



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

| | |
|------------------------|--|
| Permit number: | 10270/1 |
| Permit type: | Purpose Permit |
| Applicant name: | MLG Oz Limited |
| Application received: | 11 July 2023 |
| Application area: | 37.5 hectares |
| Purpose of clearing: | Mineral production and associated activities |
| Method of clearing: | Mechanical Removal |
| Tenure: | Mining Lease 36/657 |
| Location (LGA area/s): | Shire of Leonora |
| Colloquial name: | Jonah Bore Project |

1.2. Description of clearing activities

MLG Oz Limited proposes to clear up to 37.5 hectares of native vegetation within a boundary of approximately 70 hectares, for the purpose of mineral production and associated activities. The project is located approximately 25 kilometres west of Leinster, within the Shire of Leonora.

The application is to allow for mining operations and associated infrastructure to produce sand and gravel products. Within the application area there is a total of 17.9 ha of existing disturbed area including areas of rehabilitation (MLG, 2023).

1.3. Decision on application and key considerations

| | |
|----------------|------------------------------------|
| Decision: | Grant |
| Decision date: | 24 August 2023 |
| Decision area: | 37.5 hectares of native vegetation |

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 11 July 2023. DMIRS 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), the information of a flora and vegetation survey (Appendix D), the clearing principles set out in Schedule 5 of the EP Act (Appendix C), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 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;
- potential land degradation in the form of wind erosion.

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

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds; and
- commence construction no later than three months after undertaking clearing to reduce the risk of erosion.

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)

Relevant agreements (treaties) considered during the assessment include:

- 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, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Environmental management measures (outlined in Table 1 below) were submitted by the applicant in their purpose permit supporting document (MLG, 2023). 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.

| Environment Aspect | Commitment No. | Commitment |
|----------------------------------|----------------|--|
| Clearing and Topsoil Disturbance | Commitment 1 | Activities undertaken in a manner that minimizes vegetation clearing and ground disturbance. |
| | Commitment 2 | All clearing will be undertaken in accordance with a Native Vegetation Clearing Permit and the Clearing Procedure. |
| | Commitment 3 | The area of active mining open at any one time will be limited to 10 ha. |
| | Commitment 4 | Clearing areas will be clearing pegged and/or flagged to delineate in the field. |
| | Commitment 5 | The clearing request form will require sign off by the Project Manager prior to clearing occurring. |
| | Commitment 6 | The Clearing Procedure will be incorporated into the site induction. |
| | Commitment 7 | Disturbed areas will be rehabilitated progressively and in accordance with the Mine Closure Plan. |
| Surface Water | Commitment 8 | Surface mobile equipment will be maintained throughout the life of the Project to minimise the risk of spillage and/or seepage to the environment. |
| | Commitment 9 | Stormwater management controls, including v-drains, bunds and berms will be constructed as necessary to direct rainfall away from open excavations. |
| Flora and Fauna | Commitment 10 | All vehicles and equipment arriving on site will be in a clean condition, free of soil, weeds, seeds and vegetative matter. |
| | Commitment 11 | Adherence to Weed management and monitoring programs. |
| | Commitment 12 | Pre-clearance surveys for conservation significant flora and fauna will be undertaken one month prior to clearing. |
| | Commitment 13 | Should additional populations of priority flora or fauna be identified, MLG Oz will apply the following procedure: <ul style="list-style-type: none"> – Where possible, priority species will be avoided. Where priority species cannot be avoided, MLG Oz will liaise with DMIRS and provide a supplementary report on impacts to species prior to any clearing occurring. |
| | Commitment 14 | Any identified active Mallee fowl mound will be avoided and an exclusion zone of 50 m around the active mound will be maintained. |
| | Commitment 15 | Should additional populations of priority flora or fauna be identified, MLG Oz will apply the following procedure: <ul style="list-style-type: none"> – Where possible, priority species will be avoided. Where priority species cannot be avoided, MLG Oz will liaise with DMIRS and provide a supplementary report on impacts to species prior to any clearing occurring |
| | Commitment 16 | An understanding of % impacts to Priority species will be maintained. |
| | Commitment 17 | Records will be maintained and made available for internal and external reporting, auditing and improvement. |
| | Commitment 18 | An assessment of the disturbance footprint will be undertaken post clearing activities and as new aerial imagery, or survey data become available. |
| | Commitment 19 | Personnel will be required to adhere to speed limits and drive to road/weather conditions to minimise risks of fauna injuries or death due to traffic. |

Table 1. Environmental management commitments (MLG, 2023).

