



GOVERNMENT OF  
WESTERN AUSTRALIA

## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

### PERMIT DETAILS

Area Permit Number: CPS 9314/1  
File Number: DWERVT8058  
Duration of Permit: From 22 October 2021 to 22 October 2024

### PERMIT HOLDERS

Elaine Batten  
Robert Batten  
Kevin Batten

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 5903 on Plan 207261, Wanerie

### AUTHORISED ACTIVITY

The permit holder must not clear more than 0.6 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

### CONDITIONS

#### 1. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

- (a) avoid the *clearing* of *native vegetation*;
- (b) minimise the amount of *native vegetation* to be cleared; and
- (c) reduce the impact of *clearing* on any environmental value.

#### 2. Weed and dieback management

When undertaking any *clearing* authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

- (b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

### 3. Directional clearing

The permit holder must:

- (a) conduct *clearing* authorised under this permit from west to east towards adjacent *native vegetation*; and
- (b) allow a reasonable time for fauna present within the area being cleared to move into adjacent *native vegetation* ahead of the *clearing* activity.

### 4. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

**Table 1: Records that must be kept**

No.	Relevant matter	Specifications
1.	In relation to the authorised <i>clearing</i> activities generally	<ul style="list-style-type: none"> <li>(a) the location where the <i>clearing</i> occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;</li> <li>(b) the date that the area was cleared;</li> <li>(c) the size of the area cleared (in hectares); and</li> <li>(d) actions taken to avoid, minimise, and reduce the impacts and extent of <i>clearing</i> in accordance with <i>condition 1</i>;</li> <li>(e) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with <i>condition 2</i>; and</li> <li>(f) Directional <i>clearing</i> actions undertaken in accordance with <i>condition 3</i>.</li> </ul>

### 5. Reporting

The permit holder must provide to the *CEO* the records required under condition 4 of this permit when requested by the *CEO*.

## DEFINITIONS

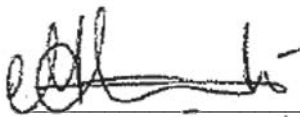
In this permit, the terms in Table 2 have the meanings defined below.

**Table 2: Definitions**

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

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## END OF CONDITIONS



Meenu Vitarana  
A/MANAGER  
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20  
of the Environmental Protection Act 1986*

29 September 2021

# SCHEDULE 1



**Figure 1:** Boundary of the area (cross-hatched yellow) within which clearing may occur.



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9314/1
<b>Permit type:</b>	Area permit
<b>Applicant name:</b>	Mrs Elaine Batten, Mr Robert Batten and Mr Kevin Batten
<b>Application received:</b>	4 June 2021
<b>Application area:</b>	2.29 hectares
<b>Purpose of clearing:</b>	Horticulture and pasture
<b>Method of clearing:</b>	Mechanical
<b>Property:</b>	Lot 5903 on Plan 207261
<b>Location (LGA area/s):</b>	Shire of Gingin
<b>Localities (suburb/s):</b>	Wanerie

### 1.2. Description of clearing activities

The applicant proposes to clear 2.29 hectares of native vegetation for horticulture (growing avocados and mangos) and pasture. The applicant holds a Department of Water and Environmental Regulation (DWER) licence to take 55,650 kilolitres of groundwater per annum for the proposed horticulture. The applicant has advised that the proposed avocado and mango plantations are proposed to be planted in stages, with the initial two stages comprising avocado plantations of 0.4 hectares each.

The application area is around 20 kilometres southeast of the Ledge Point townsite. It is bordered to the north, east and south by remnant native vegetation, immediately west by avocado and mango plantations, and more broadly west by agricultural land. The application area occurs within a local area (10 kilometre radius) that retains around 67 per cent native vegetation.

<b>Decision:</b>	Granted (part grant)
<b>Decision date:</b>	29 September 2021
<b>Decision area:</b>	0.6 hectares of native vegetation, out of 2.29 hectares applied for, as shown in Section 1.5 below.

### 1.3. Reasons for decision

#### Background

This application was accepted, assessed, and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no public submissions were received.

In undertaking their assessment and in accordance with section 51O of the EP Act, the Delegated Officer considered the site characteristics (see Appendix B), the Clearing Principles in Schedule 5 of the EP Act (see Appendix C),



planning instruments and other matters (see Section 3), the findings of a DWER site inspection (see photographs in Appendix D), and relevant datasets available at the time of the assessment (see Appendix E).

The assessment identified that the application area comprises three distinct areas, herein referred to as Areas 1, 2 and 3 (see Section 1.5 for figures representing these areas). These areas have been separated based on vegetation type, condition and extent of environmental values present. The environmental values used to differentiate the sites relate to Carnaby's cockatoo (state and federally listed as Endangered) foraging habitat and vegetation representative of the Banksia Woodlands of the Swan Coastal Plain ecological community (Banksia Woodland Community), federally listed as Endangered and state listed as Priority 3.

### **Area 1**

The assessment identified that this area comprises 0.31 hectares of native vegetation in a completely degraded (Keighery, 1994) condition, and has minimal environmental values (DWER, 2021).

