GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9905/1
Permit Holder:	Ann Smith
Duration of Permit:	From 5 December 2022 to 5 December 2027

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of power installation.

2. Land on which clearing is to be done

Lot 11 on Deposited Plan 232807, Waroona

Coronation Road Reserve (PIN 11602707), Waroona

3. Clearing authorised

The permit holder must not clear more than 0.03 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. 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.

5. 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.

PART III - RECORD KEEPING AND REPORTING

6. 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	(a) the species composition, structure, and density of the cleared area; (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; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); and (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4. (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 5.

7. Reporting

The permit holder must provide to the *CEO* the records required under condition 6 of this permit when requested by the *CEO*.

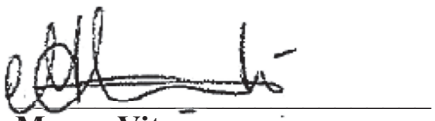
DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
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 *Phytophthora* species on native vegetation.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (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 *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or not indigenous to the area concerned.

END OF CONDITIONS



Meenu Vitarana
Manager
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

11 November 2022

Schedule 1

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

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

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9905/1
Permit type:	Purpose permit
Applicant name:	Ann Smith
Application received:	4 October 2022
Application area:	0.03 hectares of native vegetation
Purpose of clearing:	power installation
Method of clearing:	Mechanical clearing
Property:	Lot 11 on Deposited Plan 232807, and Coronation Road Reserve (PIN 11602707)
Location (LGA area/s):	Shire of Waroona
Localities (suburb/s):	Waroona

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5). The application is to clear native vegetation (including two jarrah trees and a wandoo tree) to install underground power supply connection.

1.3. Decision on application

Decision:	Granted
Decision date:	11 November 2022
Decision area:	0.03 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 7 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see 0), relevant datasets (see Appendix E.1), the clearing principles set out in Schedule 5 of the EP Act (see 0), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is

- unlikely to have significant impact on conservation significant flora, fauna or ecological communities.

- the clearing is not likely to have a significant or long-term impact on a mapped multiple use wetland within the application area.
- the clearing is not likely to have significant impact on an ecological linkage or a significant remnant of vegetation in a highly cleared landscape; and
- the applicant has suitably demonstrated avoidance and minimisation measures

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

1.5. Site map

Figure 1 Map of the application area

The area crosshatched yellow indicates the area 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)

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 has considered measures to mitigate clearing of native vegetation by working alongside Western Power to design the shortest route to minimise the amount of native vegetation clearing. Furthermore, Western Power advised the applicant that the removal of the trees will be considered as the last option. The other avoidance measures that may be possible after the initial site inspection are:

- Moving the cable alignment zone from 0 - 500 to 2.4 - 3 metres
- Usage of a line borer to bore past the trees rather than digging trenches

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 0) 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 that the impacts of the proposed clearing present a risk to biological values (fauna) and environmental values (significant remnant vegetation). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (fauna) - Clearing Principle (b)

Assessment

According to available databases, 146 records of 21 conservation significant fauna species have been recorded within the local area. Noting the habitat requirements of the recorded species, the mapped vegetation type and the condition of the vegetation within the application area, the application area is likely to comprise suitable habitat for three black cockatoo species: forest red-tailed black cockatoo (*Calyptorhynchus banksia subsp. naso*), Carnaby's cockatoo (*Zanda latirostris* - previously *Calyptorhynchus latirostris*) and Baudin's cockatoo (*Zanda Calyptorhynchus* - previously *Calyptorhynchus baudinii*) (collectively referred to as black cockatoos herein this report) southwestern brush-tailed phascogale (*Phascogale tapoatafa* subsp. *wambenger*) and quenda (*Isoodon fusciventer*).

Black cockatoos

According to available databases, 32 records of forest red-tailed black cockatoo, 29 records of Carnaby's cockatoo and seven records of Baudin's cockatoo have been recorded in the local area.

Suitable breeding habitat for black cockatoos includes trees which either have a suitable nest hollow or are of a suitable dimeter at breast height (DBH) to develop a nest hollow. For most tree species a suitable DBH is 500 millimetres (Commonwealth of Australia, 2012). A review of the application area by the Shire did not identify any trees with hollows (Smith, 2022b).