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix B) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimize, hygiene, and staged clearing management conditions.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 1 August 2023 by the Department of 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 (WCD2017/001) over the area under application (DPLH, 2023). This claim has been determined by the Federal Court on behalf of the claimant group (Tjiwarl Aboriginal Corporation). 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 two registered Aboriginal Cultural sites within the application area (DPLH, 2023). It is the proponent's responsibility to comply with the *Aboriginal Cultural Heritage Act 2021* and ensure that no Aboriginal Cultural sites 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). The dominant land-uses in this bioregion are grazing-native pastures (85.5%), Unallocated Crown Land and Crown Reserves (11.3%), mining of gold and nickel (1.8%), and conservation (1.4%) (MLG, 2023). |
| Ecological linkage | According to aerial imagery, the application area does not form part of 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 conservation area is Wanjarri Nature Reserve, located 53.5 kilometres northeast of the application area (GIS Database). |
| Vegetation description | <p>The vegetation of the application area is broadly mapped as the following Beard vegetation association: 107: Hummock grasslands, shrub steppe; mulga and <i>Eucalyptus kingsmillii</i> over hard spinifex (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area by GLS during September, 2021. Additionally, a desktop survey was conducted by Onshore Environmental during July 2020. The following vegetation types were recorded/identified within the application area (GLS, 2021; Onshore Environmental, 2020):</p> <ul style="list-style-type: none"> Sandplain spinifex hummock grassland/ Sand Sheet: hard spinifex hummock grasslands with generally very variable scattered tall shrubs and trees (<i>Acacia</i> spp. Proteaceous species and <i>Eucalyptus</i> spp.), often with heath low shrubs Sand Dune Shrubland/ Sand Dune: Very variable; dominated alternatively by spinifex, low myrtaceous heath or tall proteaceous shrubs, rarely by trees; heath component invariably prominent Disturbed areas/ Disturbed: Existing disturbed mine area <p>Vegetation mapping is available in Appendix D.</p> |
| Vegetation condition | <p>The vegetation survey (GLS, 2021) and aerial imagery indicate the vegetation within the proposed clearing area is in Good to Completely Degraded (Trudgen, 1991) condition.</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix C.</p> |
| Climate and landform | The application area is located within an arid zone with an annual rainfall average (Leinster Aero) of 248.4 millimetres (BoM, 2023). |
| Soil description | The soil within the application area is mapped as soil unit AB14 which is described as upland sand plains with occasional dunes and minor inclusions of associated plains units: chief soils are red earthy sands and red sands on the dunes (Northcote et al., 1960-68). |
| Land systems and erosion risk | The application area falls within the Bullimore land system which is described as gently undulating sandplain with occasional linear dunes and stripped surfaces supporting spinifex grasslands with mallees and acacia shrubs (DPIRD, 2023). Wind erosion may occur after fire; however, stabilisation is usually rapid following rain and consequent regeneration of vegetation (Pringle et al., 1994). |
| Waterbodies | The desktop assessment and aerial imagery indicated that no watercourses transect the area proposed to be cleared (GIS Database). |
| Hydrogeography | The application area is located within the Goldfields Groundwater Area which is legislated by the <i>R/IV Act 1914</i> . The groundwater salinity mapped within the application area is 500-1,000 milligrams per litre total dissolved solids which is described as marginal (GIS Database). |
| Flora | There are no records of Threatened or Priority flora within the application area (GIS Database). One Priority flora is likely to occur within the application area (see section A.2). |
| Ecological communities | The application area does not fall within any known or mapped Threatened Ecological Communities (TECs) or Priority Ecological Communities (PEC). The closest record of a TEC is Depot Springs located approximately 30.4 kilometres west of application area. The closest record of a PEC is Lake Miranda west calcrete groundwater assemblage types on Carey palaeodrainage on Yakabindie Station located 16.7 kilometres north of the application area (GLS, 2021; GIS Database). |
| Fauna | The striated grasswren was observed in the application area during the basic vertebrate fauna survey conducted by Western Wildlife (2023). |

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 | 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] |
|---|---------------------|----------------------------------|---------------------------------|---------------------------|---|---------------------------------|---|
| <i>Baeckea</i> sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963) | P3 | Y | Y | Y | 1.7 km | 8 | N |
| <i>Grevillea inconspicua</i> | P4 | N | N | N | 16.6 km | 61 | N |

