



## CLEARING PERMIT

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

### PERMIT DETAILS

Area Permit Number: CPS 9714/1  
File Number: DWERVT10069  
Duration of Permit: From 21 August 2022 to 21 August 2024

### PERMIT HOLDER

City of Wanneroo

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 15448 on Deposited Plan 40340, Mindarie

Lot 3050 on Deposited Plan 47951, Mindarie

### AUTHORISED ACTIVITY

The permit holder must not clear more than 0.185 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 conduct clearing activities in a slow, progressive manner towards adjacent *native vegetation* to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

### 4. Wind erosion management

The permit holder must commence construction activities no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

### 5. 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 clearing activities generally	<ul style="list-style-type: none"> <li>(a) the species composition, structure, and density of the cleared area;</li> <li>(b) the location where the clearing 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>(c) the date that the area was cleared;</li> <li>(d) the size of the area cleared (in hectares);</li> <li>(e) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 2;</li> <li>(f) actions taken in accordance with condition 3; and</li> <li>(g) actions taken in accordance with condition 4.</li> </ul>

## 6. Reporting

The permit holder must provide to the *CEO* the records required under condition 5 of this permit when requested by the *CEO*.

### DEFINITIONS

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

**Table 2: Definitions**

<b>Term</b>	<b>Definition</b>
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.
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.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation
EP Act	<i>Environmental Protection Act 1986</i> (WA)
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**

A handwritten signature in black ink, appearing to read 'Mathew Gannaway', written over a horizontal line.