The Delegated Officer determined that the proposed clearing of this area is unlikely to result in significant residual environmental impacts.

### **Area 2**

The assessment identified that this area comprises 0.29 hectares of native vegetation in a good to very good (Keighery, 1994) condition (DWER, 2021). While this area contains *Banksia* woodland, the small patch comprises only scattered *Banksia* sp. in low density (and significantly less than Area 3). This area includes intentionally planted *Corymbia calophylla*, non-native Eucalyptus, *Chamelaucium uncinatum* and other non-native species, and occurs between an existing avocado and mango plantation (DWER, 2021).

The assessment identified that given the limited scattered occurrence of *Banksia* sp., the loss of this 0.29 hectare patch is unlikely to impact on significant foraging habitat for Carnaby's cockatoo or the local/total known occurrence of the Banksia Woodland Community.

The Delegated Officer determined that the proposed clearing of this area is unlikely to result in significant residual environmental impacts.

### **Area 3**

The assessment identified that this area comprises 1.69 hectares of native vegetation, largely in an excellent (Keighery, 1994) condition (DWER, 2021). This area comprises high quality *Banksia* woodland with disturbance limited to edge effects associated with firebreak clearing (DWER, 2021). The assessment identified that this patch comprises significant foraging habitat for Carnaby's cockatoo and is representative of, and mapped as, the Banksia Woodland Community.

DWER informed the applicant that an environmental offset would be required to address the significant residual impacts of clearing this area. The applicant advised that they are not amenable to providing an offset.

### **Determination**

The Delegated Officer determined to part grant the application, issuing a clearing permit for Areas 1 and 2. The Delegated Officer considered the applicants advice that an offset would not be provided to address the significant residual environmental impacts associated with clearing Area 3, and has subsequently not granted a clearing permit over this area.

The Delegated Officer considers that the proposed clearing of Areas 1 and 2 may result in the following impacts:

- impacts to terrestrial fauna should they be utilising the site at the time of clearing
- the potential introduction and spread of weeds and dieback into adjacent native vegetation

After considering the available information, the Delegated Officer determined that the following requirements will be conditioned on the clearing permit to manage and address the potential impacts of clearing:

- avoid and minimise measures to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback

- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity

Given the above management condition requirements, the Delegated Officer determined that the proposed clearing of Areas 1 and 2 is unlikely to lead to an unacceptable risk to the environment.

#### 1.4. Site map



**Figure 1. Map of the area authorised to clear**

The area cross-hatched yellow indicates the area authorised to clear under the granted clearing permit.



**Figure 2. Map of the area not authorised to clear**

The area cross-hatched blue indicates the area that is not authorised to clear.





**Figure 3. Map of Areas 1, 2 and 3**

The areas outlined blue, red and green have been segregated on the basis of vegetation type, condition and extent of environmental values.

## 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 polluter pays principle
- 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)

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

The applicant advised that they have avoided the highest quality vegetation immediately east of the current application area (within Lot 5903, owned by the applicant).



The applicant noted that the application area was selected as it is nearby the property dwelling and is segregated from the larger higher quality remnant east by existing firebreaks.

During the assessment, the applicant reduced the area of proposed clearing. The initial clearing area comprised 2.51 hectares and included vegetation entirely in a very good to excellent (Keighery, 1994) condition (DWER, 2021). The revised (current) application area comprises 2.29 hectares and includes 0.31 hectares and 0.29 hectares of native vegetation in a completely degraded, and good to very good (Keighery, 1994) condition, respectively.

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

In assessing the application, the Delegated Officer had regard for the site characteristics (see Appendix B), site inspection report (see photographs in Appendix D) and the extent to which the impacts of the proposed clearing present a risk to biodiversity, conservation, or land and water resource values.

The assessment identified that the proposed clearing of Areas 2 and 3 presents a risk to flora and fauna values, and that these required further consideration. The consideration of impacts to these values, 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. Environmental value: Biological values (fauna) – Clearing Principle (b)**

##### **Fauna habitat suitability**

The application area was subject to a site inspection by DWER officers on 15 September 2021. Based on vegetation type, condition, and presence of environmental values, the site inspection identified three distinct areas, being Areas 1, 2 and 3 as depicted within Figures 1 to 3 (See Section 1.5 above).

Area 1 is in a completely (Keighery, 1994) degraded condition and does not provide significant habitat for fauna.

The site inspection identified that Area 3 comprises *Banksia attenuata*, *Banksia menziesii* and *Eucalyptus tottiana* woodland vegetation in largely excellent (Keighery, 1994) condition, with large mature *Banksia attenuata* and *Banksia menziesii* occurring throughout (DWER, 2021)

The site inspection identified that Area 2 comprises woodland of *Banksia attenuata*, *Banksia menziesii*, *Eucalyptus tottiana* and other native and non-native tree species planted by the applicant. This area is in a good to very good (Keighery, 1994) condition. The frequency of occurrence of *Banksia* species in Area 2 is significantly less than that within Area 3 (with consideration of a similarly sized patch), and comprises only scattered *Banksia* individuals (DWER, 2021).

