GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9574/1

File Number: DWERVT9362

Duration of Permit: From 10 June 2022 to 10 June 2024

PERMIT HOLDER

Mr Stephen Treeby and Mrs Fay Treeby

LAND ON WHICH CLEARING IS TO BE DONE

Lot 45 on Deposited Plan 14297, Wandi

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.02 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. 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); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 1; and (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 2.

4. Reporting

The permit holder must provide to the *CEO* the records required under condition 3 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.

Term	Definition
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 (c) not indigenous to the area concerned.

END OF CONDITIONS

Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

17 May 2022

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (

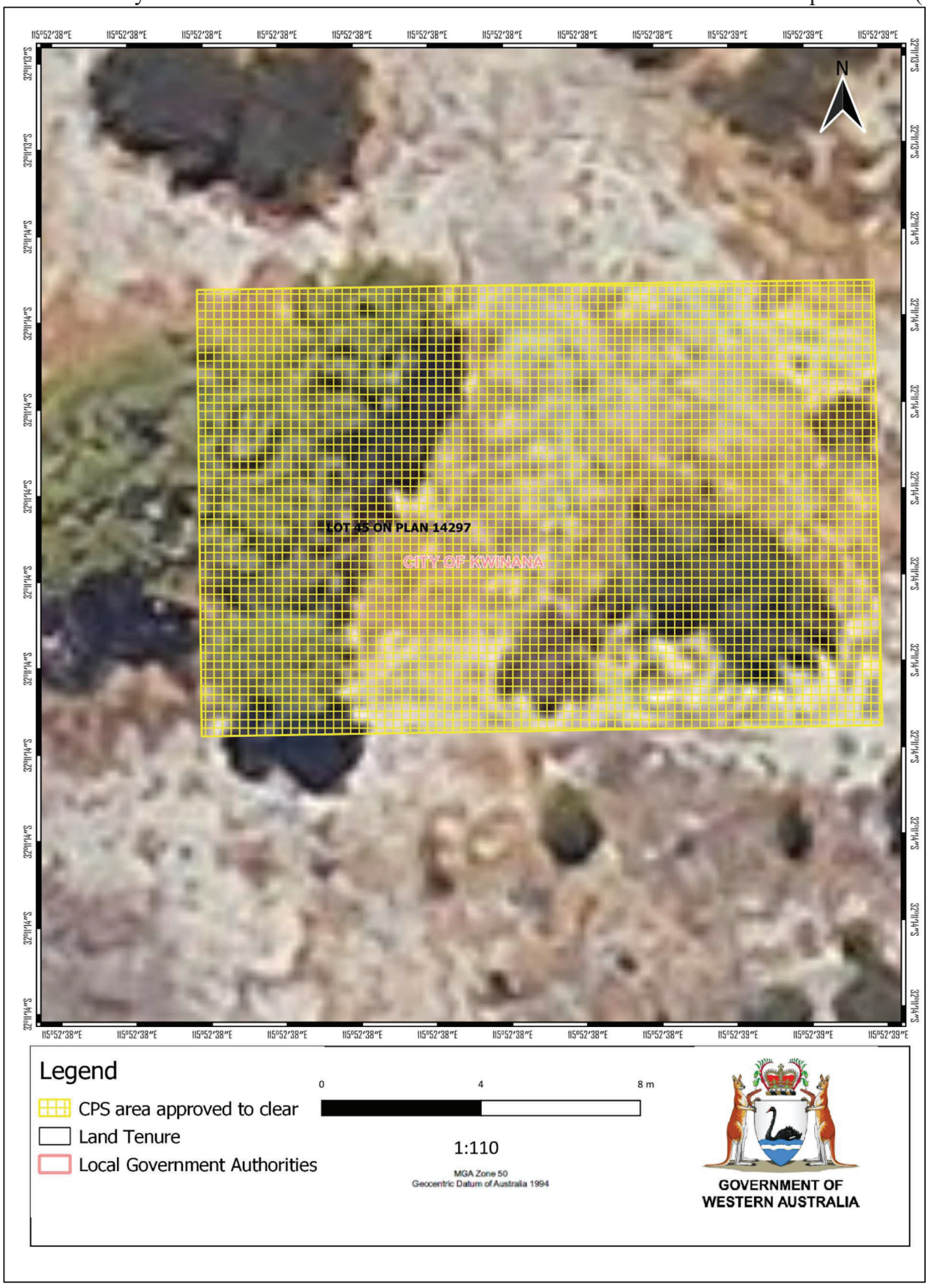

Figure 1.).