Mathew Gannaway  
MANAGER  
NATIVE VEGETATION REGULATION

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

28 July 2022

# SCCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

## Plan 9714/1

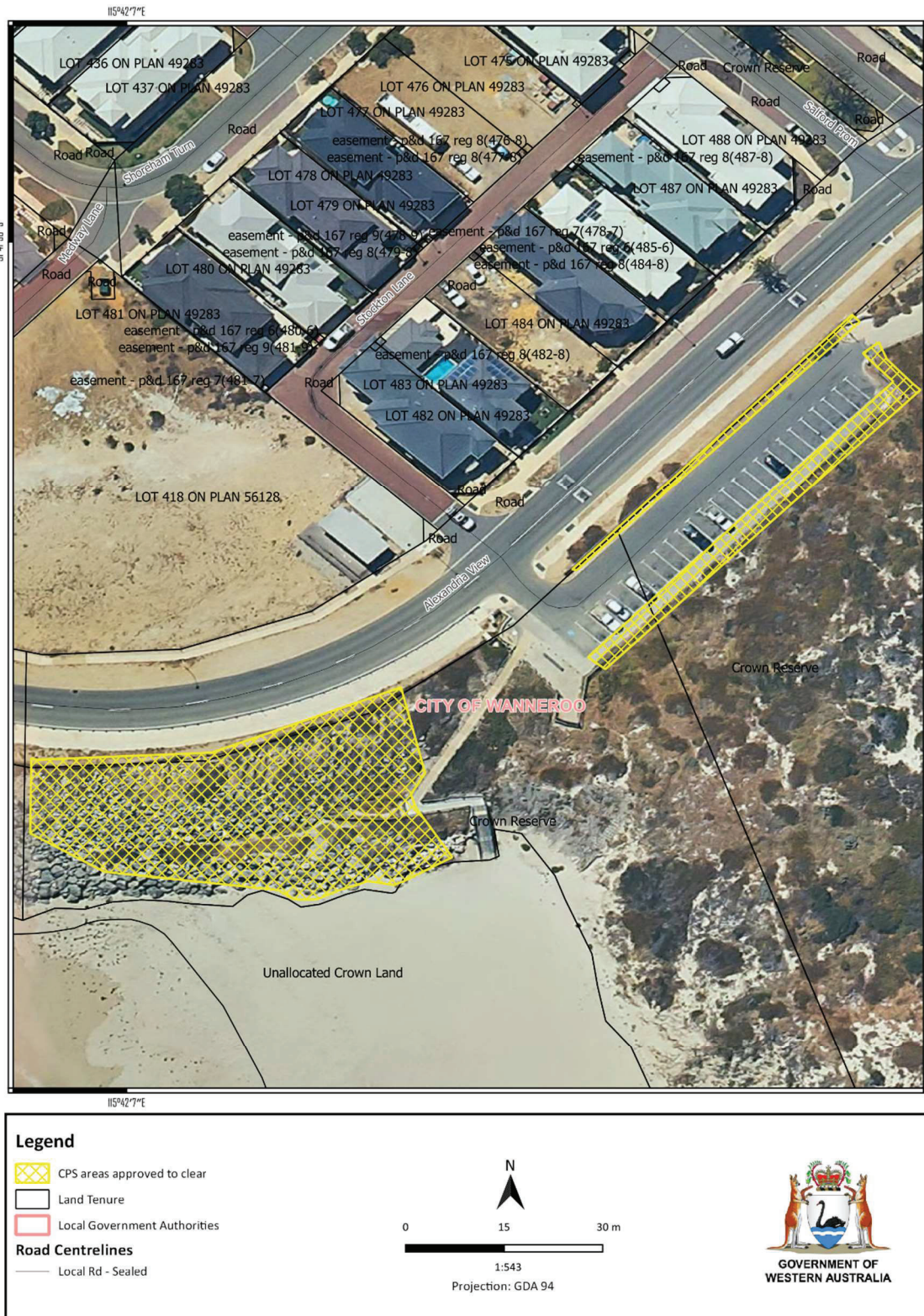


Figure 1: Map of the boundary of the area within which clearing may occur





# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

Permit number:	CPS 9714
Permit type:	Area permit
Applicant name:	City of Wanneroo
Application received:	26 April 2022
Application area:	0.185 hectares
Purpose of clearing:	Improving the condition and structure of the Mindarie Breakwater, upgrading the Claytons Beach carpark and improving drainage along Alexander View
Method of clearing:	Mechanical Clearing (excavator)
Property:	Lot 15448 on Deposited Plan 40340 Lot 3050 on Deposited Plan 47951
Location (LGA area/s):	City of Wanneroo
Localities (suburb/s):	Mindarie

### 1.2. Description of clearing activities

The City of Wanneroo is proposing to undertake the clearing of 0.185 hectares of vegetation located on the Mindarie Breakwater to facilitate the upgrades to the Clayton's Beach carpark and beach access way. Clearing is proposed to be undertaken in 3 areas (see Figure 1, Section 1.5).

Clearing is proposed to be undertaken by manual means through the use of an excavator. Clearing and construction is scheduled to commence in October 2022 with a completion date of May 2024.

### 1.3. Decision on application

Decision:	Granted
Decision date:	27 July 2022
Decision area:	0.185 hectares of native vegetation, as depicted in Section 1.5, below.

### 1.4. Reasons for decision

This clearing permit application was submitted, 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 submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A **Error! Reference source not found.**), relevant datasets (see Appendix E.1), the findings of a flora and vegetation assessment (see Appendix D), the clearing principles set out in Schedule 5 of the EP Act (see 0), the applicant's minimisation and mitigation measures, relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the purpose of the clearing is to improve functionality of the breakwater structures and reduce public safety risks.

The assessment identified that the proposed clearing will result in:

- the loss of 0.185 hectares of Bush Forever Site 322 (Burns Beach Bushland)
- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values and
- the potential to contribute to land degradation in the form of wind erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed to unlikely 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
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity
- staged clearing to minimise wind erosion