The following conservation significant fauna species were identified as potentially utilising Areas 2 and 3:

- Carnaby's cockatoo (*Calyptorhynchus latirostris*) (state and federally listed as Endangered)
- Western brush wallaby (*Notamacropus irma*) (state listed as Priority 4)

This assumption is based on the habitat requirements and distribution of these species, mapped vegetation types, condition of the vegetation, and findings of the site inspection (DWER, 2021).

##### **Western brush wallaby and other fauna**

The application area is unlikely to provide significant habitat for western brush wallaby, which prefers open seasonally wet flats with low grasses (Woinarski and Burbidge, 2016).

The application area may provide suitable habitat for several small non-conservation listed terrestrial fauna species, such as small lizards and skinks. Such individuals may be impacted should they occur within the application area at the time of clearing.

##### **Carnaby's cockatoo**

The application area occurs within the modelled distribution and breeding range of Carnaby's cockatoo. The closest known breeding site is located around 2.5 kilometres from the application area.

Suitable breeding habitat for this species includes trees which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species a suitable DBH is 500 millimetres (Commonwealth of Australia, 2012).

A site inspection did not identify any large trees with a suitable DBH to provide breeding habitat for Carnaby's cockatoo (DWER, 2021). Given the above, the proposed clearing is unlikely to impact on significant breeding habitat for this species.

The closest known Carnaby's cockatoo roost site is around 6.5 kilometres from the application area. Noting a lack of large trees within the application area, it is unlikely to provide significant roost habitat for this species.

Carnaby's cockatoo forages on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea* and *Grevillea*), as well as *Allocasuarina* and Eucalyptus species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008). The records of foraging activity for Carnaby's cockatoo on the SCP show that *Banksia* species account for nearly 50 percent of the diet for this species (Shah, 2006).

The site inspection identified that Area 2 and Area 3 both provide suitable foraging habitat for Carnaby's cockatoo, noting the presence of *Banksia* woodland (DWER, 2021).

The EPA technical advice for Carnaby's cockatoo notes that *Banksia* species provide the most important natural food resource on the Swan Coastal Plain (EPA, 2019). The significance of *Banksia* woodland habitat has been confirmed through foraging studies, which determined that Carnaby's cockatoo exploit all areas of available *Banksia* food resources on the Swan Coastal Plain (EPA, 2019). *Banksia* woodland in the Perth metropolitan area has been reduced to one third of its pre-European extent. The remaining portions are fragmented, with the majority (82 per cent) of remnant patches under 10 hectares (EPA, 2019).

The importance of foraging habitat for Carnaby's cockatoo increases when it occurs within foraging distance of nesting sites (12 kilometres), as it supports breeding effort (Department of Parks and Wildlife, 2013). The closest known breeding site occurs around 2.5 kilometres from the application area. The distance of nearby water sources also increases foraging habitat value, and there are several wetlands and watercourses mapped within 12 kilometres, including a nearby sumpland located 140 metres east of the application area and Moore River which occurs around five kilometres west of the application area.

#### Area 2 foraging habitat significance

Area 2 comprises scattered *Banksia* species within a small 0.29 hectare patch which includes intentionally sown (by the applicant) plant and tree species (DWER, 2021). This area occurs between an existing avocado plantation to the south and a mango plantation and historically cleared area (Area 1) to the north. Area 2 is separated from Area 3 by a cleared track/firebreak.

While Area 2 includes some suitable foraging habitat for Carnaby's cockatoo, given the limited density of *Banksia* sp. within this small patch (DWER, 2021), and its location on the property, Area 2 is not likely to comprise significant Carnaby's cockatoo foraging habitat.

#### Area 3 foraging habitat significance

Area 3 comprises 1.69 hectares *Banksia* woodland, largely in excellent (Keighery, 1994) condition. This area includes numerous large healthy *Banksia menziesii* and *Banksia attenuata* trees that dominate the overstorey and provide high quality foraging habitat for Carnaby's cockatoo (DWER, 2021). The extent of proposed clearing relative to the larger adjacent remnant within Lot 5903 (comprises 400 hectares) and nearby Moore River National Park and Moore River Nature Reserve (comprising around 25,732 hectares), is acknowledged. However, it is considered that Area 3 provides significant foraging habitat for Carnaby's cockatoo, noting the following factors:

- it comprises 1.69 hectares of high quality *Banksia* woodland foraging habitat on the Swan Coastal Plain
- it may support Carnaby's cockatoo breeding effort as there is a confirmed breeding site around 2.5 kilometres from the application area

## Conclusion

Based on the above assessment, the Delegated Officer determined that:

- the proposed clearing of Area 2 would result in the loss of up to 0.29 hectares of suitable foraging habitat for Carnaby's cockatoo, which based on the density of *Banksia* sp. and small size of the patch, is unlikely to impact on significant habitat for Carnaby's cockatoo
- the proposed clearing of Area 3 would result in the loss of 1.69 hectares of high quality *Banksia* woodland, which is considered significant foraging habitat for Carnaby's cockatoo
- there may be impacts to small non-conservation listed terrestrial fauna, should they occur within the Areas 2 or 3 at the time of clearing.