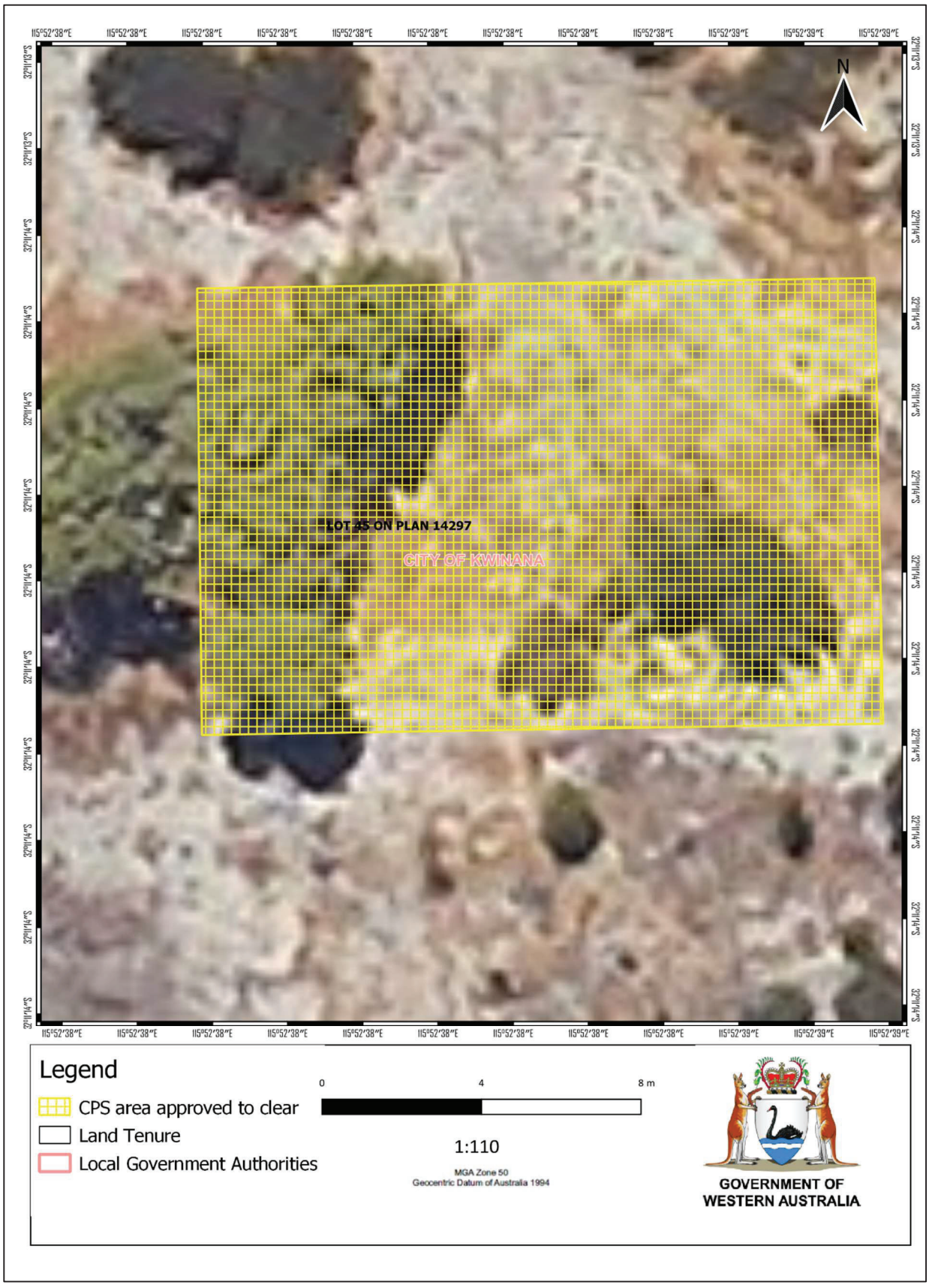

Figure 1: Map of the boundary of the area within which clearing may occur

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 9574/1
Permit type:	Area permit
Applicant name:	Mr Stephen Treeby and Mrs Fay Treeby
Application received:	31 January 2022
Application area:	0.02 hectares of native vegetation
Purpose of clearing:	Construction of an ancillary building
Method of clearing:	Mechanical clearing
Property:	Lot 45 on Deposited Plan 14297
Location (LGA area/s):	City of Kwinana
Localities (suburb/s):	Wandi

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 applicant advised the Department of Water and Environmental Regulations (DWER) that the clearing request is to mechanically remove six *Banksia menziesii* (firewood banksia) trees (0.02 hectares) within Lot 45 to build an ancillary building (Treeby. S and Treeby. F, 2022a)

The property has previously been mostly cleared and the revegetation was predominately woollybush regrowth within the remainder of the property (Treeby. S and Treeby. F, 2022a).

1.3. Decision on application

Decision:	Granted
Decision date:	17 May 2022
Decision area:	0.02 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). DWER advertised the application for 14 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), 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 build an ancillary building to accommodate the applicant.

The assessment identified that the proposed clearing will result in:

- the loss of native vegetation that is suitable foraging habitat for Carnaby's black cockatoos.
- 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.

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 lead to an appreciable land degradation and have long-term adverse impacts on environmental values and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures.

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

- avoid and 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.

