rocky habitats, especially banded iron formation ranges within the Midwest. This habitat may also provide suitable breeding habitat for the peregrine falcon in places (rocky outcrops and overhangs). The pit and part of the waste dump are located in this habitat type. Impact to a localised area will therefore result from the proposed development (Fenix, 2024b). This habitat is located within the proposed additional area of this amendment application.

Minor drainage line supporting dense shrubs habitat provides suitable habitat for the west coast mulga slider (Priority 1), which has been recorded on two previous occasions within the project area. This small fossorial lizard is known to inhabit open mulga woodland on red loams and sandy loams. Known from the arid interior of the Midwest of WA and endemic to the Murchison bioregion, this species has previously been recorded within Weld Range in leaf litter fringing drainage lines. This habitat exists around the project area, but impact is expected to be minimal (Fenix, 2024b). This habitat occurs in a small extent within the proposed additional area of this amendment application.

Mixed Acacia shrublands over stony lower slopes and stony plains habitat occurs throughout the southern portion of the project area and is the most widespread habitat present in the area. No conservation significant species have been recorded in this habitat, although the peregrine falcon is likely to utilise or fly over while foraging. Most disturbance associated with the project will occur in this habitat type (Fenix, 2024b). This habitat is present within the proposed additional area of this amendment application.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on northern shield-backed trapdoor spider and its habitat can be managed by avoiding known locations of the species and its burrows to avoid mortality.

Conditions

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

- Fauna management condition to avoid clearing areas where northern shield-backed trapdoor spiders and their burrows have been located will minimise impact to this species.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 26 March 2024 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WCD2017/007) over the area under application (DPLH, 2024). This claim has been determined by the Federal Court on behalf of the claimant group (WAJARRI YAMATJI Part A). 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 is one registered Aboriginal Sites of Significance within the application area (DPLH, 2024). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

