



# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

Permit number:	10172/1
Permit type:	Purpose Permit
Applicant name:	BASF Australia Ltd
Application received:	28 April 2023
Application area:	2 hectares
Purpose of clearing:	Maintenance of firebreaks
Method of clearing:	Slashing vegetation, walking over vegetation, and driving an off-road vehicle over vegetation
Tenure:	General Purpose Lease 70/207 Mining Lease 70/1158
Location (LGA area/s):	Shire of Manjimup
Colloquial name:	40 Acre Swamp Project

### 1.2. Description of clearing activities

BASF Australia Ltd proposes to clear up to 2 hectares of native vegetation within a boundary of approximately 2.96 hectares, for the purpose of maintenance of existing firebreaks. The project is located approximately 50 kilometres southeast of the town of Manjimup, within the Shire of Manjimup.

The application is to allow for the annual maintenance of existing firebreaks. The application area has been cleared for firebreaks under previously granted permits (CPS 5211/1 and 7708/1), which have now expired. The current application proposes to maintain these firebreaks.

### 1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	6 July 2023
Decision area:	2 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 28 April 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.1), relevant datasets (Appendix D), the clearing principles set out in Schedule 5 of the EP Act (Appendix B), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3). The

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; and
- potential impacts to conservation significant flora.

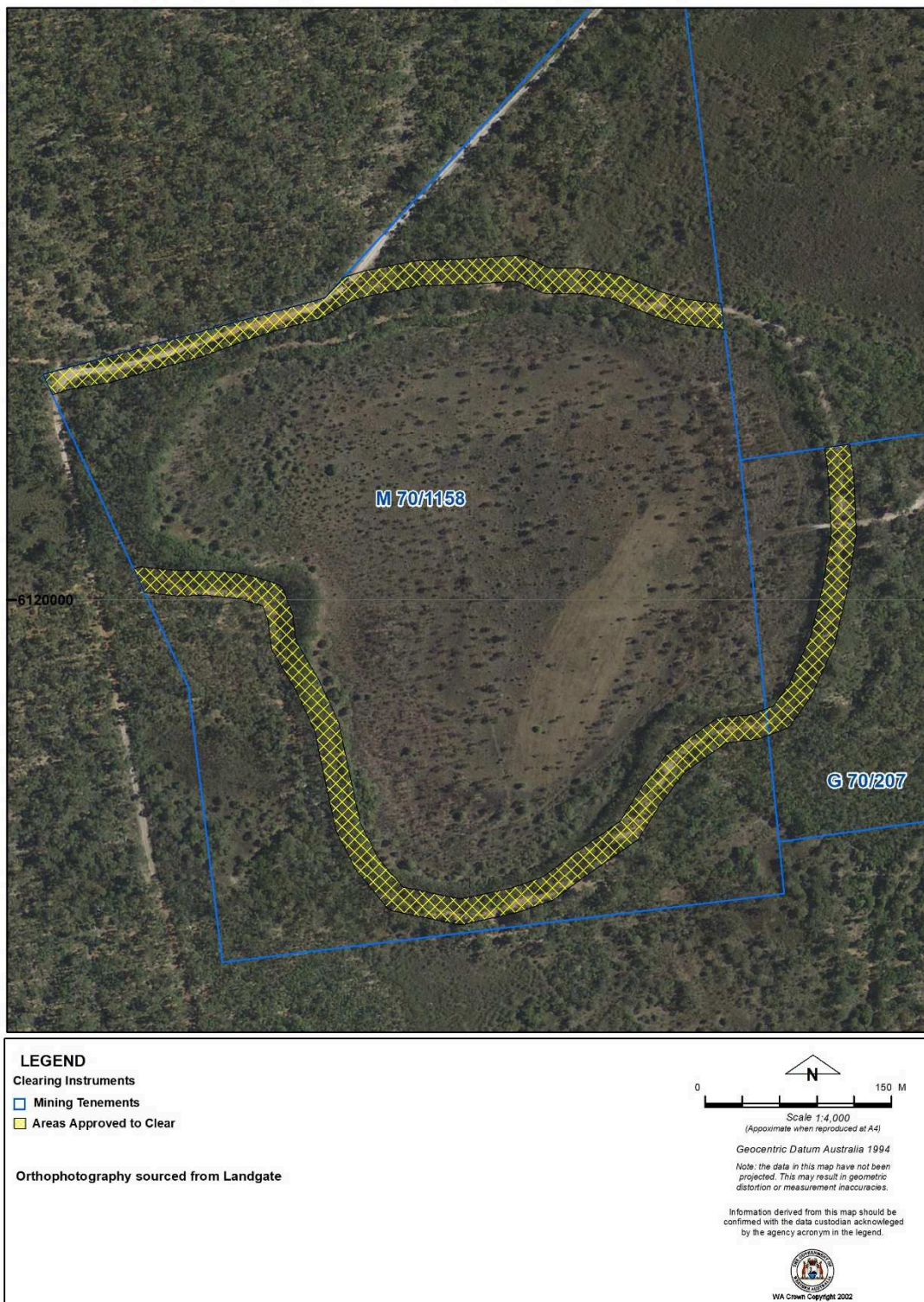
After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have adverse impacts on environmental values and the impacts of clearing can be minimised and managed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

