Department of Mines, Petroleum and Exploration

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	6604/3
Permit type:	Purpose Permit
Applicant name:	Holcim (Australia) Pty Ltd
Application received:	1 April 2025
Application area:	140.28 hectares
Purpose of clearing:	Sand mining
Method of clearing:	Mechanical Removal
Tenure:	Mining Leases 52/7, 52/62, 52/609, 52/661
Location (LGA area/s):	Shire of Meekatharra
Colloquial name:	Warrawanda Creek

1.2. Description of clearing activities

Holcim (Australia) Pty Ltd (Holcim) proposes to clear up to 140.28 hectares of native vegetation within a boundary of approximately 140.28 hectares, for the purpose of sand mining. The project is located approximately 15.5 kilometres southeast of Newman, within the Shire of Meekatharra.

The amendment application is to allow for the premit duration to be extended to 31 July 2030 (Holcim, 2025b).

Clearing permit CPS 6604/1 was granted by the Department of Mines and Petroleum on 9 July 2015 and was valid from 1 August 2015 to 31 July 2020. The permit authorised the clearing of up to 141 hectares of native vegetation within a boundary of approximately 141 hectares, for the purpose of sand mining.

CPS 6604/2 was granted on 5 December 2019, amending the permit to extend the duration to 31 July 2025, and to alter Condition 4 to allow clearing of vegetation with a trunk diameter less than 50 centimetres and 150 centimetres above ground level within a 56 hectare section of the permit boundary. The Department determined the proposed amendment to Condition 4 would likely result in a significant change to the environmental impacts of the proposed clearing with respect to riparian vegetation, land degradation and water quality due to the role large shrubs and small trees play in stabilising the riverbed. Alternatively, the department modified Condition 4 to allow the clearing of shrubs, excluding the clearing of *Eucalyptus camaldulensis* trees, 2 metres in height of greater within the 56 hectare section of the permit boundary. The area of clearing authorised and the permit boundaries remained unchanged.

On 1 April 2025, the permit holder applied to amend CPS 6604/2 to extend the duration of the permit to 31 July 2030. The area of clearing authorised and the permit boundaries remained unchanged.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	31 July 2025
Decision area:	140.28 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 Mines, Petroleum and Exploration (DMPE) advertised the application for a public comment for a period of 7 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), supporting information provided by the applicant, including the results of a flora and vegetation survey, 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 3.2).

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 conservation significant flora; and
- impacts to conservation significant fauna and their associated habitat.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (Section 3.1), the Delegated Officer determined the proposed clearing can 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;
- no clearing within 20 metres of *Ipomoea racemigera*, unless first approved by the CEO;
- no clearing of native vegetation two metres in height or greater, and dripline of identified trees, within yellow cross-hatched areas of Figure 1; and
- no clearing of *Eucalyptus camaldulensis* trees two metres in height or greater, and dripline vegetation of identified trees, within red shaded areas of Figure 1.

The assessment has not changed since the assessment for CPS 6604/2, except in the case of principle (a) and principle (b) that have considered new flora and fauna assessments conducted over the application area. The Delegated Officer determined that the extension of the permit duration is unlikely to lead to an unacceptable risk to environmental values. The delegated officer has included an administrative update on the amount authorised to clear from 141 to 140.28 hectares.

