



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	8207/2
Permit type:	Purpose Permit
Applicant name:	AWE Perth Pty Ltd
Application received:	2 February 2022
Application area:	20 hectares
Purpose of clearing:	Maintenance of Petroleum Production Infrastructure, Rehabilitation and Associated Activities Mechanical Removal
Method of clearing:	Mechanical Clearing
Tenure:	Production Licences L 4 and L 5
Location (LGA area/s):	Shire of Carnamah
Colloquial name:	Woodada Project

1.2. Description of clearing activities

AWE Perth Pty Ltd proposes to clear up to 20 hectares of native vegetation within a boundary of approximately 3,769.035 hectares, for the purpose of maintenance of petroleum production infrastructure, rehabilitation and associated activities.

The amendment application is to allow for maintenance of petroleum production infrastructure, and also for the decommissioning and rehabilitation of infrastructure, pipelines and roads.

Clearing permit CPS 8207/1 was granted by the Department of Mines, Industry Regulation and Safety (DMIRS) on 6 December 2018 and was valid from 29 December 2018 to 30 September 2033. The permit authorised the clearing of up to 15 hectares of native vegetation within a boundary of approximately 3,698 hectares, for the purpose of maintenance of petroleum production and associated activities.

On 2 February 2022, the Permit Holder applied to amend CPS 8207/1 to increase the permit boundary by 71.035 hectares, and to increase the amount of approved clearing by 5 hectares.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	5 August 2022
Decision area:	20 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51KA(1) of the *Environmental Protection Act 1986* (EP Act) and was received by DMIRS on 2 February 2022. DMIRS advertised the application for public comment for a period of 21 days, and no submissions were received.

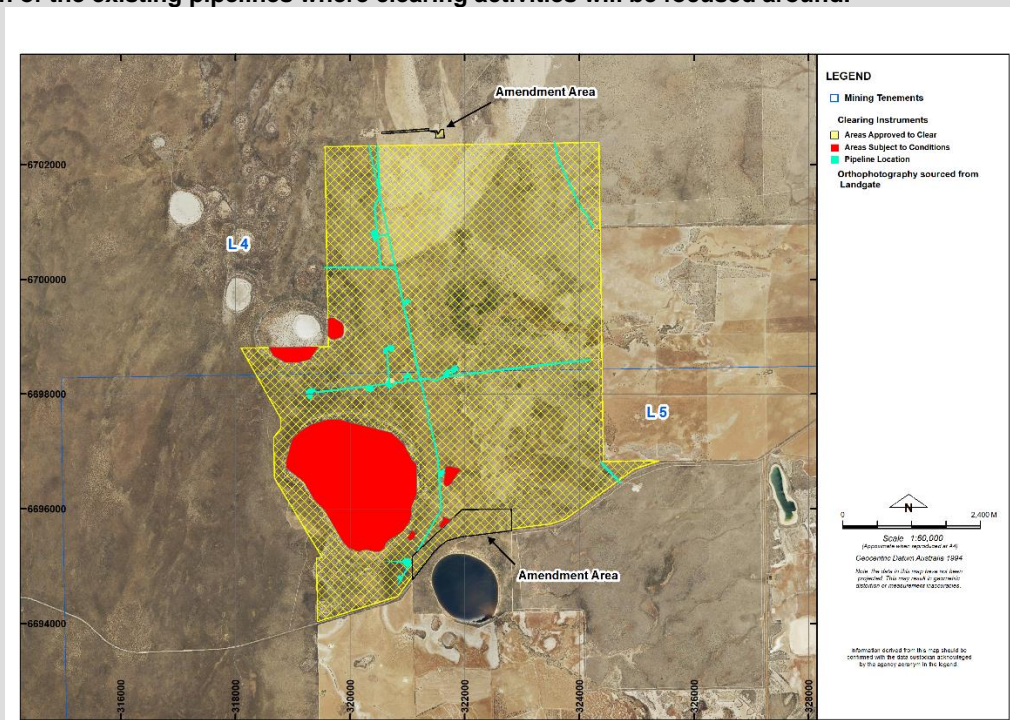
In making this decision, the Delegated Officer had regard for the site characteristics, relevant datasets, supporting information provided by the applicant, the clearing principles set out in Schedule 5 of the EP Act, and any other matters considered relevant to the assessment. The assessment identified that the proposed clearing will have negligible impact on habitat for flora, fauna and ecological communities, conservation areas and wetlands.

After consideration of the available information, the Delegated Officer determined that the proposed clearing is not likely to lead to an unacceptable risk to the environment. The Delegated Officer decided to grant the amended clearing permit with the existing permit conditions.