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback; and
- method of clearing consisting of slashing the vegetation to minimise the overall potential impacts of the clearing.

## 1.5. Site map

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



## 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)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

### 3. Detailed assessment of application

#### 3.1. Avoidance and mitigation measures

The applicant has advised the following avoidance measure to support this clearing permit application (BASF Australia Ltd, 2023):

- No ground disturbance proposed, vegetation will be slashed and not removed from the ground; and
- Existing firebreaks surrounding the 40-acre swamp project. Permit will allow for annual maintenance activities over next 5 years.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

#### 3.2. Assessment of impacts on environmental values

The proponent has reported that 0.81 hectares was cleared in their last annual clearing report for the period of 1 July 2021 to 30 June 2022, pursuant to the clearing permit CPS 7708/1 previously in force prior to the current clearing permit application (CPS 10144/1).

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A.1) 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 present a risk to biological values. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

##### 3.2.1. Biological values - Clearing Principles (a) and (c)

###### Assessment

A flora and vegetation survey was conducted over an area of approximately 52 hectares by Rapallo Environmental in March 2014, which included the current clearing permit application area and surrounding areas (Rapallo, 2014). A total of 61 flora species, from 25 families were recorded within the survey area (Rapallo, 2014).

No Threatened or Priority flora species were recorded during the on-site survey (Rapallo, 2014). However, as the survey was conducted during autumn, the majority of the conservation significant species were not flowering, and it was considered that some species, notably orchids and herbs may occur within the survey area (Rapallo, 2014). A follow up flora survey was conducted by Rapallo during September and October 2015, specifically targeting flora of conservation significance considered likely to occur within the area (Rapallo, 2016). The targeted flora survey primarily covered the swamp area, and only covered a small part of the current application area, which surrounds the swamp. No flora species of conservation significance were recorded during the targeted flora survey of the swamp area (Rapallo, 2016).

The following conservation significant flora species, mainly represented by orchids and herbs, were identified in close proximity (within one to two kilometres) of the application area (GIS Database):

- *Caladenia christineae* Hopper & A.P.Br. – Threatened
- *Caladenia harringtoniae* Hopper & A.P.Br. – Threatened
- *Diuris drummondii* Lindl. – Threatened
- *Caladenia startiorum* Hopper & A.P.Br. – Priority 2
- *Schoenus benthamii* F.Muell. – Priority 3.

The aforementioned species are usually recorded on the margins of winter-wet flats, swamps or lakes (Western Australian Herbarium, 1998-). Hence, given their habitat and soil types, they may be present within the application area. However, the applicant has advised that the area will be cleared via slashing, which will cause minimal to no ground disturbance. Therefore, as these species are ground dwellings and perennials, the method of clearing may damage the top of the plants but are unlikely to impact the rosettes (if present). This method of clearing is unlikely to cause permanent loss of these individuals or significantly impact these species as rootstock is likely to stay, as the plant stem is cut rather than removed from the topsoil.