1.5. Site map

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

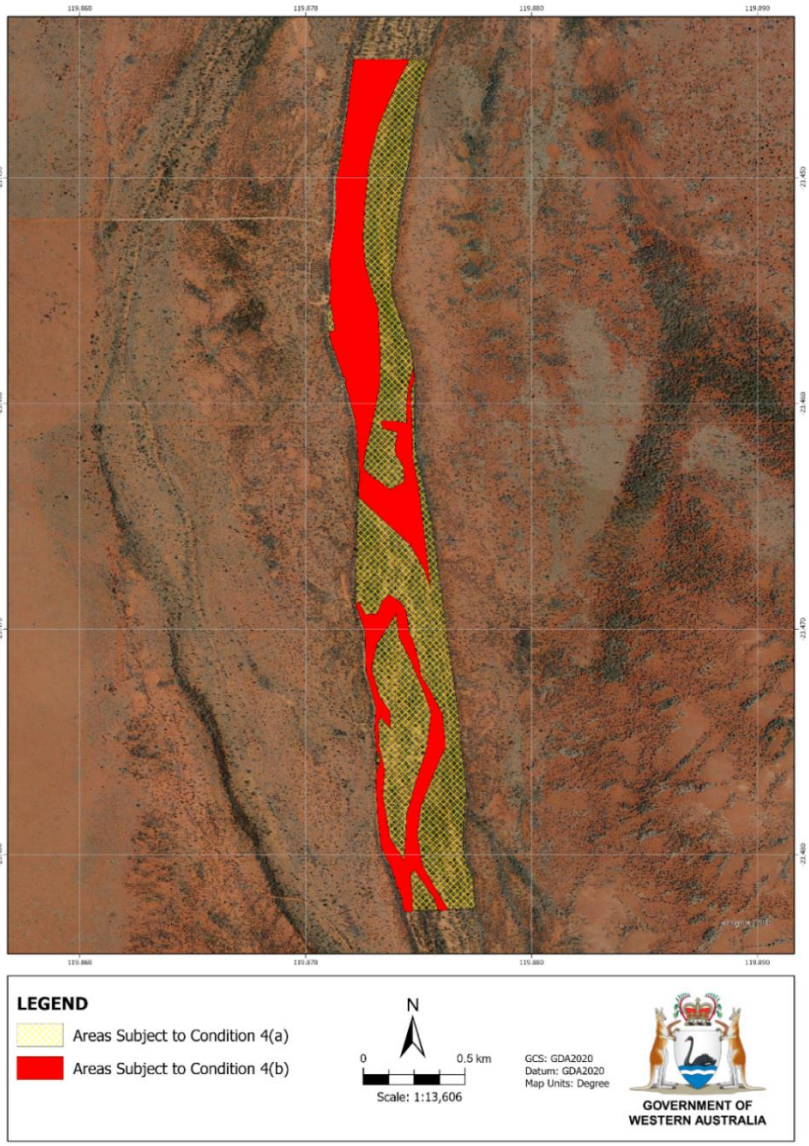

Figure 1. Map of the application area. The yellow shaded area indicates the areas subject to condition 4(a), no clearing of native vegetation two metres in height or greater, and associated dripline vegetation. The red shaded area indicates the areas subject to condition 4(b), no clearing of *Eucalyptus camaldulensis* trees, and associated dripline vegetation.

2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Biosecurity and Agriculture Management Act 2007* (BAM Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)
- Japan-Australia Migratory Bird Agreement
- China-Australia Migratory Bird Agreement
- Republic of Korea-Australia Migratory Bird Agreement

The key guidance documents which inform this assessment are:

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

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values. Control measures were submitted by the applicant demonstrating (Holcim, 2020; Holcim 2025a):

- avoid and minimise clearing;
- no clearing of native vegetation two metres in height or greater, and associated dripline vegetation within the 140.28 hectare extraction area boundary, excluding the 56 hectares section of extraction area boundary;
- no clearing of *Eucalyptus camaldulensis* trees 2 metres in height or greater and associated dripline vegetation within a 56 ha section of the extraction area boundary;
- a buffer of four metres will be maintained between the extraction area and the banks of the creek;
- annual replenishment and vegetation survival will be monitored through photo monitoring points with monitoring conducted before and after each campaign;
- dead trees and branches removed from immediate sand extraction areas will be moved to areas still within the limit of extraction;
- vegetation clearing will be undertaken during the dry season when the creek bed is predominately dry;
- fire management;
- weed management;
- training and awareness regarding native flora and fauna; and
- During the assessment Holcim Australia) Pty Ltd proposed that known locations of *Ipomoea racemigera* be avoided and have a 20 metre buffer placed on them. Assessment of impacts on environmental values.

A review of current environmental information (Appendix A) reveals that the assessment against the clearing principles has not changed significantly from the clearing permit decision report CPS 6604/2, however a new fauna and flora survey of the application area has been incorporated into this assessment.

3.1.1. Biological values (flora & fauna) - Clearing Principles (a) and (b)

Assessment

MWH undertook a level 1 flora and fauna assessment over the application area on April 16, 2015, following a late wet season in 2015 (MWH, 2015). The flora assessment identified 74 flora species from 21 families and 56 genera were recorded within the application area; no Threatened or Priority flora was identified (MWH, 2015). The assessment identified two broad fauna

habitats: Major drainage line, and mulga woodland (MWH, 2015). Recent flooding in the application area was identified as a limitation to the assessment as it restricted access to areas of the application area (MWH, 2015). Recent flooding likely altered flora and fauna composition, likely increasing the number of fauna and flora species recorded, and increased weed density (MWH, 2015).

Ecologia undertook a reconnaissance flora and vegetation, targeted flora survey, and basic fauna and fauna habitat assessment over the application area from 15 to 17 April 2025 (Ecologia, 2025). A total of 15 vascular plant taxa representing nine families and 14 genera were recorded within the application area. No Threatened flora was identified, however *Ipomoea racemigera*, a Priority 3 species was recorded (Ecologia, 2025). Drainage line and mulga woodland habitat were identified as the two fauna habitats within the application area (Ecologia, 2025; WA Herbarium, 1998-). Ecologia (2025) did not identify any flora or fauna survey limitations or constraints.

Flora

Priority Flora

The application area contains potentially suitable habitat for six priority flora species (listed in Appendix A.3), however only *Ipomoea racemigera* (P3) was identified during the field survey (Ecologia, 2025). *Ipomoea racemigera* occurs in sandy soils along watercourses and is known from 16 locations in the Gascoyne and Pilbara regions, however, is widespread in northern Australia (Ecologia, 2025; WA Herbarium, 1998-). Within the application area this species is known from three locations within EcAcCc habitat (Ecologia, 2025). Clearing of this species would result in a local impact to this species due to its distribution and number of known records.

Ecologia (2025) determined there was no suitable habitat for *Eremophila rigida* (P3) and *Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727) (P3) within the application area. Ecologia (2025) recorded suitable habitat being present for *Goodenia berringbinensis* (P4) and *Gymnanthera cunninghamii* (P3), however these species were not recorded. These species are known from multiple bioregions and different watercourse habitats, therefore if were present, it is unlikely that these species will be significantly impacted by the proposed clearing, additionally it is likely suitable habitat extends along the Warrawanda creek (WA Herbarium, 1998-).