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 area indicates the area within which conditional authorised clearing can occur under the granted clearing permit and the red areas indicate areas subject to Conditions. The green areas are the location of the existing pipelines where clearing activities will be focused around.



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)*
- *The Petroleum and Geothermal Energy Resources Act 1967 (WA)*
- *The Petroleum Pipelines Act 1969 (WA)*

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation (DER, December 2013)*
- *Procedure: Native vegetation clearing permits (DWER, October 2019)*

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

While no evidence of avoidance or mitigation measures was provided to support this application, it is noted that the proposed clearing activities will be restricted to where current infrastructure is located to allow for pipeline maintenance and rehabilitation activities.

3.2. Assessment of impacts on environmental values

The clearing permit application area is located within the Lesueur Sandplains (GS3) subregion of the Geraldton Sandplain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Lesueur Sandplains subregion contains a high proportion of endemic plants with over 250 plants endemic to the subregion (CALM, 2002). The area is recognised Australia-wide and internationally as having particularly high floristic diversity, with an area of 10 square metres supporting up to 80 different species.

Twenty-seven weed species have previously been recorded within the application area (ARC Energy, 2006). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This in turn can lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. The amendment area is also located within a *Phytophthora cinnamomi* dieback risk area. The disease has previously been isolated from some areas within the Gas Field, however there are areas displaying disease symptoms indicative of *Phytophthora cinnamomi* infestation (Glevan Consulting, 2004). It is recommended that the weed and dieback condition be maintained on the permit.

There is the potential for the Threatened flora species *Eremophila glabra* subsp. *chlorella* (Gand.) Chinnock to occur within the amendment area (GIS Database). It is thought this taxon is more likely to be present in areas of disturbance and soils with high moisture content such as the Woodada-19 and Woodada-11 well sites (AWE, 2018). Prior to clearing in these areas (or other high moisture content areas), the proponent proposes to inspect the local population to be impacted and provide a determination of the local impact to any population. Where impact cannot be avoided, a Permit to Take Threatened Flora pursuant to Section 40 of the *Biodiversity Conservation Act 2016* would be applied for. It is recommended that the flora management condition requiring a targeted flora survey for *Eremophila glabra* subsp. *chlorella* (Gand.) Chinnock be maintained on the permit.

There are five species of Priority flora that have historical records within the broader clearing permit application area, these being:

- *Korthalsella arthroclada* – Priority 1;
- *Acacia vittata* – Priority 2;
- *Acacia telmica* – Priority 3;
- *Comesperma rhadinocarpum* – Priority 3;
- *Hopkinsia anoectocolea* – Priority 3;
- *Verticordia densiflora* var. *roseostella* – Priority 3; and
- *Desmodcladus elongatus* B.G.Briggs & L.A.S.Johnson – Priority 4.

It is considered unlikely that the proposed amendment would have a significant impact on these species due to the proposed clearing activities being focused around the currently existing pipeline infrastructure in areas that have already been cleared.

There no watercourses or wetlands within the amendment area, however there are several lakes within the broader application area including Lake Logue, which is listed in the Directory of Important Wetlands (GIS Database). Lake Logue is the largest feature of the Lake Logue-Indoon System, which includes a number of shallow seasonal wetlands and intermittent creeks and drainage lines. Lake Logue is located within the south-west corner of the broader application area, adjacent to the southern amendment area (GIS Database). Lake Logue is recognised as a significant bird habitat (in particular for Carnaby's Black Cockatoo) as it provides breeding habitat when water is present (ARC Energy, 2006; AWE, 2009). As the vegetation to be cleared is for rehabilitation and to maintain cleared areas around established petroleum assets (well sites, flowlines, access tracks and plant), it is unlikely that the fauna habitats that are to be impacted within the application area are considered as necessary for the on-going maintenance of any significant fauna habitat. It is likely that equal or higher quality vegetation and fauna habitats would exist throughout the surrounding area based on aerial imagery.

According to available datasets, there are two soil types (CA27 and UB97) within the amendment area (GIS Database). These soil types are described as:

CA27 - Sandy plains with occasional pockets of sand dunes, a few small swamps, and stream courses with the chief soils being leached sands, often with a sandy clay substrate between 3 and 6 foot in depth; and

UB97 - Very gently undulating plains with chief soils being neutral and alkaline yellow mottled soils overlying siliceous pans at depths (Bureau of Rural Sciences, 1992).

Schoknecht (2002) describes these soils as being yellow/brown deep sandy duplexes or yellow/brown shallow sandy duplexes. These have a high risk of wind erodibility and are prone to wind erosion in exposed situations if left bare of surface cover (Schoknecht, 2002). However, due to the proposed clearing being for rehabilitation and maintenance activities, it is considered unlikely that the proposed clearing will result in further degradation of the land.