The majority of the application has been previously cleared for firebreaks; hence, the proposed clearing activities will occur on the remaining vegetation in the margins of the firebreak. Therefore, the clearing is unlikely to impose significant environmental impacts due to its extent, method and restricting the clearing of large trees.

#### Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on potential habitats for conservation significant flora species can be managed with conditions to be environmentally acceptable. The proposed clearing has the potential to exacerbate the spread of weeds and dieback.

#### Conditions

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback;
- method of clearing consisting of slashing the vegetation, and restricting the clearing of large trees.

### **3.3. Relevant planning instruments and other matters**

The clearing permit application was advertised on 2 June 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 are four native title claims (WC1996/041, WC1996/109, WC1996/071 and WC1996/058) over the area under application (DPLH, 2023). These claims have been determined by the Federal Court on behalf of the claimant groups. 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, 2023). 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 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 50 kilometres southeast of Manjimup, within the Shire of Manjimup in the intensive land use zone (GIS Database). The application area is located adjacent to a seasonally inundated sumpland associated with Cowerup Swamp.
Ecological linkage & Conservation areas	The northwest section of the application area is adjacent to the Tone-Perup Nature Reserve (GIS Database). However, the application area is not considered an ecological linkage due its shape and size (GIS Database), refer to site map on section <b>Error! Reference source not found.</b>
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation associations (GIS Database):</p> <ul style="list-style-type: none"> <li>• 3: Medium forest; jarrah-marri;</li> <li>• 27: Low woodland; paperbark (<i>Melaleuca</i> sp.); and</li> <li>• 126: Bare areas; freshwater lakes.</li> </ul> <p>A flora and vegetation survey was conducted over the application area by Rapallo (2014). Based on vegetation mapping undertaken by Rapallo (2014), the following three vegetation communities occur within the application area:</p> <p><b>Marri-Zamia medium woodland:</b> An upper storey of tall (12 to 25 metres) marri trees (<i>Corymbia calophylla</i>), with different combinations of jarrah (<i>Eucalyptus marginata</i>), and blackbutt (<i>Eucalyptus patens</i>). <i>Melaleuca preissiana</i> and flooded gum (<i>Eucalyptus rudis</i>) may also be present in the lower tree layer. Shrub layer defined by the presence of zamia (<i>Macrozamia riedlei</i>) cycads and <i>Leucopogon capitellatus</i> shrubs, with different combinations of <i>Xanthorrhoea preissii</i> grass trees, <i>Taxandria juniperina</i> and <i>Billardiera heterophylla</i> shrubs, and bracken fern (<i>Pteridium esculentum</i>). <i>Persoonia longifolia</i> and <i>Callitris pyramidalis</i> also occur in the lower tree or tall shrub layer.</p> <p><b>Melaleuca-Rudis low woodland:</b> Characterised by melaleucas, with tree forms of <i>Melaleuca preissiana</i> and <i>Melaleuca raphiophylla</i> forming the upper storey, growing to a height of 8 metres. Flooded gum (<i>Eucalyptus rudis</i>) forms part of the upper storey in most areas, occasionally rising as 15 metres tall emergent trees above the melaleuca layer. Typical jarrah forest trees are absent. The mid-storey comprises a diverse combination of shrubs, between 1 and 4 metres tall. Typical jarrah forest species such as zamias and grass trees are absent. Includes scattered, dense, impenetrable, melaleuca thickets, which lack a tree over-storey, and are made up of either <i>Melaleuca viminea</i> subsp. <i>viminea</i>, or shrub forms of <i>Melaleuca raphiophylla</i> and <i>Melaleuca preissiana</i>, occasionally with <i>Kunzea ericifolia</i> subsp. <i>ericifolia</i> along the edges.</p> <p><b>Melaleuca-Rudis shrubland on lake bed:</b> Covers the lake bed of the 40 Acre Swamp. Characterised by the peat soil on which it grows. Melaleucas and flooded gum are present as shrubs or low trees, with the density and height of shrubs decreasing from the edges towards the centre of the swamp, while the amount of sedges increases.</p>
Vegetation condition	<p>The vegetation survey by Rapallo in 2014, indicate the vegetation within the proposed clearing area was in good to excellent condition (Trudgen, 1991), described as:</p> <ul style="list-style-type: none"> <li>• Excellent - Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.</li> </ul> <p>to</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> <p>However, since the survey, the area has continuously been cleared for firebreaks; therefore, the regrowth vegetation within the current application area may no longer be considered in excellent condition as the majority of the application area has been disturbed by the clearing activities.</p>
Climate and landform	The application area is mapped within elevations of 180 meters AHD (GIS Database). The climate of the region is semi-desert tropical, and the annual rainfall average of approximately 985 millimetres (BoM, 2023).
Soil description & Land degradation risk	<p>The soil is mapped as part of the following subsystems (DPIRD, 2023):</p> <ul style="list-style-type: none"> <li>• <b>Unicup 1 subsystem (254Uc_1):</b> Flat to gently undulating plains. Pale deep sand is dominant with semi wet soil, pale shallow sand and duplex sandy gravel;</li> <li>• <b>Unicup 4 subsystem (254Uc_4):</b> Swampy terrain with Semi-wet soil, Pale deep sand and Wet soil; and</li> <li>• <b>Carbunup subsystem (Manjimup) (254MpCB):</b> Minor valleys &lt; 20 m deep with slopes &lt; 5%. Soils are predominantly semi-wet soils with deep sandy gravels and pale deep sands with humus podzols in valley floors.</li> </ul>