Suitable habitat for *Eremophila youngii* subsp. *lepidota* (P4) and *Aristida jerichoensis* var. *subspinulifera* (P3) was identified, however these species were not recorded during field surveys (Ecologia, 2025). There are 49 known records of each of these species, records extend across multiple bioregions and habitat types (WA Herbarium, 1998-). Therefore, it is unlikely that the proposed clearing will have a significant impact to these species on a local or regional level.

Fauna

Black-flanked rock wallaby, long-tailed dunnart and western pebble-mound mouse

These species are unlikely to occur within the application area as they require rocky hills, stony or rock pile habitats which are not present within the application area (MWH, 2015; Threatened Species Scientific Committee, 2016). The habitat and soil landscape described within the application area is major drainage lines, mulga woodland and alluvium creek deposits, respectively, which are not suitable habitats for these species (MWH, 2015).

Brush-tail Mulgara

Brush-tail mulgara (*Dasycercus blythi*, P4) most frequently inhabits areas with mature spinifex grasslands, they are also known use vegetation types adjacent to spinifex grasslands, paleo drainage systems, or drainage lines in sand plain or dune habitats (NESP Threatened Species Recovery Hub, 2021). Whilst the application area is within a major drainage line, no suitable spinifex vegetation has been recorded within the application area (MWH, 2015), therefore it is unlikely this species will occur.

Fork-tailed swift

The fork-tailed swift (*Apus pacificus*, MI) is an almost exclusively aerial species, however when on-ground occupies a wide range of habitats (Commonwealth of Australia, 2008). This species is an irregular visitor within the region and may fly over and forage above the application area on an irregular basis (MWH, 2015). This species does not breed in Australia and therefore breeding habitat is not impacted (Commonwealth of Australia, 2008).

Ghost bat and Pilbara leaf-nosed bat

The ghost bat (*Macroderma gigas*, VU) and Pilbara leaf-nosed bat (*Rhinonicteris aurantia*, VU) roost in caves, rock crevices and underground mines (Bullen, 2021a; Bullen, 2021b).

In the Pilbara, ghost bats forage on productive plain areas with thin mature woodland over patchy or clumped tussock or hummock grasslands (*Triodia* spp.) on sand or stony ground (Bullen, 2021a). Preferred vantage points for this species appear to be isolated trees and trees on the edge of thin thickets on plain or trees along the edges of watercourse woodlands (Bullen, 2021a). The application area contains major drainage line habitat with overstorey *Eucalypts* (gum trees) and tall *Acacia* sp., midstory of scattered *Melaleuca* sp., and understorey of scattered tussock grass and herbs, which is suitable foraging habitat for this species (Ecologia, 2025).

The Pilbara leaf-nosed bat forages in a variety of habitats including plains and low hills, gullies ridgelines and mesas, and deep gorges (Bullen, 2021b). Vegetation in plains and low hill habitat often includes *Triodia* hummock grasslands with scattered *Eucalyptus camaldulensis* along the creeks (Bullen, 2021b). Drainage line and Mulga woodland habitat within the application

area contains moderate to high foraging habitat based off Bullen (2021b) foraging habitat rating scale (Bullen, 2021b; Ecologia, 2025).

The application area does not contain any suitable roosting habitat for both species. Drainage line habitat and mulga woodland habitat within the application area contains suitable foraging habitat for both species. Potential impacts to these species can be minimised through the reinstatement of the restrictive clearing condition to retain trees two meters in height or greater, or *Eucalyptus camaldulensis* trees two metres in height or greater, so vantage points for foraging are retained.

Greater bilby

In northern Western Australia the greater bilby (*Macrotis lagotis,* VU) inhabits a wide range of substrate and vegetation types including residual, fluvial and sand plain landforms with typically low shrub cover of Acacia spp. with hummock (*Triodia* spp.) and tussock grasses (Northover *et al.*, 2023). Bilbies construct and shelter in spiral shaped burrows that can be up to three meters long and two metres deep (Burrell, 2024). Within the application area suitable foraging and denning habitat was identified, however habitat is limited and restricted to mulga woodland habitat (Ecologia, 2025). This species may utilise drainage line habitat for foraging however it is unlikely this species will use this habitat to construct burrows.

Grey Falcon

The grey flacon (*Falco hypoleucos*, VU) is sparsely distributed across arid and semi-arid Australia (Ecologia, 2025). This species frequents timbered lowland plains, particularly *Acacia* shrublands with tree-lined water courses, tussock grasslands and open woodlands (Threatened Species Scientific Committee, 2020). This species nests in tall River Red Gum (*Eucalyptus camaldulensis*) and Coolibah (*E. coolabah*) trees along water courses (Threatened Species Scientific Committee, 2020). The application area contains drainage line habitat which could potentially provide suitable foraging habitat for the grey falcon (Ecologia, 2025). The application contains both River Red Gum and Coolibah trees, which may provide suitable nesting and breeding habitat for this species (Ecologia, 2025). The restrictive clearing condition requiring trees two metres in height or greater, will be retained on the amended permit to reduce any potential impacts to individuals utilising trees within the application area.

Migratory shorebirds

There are numerous records of migratory shorebirds within the local surrounds (50 kilometres), many of these records come from Ophthalmia Dam 8.5 km north of the application area (GIS Database). After rainfall events large open waterbodies are created and the application area provides suitable seasonal foraging habitat for these species (MWH, 2015). These species do not breed in Australia excluding the Caspian tern (*Hydroprogne caspia*) and the glossy ibis (*Plegadis falcinellus*) which can breed in Australia, but not typically. However, the application area does not provide suitable breeding habitat for these two species (Commonwealth of Australia, 2008). A glossy ibis was recorded within application area in drainage line habitat, next to a small river pool (Ecologia, 2025).