The southern amendment area is located within a Register of National Estate for natural values, Environmentally Sensitive Area (ESA). It is considered unlikely that the proposed clearing will impact on the values of this ESA due to the proposed clearing being for rehabilitation and maintenance of petroleum production activities.

The amendment application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*. Environmental information has been reviewed, and the assessment of the proposed clearing against the clearing principles remains consistent with the assessment contained in decision report CPS 8207/1.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 15 February 2022 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC2019/008) over the area under application (DPLH, 2022). This claim has been determined by the Federal Court on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2022). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

- An Environment Plan approved under the *Petroleum and Geothermal Energy Resources Act 1967* and the *Petroleum Pipelines Act 1969*.

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

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The project is located approximately 9 kilometres west of Eneabba, within the Shire of Carnamah. The area proposed to be cleared is part of an isolated patch of native vegetation in the intensive land use zone of Western Australia.
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages.
Conservation areas	The application area occurs within the Lake Logue Nature Reserve (GIS Database).
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation association: 378: Shrublands; scrub-heath with scattered <i>Banksia</i> spp, <i>Eucalyptus todtiana</i> & <i>Xylomelum angustifolium</i> on deep sandy flats in the Geraldton Sandplain Region (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area by Mattiske Consulting Pty Ltd during 2004. The following vegetation associations were recorded within the application area (AWE, 2009):</p> <ol style="list-style-type: none"> 1. Open Woodland of <i>Eucalyptus erythrocorys</i> over mixed shrubs including <i>Acacia spathulifolia</i>, <i>Melaleuca systema</i> and <i>Desmocladius asper</i> on brown sand with limestone outcropping; 2. Heath dominated by <i>Banksia attenuata</i> and <i>Melaleuca leuropoma</i> with emergent <i>Banksia prionotes</i>, <i>Banksia menziesii</i> and <i>Eucalyptus todtiana</i> on yellow sand; 3. Heath of mixed myrtaceous species and sedges including <i>Ecdeiocolea monostachya</i> and <i>Mesomelaena pseudostygia</i> on grey sand; 4. Open Woodland of <i>Banksia prionotes</i> over <i>Scholtzia laxiflora</i>, <i>Melaleuca leuropoma</i> and <i>Banksia leptophylla</i> on yellow sand; and 5. Low forest of <i>Eucalyptus camaldulensis</i>, <i>Casuarina obesa</i> and <i>Melaleuca preissiana</i> over <i>Hakea preissii</i> over predominately introduced herbs (AWE, 2009).
Vegetation condition	<p>The vegetation survey by Mattiske Consulting Pty Ltd (2004) indicate the vegetation within the proposed clearing area is in Pristine to Degraded (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix CC.</p>
Climate and landform	The application area is mapped within elevations of 40-50 metres AHD. The annual average rainfall (Eneabba) is 489.6 millimetres (BoM, 2022).
Soil description and Land degradation risk	<p>According to available datasets, there are two soil types (CA27 and UB97) within the application area (GIS Database). These soil types are described as:</p> <ul style="list-style-type: none"> • CA27 - Sandy plains with occasional pockets of sand dunes, a few small swamps, and stream courses with the chief soils being leached sands, often with a sandy clay substrate between 3 and 6 foot in depth; and • UB97 - Very gently undulating plains with chief soils being neutral and alkaline yellow mottled soils overlying siliceous pans at depths. <p>Schoknecht (2002) describes these soils as being yellow/brown deep sandy duplexes or yellow/brown shallow sandy duplexes. These have a high risk of wind erodibility and are prone to wind erosion in exposed situations if left bare of surface cover (Schoknecht, 2002).</p>
Waterbodies	There are several lakes within the application area including Lake Logue, which is listed in the Directory of Important Wetlands.
Hydrogeography	According to available databases, the application area is not located within a Public Drinking Water Source Area. The groundwater salinity within the amendment area is approximately 1,000 - 3,000 milligrams/Litre Total Dissolved Solids
Flora	There is the potential for the Threatened flora species <i>Eremophila glabra</i> subsp. <i>chlorella</i> (Gand.) Chinnock to occur within the amendment area.
Ecological communities	There are no TECs or PECs recorded within the amendment area. The nearest TEC is located approximately 10 kilometres south-east of the application area (Ferricrete floristic community).
Fauna	There are records of 10 fauna species of conservation significance within the local area. Lake Logue is recognised as a significant bird habitat as it provides breeding habitat when water is present.