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

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

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is surrounded by native vegetation and the landscape of the Murchison Bioregion (GIS Database).
Ecological linkage	Based on available aerial imagery, the application area is not located within any formal or informal ecological linkages (GIS Database).
Conservation areas	The application area is not located within any known or mapped conservation areas. The closest known conservation area is a Conservation Agreement located 38.7 kilometres southeast of the application area (GIS Database).
Vegetation description	The vegetation of the application area is broadly mapped as the following Beard vegetation associations: 18: Low woodland, open low woodland or sparse woodland. Mulga *Acacia aneura* and associated species; and 202: Scrub, open scrub or sparse scrub. Wattle, tea tree & other species *Acacia* spp. *Melaleuca* spp. (GIS Database). A flora and vegetation survey was conducted over the application area by Ecologia Environment during July, 2019. The following vegetation types were recorded within the application area (Ecologia, 2020): **SH01: *Acacia* sparse shrubland.** *Acacia ramulosa* var. *ramulosa*, *Acacia tetragonophylla* tall sparse shrubland; *Ptilotus obovatus*, *Scaevola spinescens*, *Senna artemisioides* subsp. ×*artemisioides* low sparse shrubland. **SH02: *Acacia* sparse shrubland.** *Acacia* sp. Weld Range (A. Markey & S. Dillon 2994), *Acacia speckii* (P4), *Acacia pteraneura* tall sparse shrubland; *Eremophila glutinosa*, *Eremophila mackinlayi* subsp. *spathulata*, *Senna artemisioides* subsp. ×*sturtii* low sparse shrubland. **SH03: *Acacia* open shrubland.** *Acacia* sp. Weld Range (A. Markey & S. Dillon 2994), *Acacia incurvaneura*, *Acacia ramulosa* var. *linophylla* tall open shrubland; *Eremophila forrestii* subsp. *forrestii*, *Harnieria kempeana* subsp. *muelleri*, *Ptilotus obovatus* low sparse shrubland. **SH04: *Acacia* sparse shrubland.** *Acacia* sp. Weld Range (A. Markey & S. Dillon 2994), *Acacia ramulosa* var. *linophylla* tall sparse shrubland; *Eremophila mackinlayi* subsp. *spathulata*, *Ptilotus obovatus*, *Senna artemisioides* subsp. *helmsii* low sparse shrubland. **SH05: *Acacia* sparse shrubland.** *Acacia rhodophloia*, *Acacia incurvaneura, Thryptomene decussata* tall sparse shrubland; *Ptilotus obovatus*, *Dodonaea pachyneura*, *Eremophila latrobei* subsp. *latrobei* low sparse shrubland. **SH06: *Acacia* sparse shrubland.** *Acacia incurvaneura*, *Acacia fuscaneura*, *Acacia incurvaneura* × *mulganeura* tall sparse shrubland; *Eremophila georgei*, *Eremophila forrestii* subsp. *forrestii*, *Psydrax latifolia* low sparse shrubland. **SH07: *Acacia* sparse shrubland.** *Acacia incurvaneura*, *Acacia mulganeura*, *Acacia ramulosa* var. *linophylla* tall sparse shrubland; *Eremophila glutinosa*, *Eremophila latrobei* subsp. *latrobei*, *Micromyrtus placoides* (P3) low sparse shrubland. **SH08: *Acacia* sparse shrubland.** *Acacia ramulosa var. linophylla, Acacia incurvaneura*, *Acacia incurvaneura* × *mulganeura* tall sparse shrubland; *Eremophila forrestii* subsp. *forrestii*, *Eremophila jucunda* subsp. *jucunda*, *Ptilotus schwartzii* low sparse shrubland. **W01:** *Acacia pruinocarpa* low open woodland; *Acacia pteraneura*, *Acacia ramulosa* var. *linophylla* tall open shrubland; *Eremophila forrestii* subsp. *forrestii*, *Harnieria kempeana* subsp. *muelleri, Ptilotus obovatus* low sparse shrubland. **W02:** *Acacia pruinocarpa* low open woodland; *Acacia incurvaneura*, *Acacia fuscaneura*, *Acacia ramulosa* var. *linophylla* tall open shrubland; *Eremophila forrestii* subsp. *forrestii*, *Eremophila georgei*, *Ptilotus obovatus* low sparse shrubland.
Vegetation condition	The vegetation survey (Ecologia, 2020) and aerial imagery indicate the vegetation within the proposed clearing area is in Excellent to Very Poor (Trudgen, 1991) condition. The full Trudgen (1991) condition rating scale is provided in Appendix C. Representative photos and mapping are available in Appendix D.
Climate	The application area is located in an arid zone with an annual average rainfall (Cue) of 232.7 millimetres (BoM, 2024).
Soil description	The soil within the application area is mapped as soil units Fa7 and My50. These soil units are described as (Northcote et al., 1960-68): **Fa7:** Greenstone hills and low ranges with some slate and basalt: dominant soils are shallow stony earthy loams on the steep slopes while overlying red-brown hardpan occur on the stony pediments. **My50:** Broad plains with a scatter of surface gravels: chief soils are shallow neutral red earths and shallow earthy loams in intimate micro association. They are underlain by a red-brown hardpan at depths of 6 to 30 inches.