1.5. Site map

Plan 9714/1

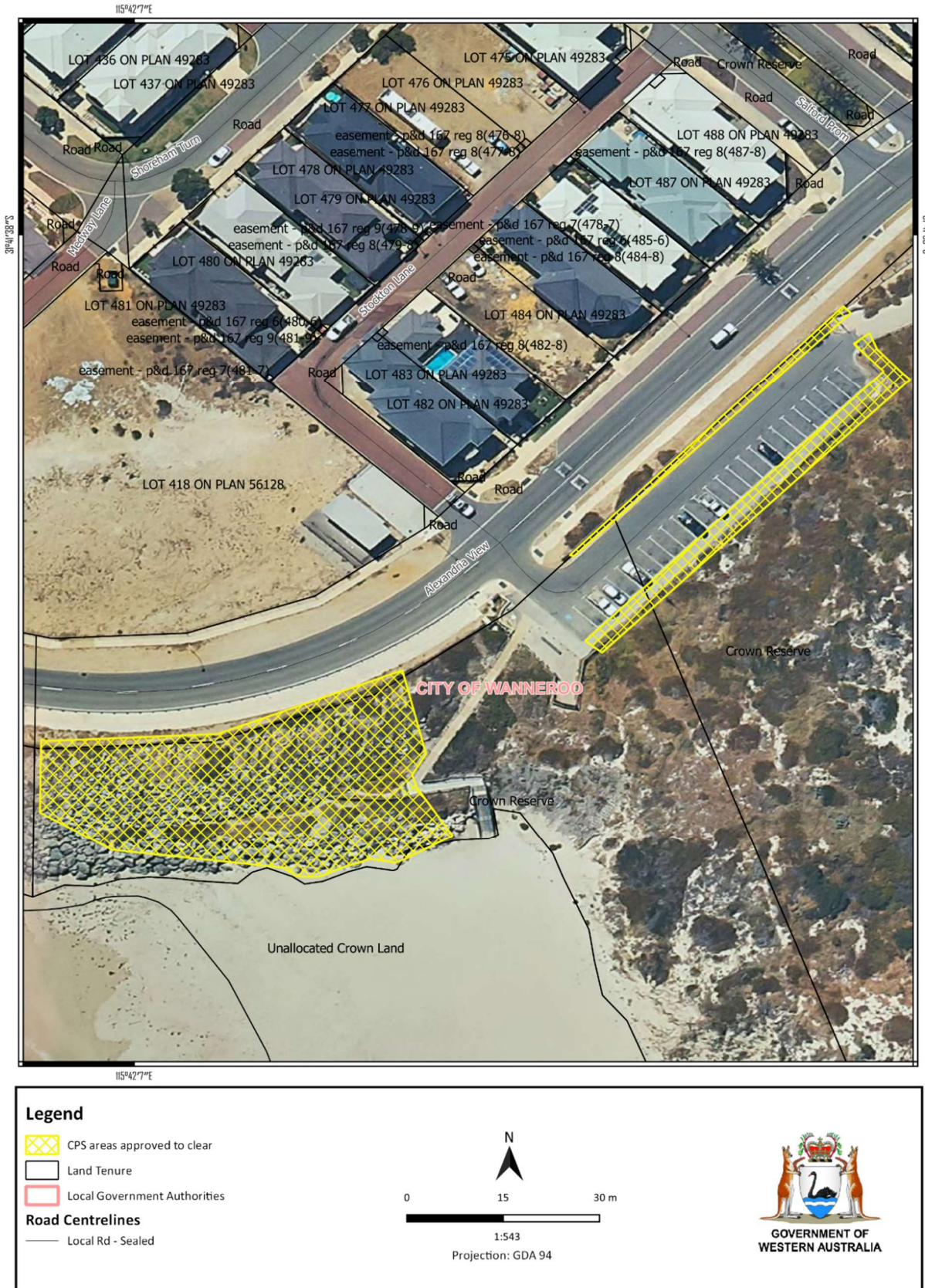


Figure 1 Map of the application area CPS 9714/1. The area cross-hatched yellow indicates the area within which 0.185 hectares of native vegetation is authorised to be cleared under the granted clearing permit.



## 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Rights in Water and Irrigation Act 1914* (RIWI 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 renewal and upgrades to associated infrastructure of the Mindarie Breakwater, Mindarie, has been prioritised by the City of Wanneroo as the structure currently poses a public safety risk. The City of Wanneroo stated that the City has considered to minimise clearing wherever possible with only removing vegetation that is required for the proposed work, and the City will install a structure to retain the dune and vegetation (City of Wanneroo, 2022a).