Noting typical food resources for black cockatoos, the application area is likely to provide foraging habitat for these species. Forest red-tailed black cockatoo forages within jarrah and marri woodlands and forest, and edges of karri forests including wandoo and blackbutt, within the range of the subspecies. The species largely feeds and seeds on marri and jarrah, as well as other *Eucalyptus* species and *Allocasuarina* cones *(Commonwealth of Australia, 2012).*

Baudin's cockatoos prefer foraging within Eucalypt woodlands and forest, and proteaceous woodland and heath. During the breeding season this species has a preference for marri seeds. Outside the breeding season the species may feed in fruit orchards and tips of Pinus spp. (Commonwealth of Australia, 2012). Carnaby's cockatoo feeds 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).

Foraging habitat for black cockatoos within seven kilometres (km) of a breeding site is important to adequately support breeding pairs (EPA, 2019). The closest confirmed breeding area is located approximately 7.2 kilometres east of the application area. However, noting that there is a wide gap of no remnant vegetation within the seven kilometres of the application area and there are bigger patches of remnant vegetation near the recorded breeding site, the proposed clearing is unlikely to reduce the amount of food available to breeding birds or affect chick survival rates. As such, the application area is not likely to provide significant foraging habitat that supports black cockatoo breeding.

The application area is not likely to provide significant foraging habitat that supports black cockatoo night roosting. Individual night roosting sites need suitable foraging habitat and water within 6 km (EPA, 2019). There are three confirmed black cockatoo roosting sites within the local area located approximately 7.4, 8.4 and 9.5 kilometres from the application area. Noting the distance from the roosting sites, the proposed clearing will not impact significant foraging habitat surrounding night roosting sites.

Taking into account the small size of the application area and that the application area is not within an ecological linkage, the proposed clearing is not likely to restrict black cockatoo ability to migrate across the landscape.

South-western brush-tailed phascogale
According to available databases, six records of south-western brush-tailed phascogale have been recorded in the local area with closest record approximately 2.12 kilometres from the application area. The preferred habitat for this species in Western Australia is within dry sclerophyll forests and open woodlands that contain hollow bearing trees (DEC, 2012). Noting the historical disturbance of the site, lack of a continuous tree canopy linking nearby remnants which would assist this species in avoiding predators and the absence of hollow bearing trees, the application area is unlikely to provide suitable or significant habitat for this species.

Quenda
The available databases indicate 33 records of quenda within the local area with closest record approximately 1.43 kilometres from the application area. Quendas inhabits forest, woodland and heathland, usually with dense understorey vegetation, sometime wetland fringes; forages for plant material, fungi and insects by digging in leaf litter and soil. Considering that the application area lacks dense understorey and is dominated by weed and grasses, it is unlikely for the application area to provide suitable or significant habitat for this species.

Ecological linkage
Given the distance and the minimal extent of remnant vegetation within the application area, the proposed clearing is not likely to have an impact on any ecological linkages. A review of aerial imagery indicates that the vegetation in the application area is isolated and not likely to function as an ecological linkage enabling fauna to move between areas of remnant vegetation. In addition, aerial imagery and spatial datasets also indicate that larger patches of remnant vegetation are more likely to be used by fauna for movement across the landscape. Therefore, the proposed clearing is not likely to have an impact on fauna movement.

Conclusion
Based on the above assessment, the Delegated Officer has determined that the proposed clearing will not significantly impact on this environmental value.

Conditions

No fauna management conditions required.

3.2.2. Environmental values (remnant vegetation) - Clearing Principle (e)

Assessment:
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). The extent of native vegetation within the local area is inconsistent with the national targets as it retains approximately 10.68 per cent vegetation cover. Given this, the application area is located within an extensively cleared landscape.

The application area is located within the 'Swan Coastal Plain' (SCP) Interim Biogeographic Regionalisation for Australia (IBRA) which retains approximately 32.5 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). The SCP vegetation complex Serpentine River, which has been mapped within the application area, retains approximately 9.77 per cent of its original vegetation extent. While this vegetation has been extensively cleared, the application area is partially consistent with the description of Serpentine River Complex which is described as 'Closed scrub of *Melaleuca* species and fringing woodland of *Eucalyptus rudis* (flooded gum) *Melaleuca rhaphiophylla* (swamp paperbark) along streams'.