Characteristic	Details
Land degradation risk	The application area is located within the Jundee, Violet, Weld, and Yarrameedie land systems (DPIRD, 2024). These land systems are described by (Curry et al., 1994; DPIRD, 2024) as: **Jundee land system:** Hardpan plains with variable gravelly mantles and minor sandy banks supporting weakly groved mulga shrublands. Concentrated drainage zones are mildly susceptible to accelerated erosion when degraded; hardpan plains otherwise not normally susceptible to erosion unless severely degraded. **Violet land system:** Gently undulating gravelly plains on greenstone, laterite and hardpan, with low stony rises and minor saline plains; supporting groved mulga and bowgada shrublands and occasionally chenopod shrublands. Drainage tracts are moderately susceptible and sandy surfaced gravelly plains are slightly susceptible to accelerated erosion if vegetation is degraded or soil surface disturbed. **Weld land system:** Rugged ranges and ridges of banded ironstone and quartzite, supporting acacia shrublands. This system is not susceptible to erosion unless stony mantle is disturbed **Yarrameedie land system:** Undulating stony interfluves, drainage floors and pediment foothill plains below major ranges, supporting sparse mulga shrublands. Alluvial fans and drainage floors and creek lines show mild susceptibility to accelerated erosion when degraded.
Waterbodies	The desktop assessment and aerial imagery indicated that three minor, non-perennial watercourses transect the area proposed to be cleared (GIS Database).
Hydrogeography	The application area is located within the East Murchison Groundwater Area which is legislated by the RIWI Act 1914. The groundwater salinity within the application area is mapped as 1,000-3,000 milligrams per litre total dissolved solids which is described as brackish (GIS Database).
Flora	Four Priority flora species were recorded during the survey (Ecologia, 2020), and three other species had been previously recorded within the application area (GIS Database). No Threatened flora species were recorded in the application area (Ecologia, 2020; GIS Database).
Ecological communities	The application area intersects a portion of the Priority 1 'Weld Range vegetation complexes (banded ironstone formation)' PEC (Ecologia, 2020; GIS Database). No known or mapped Threatened Ecological Communities are intersected by the application area (Ecologia, 2020; GIS Database).
Fauna	No conservation significant fauna species were recorded in the application area by the survey conducted by Ecologia (2020). There are records of two Priority fauna species within the application area (GIS Database).
Fauna habitat	A biological survey was conducted over the application area by Ecologia Environment during September, 2019. The following vegetation types were recorded within the application area (Ecologia, 2020): • *Acacia* sp. Weld Range (A. Markey & S. Dillon 2994) *and Acacia speckii* shrubland on mid and lower slopes • Mulga woodland over ironstone ridge crests and slopes • Mixed *Acacia* shrublands over stony lower slopes and stony plains • Minor drainage line supporting dense shrubs

A.2. Flora analysis table

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

Species name	Conservation status	Total individuals recorded (local area)	Total individuals to be cleared	Percentage of individuals to be cleared
Acacia dilloniorum	P1	6,164	21	0.3%
Acacia speckii	P4	725	21	2.9%
Dodonaea amplisemina	P4	551	10	1.8%
Grevillea inconspicua	P4	105	0	0%
Micromyrtus placoides	P3	33,724	3,564	10.6%
Prostanthera petrophila	P3	1,062	63	5.9%
Stenanthemum patens	P1	391	1	0.2%

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority
(Ecologia, 2020; GIS Database)

A.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Northern shield-backed trapdoor spider (*Idiosoma clypeatum*)	P3	Y	Y	0 km	8,407	Y
West coast mulga slider (*Lerista eupoda*)	P1	Y	Y	0 km	28	Y
Peregrine falcon (*Falco peregrinus*)	OS	Y	Y	6.7 km	1,786	Y
Long-tailed dunnart (*Antichinus longicaudata* formerly *Sminthopsis longicaudata*)	P4	Y	Y	90.1 km	291	Y

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

(Ecologia, 2020; GIS Database)

A.4. Ecological community analysis table

Community name	Conservation status	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Weld Range vegetation complexes (banded ironstone formation)	P1	Y	Y	0 km	1	Y

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

(Ecologia, 2020; GIS Database)

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The additional area proposed to be cleared contains Priority flora, fauna, and intersects a Priority Ecological Community (Ecologia, 2020; GIS Database).	May be at variance (as per CPS 8891/2)	Yes *Refer to Section 3.2.1, above.*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The area proposed to be cleared contains suitable habitat to support conservation significant fauna of the region (Ecologia, 2020)	May be at variance (as per CPS 8891/2)	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: There were no Threatened flora species recorded within the amendment application area (Ecologia, 2020; GIS Database).	Not likely to be at variance (as per CPS 8891/2)	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The amendment application area is not located within any known or mapped Threatened Ecological Communities (Ecologia, 2020; GIS Database).	Not likely to be at variance (as per CPS 8891/2)	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The application area falls within the Murchison Bioregion of the Interim Biogeographic Regionalisation for Australia (GIS Database). Over 99 per cent of the pre-European vegetation still exists in the Murchison Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 18 and 202 (GIS Database). These vegetation associations have not been extensively cleared as over 99 per cent of the pre-European extent of these vegetation associations remain uncleared at both the state and bioregional level (Government of Western Australia, 2019).	Not at variance (as per CPS 8891/2)	No
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of any known or mapped conservation areas (GIS Database).	Not likely to be at variance (as per CPS 8891/2)	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: There are no permanent water courses or wetlands recorded within the application area, however, several seasonal creek lines pass through the application area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. Potential impacts to vegetation growing in association with the watercourse may be minimised by the implementation of a watercourse management condition.	At variance (as per CPS 8891/2)	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped land systems are not generally susceptible to erosion (Curry et al., 1994). Noting the location of the application area, the proposed clearing is not likely to cause appreciable land degradation.	Not likely to be at variance (as per CPS 8891/2)	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Given no permanent water courses, wetlands, or Public Drinking Water Source Areas are within the application area (GIS Database), the proposed clearing is unlikely to cause deterioration in the quality of surface or underground water.	Not likely to be at variance (as per CPS 8891/2)	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Given no permanent water courses or wetlands are within the application area (GIS Database), the proposed clearing is unlikely to cause, or exacerbate, the incidence or intensity of flooding.	Not likely to be at variance (as per CPS 8891/2)	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 Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