1.5. Site map

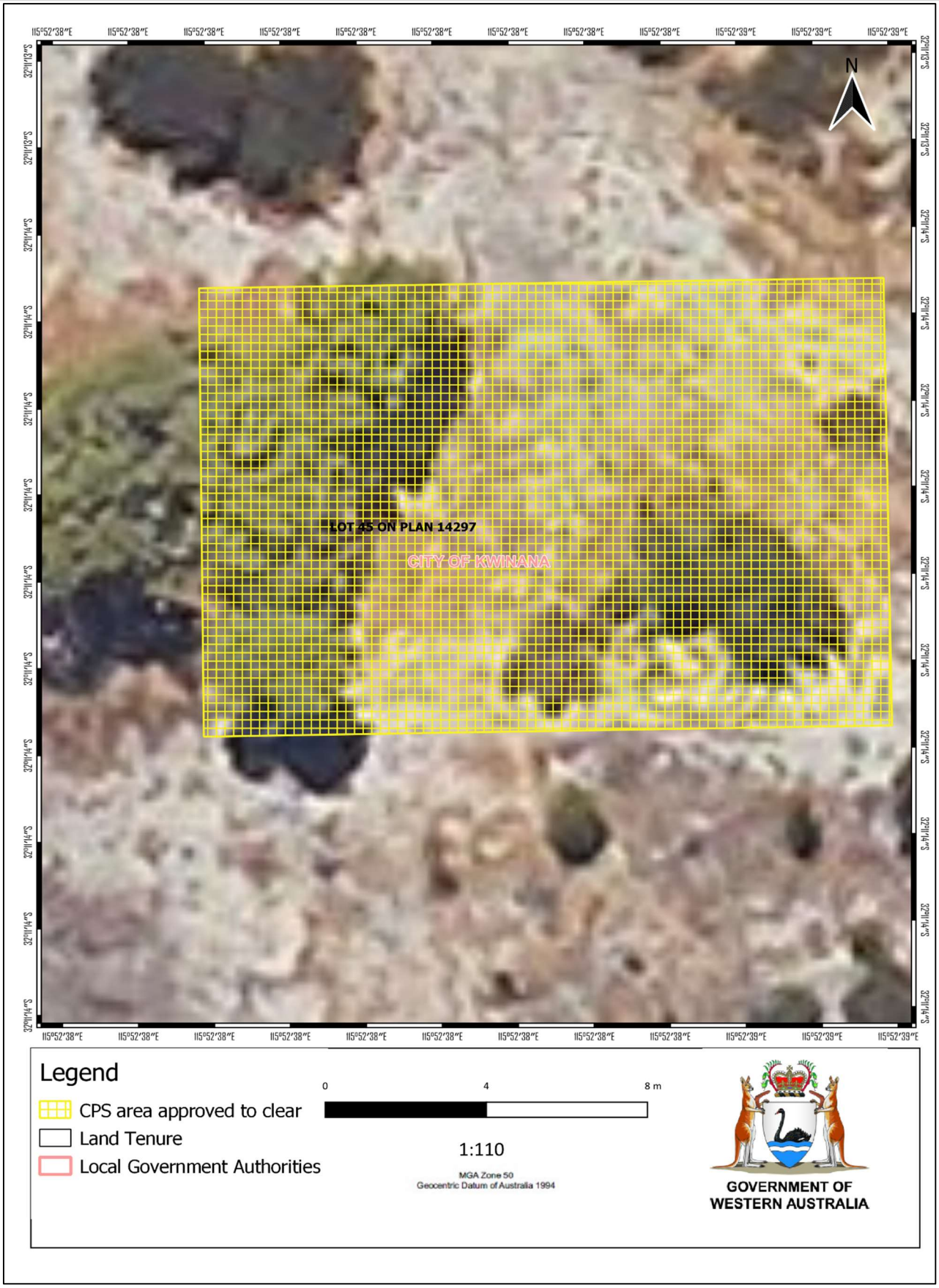

Figure 1 Map of the application area

The area crosshatched yellow indicate 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)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Soil and Land Conservation Act 1945* (WA)

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant advised DWER that, minimisation and avoidance measures have been considered. The applicant has taken actions to avoiding clearing the jarrah trees on the property as not many of the jarrah trees remains on the property. The applicant has further stated that there is a planting program on the property to replace the dead woolly bush with native trees and shrubs, which is an ongoing project (Treeby. S and Treeby. F, 2022b).

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 B) 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 C) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid, minimise and hygiene management conditions.

The consideration of any impacts from the proposed clearing and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values - Clearing Principles (a and b)

Assessment

The application area is located within the Interim Biogeographic Regionalisation for Australia (IBRA) Swan Coastal Plain Bioregion. This bioregion includes urban developments associated with the City of Perth and is dominated by woodlands of Banksia and Tuart on sandy soils, sheoak on outwash plains, and paperbark in swampy areas (CALM, 2002).