Noting the applicants measures to avoid and minimise impacts, the Delegated Officer determined that an environmental offset would be required to counterbalance the significant residual impact to Carnaby's cockatoo foraging habitat, resulting from clearing Area 3.

The applicant was advised of the environmental offset requirement and has advised that they will not be providing an offset.

## Outcome

Based on the absence of an environmental offset to counterbalance the loss of Carnaby's cockatoo habitat from Area 3, the Delegated Officer has not granted a clearing permit over this area.

The Delegated Officer determined that the proposed clearing of Areas 1 and 2 would not impact on significant habitat for Carnaby's cockatoo and has subsequently granted a clearing permit over these areas, subject to slow directional clearing requirements to allow fauna species to move into adjacent vegetation ahead of the clearing activity.

### 3.2.2. Environmental value: Biodiversity values (flora) – Clearing Principles (a) and (c)

#### Threatened and Priority flora

Areas 2 and 3 provide potentially suitable habitat for the following three priority listed flora species (Western Australian Herbarium, 1998- ; DWER, 2021):

- *Allocasuarina grevilleoides* (Priority 3), known from 35 records
- *Dodonaea hackettiana* (Priority 4), known from 30 records
- *Anigozanthos humilis* subsp. *chrysanthus* (Priority 4), known from 63 records

This assumption is based on the mapped vegetation type, soil and landform types, site inspection findings and extent of known conservation listed flora records in the local area.

Noting the number of records of these species and that the application area would not represent a range extension for these species, the proposed clearing is not likely to impact on the local extent or conservation status of these species, should they occur within the application area.

The local area includes records of two threatened flora species, being *Lepidosperma rostratum* and *Drakaea elastica*. The application area does not provide suitable habitat for either species (Western Australian Herbarium, 1998- ; DWER, 2021).

#### Threatened and Priority ecological communities

The entirety of Area 3, and around 0.03 hectares of Area 2, is mapped as the Banksia Woodlands of the Swan Coastal Plain ecological community (Banksia Woodlands Community). This community is listed as a Priority 3 ecological community in Western Australia, and a threatened ecological community (Endangered) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

The Banksia Woodlands Community has undergone a decline of about 60 per cent in its original extent and most of the community that remains, occurs as highly fragmented patches less than 10 hectares in size (DotEE, 2016). This community has a dominant *Banksia* component, which includes at least one of four key species—*Banksia attenuata*, *Banksia menziesii*, *Banksia prionotes* and/or *Banksia ilicifolia* (DotEE, 2016). Other trees of a medium height that may be present and may be codominant with the *Banksia* species across a patch, include *Eucalyptus todtiana*



(DotEE, 2016). The community provides habitat for many native flora and fauna reliant on *Banksia* Woodland (DotEE, 2016).

The Commonwealth Approved Conservation Advice for this community specifies the following minimum patch sizes (with consideration of vegetation condition), for a patch to be representative of this community (DotEE, 2016):

- Pristine condition – no minimum patch size applies
- Excellent condition – 0.5 hectares
- Very Good condition – 1 hectare
- Good condition – 2 hectares

A patch is a discrete and mostly continuous area of the ecological community. A patch may include small-scale variations, gaps and disturbances, such as tracks, paths or breaks, or localised variations in vegetation that do not significantly alter the overall functionality of the ecological community (and less than 30 metres in width) (DotEE, 2016).

To be considered as part of the ecological community a patch should be in good or better condition (DotEE, 2016).

### Area 3

Based on a site inspection of Area 3, it is considered that the entirety of this area is representative of the *Banksia* Woodland Community, noting that it comprises 1.69 hectares of *Banksia attenuata*, *Banksia menziesii* and *Eucalyptus tottiana* woodland in largely excellent (Keighery, 1994) condition (DWER, 2021). While this area is separated by a firebreak from the larger patch of remnant vegetation mapped as this community east, it is considered to form part of that larger patch.

### Area 2

The site inspection identified that Area 2 may be representative of the *Banksia* Woodlands Community, noting it includes *Banksia attenuata*, *Banksia menziesii* and *Eucalyptus tottiana*, albeit in lesser density and in a smaller area containing several intentionally planted tree species (DWER, 2021).

It is considered that the loss of 0.29 hectares of native vegetation that may be representative of this community, which includes several intentionally planted non-indigenous tree species, is unlikely to significantly impact on the local/total known occurrence of the *Banksia* Woodland Community. This is noting that the community is mapped over 26,601 hectares within the local area, and if representative, Area 2 would comprise 0.001 per cent of this community.

### **Biodiversity**

Area 3 is considered to provide a high level of biodiversity given that it contains *Banksia* woodland in largely excellent (Keighery, 1994) condition, significant foraging habitat for Carnaby's cockatoo and vegetation representative of the *Banksia* Woodland Community.