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

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

Appendix D. Photographs of the vegetation and mapping of flora and fauna records

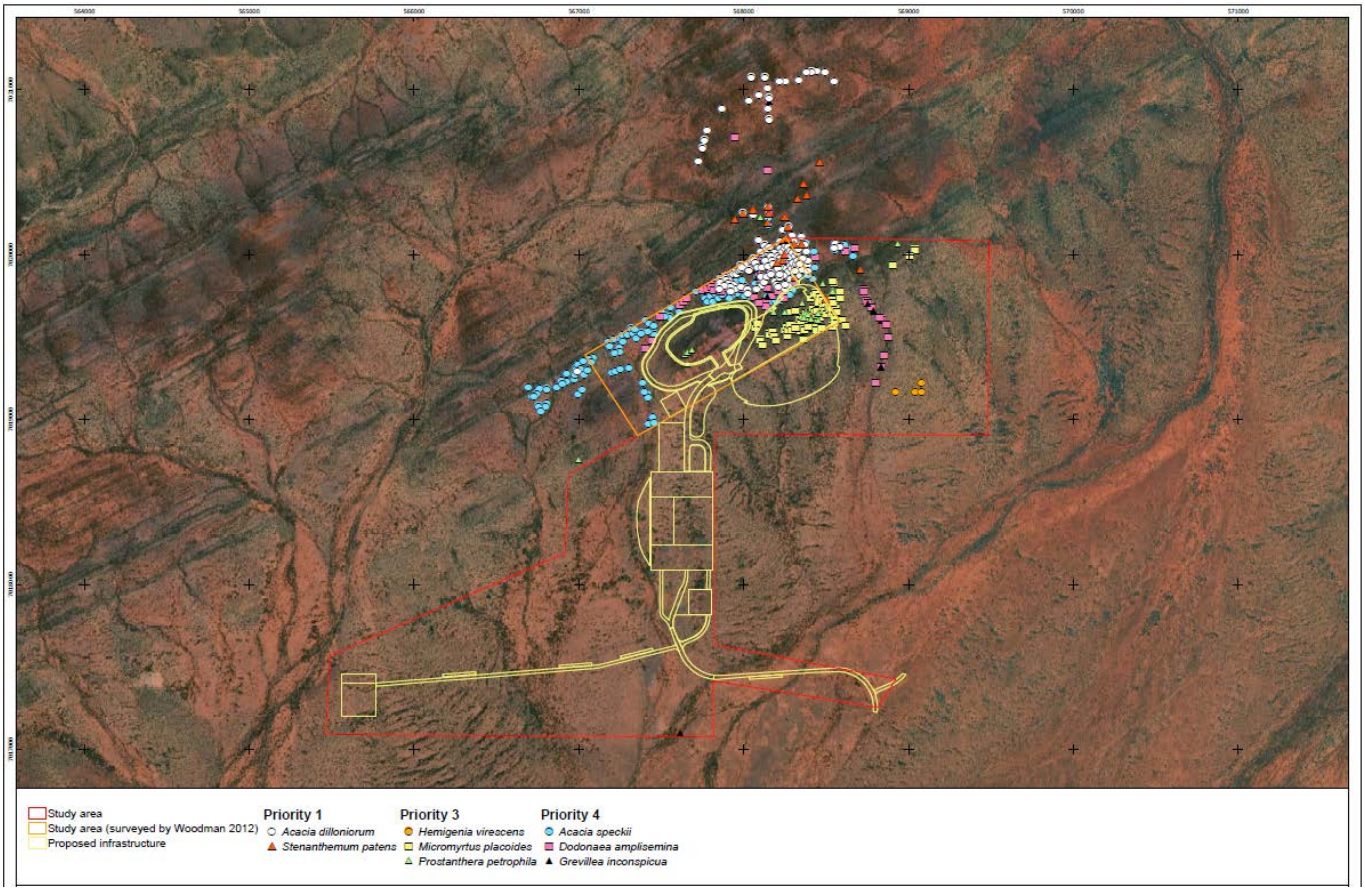

Figure 2. Mapping of Priority flora (Ecologia, 2020).