These species are unlikely to be significantly impacted as there is more suitable habitat adjacent to the application area. Additionally, Holcim has stated that works will not be undertaken during the wet season, when these species will likely utilise water within the application area (Holcim, 2020).

Night parrot

Night parrot (*Pezoporus occidentalis*, CR) requires dense, long unburnt *Triodia* hummocks for roosting, and floodplain or run-on areas with higher floral diversity for foraging (DBCA, 2024). The application area does not contain suitable spinifex habitat for roosting.

Northern quoll

The northern quoll (*Dasycercus hallucatus,* EN) inhabits a variety of habitats including rocky areas, eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and desert (Commonwealth of Australia, 2008). Within the Pilbara this species shows a preference for complex rocky areas, however, can be found in a variety of habitats, particularly males during breeding season (Northover *et al.*, 2023). Complex rocky landforms in close proximity to permanent water is considered critical habitat for this species, as these areas provide refuge from predators, access to food, and shelter for denning (Northover *et al.*, 2023).

Ecologia (2025) identified that mulga woodland and drainage line habitat provides suitable foraging and dispersal habitat for the northern quoll, however, the proximity to rocky habitat and records of known predators (feral cats) may reduce the suitability of habitat for this species. The application area does not contain habitat critical for survival for this species.

Peregrine falcon

The peregrine falcon (*Falco peregrinus,* OS) is widespread throughout much of Australia, its preferred habitat is coastal and inland cliffs, or open woodlands near waterbodies and watercourses (Australian Museum, 2019; MWH, 2015). This species nests in recesses of cliff faces, tree hollows or in abandoned nests of other large bird species (Australian Museum, 2019). Mulga and major drainage line habitats within the application area can provide suitable seasonal foraging habitat for this species (MWH, 2015). The application area does not contain any cliff habitat, however, does contain few hollow bearing trees along the riverbank (MWH, 2015), which may be potentially suitable habitat for nesting, however, this is unlikely. The restrictive clearing condition requiring trees two metres in height or greater, will be retained on the amended permit to reduce any potential impacts to individuals utilising trees within the application area.

Reptiles

A record of the spotted ctenotus (northeast) (*Ctenotus uber johnstonei*, P2) was recorded 14.7 kilometres northeast of the application area, this record is not certain to be a spotted ctenotus (GIS Database). This species is known from a sandstone hill in chenopod shrubland habitat in the Tanami Desert, which is not present within the application area (MWH, 2015). Additional records of this species have been recorded greater than 750 kilometres away in the Kimberly and Great Sandy Desert; however, habitat was not noted in these records (GIS Database).

The Pilbara olive python (*Liasis olivaceus barroni*, VU) and Gane's blind snake (*Anilios ganei*, P1) occur in moist rocky gorges and gully habitat which are not present within the application area (MWH, 2015). As there is no suitable habitat for this species within the application area this species is unlikely to be impacted.

Conclusion

Priority Flora

Ipomoea racemigera was the only species recorded within the application area and is potentially significantly impacted by the proposed clearing this (Ecologia, 2025). Impacts of the proposed clearing on *Ipomoea racemigera* can be managed by avoiding known locations by 20 metres, avoidance, minimise and mitigation measures, and weed management.

Goodenia berringbinensis, Gymnanthera cunninghamii, Eremophila youngii subsp. *lepidota* and *Aristida jerichoensis* var. *subspinulifera* were not recorded within the application area. These species occur across multiple bioregions and habitats and are unlikely to be significantly impacted by the proposed clearing on a local or regional scale.

Eremophila rigida and *Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727) are unlikely to be impacted as the application area lacks suitable habitat for these species to occur therefore these species will not be impacted by the proposed clearing.

Black-flanked rock wallaby, long-tailed dunnart and western pebble-mound mouse

These species are unlikely to be significantly impacted by the proposed clearing as their habitat is not present within the application area.

Brush-tailed mulgara

These species are unlikely to be significantly impacted by the proposed clearing as their habitat is not present within the application area.

Fork-tailed swift

This species is unlikely to be significantly impacted by the proposed clearing as this species is almost exclusively aerial and can utilise a wide variety of habitats, if present it is likely to only utilise the airspace above the application area.

Ghost bat and Pilbara leaf-nosed bat

This species may utilise the application area seasonally for foraging, however, is unlikely to be significantly impacted by the proposed clearing.

Greater bilby

There is suitable foraging and denning habitat within the application area for this species however this habitat is limited. Foraging habitat for this species will likely be impacted by the proposed clearing; however, it is unlikely that denning habitat will be significantly impacted by the proposed clearing as this habitat is limited within the application area.

Grey falcon

This species may utilise the application area for foraging and utilise tall *Eucalyptus* trees for nesting and breeding.

Night parrot

These species are unlikely to be impacted as suitable spinifex habitat does not occur within the application area.

Northern quoll

The application area may contain suitable foraging and dispersal habitat for this species; however, the application area does not contain critical habitat for this species.

Migratory shorebirds

These species are unlikely to be significantly impacted by the proposed clearing as there is more suitable habitat adjacent to the application area.