Area 2 is not likely to provide a high level of biodiversity, noting it is unlikely to provide significant foraging habitat for Carnaby's cockatoo, includes intentionally planted tree species, has a higher level of disturbance, and comprises a smaller area not mapped as the *Banksia* Woodland Community.

The site inspection identified several weed species within Areas 1 and Area 2 (DWER, 2021). The proposed clearing will increase the risk of weeds spreading into adjacent areas of native vegetation. While no dieback was identified on site (DWER, 2021), its presence cannot be definitively ruled out, and if present, the proposed clearing may also result in the spread of dieback.

### **Conclusion**

Based on the above assessment, the Delegated Officer determined that:

- The proposed clearing of Area 2 would result in the loss of 0.29 hectares of vegetation potentially representative of the *Banksia* Woodland Community, and is unlikely to significantly impact on the local or total mapped extent of this community.
- The proposed clearing of Area 3 would result in the loss of 1.69 hectares of the *Banksia* Woodland Community in largely excellent (Keighery, 1994) condition.

- Area 3 comprises a high level of biodiversity as it contains vegetation largely in an excellent (Keighery, 1994) condition which is representative of the Banksia Woodlands Community and comprises significant foraging habitat for Carnaby's cockatoo.
- The proposed clearing would increase the risk of weeds and dieback spreading into adjacent native vegetation.

Noting the applicants measures to avoid and minimise impacts, the Delegated Officer determined that an environmental offset would be required to counterbalance the significant residual impacts to the Banksia Woodland Community, resulting from clearing Area 3.

The applicant was advised of the environmental offset requirement and has advised that they will not be providing an offset.

### **Outcome**

Based on the absence of an environmental offset to address the loss of Banksia Woodland Community from Area 3, the Delegated Officer has not granted a clearing permit over this area.

The Delegated Officer determined that the proposed clearing of Areas 1 and 2 would not significantly impact on the Banksia Woodland Community and has subsequently granted a clearing permit over these areas, subject to a conditional permit requirement to undertake weed and dieback hygiene management measures.

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

### **Local Government Authority Comments**

The Shire of Gingin provided comment on the proposed clearing and noted the following (Shire of Gingin, 2021):

- "Should the agricultural development referenced within the applicants 'purpose of clearing' (i.e. growing of avocados and mangoes) be for commercial purposes, development approval under Local Planning Scheme No. 9 (LPS 9) would be required for the land use 'Agriculture Intensive – Perennial Horticulture'. The Shire has no records of an application being lodged.
- The keeping of horses on land zoned 'General Rural' under LPS 9 does not require development approval and the Shire has no objection to this request".

The applicant has advised that the avocados and mangoes proposed for planting are not for commercial purposes. Therefore, it appears that Development Approval from the Shire is not required in this instance.

### **RIWI Act Approvals**

The applicant has an existing licence to take groundwater under the *Rights in Water and Irrigation Act 1914* (Licence reference GWL 101521) for Lot 5903, which has an annual allocation of 55,650 Kilolitres. This groundwater licence is for existing plantations and for the proposed avocado crops. The allocation would be sufficient to irrigate Areas 1 and 2 for an avocado plantation.

### **Notification of Intent to Clear**

The applicant advised that they were previously issued a Notification of Intent to Clear (NOIC) under the *Soil and Land Conservation Regulations 1992*, which authorised clearing over a large portion of the property (including the current application area). The clearing authorised under that approval was not undertaken, and the applicant notes that at the time, they were not aware that the Clearing Provisions of the EP Act would replace the NOIC process.

### **Aboriginal heritage**

There are no Aboriginal Sites of Significance mapped within the application area.

### **Submissions**

No public submissions were received in relation to this application.

**End**

## Appendix A. Additional information provided by the applicant

### Summary of comments

#### 15 September 2021 – DWER Site Inspection

DWER Officers met the applicant on site to inspect the application area. The applicant noted that upon ground truthing, the map showing the application area as provided post acceptance of the application was not accurate.

The applicant requested that a revised application area be considered. DWER officers noted that a revised map showing the requested application area would be provided for the applicant's consideration post inspection.

A DWER Officer advised the applicant on site that based on the vegetation type and condition of the larger patch of remnant vegetation proposed to be cleared (being Area 3), it appears to comprise suitable foraging habitat for Carnaby's cockatoo and is likely representative of the Banksia Woodland Community. The DWER Officer noted that an environmental offset would likely be required to address the impact to these values.

The applicant noted that they would not be providing an offset for the proposed clearing, under any circumstance.

#### 17 September 2021 – DWER providing revised map and noting offset requirement

A DWER Officer emailed the applicant to provide a revised map of the application area, as requested during the site inspection. The DWER Officer noted that an offset would be required for the larger application area containing Banksia woodland habitat in largely excellent condition (Area 3).

A DWER Officer requested that the applicant provide written (email) confirmation that they are happy to progress with the revised application area shown on the map, and that they would not be providing an offset to address the residual impacts of clearing, as previously verbally advised.