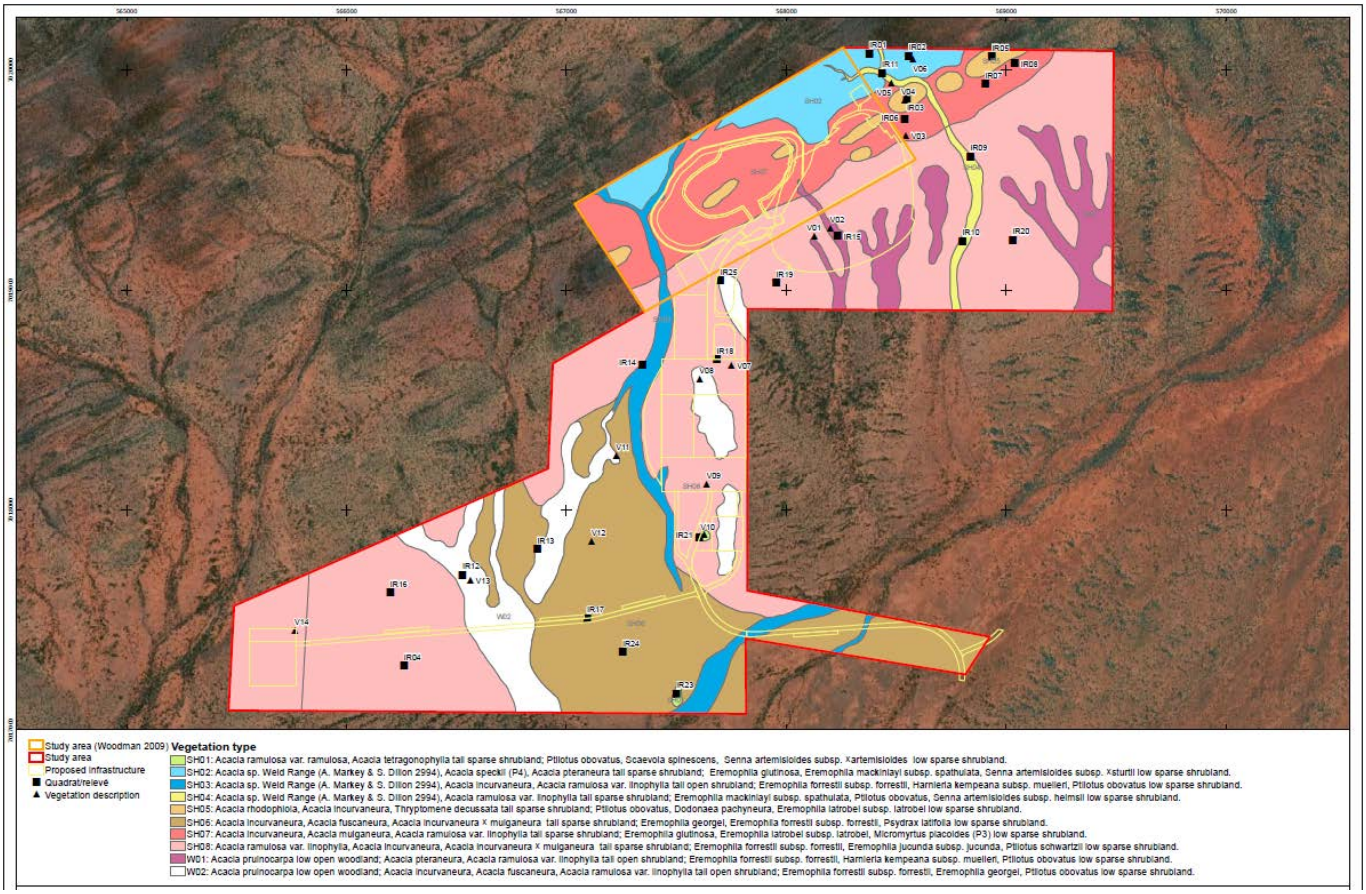

Figure 3. Mapping of vegetation types (Ecologia, 2020).