A.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix D.1), 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)	Are surveys adequate to identify? [Y, N, N/A]
<i>Eremophila glabra</i> subsp. <i>chlorella</i> (Gand.) Chinnock	Threatened	Y	Y	Y	Within application area	Y
<i>Korthalsella arthroclada</i>	Priority 1	Y	Y	Y	Within application area	Y
<i>Acacia vittata</i>	Priority 2	Y	Y	Y	Within application area	Y
<i>Acacia telmica</i>	Priority 3	Y	Y	Y	Within application area	Y
<i>Comesperma rhadinocarpum</i>	Priority 3	Y	Y	Y	Within application area	Y
<i>Hopkinsia anoetocolea</i>	Priority 3	Y	Y	Y	Within application area	Y
<i>Verticordia densiflora</i> var. <i>roseostella</i>	Priority 3	Y	Y	Y	Within application area	Y
<i>Desmocladius elongatus</i> B.G.Briggs & L.A.S.Johnson	Priority 4	Y	Y	Y	Within application area	Y

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains records of five species of Priority flora. There are no known TECs or PECs present within the application area.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2, above.</i>
<p><u>Principle (b):</u> "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."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains foraging habitat for conservation significant fauna. Lake Logue is recognised as significant bird habitat as it provides breeding habitat when water is present.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2, above.</i>
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p>	At variance	Yes <i>Refer to Section 3.2, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
The area proposed to be cleared contains habitat for flora species listed under the BC Act.		
<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 proposed clearing area does not contain species representative of a TEC listed under the BC Act or EPBC Act.</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 national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level. The extent of the mapped vegetation type is over 64% at both a state and bioregional level. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</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>The application area occurs within the Lake Logue Nature Reserve.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2, above.</i>
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>There are several lakes within the application area including Lake Logue, which is listed in the Directory of Important Wetlands. Lake Logue is the largest feature of the Lake Logue-Indoon System, which includes a number of shallow seasonal wetlands and intermittent creeks and drainage lines. Lake Logue has a surface area of 425 hectares and fills only occasionally, following heavy rain in the catchment.</p>	At variance	Yes <i>Refer to Section 3.2, above.</i>
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>There are some areas of the application area which have an inherently high risk of erosion. Leaving large areas of clearing open also increases the risk of land degradation.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2, above.</i>
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database).</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>The proposed clearing is unlikely to result in significant changes to surface water quality.</p> <p>The groundwater salinity within the application area is approximately 1,000 - 3,000 milligrams/Litre Total Dissolved Solids (TDS). Given the size of the area to be cleared (20 hectares) compared to the size of the Perth Groundwater Province (4,660,027 hectares), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.</p>		
<p>Principle (j): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>There are no permanent watercourses or waterbodies within the application area (GIS Database).</p> <p>Various small drainage channels exist which flow into Stockyard Gully Cave and Lake Logue and following exceptional rainfall these drainage flows may cause extensive flooding. However the permeable nature of the soils within the application area tends to allow rainwater to percolate vertically to the water table rather than running laterally off the surface (ARC Energy, 2006).</p>	Not likely to be at variance	No

Appendix C. Vegetation condition rating scale

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

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

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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

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

Appendix D. Sources of information

D.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Cadastre Address (LGATE-002)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Hydrography, Lakes
- Hydrography, linear
- IBRA Vegetation Statistics
- Pre-European Vegetation Statistics
- Regional Parks (DBCA-026)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

D.2. References

- ARC Energy (2006) Woodada Gas Field Environmental Management Plan - Production Licence L4/L5. Unpublished Report dated 19 May 2006.
- AWE (2009) Woodada Gas Field Clearing Permit Application. Supporting Documentation. Australian Worldwide Exploration Limited, Western Australia.
- AWE (2018) Woodada Gas Field Clearing Permit Application. Supporting Documentation. AWE Perth Pty Ltd. September 2018.
- BoM (2022) Bureau of Meteorology Website – Climate Data Online, Eneabba. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 18 July 2022).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- Bureau of Rural Sciences (1992) Interpretations of the Digital Atlas of Australian Soils Mapping Units (ARC/INFO format). <http://www.daff.gov.au/brs/data-tools/daas-download> (website no longer accessible) (Accessed 3 December 2018).
- Department of Planning, Lands and Heritage (DPLH) (2022) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 11 July 2022).
- Schoknecht N. (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3.

4. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016, Western Australia</i>
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	<i>Environmental Protection Act 1986, Western Australia</i>
EPA	Environmental Protection Authority, Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)</i>
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914, Western Australia</i>

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.