#### 20 September 2021 – Applicant requesting further changes to map and verbally advising that an offset would not be provided

The applicant phoned a DWER Officer to request a small change to the revised application area map provided on 17 September 2021. The applicant provided an email with a screenshot showing a slightly revised clearing boundary.

A DWER Officer advised that, as discussed during the site inspection and mentioned in its email of 17 September 2021, the assessment had identified that the proposed clearing of the larger application area in largely excellent condition (Area 3) would require an environmental offset, as it provided high quality foraging habitat for Carnaby's cockatoo and was representative of the Banksia Woodland ecological community. The DWER Officer provided preliminary offset options, including extent likely required, noting that land acquisition would be the most suitable offset in this instance. The DWER Officer noted that in the absence of an offset, DWER would likely proceed with a part grant, which would provide an approval for Areas 1 and 2, and exclude Area 3.

The applicant reiterated that they would not be providing an offset for the proposed clearing and requested that DWER make a decision on the application area as soon as possible.

#### 24 September 2021 – DWER request for written confirmation that the revised map is correct and that an offset would not be provided

A DWER Officer emailed the applicant on 28 September 2021, providing a copy of the revised map as requested by the applicant and reiterating to the applicant that DWER's proposed approach is to part grant the application (Areas 1 and 2) noting that an offset is not being provided to address the impact of clearing Area 3.

The applicant confirmed that the revised map representing the application area is correct, and specified that they would not be providing an offset.



## Appendix B. Site characteristics

### B.1. Site characteristics

Characteristic	Details
<b>Local context</b>	The application area is around 20 kilometres southeast of Ledge Point townsite. It is bordered to the north, east and south by remnant native vegetation, immediately west by avocado and mango plantations, and more broadly west by developed agricultural land. The application area occurs within a landscape that retains around 67 per cent native vegetation.
<b>Climate, landform and soils</b>	<p>The application area is situated in the northern portion of the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA).</p> <p>The Commissioner of Soil and Land Conservation (CSLC) provided comment on the proposed clearing and advised that the application area is mapped as the Spearwood Phase 4+5 landform subsystem which is described as pale brown sand to 50 cm, overlying brownish-yellow weak clayey sand and pale brown to light grey sand to 90 cm depth, overlying brownish-yellow sand to weak clayey sand, co-dominant (CSLC, 2021).</p> <p>The application area generally occupies the upper slope position in the landscape (CSLC, 2021).</p> <p>The climate of the area is warm and temperate (Mediterranean). The winter months have higher rainfall than summer months with an annual rainfall of around 700 millimetres.</p>
<b>Vegetation description and condition</b>	<p>The site inspection identified that the application area comprises the following vegetation type and condition (DWER, 2021):</p> <p><b>Area 1</b></p> <p>This area has been historically cleared and is in a completely degraded (Keighery, 1994) condition. It retains no intact vegetation structure and largely comprises weed species, with the occasional emergent <i>banksia</i> sp.</p> <p><b>Area 2</b></p> <p>This area comprises woodland of <i>Banksia menziesii</i>, <i>Banksia attenuata</i>, <i>Eucalyptus todtiana</i>, and other native and non-native tree species planted by the applicant. The frequency of occurrence of <i>Banksia</i> species (with consideration of a similarly sized patch) is significantly less than that within Area 3 and comprises only scattered <i>Banksia</i> individuals.</p> <p>This area includes occasional <i>Xanthorrhoea preissii</i>, with the understorey dominated by <i>Hibbertia hypericoides</i>. The applicant has planted numerous other species within this area including non-native <i>Eucalyptus</i> sp., <i>Corymbia calophylla</i>, <i>Chamelaucium uncinatum</i> and other introduced species.</p> <p>This area lies between an existing avocado plantation south, a mango plantation north and is separated from Area 3 by a cleared firebreak/track.</p> <p>The vegetation ranges from good to very good (Keighery, 1994) condition, and has undergone greater disturbance than Area 3.</p> <p><b>Area 3</b></p> <p>This area comprises woodland of <i>Banksia menziesii</i> (dominant), <i>Banksia attenuata</i> and <i>Eucalyptus todtiana</i> with occasional stands of <i>Kunzea glabrescens</i>.</p>