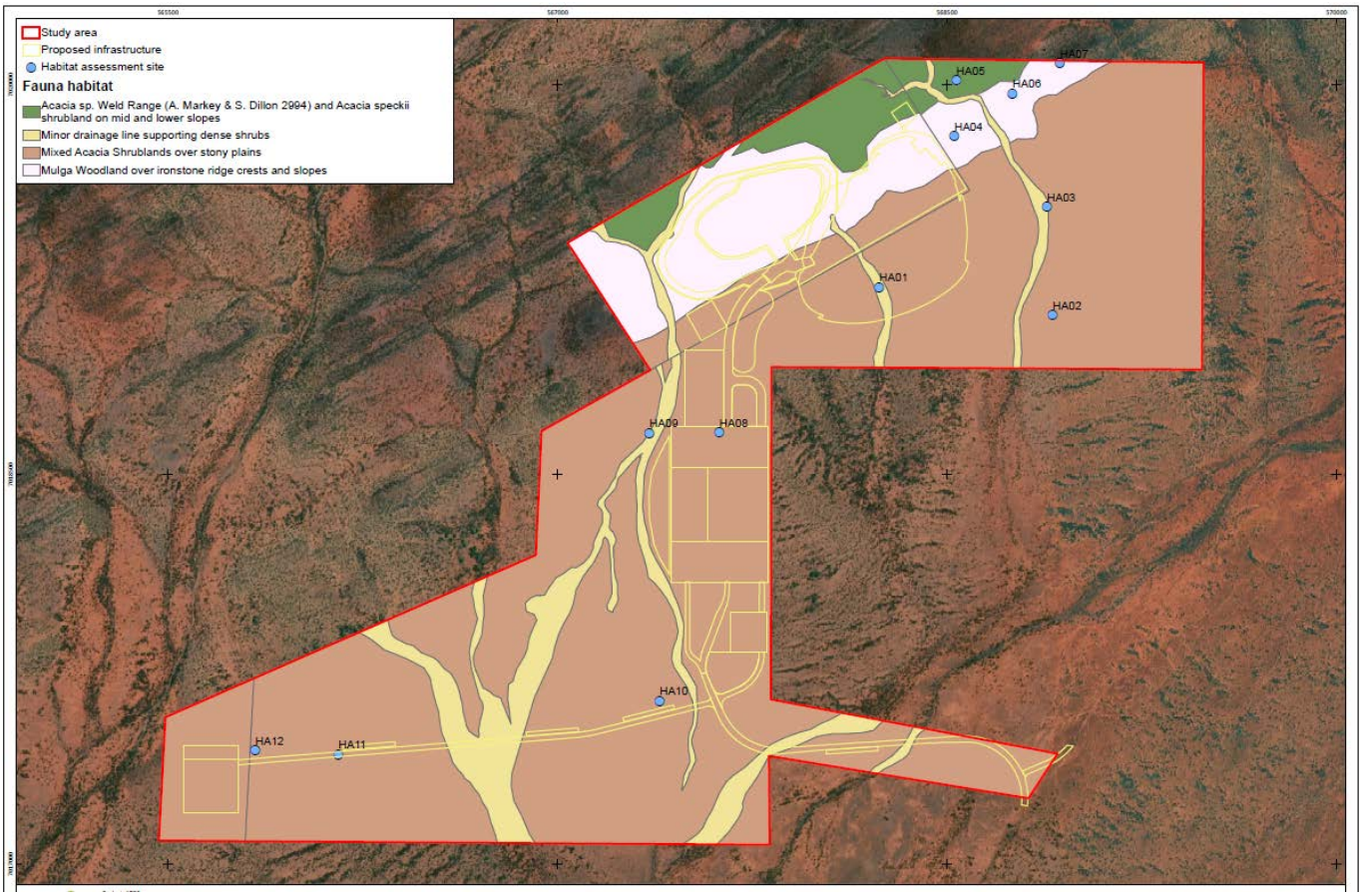

Figure 4. Mapping of fauna habitats (Ecologia, 2020).