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

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

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

#### 3.2.1. Biological values (fauna) – Clearing Principle (b)

**Assessment:** According to available databases, 35 conservation significant fauna species have been recorded within the local area comprising 16 Threatened, two Priority 2, two Priority 3 and five Priority 4 species, eight specially protected Migratory species, one other specially protected species (OS) and one specially protected species (conservation dependent; CD) fauna taxa. None of these records occur within the application area.

Twenty-two of the fauna species identified within the local area are associated with marine, estuarine or freshwater habitats that do not occur within the application area (Appendix A). The many marine species that were identified in database records is due to the proximity of the Indian Ocean and these have not been considered further. In determining the likelihood of conservation significant fauna occurring within the application area, consideration was given to the results of the flora and vegetation survey, preferred habitat types and typical home ranges, proximity of records to the application area, and the type and condition of the vegetation within the application area. Seabirds, shorebirds and migratory wading species could utilise the shoreline, but none are likely to utilise the application area itself. A summary of fauna recorded within the local area and with the potential to occur within the application area is presented in Appendix Appendix C.A.1 A.1.

A flora and vegetation assessment was undertaken by the environmental officers of the City of Wanneroo in October 2021 and March 2022 (City of Wanneroo, 2022b). The assessment did not identify any instances of threatened or priority fauna species within the application area. The vegetation assessment and photos provided indicates the vegetation within the application area contains coastal low heath. Of the three clearing areas (Figure 2), the vegetation in clearing area 1 and 2 was recorded in good to completely degraded condition, containing sparse vegetation dominated by one weed species (*\*Tetragonia decumbens*) and a few dominant native species. Clearing

area 6 contains vegetation recorded in very good condition with no weed species and nine native's species recorded (City of Wanneroo, 2022b).

According to available databases, all three species of Threatened black cockatoo occur within the local area; *Zanda latirostris* - previously *Calyptorhynchus latirostris* (Carnaby's cockatoo; Endangered); *Zanda Calyptorhynchus* - previously *Calyptorhynchus baudinii* (Baudin's cockatoo; Endangered); and *Calyptorhynchus banksii naso* (forest red-tailed cockatoo; Vulnerable). The application area is mapped within the known distribution of Carnaby cockatoo, but is outside the typical range for Baudin's cockatoo and forest red-tailed cockatoo. Noting the results from the vegetation assessment, the application area does not provide preferred foraging, roosting or nesting habitat for Carnaby's cockatoo, Baudin's cockatoo or forest red-tailed cockatoo. Given the above, vegetation within the application area is not likely to comprise significant foraging, breeding, or roosting habitat for Carnaby's cockatoo, Baudin's cockatoo and forest red-tailed cockatoo.

*Neelaps calonotos* (Black-striped snake; Priority 3) is known from five records within the local area, with the nearest occurring approximately 1.24 kilometres from the application area. Black-striped snake is a small-bodied, terrestrial burrowing snake that lives in Banksia woodlands and sandy areas of the Perth region (Western Australian Museum 2017). Noting the habitat preference and proximity of the nearest record, it is possible that this species utilises the application area while moving through the landscape. Noting the extent of the clearing, the vegetation proposed to be cleared is not likely to be significant for the continued survival of this species.

*Isodon fusciventer* (Quenda, Priority 4) is known from 112 records within the local area, with the nearest occurring approximately 0.02 kilometres from the application area. This species typically prefers dense understorey vegetation (DEC, 2012). It is understood that individuals have overlapping home ranges between 1-2 hectares. Noting the proximity of the nearest record, quenda is likely to utilise the application area while moving through the landscape. Noting the extent of clearing proposed, the vegetation within the application area is not likely to be significant for the continued survival of this species.

Noting the extent and distribution of the remaining fauna recorded within the local area (Appendix A), their preferred habitat types, and extent of clearing proposed, the vegetation within the application is not likely to comprise significant habitat for these species.

**Conclusion:** Based on the above assessment, the application area is not considered likely to represent significant habitat for conservation significant fauna species or be critical for the continuation of these species. However, impacts to Quenda individuals that may be present at the time of clearing remains. Directional clearing will assist to mitigate this risk. Imposing weed and dieback management will mitigate impacts to adjacent fauna habitat.