Characteristic	Details
	The mapped soils are unlikely to be affected by water erosion or flow, and are not susceptible to wind erosion (DPIRD, 2023).
Waterbodies	The application area is located adjacent to a seasonally inundated sumpland associated with Coverup Swamp, which is part of the Byenup Lagoon System Directory of Important Wetlands in Australia (DIWA) (GIS Database).
Hydrogeography	Groundwater salinity ranges between 3000 to 7,000 milligrams per litre total dissolved solids (GIS Database).
Flora	Desktop analysis identified numerous conservation significant flora species with the potential to occur within the application area (Rapallo, 2014). However, a flora survey followed by a target survey undertaken by Rapallo (2014; 2016) did not record any conservation significant species within the application area.
Ecological communities	There are no mapped Threatened or Priority Ecological Communities (TEC/PEC) within the application area (Rapallo, 2014; GIS Database).
Fauna	A basic fauna survey undertaken by Rapallo (2014) over a broader area, which included the application area and surroundings, recorded six conservation significant fauna species. However, most of the vegetation types/habitats where they were recorded are not within the application area, and therefore will not be impacted by the proposed activities (Rapallo, 2014).

## A.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent Remaining %	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA Managed Lands
IBRA Bioregion - Jarrah Forrest	4,506,660	2,399,838	53.25	39	37.14
IBRA Subregion - Southern Jarrah Forrest	2,607,879	1,291,457	49.52	904,027	34.67
Local Government - Manjimup	697,368	585,761	84	81	79
Beard vegetation associations - State					
Veg Assoc No. 3	2,661,404	1,803,437	67.76	1,469,765	55
27	130,385	92,501	71	1,547,001	59
126	23,503	9,570	40.72	3,687	54.88
Beard vegetation associations - Bioregion					
3	2,390,591	1,604,101	67	57	54
27	49,877	36,735	77.65	60	59
126	9,957	2,526	25	71	15
Beard vegetation associations - Subregion					
3	1,482,491	880,655	59	49	46
27	49,877	36,735	73	60	59
126	9,957	2,526	25	71	15

Government of Western Australia (2019)

## A.3. Flora analysis table

Flora analysis of records within 10 kilometres (GIS Database) and their likelihood of occurrence (Rapallo, 2014; 2016).