Figure 5. *Acacia* sp. Weld Range (A. Markey & S. Dillon 2994) and *Acacia speckii* shrubland on mid and lower slopes fauna habitat (Ecologia, 2020).

Figure 6. Mulga woodland over ironstone ridge crests and slopes fauna habitat (Ecologia, 2020).

Figure 7. Mixed *Acacia* shrublands over stony lower slopes and stony plains fauna habitat (Ecologia, 2020).

Figure 8. Minor drainage line supporting dense shrubs fauna habitat (Ecologia, 2020).

Appendix E. Sources of information

E.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- 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)

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Fenix Resources Ltd (Fenix) (2024a) Clearing permit application form, CPS 8891/3, received 8 March 2024.

Fenix Resources Ltd (Fenix) (2024b) Iron Ridge Project Clearing Permit CPS 8891/2 Amendment Supporting Information, prepared for the Department of Energy, Mines, Industry Regulation and Safety, February 2024.

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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

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4. Glossary

Acronyms:

BC Act	*Biodiversity Conservation Act 2016,* Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DCCEEW	Department of Climate Change, Energy, the Environment and Water, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DEMIRS)
DMP	Department of Mines and Petroleum, Western Australia (now DEMIRS)
DoEE	Department of the Environment and Energy (now DCCEEW)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)

DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	*Environmental Protection Act 1986*, Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
TEC	Threatened Ecological Community

Definitions:

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

T **Threatened species:**

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

Threatened fauna is the species of fauna that are listed as critically endangered, endangered or vulnerable threatened species.

Threatened flora is the species of flora that are listed as critically endangered, endangered or vulnerable threatened species.

The assessment of the conservation status of threatened species is in accordance with the BC Act listing criteria and the requirements of Ministerial Guideline Number 1 and Ministerial Guideline Number 2 that adopts the use of the International Union for Conservation of Nature (IUCN) Red List of Threatened Species Categories and Criteria, and is based on the national distribution of the species.

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

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines.

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

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines.

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

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines.

Extinct Species:

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

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

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild.

Specially protected species:

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

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

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

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

CD **Species of special conservation interest (conservation dependent fauna)**
Species of special conservation need that are dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Currently only fauna are listed as species of special conservation interest.

OS **Other specially protected species**
Species otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Currently only fauna are listed as species otherwise in need of special protection.

P **Priority species:**

Priority is not a listing category under the BC Act. The Priority Flora and Fauna lists are maintained by the department and are published on the department's website.

All fauna and flora are protected in WA following the provisions in Part 10 of the BC Act. The protection applies even when a species is not listed as threatened or specially protected, and regardless of land tenure (State managed land (Crown land), private land, or Commonwealth land).

Species that may possibly be threatened species that do not meet the criteria for listing under the BC Act because of insufficient survey or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of prioritisation for survey and evaluation of conservation status so that consideration can be given to potential listing as threatened.

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

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

P1 **Priority One - Poorly-known species – known from few locations, none on conservation lands**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, for example, agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation.

Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements for threatened listing and appear to be under immediate threat from known threatening processes. These species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species – known from few locations, some on conservation lands**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, for example, national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation.

Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements for threatened listing and appear to be under threat from known threatening processes. These species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species – known from several locations**
Species that are known from several locations and the species does not appear to be under imminent threat or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat.

Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. These species need further survey.

P4 **Priority Four - Rare, Near Threatened and other species in need of monitoring**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as a conservation dependent specially protected species.
(c) Species that have been removed from the list of threatened species or lists of conservation dependent or other specially protected species, during the past five years for reasons other than taxonomy.
(d) Other species in need of monitoring.

Principles for clearing native vegetation:

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

(j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.