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

- Implement slow and directional clearing to allow any fauna present to move into adjacent vegetation ahead of the clearing activity; and
- Weed and dieback management to mitigate impacts to adjacent vegetation

### **3.2.2. Environmental value: Land resources - Clearing Principle (g)**

**Assessment:** The application area is located within the Quindalup Dunes which are calcareous sands. The subsurface acidification, waterlogging, and salinity has been assessed to be low risk (DPIRD 2019; Appendix A). Water erosion risk and Flood risk ranges from low to high, and phosphorus export risk from moderate to high (DPIRD 2019). There is a high risk of water repellence and wind erosion. The mapped soils are highly susceptible to wind erosion. The clearing of 0.185 hectares of native vegetation may cause land degradation in the form of wind erosion.

**Conclusion:** Based on the above assessment, the proposed clearing may lead to appreciable land degradation in the form of wind erosion.

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

- a wind erosion management condition to mitigate impacts of the proposed clearing on adjacent vegetation.

### **3.2.3. Environmental value: Conservation significant area – Clearing Principle (h)**

**Assessment:** The application area is located wholly within an Environmentally Sensitive Area, mapped as Bush Forever Site 322 (Burns Beach Bushland) that is also mapped as a Gnangara Mound Ecological Linkages (Brown *et al.* 2009). The flora and vegetation assessment determined the vegetation condition ranged from completely degraded to very good. Clearing areas 1 and 2 consist approximately of 30 per cent native vegetation; dominated by one weed species (*Tetragonia decumbens*) and a few dominant native species (*Ficinia nodosa*, *Spinifex longifolius*

and *Threlkeldia diffusa*). Clearing area 6 consisted of the highest diversity in species, with nine native species present.

State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region sets out that proposals and decision making in respect of Bush Forever areas should support a general presumption against the clearing of regionally significant bushland or other degrading activities, except where a proposal or decision is consistent with the overall purpose and intent of the existing Crown reserve or can be reasonably justified with regard to wider environmental, social, economic or recreational needs (clause 5.1.2.1(i)(e)). The Policy also sets out that unavoidable adverse impacts on regionally significant bushland within a Bush Forever area should be offset at a ratio of at least 1:1 in habitat hectares.

Bush Forever aims to fulfil the Government of Western Australia's commitment to plan for the conservation of bushland on the Swan Coastal Plain portion of the Perth Metropolitan Region. Bush Forever Site 322 comprises approximately four kilometres of coastal native vegetation from Mindarie to Burns Beach. South of Burns Beach, Bush Forever Site 325 comprises approximately ten kilometres of semi-continuous coastal vegetation to Hillarys. This strip of coastal vegetation forms an important component of the Gnangara Mound Ecological Linkages and a priority for nature conservation (Brown et al. 2009).

With regard for the extent of the proposed clearing, and the composition and condition of the vegetation proposed to be cleared, it is considered that the proposed clearing is unlikely to have a significant environmental impact on Bush Forever area 322 and is unlikely to sever connectivity within the coastal corridor. On this basis it is considered that the proposed clearing does not constitute a significant residual impact, and that an offset is not required. There is potential that the proposed clearing activities could result in the introduction or spread of weeds and dieback into adjacent vegetation, which could impact on its habitat quality and connectivity.

Conclusion: Based on the above assessment, the proposed clearing is not considered likely to have a significant impact on Bush Forever area 322, however, there is potential for the introduction of weed and dieback into the adjacent vegetation.

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

- weed and dieback management to mitigate impacts to adjacent vegetation.

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

The application was advertised on the Department of Water and Environmental Regulation (DWER) website on 26 April 2022 with a 21 day submission period. No public submissions were received.

The application area is located within the mapped Perth Groundwater Area. The proposed clearing does not require the extraction of groundwater and therefore a permit under the *Rights in Water and Irrigation Act 1914* (WA) (RIWI Act) will not be required.

No Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

**End**

## Appendix A. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix B.

Characteristic	Details
Local context	<p>The application area is situated within the Swan Coastal Plain Bioregion (Thackway and Cresswell, 1995) within a City of Wanneroo recreation area. The proposed clearing area is 0.185 hectares of vegetation comprising both native and introduced species.</p> <p>Spatial data indicates that the local area (within 10 kilometre radius of the proposed clearing area) retains over 35 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The application area resides within a mapped ecological linkage associated with the Bush Forever site 322. Of the three proposed clearing areas, area 6 is contiguous with adjacent remnant vegetation.</p>
Conservation areas	<p>The application area resides within an Environmentally Sensitive Area, mapped as Bush Forever Site 322.</p> <p>Outside of the application area, the closest conservation area is Neerabup National Park located 3.3 kilometres to the east.</p>
Vegetation description	<p>Photographs supplied by the applicant along with the flora and vegetation survey (City of Wanneroo, 2022b) indicates the vegetation is a mix of low coastal scrub and grasses, including native and non-native species. The dominate species recorded were <i>Scaevola crassifolia</i>, <i>Spinifex longifolius</i>, <i>Threlkeldia diffusa</i> and * <i>Tetragonia decumbens</i>.</p> <ul style="list-style-type: none"> <li>clearing areas 1 and 2 consist approximately of 30 per cent native vegetation; dominated by one weed species (*<i>Tetragonia decumbens</i>) with few dominant native species (<i>Ficinia nodosa</i>, <i>Spinifex longifolius</i> and <i>Threlkeldia diffusa</i>)</li> <li>clearing area 6 consisted of the highest diversity in species, with nine native species present.</li> </ul> <p>Hedde et al, (1980) described and mapped the application area as the Quindalup complex 55, which is described as:</p> <ul style="list-style-type: none"> <li>coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of <i>Melaleuca lanceolata</i> (Rottnest Teatree) - <i>Callitris preissii</i> (Rottnest Island Pine), the closed scrub of <i>Acacia rostellifera</i> (Summer-scented Wattle) and the low closed <i>Agonis flexuosa</i> (Peppermint) forest of Geographe Bay.</li> </ul>
Vegetation condition	<p>The vegetation survey (City of Wanneroo, 2022b) describes the vegetation within the proposed clearing area as ranging from Completely Degraded to Very Good (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos are available in Appendix D.</p>
Climate and landform	<p>The application area is within the Perth subregion. The climate of the application area is known as Mediterranean. The annual average rainfall received at 600 is 1000 millimetres, with most of the rainfall received between June and August.</p> <p>The application area falls within the Swan Coastal Plain landform, described as a coastal dune complex.</p>
Soil description	<p>The soil is mapped as beach and dune systems of loose calcareous sand (DPIRD, 2019).</p>



Characteristic	Details
Land degradation risk	The soils along the Swan Coastal Plain are susceptible to wind erosion, water repellence and phosphorus export risk, particularly in areas where the vegetation cover will be substantially reduced and/ or soil surface is disturbed. The application area has a high risk of water repellence and wind erosion. (DPIRD, 2019). The subsurface acidification, waterlogging, and salinity has been assessed to be low risk (DPIRD 2019; Appendix A). Water erosion risk and Flood risk ranges from low to high, and phosphorus export risk from moderate to high (DPIRD 2019).
Waterbodies	The application area is located within the Swan Coastal catchment. The desktop assessment and aerial imagery indicate that there are no watercourses or wetlands that intersect the application area. No watercourses or wetland were identified during the flora survey (City of Wanneroo, 2022b).
Hydrogeography	The application area falls within the Perth Groundwater Area proclaimed under the RiWI Act. The application area does not fall within a surface water area proclaimed under the RiWI Act and does not fall within an area subject to the <i>Country Areas Water Supply Act 1917</i> , nor does it occur within a Public Drinking Water Source Area (DWER-033). Flood risk is high for part of the application area due to its proximity to the coastline and therefore within a tidal zone.
Flora	No conservation significant flora were located within the application area (City of Wanneroo, 2022b). One record of a Threatened flora species; <i>Eucalyptus argutifolia</i> is within 600 metres of the application area. A total of 22 records of Priority flora are within 10 km of the application area. No Threatened or Priority flora are found on the same soil type as the application area.
Ecological communities	No Threatened or Priority Ecological Communities (TEC/PEC) are located within the application area. The closest record is the Priority 3 Tuart woodlands located 2.2 km from the application area.
Fauna	There are records of 34 fauna of conservation significance within the local area. The closest records are of a Vulnerable listed Green turtle ( <i>Chelonia mydas</i> ) and a Priority 4 listed Quenda ( <i>Isoodon fusciventer</i> ). The application area occurs within an area mapped as possible breeding habitat for Carnaby cockatoos. The application area is adjacent to Carnaby black Cockatoo feeding habitat (40 metres east) and within the buffer zone of this habitat. Although the vegetation within the application area itself is not considered representative of Black Cockatoo breeding or feeding habitat.