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable soil type? [Y/N]	Habit	Total individuals recorded within 10 kilometres of application area	Species recorded within the application area (Rapallo, 2014; 2016)?	Are surveys adequate to identify? [Y, N, N/A]
<i>Caladenia christineae</i> Hopper & A.P.Br.	T	Y	Y	Herb	11	N	Y
<i>Caladenia harringtoniae</i>	T	Y	Y	Herb	12	N	Y
<i>Caladenia startiorum</i>	P2	Y	Y	Herb	2	N	Y
<i>Cardamine paucijuga</i>	P2	Y	N	Herb	1	N	Y
<i>Cryptandra arbutiflora</i> var. <i>pygmaea</i>	P3	N	N	Shrub	2	N	Y
<i>Diuris drummondii</i> Lindl.	T	Y	Y	Herb	17	N	N
<i>Eryngium</i> sp. <i>Lake Muir</i> (E. Wittwer 2293)	P2	Y	N	Herb	1	N	N
<i>Euphrasia scabra</i> R.Br.	P2	Y	N	Herb	3	N	Y
<i>Kunzea micrantha</i> subsp. <i>hirtiflora</i>	P3	N	Y	Shrub	4	N	Y
<i>Leptinella drummondii</i>	P3	N	N	Herb	1	N	N
<i>Lilaeopsis polyantha</i>	P2	Y	N	Herb	2	N	N/A
<i>Melaleuca pritzelii</i>	P3	Y	N	Shrub	1	N	N/A
<i>Ornduffia submersa</i> (Aston) Tippet & Les	P4	Y	N	-	1	N	Y
<i>Schoenus benthamii</i> F.Muell.	P3	Y	Y	Herb (sedge)	1	N	Y
<i>Stylidium rhipidium</i> F.L.Erickson & J.H.Willis	P3	Y	N	Herb	2	N	Y
<i>Trithuria australis</i>	P4	N	N	-	2	N	Y
<i>Wurmbea</i> sp. <i>Cranbrook</i> (A.R. Annels 3819)	P3	N	N	Herb	3	N	Y

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

<b>Appendix B. Assessment against the clearing principles</b>		
Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		

Assessment against the clearing principles	Variance level	Is further consideration required?
<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>According to Rapallo (2014; 2016) and available databases, no conservation significant flora species were identified within the application area. However, the area proposed to be cleared may contain suitable habitats for Threatened and Priority flora species (GIS Database).</p> <p>No Threatened or Priority Ecological Communities were identified within the application area (Rapallo, 2016; Gist Database).</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, 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>A basic fauna survey was conducted in March, by Rapallo (2014), over an area of approximately 52 hectares, which included the application area and its surroundings. The six following conservation significant species were recorded during the survey (Rapallo, 2014):</p> <ul style="list-style-type: none"> <li>- <i>Calyptorhynchus banksii naso</i> (Forest Red-tailed Black cockatoo) - Vulnerable under <i>BC Act</i> and <i>EPBC Act</i>;</li> <li>- <i>Zanda baudinii</i> (Baudin’s cockatoo) - Endangered under <i>BC Act</i> and <i>EPBC Act</i>;</li> <li>- <i>Dasyurus geoffroi</i> (chuditch) - Vulnerable under <i>BC Act</i> and <i>EPBC Act</i>;</li> <li>- <i>Setonix brachyurus</i> (quokka) - Vulnerable under <i>BC Act</i> and <i>EPBC Act</i>;</li> <li>- <i>Isoodon fusciventer</i> (quenda) - Priority 4 under DBCA list; and</li> <li>- <i>Notamacropus irma</i> (western brush wallaby) - Priority 4 under DBCA list.</li> </ul> <p>Habitat trees for Forest Red-tailed Black and Baudin’s cockatoos were identified in the south west section of the survey area (Rapallo, 2014), which may include parts of the application area. <i>Zanda latirostris</i> (Carnaby’s cockatoo) - Endangered under <i>BC Act</i> and <i>EPBC Act</i>, were not identified during the survey nor their habitat trees; however, this species may forage over the survey area given the food source availability (Rapallo, 2014). Therefore, Rapallo (2014) recommends avoiding the removal of trees used for foraging along the main access track.</p> <p>The northern section of the application area is adjacent to the Tone-Perup Nature Reserve, which covers an extensive area. Therefore, the conservation significant fauna species identified during the survey are highly likely to occur within the Nature Reserve, and this reserve is likely to provide healthier, securer and better habitats for these species as they are usually more protected by legislations and present minimal or no disturbances. Potential impacts to black cockatoos as a result of the proposed clearing may be minimised by the implementation of a clearing not authorised condition. This condition would restrict the clearing of tree’s with a DBH of 30 centimetres or more.</p> <p>Given the scale and extent (2 hectares) of the proposed activities, the application area is unlikely to represent significant habitat for fauna in a regional context. Furthermore, the application area is currently disturbed for existing firebreaks, and therefore, the remaining regrowth is unlikely to provide suitable and significant habitats for quokkas, quendas, or western brush wallabies, or other conservation significant fauna species as they may utilise adjacent undisturbed areas. The method of clearing is unlikely to cause ground disturbances, preventing permanent loss of plant assemblages or food sources/ interim shelter.</p> <p>Therefore, given the above circumstances, the proposed clearing activities are unlikely to compromise significant habitats for fauna.</p>	Not likely to be at variance	No
<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> <p>The area proposed to be cleared may contain habitat for flora species listed under the BC Act.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>