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

(Western Australian Herbarium, 1998-; 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] |
|--|---------------------|----------------------------------|---------------------------------|---|---------------------------------|---|
| Arid bronze azure butterfly | CR | N | Y | 325.1 km | 22 | Y |
| Brush-tailed mulgara | P4 | Y | Y | 43.5 km | 1069 | Y |
| Central long-eared bat | P3 | Y | Y | 237.3 km | 31 | Y |
| Chuditch | VU | N | Y | 234.8 km | 5274 | Y |
| Fork-tailed swift | MI | Y | Y | 80.4 km | 410 | Y |
| Great desert skink | VU | Y | Y | 63.7 km | 191 | Y |
| Grey falcon | VU | N | N | 168 km | 190 | Y |
| Long-tailed dunnart | P4 | N | N | 46.7 km | 282 | Y |
| Malleefowl | VU | N | Y | 42.1 km | 29461 | Y |
| Moriarty's trapdoor spider | P2 | N | N | 50 km | 2 | Y |
| Night parrot | CR | N | N | 289.7 km | 18 | Y |
| Northern shield-backed trapdoor spider | P3 | N | N | 57.9 km | 8425 | Y |
| Princess parrot | P4 | Y | Y | 63.4 km | 140 | Y |
| Peregrine falcon | OS | N | Y | 34.4 km | 1756 | Y |
| Striated grasswren | P4 | Y | Y | 0 km | 70 | Y |

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

(Western Wildlife, 2023; GIS Database)

Appendix B. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|------------------------------|------------------------------------|
| Environmental value: biological values | | |
| <p>Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>There were no PECs present within the application area (GLS, 2021; GIS Database). There were no Priority flora recorded within the application area (GLS, 2021). Priority 3 species <i>Baeckea</i> sp. Sandstone was recorded close to the application area which contains suitable habitat for this species (Western Australian Herbarium, 1998-; GIS Database). However, given the disturbance that has already occurred within the application area and the small scale of the proposed clearing, it is unlikely that impacts to this species will be significant. No introduced weeds were recorded within the application area (GLS, 2021). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential</p> | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|------------------------------|------------------------------------|
| impacts to the biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition. | | |
| <p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The striated grasswren (P4) was recorded within the application area and the brush-tailed mulgara (P4) was considered likely to occur within the application area (Western Wildlife, 2023). Other conservation significant fauna species were considered possible of potential to occur in the application area (see section A.3). Although these species can occur within the area proposed to be cleared, it is unlikely the habitat found within the application area represents significant habitat for any of the species listed in section A.3. The habitats in the study area are common and widespread in the subregion and are unlikely to function as ecological linkages or refugia (Western Wildlife, 2023). Given that smooth barked eucalypts are present in the application area, a targeted survey for the arid bronze azure butterfly (ABAB) was conducted. This survey did not find any of the host ant species for the ABAB, therefore it was concluded that this species is unlikely to occur in the application area (Western Wildlife, 2023).</p> | Not likely to be at variance | No |
| <p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There were no records of Threatened flora species within the application area (GLS, 2021; GIS Database).</p> | Not likely to be at variance | No |
| <p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The application area does not fall within any known or mapped TECs (GIS Database). None of the vegetation types recorded within the application area are representative of a known TEC (GLS, 2021).</p> | Not likely to be at variance | No |
| Environmental value: significant remnant vegetation and conservation areas | | |
| <p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The application area falls within the 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 vegetation association 107 (GIS Database). This vegetation association has not been extensively cleared as over 99 per cent of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019).</p> | Not at variance | No |
| <p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area (53.5 kilometres), the proposed clearing is not likely to have a significant impact on the environmental values of any conservation areas (GIS Database).</p> | Not likely to be at variance | No |
| Environmental value: land and water resources | | |
| <p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact vegetation growing in, or in association with, an environment associated with a watercourse or wetland (GIS Database).</p> | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|------------------------------|------------------------------------|
| <p><u>Principle (g):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."</p> <p><u>Assessment:</u></p> <p>The mapped soils are susceptible to wind erosion after fires occur. Given that spinifex hummock grasslands are highly flammable (Pringle et al., 1994), the application area is susceptible to wind erosion. Impacts from the proposed clearing can be minimised by a staged clearing condition to utilise cleared areas within three months of conducting clearing.</p> | May be at variance | No |
| <p><u>Principle (i):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."</p> <p><u>Assessment:</u></p> <p>Given no water courses, wetlands, or Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to cause deterioration in the quality of surface or underground water (GIS Database).</p> | Not likely to be at variance | No |
| <p><u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</p> <p><u>Assessment:</u></p> <p>Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to cause, or exacerbate, the incidence or intensity of flooding (GIS Database).</p> | Not likely to be at variance | No |