### A.1. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Approximate distance to nearest record (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Zanda Calyptorhynchus</i> (Baudin's cockatoo)	Endangered	N	6.99	3	Y
<i>Zanda latirostris</i> (Carnaby's Black-Cockatoo)	Endangered	N	1.11	399	Y
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo)	Vulnerable	N	3.72	4	Y
<i>Chelonia mydas</i> (green turtle)	Vulnerable	N	0.08	4	Y
<i>Falco peregrinus</i> (peregrine falcon)	OS	N	8.51	5	Y
<i>Apus pacificus</i> (fork-tailed swift)	Migratory	N	5.08	3	Y

Species name	Conservation status	Suitable habitat features? [Y/N]	Approximate distance to nearest record (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Austrosaga spinifer</i> (spiny katydid – swan coastal plain)	Priority 2	N	4.63	2	Y
<i>Hylaeus globuliferus</i> (woolybush bee)	Priority 3	N	8.52	5	Y
<i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider)	Priority 3	N	2.92	2	Y
<i>Neelaps calonotos</i> (Black-striped snake)	Priority 3	N	1.24	5	Y
<i>Isoodon fusciventer</i> (quenda)	Priority 4	Y	0.02	112	N
<i>Notamacropus Irma</i> (western brush wallaby)	Priority 4	N	3.29	9	Y
<i>Synemon gratiosa</i> (graceful sunmoth)	Priority 4	N	0.95	254	Y

Note: The application area occurs adjacent to the ocean. According to available databases, 35 conservation significant fauna species have been recorded within the local area comprising 16 Threatened, two Priority 2, two Priority 3 and five Priority 4 species, eight specially protected Migratory species, one other specially protected species (OS) and one specially protected species (conservation dependent; CD) fauna taxa. Of these, 22 fauna are associated with marine, estuarine or freshwater habitats that do not occur within the application area, and have been excluded from table.

## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain locally or regionally significant flora, fauna, or assemblages of plants. The application area does not comprise a high level of biodiversity, noting only a few native species were identified (City of Wanneroo, 2022b).</p>	Not likely to be at variance	No
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The fauna assessment did not identify any instances of threatened or priority fauna species within the application area (City of Wanneroo, 2022b).</p> <p>The area proposed to be cleared does not contain significant foraging, roosting, and breeding habitat for conservation significant fauna.</p> <p>Records of Quenda (<i>Isoodon fusciventer</i>, Priority 4) occur within the local area (0.02 kilometres from the application area). Therefore, this species may be a transient visitor to the application area for foraging and resting.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for Threatened flora. The survey did not identify any Threatened flora within the application area (City of Wanneroo, 2022b).</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain species that indicate a threatened ecological community (TEC). No TECs were mapped within the application area. The survey did not identify a TEC within the application area (City of Wanneroo, 2022b).</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		