Peregrine falcon

This species may utilise the application area seasonally for foraging, however, is unlikely to be significantly impacted by the proposed clearing.

Reptiles

These species are unlikely to be impacted as suitable habitat does not occur within the application area.

Conditions

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds; and
- no clearing within 20 metres of *Ipomoea racemigera* unless first approved by the CEO;
- no clearing of native vegetation two metres in height or greater, and associated dripline vegetation in areas cross-hatched yellow on Figure 1; and
- no clearing of *Eucalyptus camaldulensis* trees two metres in height or greater, and associated dripline vegetation in areas shaded red in Figure 1.

3.2. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 30 May 2025 by the Department of Mines, Petroleum and Exploration inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the area under application (DPLH, 2025). This claim has been registered with the National Native Title Tribunal (WCD2018/008) and determined by the Federal Court (WAD6280/1998) on behalf of the claimant group (Nyiyaparli People). 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, 2025). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is noted that the proposed clearing may impact on ghost bat (*Macroderma gigas*), glossy ibis (*Plegadis falcinellus*), greater bilby (*Macrotis lagotis*), grey falcon (*Falco hypoleucos*), northern quoll (*Dasycercus hallucatus*), Peregrine falcon (*Falco peregrinus*), Pilbara leaf nosed bat (*Rhinonicteris aurantia*), which are a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Commonwealth) Department of Climate Change, Energy, the Environment and Water for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of Climate Change, Energy, the Environment and Water for further information regarding notification and referral responsibilities under the EPBC Act.

Other relevant authorisations required for the proposed land use include:

- A Mining 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 (GIS Database). The Warrawanda creek flows into the Ophthalmia Dam on the Fortescue River (GIS Database). The predominant land use in the Augustus subregion is native pasture grazing, UCL, Crown Reserves, Aboriginal reserves and conservation estate (CALM, 2002).
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages (GIS Database).
Conservation areas	The application area is not located within any DBCA legislated conservation areas (GIS Database) The nearest conservation area is Fortescue Marsh Nature Reserve located approximately 80 kilometres north of the application area (GIS Database).
Vegetation description	The application area occurs within the IBRA Gascoyne bioregion in the Augustus (GAS3) subregion (GIS Database). The vegetation of the application area is broadly mapped as the following Beard vegetation association/s: • **Kumarina Hills 29:** Sparse low woodland; mulga, discontinuous in scattered groups; and • **Kumarina Hils 216:** Low woodland; mulga (with spinifex) on rises. (GIS Database). A flora and vegetation survey was conducted over the application area by MWH (2015) on the 16 April 2015, and Ecologia on 15 to 17 April 2025 (Ecologia, 2025). The following vegetation associations were recorded within the application area: • **EcAcCc:** *Eucalyptus camaldulensis, Eucalyptus victrix* mid open woodland; *Acacia coriacea* subsp. *pendens, Acacia citrinoviridis* tall sparse shrubland; **Cenchrus ciliaris*, *Themeda triandra* low open tussock grassland (Ecologia, 2025). • **AaCc:** *Acacia ?aptaneura* tall open shrubland; **Cenchrus ciliaris, Aristida latifolia, Triodia basedowii* low tussock/hummock grassland (Ecologia, 2025). • **EcMg:** Mid isolated clumps of trees dominated by *Eucalyptus camaldulensis* with *Acacia sericophylla* over tall isolated clumps of shrubs dominated by *Melaleuca glomerata* and *Acacia citrinoviridis* over low mixed grasses and forbs (MWH, 2015). • **ChAsTt:** Mid isolated trees dominated by *Corymbia hamersleyana, Acacia citrinoviridis* and *Acacia sericophylla* over tall open shrubland dominated by Acacia incurvaneura and *Melaleuca glomerata*, over mid tussock grassland dominated by *Themeda triandra* and **Cenchrus ciliaris* (MWH, 2015). • **MgAcCc:** Tall open shrubland dominated by *Melaleuca glomerata*, *Acacia paraneura* and *Acacia citrinoviridis* over mid closed grassland of **Cenchrus ciliaris* (MWH, 2015). *denotes introduced species
Vegetation condition	The vegetation survey (Ecologia, 2025) and aerial imagery indicates the vegetation within the proposed clearing area is in Very good to Very poor condition (Trudgen, 1991). Vegetation within the proposed clearing area is in Very good to Very poor condition, described as • **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. to • **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. The full Trudgen (1991) condition rating scale is provided in Appendix C.
Climate and landform	The climate of the Gascoyne, Augustus (GAS3) bioregion is desert with bimodal rainfall pattern, the average annual rainfall is 327.5 millimetres recorded at Newman Aero (BoM, 2025; CALM, 2002). The application area is mapped within elevation areas of 530 to 540 meters Australian height datum (GIS Database).
Soil description and land degradation risk	The soil is mapped as a part of the following land systems (DPIRD, 2025; Schoknecht, and Pathan, 2013; Van Vreeswyk, 2004; GIS Database): • **River system (290Ri):** Narrow, seasonally active flood plains and major river channels supporting moderately close, tall shrublands or woodlands of acacias and fringing communities of eucalypts sometimes with tussock grasses or spinifex. Within the application area this system is associated with Soil Group 445, red deep sand. This system is highly susceptible to erosion when vegetation cover is removed; and • **Washplain system (290Ws):** Hardpan plains supporting groved mulga shrublands (<0.1 hectares). Within the application area this system is associated with Soil Group 405, red deep sandy duplex soil. This land system is moderately susceptible to erosion, this soil group can be susceptible to surface compaction and crusting or hard setting.