Appendix C. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from 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. Biological survey maps



Figure 1. Vegetation types within the application area (Onshore Environmental, 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)

E.2. References

- Bureau of Meteorology (BoM) (2023) Bureau of Meteorology Website – Climate Data Online, Leinster Aero. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 21 August 2023).
- Department of Environment Regulation (DER) (2014) *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf
- Department of Planning, Lands and Heritage (DPLH) (2023) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 21 August 2023).
- Department of Primary Industries and Regional Development (DPIRD) (2023) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://dpiird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f> (Accessed 21 August 2023).
- Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.pdf
- Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf
- Environmental Protection Authority (EPA) (2020) Technical Guidance – Terrestrial Fauna Surveys. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf
- GLS (2021) Flora and Vegetation Survey Jonah Bore Project. Report prepared for MLG Oz Limited by Goldfields Landcare Services, November 2021.
- 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>
- MLG (2023) Purpose Permit Supporting Document Jonah Bore Project M36/657. Report prepared for the Department of Mines, Industry Regulation and Safety by MLG Oz Limited, July 2023.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) Atlas of Australian Soils, Sheets 1 to 10, with explanatory data. CSIRO and Melbourne University Press: Melbourne.
- Onshore Environmental (2020) Desktop Flora and Vegetation Survey Jonah Bore Project. Report prepared for MLG Oz Pty Ltd by Onshore Environmental Consultants Pty Ltd, July 2020.
- Pringle, H J, Gilligan, S A, and van Vreeswyk, A M. (1994), An inventory and condition survey of rangelands in the north-eastern Goldfields, Western Australia. Department of Primary Industries and Regional Development, Western Australia, Perth. Technical Bulletin 87.
- Trudgen, M.E. (1991) Vegetation condition scale in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 21 August 2023).
- Western Wildlife (2023) Jonah Bore Project: Basic Vertebrate Fauna Survey and Targeted Arid Bronze Azure Butterfly Survey 2021. Report prepared for MLG Oz Limited by Western Wildlife, June 2023.

4. Glossary

Acronyms:

| | |
|-----------------|--|
| BC Act | <i>Biodiversity Conservation Act 2016</i> , Western Australia |
| BoM | Bureau of Meteorology, Australian Government |
| DAA | Department of Aboriginal Affairs, Western Australia (now DPLH) |
| DAFWA | Department of Agriculture and Food, Western Australia (now DPIRD) |
| DCCEEW | Department of Climate Change, Energy, the Environment and Water, Australian Government |
| DBCA | Department of Biodiversity, Conservation and Attractions, Western Australia |
| DER | Department of Environment Regulation, Western Australia (now DWER) |
| DMIRS | Department of Mines, Industry Regulation and Safety, Western Australia |
| DMP | Department of Mines and Petroleum, Western Australia (now DMIRS) |
| DoEE | Department of the Environment and Energy (now DCCEEW) |
| DoW | Department of Water, Western Australia (now DWER) |
| DPaW | Department of Parks and Wildlife, Western Australia (now DBCA) |
| DPIRD | Department of Primary Industries and Regional Development, Western Australia |
| DPLH | Department of Planning, Lands and Heritage, Western Australia |
| DRF | Declared Rare Flora (now known as Threatened Flora) |
| DWER | Department of Water and Environmental Regulation, Western Australia |
| EP Act | <i>Environmental Protection Act 1986</i> , Western Australia |
| EPA | Environmental Protection Authority, Western Australia |
| EPBC Act | <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act) |
| GIS | Geographical Information System |

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

Definitions:

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

T Threatened species:

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

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

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

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

CR Critically endangered species

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

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

EN Endangered species

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

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

VU Vulnerable species

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

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

Extinct Species:

EX Extinct species

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

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

EW Extinct in the wild species

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

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

Specially protected species:

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

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

MI

Migratory species

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

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

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

CD

Species of special conservation interest (conservation dependent fauna)

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

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

OS

Other specially protected species

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

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

P

Priority species:

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

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

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

P1

Priority One - Poorly-known species

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

P2

Priority Two - Poorly-known species

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

P3

Priority Three - Poorly-known species

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

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

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

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

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

Principles for clearing native vegetation:

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