Taking into account the minimal extent of the proposed clearing in a degraded (Keighery, 1994) to completely degraded (Keighery, 1994) condition and that the application area is unlikely to provide significant habitat for fauna, be a part of a significant ecological linkage or be necessary to maintain ecosystem services (such as hydrological processes), the vegetation within the application area is not considered as a significant remnant of native vegetation in an extensively cleared landscape.

Outcome:
Based on the above assessment, the Delegated Officer has determined that the proposed clearing will not significantly impact on this environmental value.

Conditions:
For the reasons set out above, it is considered that no clearing permit conditions are necessary in relation to this matter.

3.3. Relevant planning instruments and other matters

The Shire of Waroona advised the department that the proposed clearing is consistent with the Shire's Local Planning Scheme. The Shire has also advised the applicant that it has no objections to native vegetation clearing.

The department 's water licencing branch advised that the application area is located within the Murray Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The construction of a well and acquiring groundwater for non-domestic purposes, such as dust suppression for earthworks and construction would require a licence from the department (DWER, 2022a).

The closest Aboriginal site and heritage place is Buller Road Camp located approximately 2.8 kilometres southwest of 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

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is a 0.03-hectare isolated patch of native vegetation in the intensive land use zone of Western Australia. The application area is situated parallel to Coronation Road and is surrounded by highly cleared area. The proposed clearing area is a small, isolated remnant in a highly cleared agricultural landscape. Aerial imagery indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 10.68 per cent of the original native vegetation cover (see Appendix A.2)
Ecological linkage	Application area is not a part of any formal or informal ecological linkages.
Conservation areas	The closest conservation area is located approximately 1.3 kilometres from the area proposed to be cleared.
Vegetation description	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of mostly mature *Melaleuca* and *Eucalyptus* species trees over weedy understorey of introduced grasses. Representative photos are available in Appendix D. This is somewhat consistent with the Swan Coastal Plain mapped vegetation type, Serpentine River Complex, which is described as 'closed scrub of *Melaleuca* species and fringing woodland of *Eucalyptus rudis* (Flooded Gum) - *Melaleuca rhaphiophylla* (Swamp Paperbark) along streams.'
Vegetation condition	Photographs supplied by the applicant (Smith, 2022b) indicate the vegetation within the proposed clearing area is in degraded (Keighery, 1994) to completely degraded (Keighery, 1994) condition, described as: • Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. • 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. The full Keighery (1994) condition rating scale is provided in 0. Representative photos are available in Appendix D.
Climate and landform	Rainfall: 1000 millimetres Groundwater Salinity (Total Dissolved Solids): 500-1000 milligrams per litre total dissolved solids Landform: Broad poorly drained sandplain
Soil description	The soil is mapped as Bassendean B4 Phase, which is described as, broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan.

Characteristic	Details
Land degradation risk	The mapped soil types within the application area have high risk of subsurface acidification, water logging and phosphorous export risk. The full land degradation risk summary for the mapped soil subsystems is provided in Appendix A.4.
Waterbodies	The desktop assessment and aerial imagery indicates that the application is mapped within an unknown multiple use palusplain (ufi 15231).
Hydrogeography	The application area falls within the Murray Groundwater Area, as proclaimed under the Rights in Water and Irrigation Act 1914 (RIWI Act).
Flora	26 flora records have been identified in the local area. nearest record is of *Caladenia speciosa* (priority four) approximately 0.8 kilometres from the application area. *Schoenus natans* (priority four), is found on the same soil and vegetation type as application area. Four threatened species have been identified in the local area with the nearest record (*Caladenia huegelii*) located approximately 4.23 kilometres from the application area.
Ecological communities	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region threatened ecological community is located 1.2 kilometres southwest of the application area.
Fauna	There are records of 21 fauna of conservation significance within the local area and three known black cockatoo roost sites within the 10-kilometre radius of the application area.