Characteristic	Details
Waterbodies	The application area is located within Warrawanda Creek, a major non-perennial watercourse (GIS Database).
Hydrogeography	The application area is located within the East Murchison Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (GIS Database). The nearest Public Drinking Water Source Area, Newman Water Reserve, is approximately 4 kilometres north of the application area (GIS Database). Within the local surrounds there is one Ramsar Wetland, Lake Disappointment (Savoury Creek) System, approximately 26 kilometres southeast of the application area (GIS Database). The Marillana Plain and Poonda Plain of the Fortescue Marsh Management Zone is approximately 39 kilometres north of the application area (GIS Database). The mapped groundwater salinity is between approximately 500 - 1,000 milligrams per litre total dissolved solids which is described as fresh (GIS Database).
Flora	There are no Threatened flora species recorded within the application area or local surrounds (50 kilometres) (GIS Database). Six *Ipomoea racemigera* individuals were recorded within the application area from three locations (Ecologia, 2025).
Ecological communities	There are no Priority Ecological Communities (PEC) within the local surrounds (50 kilometres) (GIS Database).
Fauna	There are records of 28 fauna species of conservation significance within the local surrounds (50 kilometres), 15 of these species are migratory bird species (GIS Database). The grey falcon (*Falco hypoleucos*) has not been recorded within the local surrounds, however, is known in to occur in the region (GIS Database). One glossy ibis (*Plegadis falcinellus*) was recorded within the application area (Ecologia, 2025).
Fauna habitat	Two fauna habitats were identified within the application area (Ecologia, 2025; MWH, 2015). • **Major Drainage Line:** Habitat features consist of tree hollows and sandy banks, leaf litter and woody debris are rare. Vegetation ranges from dense on islands to near absent in channels. The overstorey generally consisted of Eucalypts (primarily gum trees) and tall *Acacia* sp., with a midstory comprised of *Melaleuca* sp., *Acacia* sp. and growing Eucalyptus. Understorey comprised of herbs, tussock grasses and sedges. Water has a seasonal presence within this habitat only, creating small-large pools; and • **Mulga Woodland**: Habitat is generally open, with overstory of *Acacia* spp., midstory of scattered shrubs and understory of tussock grass, hummock grass and herbs, large trees containing hollows are generally absent. Leaf litter and woody debris are moderately common. Substrate red-brown clay-loam with occasional scattered quartz/ironstone rocks

A.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current extent in all DBCA Managed Land (proportion of pre-European extent) (%)
IBRA Bioregion - Gascoyne	18,075,219	18,067,441	~99	1,855,508	10.27
Beard vegetation associations - State					
29	7,903,991	7,898,973	~99	496,367	6.28
216	280,759	279,237	~99	0	0.00
Beard vegetation associations - Bioregion					
29	3,802,459.63	3,799,635.88	~99	297,087	7.81
216	254,089	252,864	~99	0	0.00

Government of Western Australia (2019)

A.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (Appendix D.1), and biological survey information (Ecologia, 2025; MWH, 2015), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)
Acacia corusca	P1	N	N	N	<27	12
Acacia subtiliformis	P3	N	Y	N	<47	26
Aristida jerichoensis var. *subspinulifera*	P3	Y	Y	Y	<18	49
Aristida lazaridis	P3	N	N	Y	<50	29
Crotalaria smithiana	P3	Y	Y	N	<29	7
Eremophila capricornica	P1	Y	N	N	<35	18
Eremophila magnifica subsp. *magnifica*	P4	N	N	N	<22	47
Eremophila magnifica subsp. *velutina*	P3	N	N	N	<19	22
Eremophila naaykensii	P3	N	Y	N	<18	22
Eremophila pilosa	P1	Y	N	N	<42	9
Eremophila rhegos	P1	Y	Y	N	<32	6
Eremophila rigida	P3	Y	Y	Y	<13	10
Eremophila youngii subsp. *lepidota*	P4	Y	Y	Y	<22	49
Euphorbia inappendiculata var. *inappendiculata*	P3	N	Y	N	<13	17
Gompholobium karijini	P2	N	N	N	<40	43
Goodenia berringbinensis	P4	Y	Y	Y	<14	32
Goodenia sp. East Pilbara (A.A. Mitchell PRP 727)	P3	N	N	N	<12	53
Gymnanthera cunninghamii	P3	Y	Y	Y	<16	45
Indigofera gilesii	P3	N	N	N	<27	40
Ipomoea racemigera	P3	Y	Y	Y	0	21
Isotropis parviflora	P3	N	N	N	<18	34
Lepidium catapycnon	P4	N	N	N	<26	39
Maireana prosthecochaeta	P3	N	N	N	<47	24
Oxalis sp. Pilbara (M.E. Trudgen 12725)	P3	Y	N	N	<13	18
Streptoglossa sp. Cracking clays (S. van Leeuwen et al. PBS 7353)	P3	N	N	N	<29	13
Swainsona thompsoniana	P3	N	N	N	<13	32
Themeda sp. Hamersley Station (M.E. Trudgen 11431)	P3	N	Y	N	<34	60
Triodia sp. Mt Ella (M.E. Trudgen 12739)	P3	Y	N	N	<19	40
Uvedalia clementii	P3	Y	Y	N	<35	10
Vittadinia sp. Coondewanna Flats (S. van Leeuwen 4684)	P3	N	Y	N	<22	26