Characteristic	Details
	<p>The midstorey comprises <i>Xanthorrhoea preissii</i>, <i>Acacia pulchella</i>, <i>Hakea</i> sp., and <i>Allocasuarina</i> sp. The understorey is dominated by <i>Hibbertia hypericoides</i>.</p> <p>The vegetation ranges from very good to excellent (Keighery, 1994) condition, with most of the vegetation in an excellent (Keighery, 1994) condition. Those portions in very good (Keighery, 1994) condition are close to the boundaries of the area, which contain some weed species due to firebreak edge effects.</p> <p>The <i>Banksia</i> trees appeared healthy, and the remnant looks to have recovered well post the intense fires that burnt through the area in the early 2000's.</p> <p><b>Vegetation Mapping</b></p> <p>According to broad scale vegetation mapping of the Swan Coastal Plain, the application area is mapped as Bassendean Complex North. This complex is described as low open forest and low open woodland of <i>Banksia</i> species, <i>Eucalyptus tottiana</i> (pricklybark) to low woodland of <i>Melaleuca</i> species and sedgelands which occupy the moister sites (Heddle et al, 1980).</p> <p>Areas 2 and 3 are largely representative of the mapped vegetation complex.</p> <p>The full Keighery (1994) condition rating scale, with a description of each condition, is provided in Appendix C.</p>
<b>Conservation areas</b>	The closest conservation area to the application area is Moore River Nature Reserve and Moore River National Park which occur 1.1 km east.
<b>Ecological linkage</b>	The application area is not mapped as an ecological linkage and is not considered to provide significant landscape linkage values.
<b>Land degradation risk</b>	<p>The application area generally occupies the upper slope position in the landscape and comprises pale sandy soils (CSLC, 2021).</p> <p>The soils are highly permeable and not associated with land degradation through water erosion or waterlogging. The CSLC (2021) advised that the risk of appreciable land degradation through wind erosion is low noting the existing remnant vegetation surrounding the relatively small area of proposed clearing.</p> <p>Groundwater salinity is mapped at between 500-1000 milligrams per litre total dissolved solids. This level is considered marginal, and the risk of salinity was also considered low by the CSLC (2021).</p>
<b>Waterbodies</b>	<p>There are no watercourses or wetlands mapped within the application area.</p> <p>The closest wetlands and watercourses to the application area include –</p> <ul style="list-style-type: none"> <li>• a resource enhancement management category basin (sumpland) located around 140 m away</li> <li>• a minor non-perennial watercourse located around 3.8 km away</li> <li>• Moore River, located around 5 km away</li> </ul>
<b>Flora</b>	<p>According to available datasets, there are records of 13 priority and 2 threatened flora species within the local area (10 km radius). These are presented below in section B.3. Of these, a likelihood of analysis identified three Priority flora species that may occur in the application area, based on habitat suitability and proximity of the site to known records. These are discussed in Section 3.2.2.</p> <p><i>Dodonaea hackettiana</i> (P4) is the closest known record of priority flora to the application area, located around 2.3 km northwest. Areas 2 and 3 provide suitable habitat for this species.</p>

Characteristic	Details
	<i>Drakaea elastica</i> is the closest known record of threatened flora to the application area, located around 9.3 kilometres southeast. The application area does not contain suitable habitat for this species.
<b>Ecological communities</b>	<p>Area 3 is mapped as the Banksia Woodlands of the Swan Coastal Plain ecological community, which is federally listed as a threatened ecological community (TEC) (Endangered), and state listed as a priority ecological community (Priority 3). Area 3 is representative of this ecological community. Potential impacts to this community are discussed in Section 3.2.2.</p> <p>Area 2 is not mapped as the Banksia Woodlands Community, but may be representative of this community.</p> <p>Area 1 is not representative of this community.</p>
<b>Fauna</b>	According to available datasets, there are records of eight conservation listed fauna species within the local area. Of these, a likelihood of analysis identified two species that may occur within the application area based on habitat suitability, as presented in section B.4 below.

## B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
<b>IBRA bioregion*</b>					
Swan Coastal Plain	1,501,222	579,814	38.6	153,955	10.3
<b>Vegetation complex</b>					
Hedde vegetation complex 'Bassendean Complex North' **	79,057	56,659	71.6	30,558	38.6
<b>Local area</b>					
10km radius	37,575	25,346	67	-	-

\*Government of Western Australia (2019b)

\*\*Government of Western Australia (2019a)

## B.3. Flora records table

The below table shows threatened and priority flora recorded within the local area (10 kilometre radius), with likelihood of occurrence based on habitat suitability, site inspection findings and proximity to known records.

Species name	Conservation status (state listing)	Suitable habitat present [Yes/No]	Likelihood of occurrence [Likely/potential/unlikely]
<i>Allocasuarina grevilleoides</i>	3	Yes	Potential



Species name	Conservation status (state listing)	Suitable habitat present [Yes/No]	Likelihood of occurrence [Likely/potential/unlikely]
<i>Anigozanthos humilis</i> subsp. <i>chrysanthus</i>	4	Yes	Potential
<i>Banksia dallanneyi</i> subsp. <i>pollostata</i>	3	No	Unlikely
<i>Beyeria cinerea</i> subsp. <i>cinerea</i>	3	No	Unlikely
<i>Calothamnus pachystachyus</i>	4	No	Unlikely
<i>Dodonaea hackettiana</i>	4	Yes	Potential
<i>Drakaea elastica</i>	T	No	Unlikely
<i>Goodenia xanthotricha</i>	2	No	Unlikely
<i>Grevillea evanescens</i>	1	No	Unlikely
<i>Lepidosperma rostratum</i>	T	No	Unlikely
<i>Leucopogon</i> sp. Yanchep (M. Hislop 1986)	3	No	Unlikely
<i>Pimelea calcicola</i>	3	No	Unlikely
<i>Scholtzia laciniata</i>	2	No	Unlikely
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	4	No	Unlikely
<i>Verticordia paludosa</i>	4	No	Potential

#### B.4. Fauna records table

The below table shows conservation listed fauna previously recorded in the local area (10 kilometre radius) that may occur within the application area based on the presence of suitable habitat.