Based on the photographs provided by the applicant (Treeby. S and Treeby. F, 2022b), the proposed clearing consists of *Banksia menziesii* trees. Based on the photographs (Treeby. S and Treeby. F, 2022b) supplied by the applicant, condition of the native vegetation proposed for clearing is determined to be degraded (Keighery, 1994), as it lacked key elements such as the understorey layer of shrubs, native herbs and grasses. The application area also appears to be under weed invasion and human disturbances (Treeby. S and Treeby. F, 2022b).

Weeds and dieback have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the introduction and spread of weeds and dieback may be minimised by the implementation of a weed and dieback management condition.

Flora

According to available databases, 33 conservation significant flora have been recorded within the local area which include eight threatened flora and 25 priority flora species. While some of these flora species have been mapped within similar, broad scale soil and vegetation types, the likelihood of occurrence analysis did not identify any of these species to occur over the application area. It is noted that the majority of the flora records were associated with wetland, swamps, damp land vegetation and areas subject to winter inundation (Western Australian Herbarium, 1998.) The remaining flora records are associated with low shrubland or woodland over shrubs or associated with marri-jarrah, banksia spp., or melaleuca species (Western Australian Herbarium, 1998). Based on the habitat suitability discussed above, nature and condition (Keighery, 1994) of the application area, the locally known flora records are not identified as potentially occurring within the application area.