A.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
IBRA bioregion*					
Swan Coastal Plain	94,175.31	24,869.20	26.41	4,769.48	5.06
Vegetation complex**					
Serpentine River Complex	19,855.41	1,940.18	9.77	517.49	2.61
Local area (10km radius)	315802209.7	33741690.4	10.68	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

A.3. Flora analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Schoenus natans	P4	Y	Y	Y	5.91	5	N/A
Caladenia speciosa	P4	Y	N	Y	0.8	4	N/A
Hemigenia microphylla	P3	Y	Y	N	8.64	2	N/A

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

A.4. Land degradation risk table

Risk categories	*Land Unit 1*
Wind erosion	M1: 10-30% of the map unit has a high to extreme hazard
Water erosion	L1: <3% of map unit has a high to extreme water erosion risk
Salinity	L1: 30-50% of map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	H2: >70% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	L1: <3% of the map unit has a moderate to high hazard
Water logging	H2: >70% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	H2: >70% of map unit has a high to extreme phosphorus export risk

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared does not contain locally significant flora, fauna, habitats, assemblages of plants. Although the application area comprises of potential foraging habitat for conservation significant fauna, however considering that the application area is parkland cleared, lacks ecological linkages, and is dominated by weeds it is unlikely for the application area to comprise of high level of biodiversity.	Not likely to be at variance	No
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The application area comprises suitable habitat for three black cockatoo species. Noting the extent of the proposed clearing, lack of hollow bearing trees, its location in relation to patches of better quality remnant vegetation and the sparse weed-dominated understorey, the vegetation proposed to be cleared is not likely to comprise a significant habitat for native fauna.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: Noting the vegetation type, vegetation condition and soil type within the application area, the area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The area proposed to be cleared does not contain species that can indicate a threatened ecological community.	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation type is inconsistent with the national objectives and targets for biodiversity conservation in Australia. However, the vegetation in the application area is not considered a significant remnant as it is not a part a significant ecological linkage, is not likely to provide habitat for conservation significant flora and fauna and is not likely to be representative of threatened or priority ecological community.	Not likely to be at variance	Yes *Refer to Section 3.2.2, above.*
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: The application area is mapped within an unnamed multiple use palusplain, therefore, the vegetation proposed to be cleared is growing in an environment associated with a wetland. A review of photographic evidence supplied by the applicant (see Appendix D) indicate the presence of riparian vegetation in completely degraded condition.	May be at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soil types within the application area have some limiting land degradation characteristics. However, noting the minimal extent of the proposed clearing in degraded (Keighery, 1994) to completely degraded (Keighery, 1994) condition of the application area, the proposed clearing is not likely to cause appreciable land degradation.	Not likely to be at variance	No
Principle (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."* Assessment:	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Noting the purpose of the clearing, condition of vegetation and that no watercourses are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.		
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Noting the minimal extent of the proposed clearing scattered along the application area, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding. The soil type is mapped as having high risk of waterlogging, however, given no watercourses are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.	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 (Smith, 2022a)

Figure D-1

Figure D-2

Figure D-3

Appendix E. Sources of information

E.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- 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)
- 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

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

Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

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.

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 2 November 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.

Department of Water and Environmental Regulation (DWER) (Regulatory Services – Water) (2022a) *Rights in Water and Irrigation Act 1914 advice for clearing permit application CPS 9905/1*, received 7 November 2022 (DWER Ref: DWERDT682600).

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

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

Mattiske, E.M. and Havel, J.J. (1998) *Vegetation Complexes of the South-west Forest Region of Western Australia.* Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.

Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) *South West Regional Ecological Linkages Technical Report*, Western Australian Local Government Association and Department of Environment and Conservation, Perth.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) *Atlas of Australian Soils*, Sheets 1 to 10, with explanatory data. CSIRO and Melbourne University Press: Melbourne.

Schoknecht, N., Tille, P. and Purdie, B. (2004) *Soil-landscape mapping in South-Western Australia – Overview of Methodology and output*s Resource Management Technical Report No. 280. Department of Agriculture.

Shah, B. (2006) *Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia*. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Shire of Waroona (2022) *Advice for clearing permit application CPS 9905/1*, received 25 October 2022 (DWER Ref: DWERDT677276).

Smith, A. (2022) *Clearing permit application CPS 9905/1*, received 4 October 2022 (DWER Ref: DWERDT674132).

Smith, A. (2022a) *Supporting information for clearing permit application-photographs CPS 9905/1,* received 20 October 2022 (DWER Ref: DWERDT674131).

Smith, A. (2022b) *Supporting information – letter of authority from Shire CPS 9905/1,* received 13 October 2022 (DWER Ref: DWERDT672789).

Valentine, L.E. and Stock, W. (2008) *Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) in the Gnangara Sustainability Strategy Study Area*. Edith Cowan University and Department of Environment and Conservation. December 2008.

Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed 1 November 2022)