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

A.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (Appendix D.1), and biological survey information (Ecologia, 2025; MWH, 2015), impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)
Birds				
Caspian tern (*Hydroprogne caspia*)	MI	N	N	<12
Common greenshank (*Tringa nebularia*)	MI	Y	Y	<12
Common redshank (*Tringa totanus*)	MI	N	N	<22

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)
Common sandpiper (*Actitis hypoleucos*)	MI	N	N	<13
Curlew sandpiper (*Calidris ferruginea*)	MI, CR	N	N	<12
Fork-tailed swift (*Apus pacificus*)	MI	Y	Y	<12
Glossy ibis (*Plegadis falcinellus*)	MI	Y	Y	0
Grey falcon (*Falco hypoleucos*)	VU	Y	Y	<99
Gull-billed tern (*Gelochelidon nilotica*)	MI	Y	N	<12
Long-toed stint (*Calidris subminuta*)	MI	N	N	<12
Marsh sandpiper (*Tringa stagnatilis*)	MI	Y	N	<12
Night parrot (*Pezoporus occidentalis*)	CR	N	N	<19
Oriental plover (*Charadrius veredus*)	MI	N	N	<13
Pectoral sandpiper (*Calidris melanotos*)	MI	Y	Y	<17
Peregrine falcon (*Falco peregrinus*)	OS	Y	Y	<17
Red-necked stint (*Calidris ruficollis*)	MI	Y	N	<12
Sharp-tailed sandpiper (*Calidris acuminata*)	MI	N	N	<12
Wood sandpiper (*Tringa glareola*)	MI	N	N	<12
Mammals				
Black-flanked rock wallaby (*Petrogale lateralis lateralis*)	EN	N	N	<24
Brush-tailed mulgara (*Dasycercus blythi*)	P4	Y	N	<13
Ghost bat (*Macroderma gigas*)	VU	Y	Y	<14
Greater bilby (*Macrotis lagotis*)	VU	Y	Y	<9
Long-tailed dunnart (*Antechinomys longicaudatus*)	P4	N	N	<47
Northern quoll (*Dasycercus hallucatus)*	EN	Y	Y	<23
Pilbara leaf-nosed bat (*Rhinonicteris aurantia*)	VU	Y	Y	<15
Western pebble-mound mouse *(Pseudomys chapmani*)	P4	N	N	<15
Reptiles				
Gane's blind snake (Pilbara) (*Anilios ganei*)	P1	N	N	<14
Pilbara olive python (*Liasis olivaceus barroni*)	VU	N	N	<13
Spotted ctenotus (northeast) (*Ctenotus uber johnstonei*)	P2	N	N	<15

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

A.5. Ecological community analysis table

Community name	Conservation status	Suitable habitat features? [Y/N]	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]
Ethel Gorge aquifer stygobiont community	CR	N	N/A	Y	<9	1	N/A

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

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 area proposed to be cleared contains habitat for conservation flora and fauna species.	May be at variance (changed from CPS 6604/2)	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 potential foraging habitat for conservation significant fauna.	At variance (changed from CPS 6604/2)	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: The area proposed to be cleared is unlikely to contain flora species listed under the BC Act (MWH, 2015; GIS Database).	Not likely to be at variance (as per CPS 6604/2)	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 area proposed to be cleared does not contain a Threatened Ecological Community (TEC) (GIS Database). The nearest TEC is Ethel Gorge aquifer stygobiont community, approximately 8.6 kilometers northwest of the application area (GIS Database). When seasonally inundated with water the Warrawanda Creek flows north towards Ophthalmia Dam, and the TEC (Holcim, 2020). The Ethel Gorge aquifer stygobiont community is reliant on the maintenance of the Ophthalmia aquifer from active creek recharge, infiltration from Ophthalmia Dam and shallow groundwater levels (DBCA, n.d.). Potential impacts to water quality and the TEC can be minimised by maintaining the restrictive clearing condition (Condition 4). This restricts the permit holder from clearing trees two meters in height or greater or *Eucalyptus camaldulensis* trees two metres in height or greater, and drip line vegetation of identified trees, allowing water quality to be maintained.	Not likely to be at variance (as per CPS 6604/2)	No
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 extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2001). The current extent of vegetation associations remaining (Government of Western Australia, 2019): • **Kumarina Hills 29:** 99.98% (~780,428 hectares) • **Kumarina Hils 216:** 99.52% (~252, 853 hectares) The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area (GIS Database).	Not at variance (as per CPS 6604/2)	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 (GIS Database), the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance (as per CPS 6604/2)	No