Ecological Community

The area proposed to be cleared is mapped within a commonwealth-listed Threatened Ecological Community (TEC) and a state listed Priority Ecological Community (PEC), the Banksia woodland of the Swan Coastal Plain. This ecological community typically has a prominent tree layer of banksia with scattered eucalyptus and other tree species present within or above the banksia canopy. The understorey is species rich and has many wildflowers, including sclerophyllous shrubs, sedges and herbs (DAWE, 2016). Considering the disturbed, fragmented and altered condition of the vegetation, the proposed clearing is not representative of the Banksia Woodlands of the Swan Coastal Plain and the proposed clearing will not have a significant residual impact on the TEC.

Fauna

According to the available databases, 46 conservation significant fauna species were identified within the local area. The records include 28 birds, seven invertebrates, eight mammals and three reptile species.

Class: Birds

Majority of the birds identified through the desktop study are migratory species associated with mudflats, freshwater wetlands, saltmarshes, mangroves and riparian vegetation and does not breed in Western Australia (DAWE, n.d). Based on the known distribution and habitat preference, the bird species most likely to occur over the application area are two species of black cockatoos; the endangered *Calyptorhynchus latirostris* (Carnaby's black cockatoo) and the vulnerable *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo). No records of the *Calyptorhynchus baudinii* (Baudin's black cockatoos) were recorded within the local area although twenty-one records were classified as white-tailed black cockatoos. Given the Baudin's cockatoo prefer the dense jarrah, marri and karri forests of the south-west (DBCA, 2017a), it is unlikely the Baudin's cockatoos are a visitor over the application area. Majority of the black cockatoos were identified as *Calyptorhynchus latirostris* (Carnaby's cockatoo) within the ten-kilometre radius local buffer.

Carnaby's cockatoos were once very numerous in the southwest of Western Australia (DPaW, 2013), however, has suffered at least a 50 per cent decline in the total population and has disappeared from more than a third of its breeding range between 1968 and 1990 (Johnstone, R.E. and Kirkby T, 2008). It is now listed as endangered under both the federal *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and state *Biodiversity Conservation Act 2016* (BC Act). The decline of Carnaby's cockatoo has been due primarily to the loss and fragmentation of habitat, as a result of clearing of native vegetation, since the middle of the 20th century (DPaW, 2013). Identified breeding and nearby feeding habitat, former breeding habitat that has hollows intact and vegetation that provides habitat for feeding, watering and regular night roosting is considered habitat critical for recovery of the species (DPaW, 2013).

Black cockatoos nests in the hollows of live or dead eucalypts trees and the application area does not provide the suitable breeding habitat for black cockatoos. Similarly, black cockatoos are known to roost in tall, dense canopied trees close to water where the birds can drink. The roost sites are usually clumped, and at larger roosts cover an area of at least five hectares (Government of Western Australia, 2010). Given the above, the vegetation within the area proposed to be cleared is unlikely to represent suitable black cockatoo roost sites and therefore, unlikely to represent significant loss of black cockatoo roosting habitat.

Approximately 90 per cent of the Forest red-tailed black cockatoos diet includes the seeds of marri (*Corymbia calophylla*) and jarrah (*Eucalyptus marginata*) fruit, but they will also feed on blackbutt (*Eucalyptus patens*), karri (*Eucalyptus diversicolor*), sheoak (*Allocasuarina fraseriana*), snottygobble (*Persoonia longifolia*), hakea species, and the introduced spotted gum (*Eucalyptus maculat*e) and the exotic cape lilac (**Melia azedarach*) on the Swan Coastal Plain (DBCA, 2017b).

Carnaby's cockatoo forages on the seeds, nuts and flowers of a variety of plants, including Proteaceous species (banksia, hakea and grevillea), as well as allocasuarina and eucalyptus species, marri and a range of introduced species (Valentine and Stock, 2008). Carnaby's cockatoos generally forages within six (and up to 12 kilometres) of its nesting or night roost site (Commonwealth of Australia, 2012). *Banksia menziesii* species within the application area is considered to be a high priority foraging species for Carnaby's cockatoos (Valentine and Stock, 2008).

Based on the above diet descriptions for the two black cockatoo species, the application area is only likely to provide foraging habitat for Carnaby's cockatoos. However, given the extent of available foraging species within the local area, the proposed clearing of 0.02 hectares, is unlikely to represent a significant loss of Carnaby's cockatoo foraging habitat. The figure below represents the extent of suitable foraging habitat available for black cockatoos with the local area.