Assessment against the clearing principles	Variance level	Is further consideration required?
<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 is located within the Swan Coastal Plain bioregion as described by Thackway and Cresswell (1995). The Swan Coastal Plain (IBRA) bioregion retains approximately 38.62 per cent of its pre-European vegetation extent (Government of Western Australia 2019a).</p> <p>Webb et al. (2016) described and mapped the Quindalup vegetation complex over the application area. The Quindalup vegetation complex has 60.49 per cent of its pre-European vegetation extent remaining (Government of Western Australia 2019b).</p> <p>At a local scale, 35.02 per cent of the native vegetation has been retained within a 10 km radius of the application area.</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 entire application area is located wholly within an Environmentally Sensitive Area, mapped as a Bush Forever Site 322 (Burns Beach Bushland) that is also associated with the Gnangara Mound Ecological Linkages (Brown et al. 2009).</p>	May be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<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>No watercourses or wetlands occur within the application area. The native vegetation within the application area is not growing on or in association with a watercourse or wetland.</p>	Not 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 mapped soils are highly susceptible to wind erosion. The clearing of 0.185 hectares of native vegetation may cause land degradation in the form of wind erosion. Noting the extent and purpose of the clearing proposed, the proposed clearing is unlikely to cause appreciable land degradation.</p>	May be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>Given no water courses, wetlands or Public Drinking Water Sources Areas are recorded in the vicinity of the application area, the proposed clearing is unlikely to impact surface or ground water quality.</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>	Not likely to be at variance	No



Assessment against the clearing principles	Variance level	Is further consideration required?
<p>The application area is located within the Coastal Catchment of the Swan Coastal Basin with surface water and groundwater discharging to the Indian Ocean. The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. Due to the scale of clearing, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding.</p>		

## 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. Biological survey information excerpts and photographs of the vegetation (City of Wanneroo, 2022b)**



Figure 2: Proposed clearing areas for the renewal of the Mindarie Breakwater, upgrades to the Clayton's Beach carpark and upgrades to drainage along Alexander View, Mindarie. This permit relates to clearing areas 1, 2 and 6 as clearing areas 3, 2 and 5 were deemed exempt under Part V of the *Environmental Protection Act 1986*.



Flora and vegetation assessment (City of Wanneroo, 2022b)



Figure 3: Photos of the vegetation within clearing area 1



Figure 4: Photos of the vegetation within clearing area 2





Figure 5: Photos of the vegetation within clearing area 6

## 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)
- Contours (DPIRD-073)
- 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)
- 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)
- 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 – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- 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
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

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

### E.2. References

Brown, P.H., Davis, R.A., Sonneman, T. and Kinloch, J. (2009) Ecological linkages proposed for the Gngangara groundwater system. Gngangara Sustainable Strategy. Department of Environment and Conservation. The University of Western Australia Perth Region NRM. May 2009.

City of Wanneroo (2022a) Clearing permit application CPS 9714/1, received 26 April 2022 (DWER Ref: DWERDT603052).

City of Wanneroo (2022b) Supporting information for clearing permit application CPS 9714/1, received 11 April 2022 (DWER Ref: DWERDT603256).

- Department of Environment and Conservation (DEC) (2012). *Fauna profiles: Quenda, Isoodon obesulus fusciventer*. Department of Environment and Conservation, Western Australia.
- Department of Environment Regulation (DER) (2013). 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 Primary Industries and Regional Development (DPIRD) (2019). NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (accessed 23 June 2022).
- Department of Water and Environmental Regulation (DWER) (2019). 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).
- Department of Agriculture, Water and the Environment (DAWE) (2022) *Referral guideline for 3 WA threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and the Forest Red-tailed Black-cockatoo*. Department of Agriculture, Water and the Environment, Canberra, February. Available from: <https://www.awe.gov.au/environment/epbc/publications/referral-guideline-3-wa-threatened-black-cockatoo-species-2022>.
- Environmental Protection Authority (EPA) (2019). Carnaby's Cockatoo in Environmental Impact Assessment in the Perth and Peel Region, EPA, Western Australia.
- Government of Western Australia (2019) 2018 South West Vegetation Complex Statistics. Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth, <https://catalogue.data.wa.gov.au/dataset/dbca>
- Government of Western Australia. (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Western Australian Museum (2017) *Meet the black-striped snake*. Available at: <http://museum.wa.gov.au/explore/articles/meet-black-striped-snake>