Assessment against the clearing principles	Variance level	Is further consideration required?
<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>There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database).</p> <p>A flora and vegetation survey of the application area did not identify any TECs (Rapallo, 2014).</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<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 Southern Jarrah Forrest subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Jarrah Forrest Bioregion (GIS Database). Approximately 49.5% and 53%, respectively, of the pre-European vegetation still exists in the subregion and bioregion (Government of Western Australia, 2019). According to Appendix A.2. Vegetation Extent, the application area is broadly mapped as the following Beard vegetation associations (GIS Database):</p> <p>3: Medium forest; jarrah-marri;  27: Low woodland; paperbark (<i>Melaleuca</i> sp.); and  126: Bare areas; freshwater lakes.</p> <p>More than 50% of the pre-European extent of vegetation associations 3 and 27 remains uncleared at both the state and bioregional level (Government of Western Australia, 2019).</p> <p>Beard vegetation association 126 has less than 30% remaining in the Jarrah Forrest IBRA bioregion (Government of Western Australia, 2019). The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30% of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Whilst there is less than 30% of vegetation association 126 within the bioregion, there are no areas of bare areas of freshwater lakes within the application area (GIS Database). As the application area is not representative of this vegetation association, the proposed clearing will not have an impact on its remaining extent.</p> <p>Aerial imagery indicates that the local area (10 kilometre radius) retains approximately of 70% vegetation (GIS Database). The vegetation within the application area itself is neither a remnant nor does it form part of any remnants within the local area (GIS Database).</p> <p>The proposed re-clearing of firebreaks is unlikely to further reduce the remaining extents of these vegetation associations.</p>	Not likely to be 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 north-west section of the application area is adjacent to the Tone-Perup Nature Reserve (GIS Database). The proposed clearing for the maintenance of a fire break will potentially protect the Nature Reserve from fire. However, the proposed clearing has the potential to increase the likelihood of weeds and dieback being spread into the Nature Reserve. Potential impacts from dieback and weeds may be minimised by the implementation of a weed and dieback management condition.</p>	Not likely to be at variance	No
<b>Environmental value: land and water resources</b>		