Assessment against the clearing principles	Variance level	Is further consideration required?
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: The application is situated within a major ephemeral watercourse, Warrawanda Creek (GIS Database), therefore the proposed clearing will likely impact on vegetation growing within the watercourse. Holcim has stated that no stripping along banks will be undertaken and a buffer of four metres will be maintained between the bank and extraction area (Holcim, 2020). Ecologia (2025) flora assessment determined that vegetation type EcAcCc, may potentially be groundwater dependent, specifically *Eucalyptus camaldulensis* and *Eucalyptus victrix* species which are present within the application area. *E. camaldulensis* and *E. victrix* are facultative phreatophytes, meaning these species will utilise groundwater when surface water is absent (Ecologia, 2025). Impacts to riparian vegetation can be minimised by the reinstatement of the restrictive clearing condition, which will prevent the clearing of native vegetation two metres in height or greater, and or *Eucalyptus camaldulensis* trees two metres in height or greater and drip line vegetation of identified trees.	At variance (as per CPS 6604/2)	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The River system is susceptible to erosion when vegetation cover is removed, the Wash plain system is moderately susceptible to erosion (Van Vreeswyk, 2004). The application area is located within Warrawanda Creek, which experiences seasonal flood flows in which sand is deposited in the creek beds (Holcim, 2020). The creek experiences erosion naturally, erosion was observed around trees in the river and along the riverbank, which was noted to likely be exacerbated by recent flooding events (MWH, 2015). The proposed clearing will likely cause some erosion; however, it is not likely to have an appreciable impact on land degradation. As erosion is not likely to be significantly above the natural movement of sediments through the river. Additionally, Holcim (2020) has stated a buffer of four metres will be maintained between the banks and the extraction area, which will likely decrease the risk of increased erosion. Potential impacts from erosion may be minimised through the continued implementation of the restrictive clearing condition.	May be at variance (as per CPS 6604/2)	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: There is potential for the proposed clearing to cause erosion and impact surface water quality. However, as the creek is seasonally flooded resulting in sand being deposited within the creek bed (Holcim, 2020), it is unlikely the proposed clearing will significantly decrease water quality. Potential impacts to water quality can be minimised through the continued implementation of the restrictive clearing condition to retain native vegetation two metres in height or greater, or *Eucalyptus camaldulensis* trees two metres in height or greater, and dripline vegetation around identified trees. Additionally, Holcim has stated that extraction will likely take place during the dry season (Holcim, 2020), which will decrease potential negative impacts to water quality.	Not likely to be at variance (as per CPS 6604/2)	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: The proposed clearing is unlikely to cause or increase the incidence or intensity of flooding within the application area. The application area sits within a major ephemeral river which experiences seasonal flooding, when flooded water flows towards Ophthalmia Dam (MWH, 2015). Additionally, River system soils are highly permeable and have low water-holding characteristics (Schoknecht, and Pathan,	Not likely to be at variance (as per CPS 6604/2)	No

Assessment against the clearing principles	Variance level	Is further consideration required?
2013; GIS Database), and are unlikely to contribute to waterlogging and subsequent flooding.		

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. Sources of information

D.1. GIS datasets

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

- 10 metre contours (DPIRD-073)
- 2 metre contours (DPIRD-072)
- Cadastre (Polygon) (LGATE-217)
- Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
- Clearing Regulations - Schedule One Areas (DWER-057)
- Consanguineous Wetlands Suites (DBCA-020)
- DBCA - Lands of Interest (DBCA-012)
- DBCA - Legislated Lands and Waters (DBCA-011)
- DBCA Fire History (DBCA-060)
- Directory of Important Wetlands in Australia - Western Australia (DBCA-045)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- Local Government Area (LGA) Boundaries (LGATE-233)
- Localities (LGATE-234)
- Medium Scale Topo Contour (Line) (LGATE-015)
- Mineral Field Boundaries (DMIRS-005)
- Native Title (Determination) (LGATE-066)
- Native Title (Fed Court) (LGATE-005)
- Native Title (NNTT) (LGATE-004)
- Native Vegetation Extent (DPIRD-005)

- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Rivers (DWER-036)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping - Best Available (DPIRD-027)
- Soil Landscape Mapping - Systems (DPIRD-064)
- Soil Landscape Mapping - Western Australia attributed by WA Soil Group (DPIRD-076)
- Townsites (LGATE-248)
- WA Now Aerial Imagery
- Waterways Conservation Act Management Areas (DWER-072)
- Wild Rivers (DWER-087)
- WRIMS - Groundwater Areas (DWER-085)

Restricted GIS Databases used:

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

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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 (now DMPE)
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DMPE)
DMP	Department of Mines and Petroleum, Western Australia (now DMPE)
DMPE	Department of Mines, Petroleum and Exploration
DoEE	Department of the Environment and Energy (now DCCEEW)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia

EP Act	*Environmental Protection Act 1986*, Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	*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:

Threatened species

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

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

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

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

CR **Critically endangered species**

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

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

EN **Endangered species**

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

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

VU **Vulnerable species**

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

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

Extinct species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

EX **Extinct species**

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

EW **Extinct in the wild species**

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

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

Specially protected species

SP **Specially protected species**

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

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

MI **Migratory species**

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

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

CD **Species of special conservation interest (conservation dependent fauna)**

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

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

OS **Other specially protected species**

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

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

Priority species

P **Priority species**

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

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

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

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

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

P1 **Priority One - Poorly-known species – known from few locations, none on conservation lands**

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, for example, agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation.

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

P2 **Priority Two - Poorly-known species – known from few locations, some on conservation lands**

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

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

P3 **Priority Three - Poorly-known species – known from several locations**

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

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

P4 **Priority Four - Rare, Near Threatened and other species in need of monitoring**

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

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as a conservation dependent specially protected species.

(c) Species that have been removed from the list of threatened species or lists of conservation dependent or other specially protected species, during the past five years for reasons other than taxonomy.

(d) Other species in need of monitoring.

Principles for clearing native vegetation:

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

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

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

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

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

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

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

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

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

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