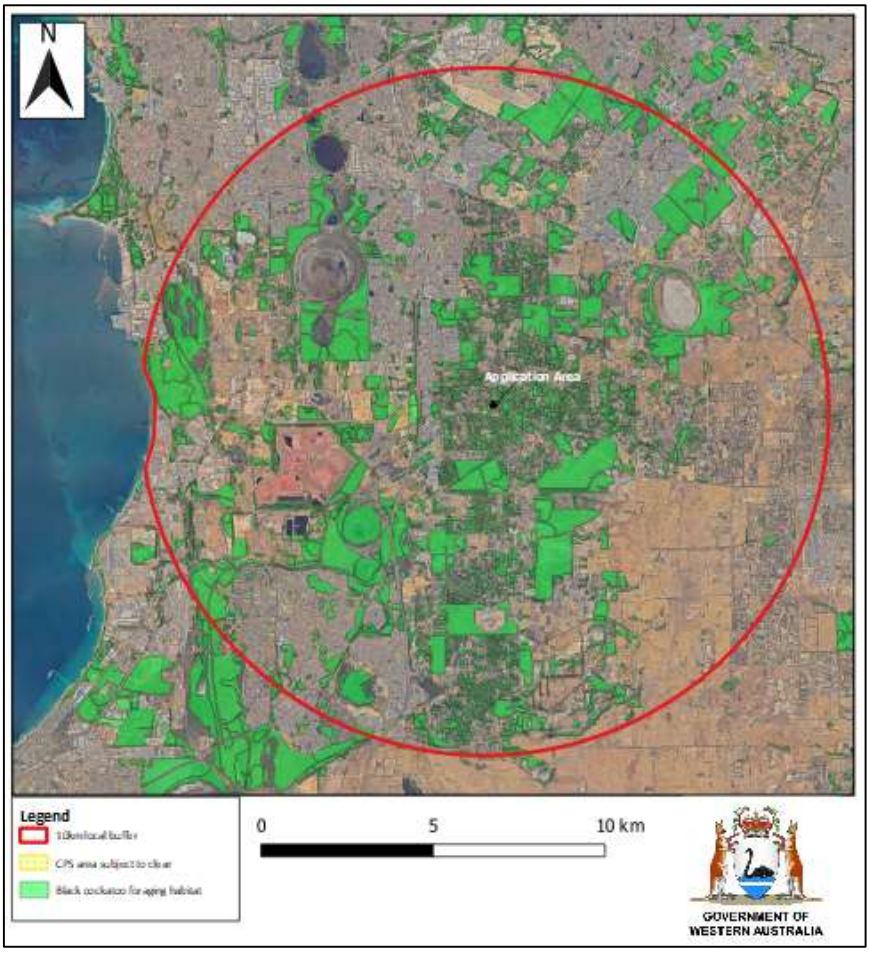

Figure 2: The extent of available foraging habitat for black cockatoos within the 10-kilometre radius local buffer

Class: Invertebrates, Mammals and Reptiles

The degraded (Keighery, 1994) nature of the native vegetation, in particular the lack of an understorey layer and the lack of logs and groundcover is not a preferable environment by the conservation significant fauna species identified from the local area. The absence of a watercourse and noting the location of the proposed clearing area, it is unlikely invertebrates, mammals and reptile species will occur over the application area (DAWE, n.d).

Conclusion

Based on the above assessment, noting the size of the proposed clearing and the degraded condition (Keighery, 1994) of the native vegetation in relation to its position in the landscape and the extent of mapped foraging habitat for black cockatoos within the local area, it is unlikely that the proposed clearing of the native vegetation within the application area will constitute to a significant residual impact.

It is considered appropriate that the impacts of the proposed clearing on adjacent vegetation can be managed by taking steps to minimise the risk of the introduction and spread of weeds an dieback.

Conditions

- No fauna management conditions required.
- The permit holder is required to take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback.