Assessment against the clearing principles	Variance level	Is further consideration required?
<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>The application area surrounds a seasonally inundated sumpland associated with Cowerup Swamp (GIS Database). The vegetation within the application area is predominantly Eucalyptus and Melaleuca woodland (Rapallo, 2014). Cowerup Swamp is part of the Byenup Lagoon system which is listed on the Directory of Important Wetlands in Australia (DCCEE, 2021; GIS Database). The application area is also located within the Deep River catchment which has been classified as a Priority 2 Wild Rivers area (GIS Database).</p> <p>Whilst the vegetation is associated with a wetland of significance, the effect of fire upon peatlands would have a greater and longer term impact on the wetland than the clearing for a firebreak (DWER, 2012). Given the hydrological inter-connectivity of wetlands in the local area, any fire has the potential to spread between wetlands (DWER, 2012).</p>	May be at variance	No
<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>According to Appendix A.1. Site Characteristics, the mapped soils of the application area are part of the subsystems: Unicum 1 subsystem (254Uc_1); Unicum 4 subsystem (254Uc_4); and Carburnup subsystem (Manjimup) (254MpCB). These soil subsystems are unlikely to be affected by water erosion or water flow, and are not susceptible to wind erosion (DPIRD, 2023). Therefore, appreciable land degradation is unlikely to occur.</p>	Not likely to be at variance	No
<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>The application area used to be part of the Public Drinking Water Source Area (PDWSA); however, according to current database, there is no longer PDWSA within or around the application area (GIS Database).</p> <p>Advice from the DWER (2012) indicates that whilst the proposed clearing may have a short term impact on the wetland it surrounds, the effect of fire upon peat wetlands would have a much greater longer term impact. The proposed clearing may result in some short term increase in sedimentation levels within seasonally wet areas, however, impacts are likely to be minimal.</p> <p>The groundwater within the application area is between 3,000 to 7,000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). This is considered to be brackish. The proposed clearing of two hectares is not likely to alter the salinity levels within the local area.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <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>Given that the application area surrounds a seasonally inundated sumpland, the proposed clearing of two hectares for the purpose of a firebreak is not likely to increase the incidence or intensity of flooding in the local area (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. Sources of information

### D.1. GIS databases

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

- Clearing Regulations – Schedule One Areas (DWER-057)
- 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)
- Flood Risk (DPIRD-007)
- 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
- Interim Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- Black Cockatoo WTBC Breeding
- Black Cockatoo FRTBC Breeding
- Black Cockatoo BC Roosts
- Black Cockatoo BC Feeding SCP
- Black Cockatoo Feeding JF
- Black Cockatoo Feeding Areas Buffered
- Black Cockatoo Baudins Distribution
- Black Cockatoo Forest Red Tail Distribution
- Black Cockatoo Carnabys Distribution
- 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

- BASF Australia Ltd (2023) Application for Purpose Permit CPS 10172/1 (40 Acre Swamp Project Project) – Form NV-F01, Bureau of Meteorology (BoM) (2023) Bureau of Meteorology Website – Climate Data Online, Weather Station. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 05 June 2023).
- Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2021) Directory of Important Wetlands in Australia - Information sheet. Available from <http://www.environment.gov.au/cgi-bin/wetlands/report.pl> (Accessed 28 June 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](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 26 June 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://dpird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f> (Accessed 26 June 2023).
- Department of Water and Environmental Regulation (DWER) (2012) Advice received in relation to expired Clearing Permit Application CPS 5211/1 related to the current CPS 10172/1 application. Department of Water and Environmental Regulation, Western Australia, April 2012.
- 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](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](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) (2016) Technical Guidance – Terrestrial Fauna Surveys. Available from: [https://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf](https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.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](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)
- Government of Western Australia (2019) 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> May 2023.
- Rapallo (2014) Level 1 Terrestrial Flora and Fauna Survey of the 40 Acre Swamp Peat Project. Report prepared for BASF Agricultural Specialties Pty Ltd by Rapallo Pty Ltd, June 2014.
- Rapallo (2016) BASF 40 Acre Swamp Targeted Rare Flora Search 2015. Report prepared for BASF Agricultural Specialties by Rapallo Pty Ltd, January 2016.
- 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 28 June 2023).

## 4. Glossary

### Acronyms:

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

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