Species name	Conservation status (state listing)	Suitable habitat present [Yes, No, N/A]	Did site inspection identify? [Yes, No, N/A]
Australasian bittern ( <i>Botaurus poiciloptilus</i> )	Endangered	No	No
Carnaby's cockatoo ( <i>Calyptorhynchus latirostris</i> )	Endangered	Yes	No
Blue-billed duck ( <i>Oxyura australis</i> )	P4	No	No
Greater bilby ( <i>Macrotis lagotis</i> )	Vulnerable	No	No
Lesser Sand Plover ( <i>Charadrius mongolus</i> )	Endangered	No	No
Western brush wallaby ( <i>Notamacropus irma</i> )	P4	Yes	No

#### Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biodiversity values</b>		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p>Area 3 comprises a high level of biodiversity as it includes 1.69 hectares of:</p>	At variance (Area 3)	Yes <i>Refer to Section 3.2.2, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<ul style="list-style-type: none"> <li><i>Banksia</i> and <i>Eucalyptus tottiana</i> woodland largely in excellent condition</li> <li>Significant foraging habitat for Carnaby's cockatoo</li> <li>Vegetation representative of the Banksia Woodlands Community</li> </ul> <p>Areas 2 and 3 are not likely to provide a high level of biodiversity.</p>	Not likely to be at variance (Areas 1 and 2)	
<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><b>Area 1</b> This area is in a completely degraded (Keighery, 1994) condition, with no current foraging habitat for Carnaby's cockatoo. This area is unlikely to provide significant habitat for fauna.</p> <p><b>Area 2</b> This area provides some foraging habitat for Carnaby's cockatoo, however this is unlikely to be of a density that provides significant foraging habitat for Carnaby's cockatoo, also noting the relatively small size of this patch (0.29 hectares). This area is not likely to provide significant habitat for fauna.</p> <p><b>Area 3</b> This area provides 1.69 hectares high quality Banksia woodland in largely excellent (Keighery, 1994) condition and within 3 km of a known breeding site. This area is considered significant foraging habitat for Carnaby's cockatoo.</p>	At variance (Area 3)  Not likely to be at variance (Areas 1 and 2)	Yes  <i>Refer to Section 3.2.1, 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> <p>The application area does not provide suitable habitat for any threatened flora species known from the local area.</p>	Not likely to be at variance	Yes  <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (d):</u> "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."</p> <p><u>Assessment:</u></p> <p>According to available datasets, and a site inspection, the vegetation within the application area is not representative of any known state listed threatened ecological communities (DWER, 2021).</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> "Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."</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 (Commonwealth of Australia, 2001).</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>As shown in Appendix B.2, the mapped vegetation complex, Bioregion and local area all retain greater than the 30 per cent threshold. Therefore, the application area is not likely to be within an extensively cleared area.</p>		
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation areas (Moore River Nature Reserve and Moore River National park 1.1km east), the proposed clearing is not likely to impact on the environmental values of any conservation areas.</p>	Not likely to be at variance	No
<b>Environmental value: land and water resources</b>		
<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 no wetlands or watercourses mapped within the application area. The proposed clearing is not likely to impact on the closest water feature, a resource enhancement sumpland 140 m from the application area.</p> <p>A site inspection did not identify any riparian vegetation within the application area (DWER, 2021).</p>	Not likely to 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>The CSLC (2021) provided comment on the proposed clearing, and based on a land degradation impact assessment, advised the following:</p> <ul style="list-style-type: none"> <li>• The majority of soils in the mapped land unit have a moderate to high capability of the proposed end land use</li> <li>• The proposed clearing is not likely to result in changes to salinity, eutrophication, wind erosion, water erosion or waterlogging.</li> </ul>	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>There are no wetlands or watercourses mapped within the application area. The proposed clearing is not likely to impact on the closest water feature which is located around 140 m from the application area and separated by a firebreak and existing high quality remnant vegetation.</p> <p>Noting the distance and extent of vegetation between the application area and the closest wetland/watercourse, the proposed clearing is unlikely to result in surface water quality impacts through sedimentation or otherwise. Groundwater salinity levels are marginal, and there is not expected to be any surface expression of salinity due to clearing.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</p> <p><u>Assessment:</u> The mapped soils are highly permeable, and noting the lack of hydrological features on site, and relatively flat topography, the proposed clearing is not likely to exacerbate flooding.</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. Photographs of the vegetation**

Area 1 – Representative site photographs (DWER, 2021)





Area 2 – Representative site photographs (DWER, 2021)







**Area 3 – Representative site photographs (DWER, 2021)**









## Appendix E. Sources of information

### E.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Consanguineous Wetlands Suites (DBCA-020)
- 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)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Remnant Vegetation, All Areas
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- South Coast Significant Wetlands (DBCA-018)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- RIWI Act, Groundwater Areas (DWER-034)

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

### F.2. References

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