3.3. Relevant planning instruments and other matters

Other relevant authorisations required for the proposed land use include:

- Development approval under the *Planning and Development Act 2005* (issued by the City of Kwinana).

The applicant has received the Development Approval from City of Kwinana on 05 April 2022.

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. Additional information provided by applicant

Summary of comments	Consideration of comment
Photographs	Photographs of the application area (Treeby. S and Treeby. F, 2022b)

Appendix B. Site characteristics

B.1. 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 the assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

Characteristic	Details
Local context	The area proposed to be cleared is a small patch of native vegetation in the intensive land use zone of Western Australia. The proposed clearing area is located in the Perth suburb of Kwinana, approximately 29 kilometres south of Perth CBD. Aerial imagery and Spatial data indicate the local area (ten-kilometre radius from the centre of the area proposed to be cleared) retains approximately 24.7 per cent of the original native vegetation cover.
Ecological linkage	No formal ecological linkages are mapped over the application area and no ecological linkages are considered to exist within the application area.
Conservation areas	The application area is not mapped within a conservation covenant, regional park or DBCA areas of interest (DBCA-012, DBCA-026). A number of conservation areas are located within the ten-kilometre local area, the closest conservation area being the Wandi national park located approximately 1.4 kilometres south of the application area. The Thompsons Lake Nature reserve is located 4.8 kilometres northwest of the application area.
Vegetation description	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of *Banksia menziesii* trees (Treeby. S and Treeby. F, 2022b). Representative photos are available in Appendix E. The mapped vegetation types within the application area are: • Beard vegetation association, Bassendean (1001) which is described as low forest, woodland or low woodland with scattered trees (Shepherd et al, 2001). • Bassendean complex-central and south (44), which is described as *Eucalyptus marginata* (jarrah) - *Allocasuarina fraseriana* (sheoak) - Banksia species to low woodland of melaleuca species, and sedgelands on the moister sites. This area includes the transition of *Eucalyptus marginata* to *Eucalyptus todtiana* in the vicinity of Perth (Government of Western Australia. 2019a). The mapped vegetation types retain approximately 22.05 per cent and 26.87 per cent respectively of the original extent (Government of Western Australia, 2019b) (Government of Western Australia, 2019a).
Vegetation condition	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in degraded (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix D. Representative photos are available in Appendix E.
Climate and landform	The application area is flat with an elevation of approximately 32 meters. The annual mean rainfall for the Perth metro area is 730 millimetres. Application area falls over the Bassendean B1 phase which is described as extremely low to very low relief dunes, undulating sandplain and discrete sand rises (DPIRD, 2019).
Soil description	The soil over the application area is mapped as deep bleached grey sands sometimes with a pale-yellow B horizon or a weak iron-organic hardpan at depths generally greater than two meters (DPIRD, 2019).
Land degradation risk	Soil over the application area is highly susceptible to subsurface acidification and phosphorus export and moderately susceptible to wind erosion (DPIRD, 2019).

Characteristic	Details
	The land degradation table B.6. below summarises the soil degradation risk levels within the application area.
Waterbodies	The application area is located within the Coastal Plain hydrological zone of Western Australia and the Peel-estuary Serpentine River hydrographic catchment. The desktop assessment and aerial imagery indicated that no watercourses transect the area proposed to be cleared. There are multiple Directory of Important Wetlands mapped within the local area with the closest located approximately 1.5 kilometres northeast of the application area. There are also several geomorphic wetlands mapped within the local area with the closest conservation category wetland mapped approximately 1.3 kilometres to the east of the application area. No Wetlands are mapped within a 50-meter radius buffer from the application area.
Hydrogeography	The application area falls within the Jandakot Groundwater Area proclaimed under the RiWI Act (DWER-034). Applicant has no intension to abstract groundwater and therefore, will not impact groundwater. The application area also falls within the Priority two Jandakot underground water pollution control area but is not mapped within a reservoir or wellhead protection zone (DWER-033). The application area does not fall within surface area proclaimed under the RiWI Act and does not fall within an area subject to the *Country Areas Water Supply Act 1917*. Groundwater salinity level (Total Dissolved Solids) is mapped as less than 500 milligrams per litre (fresh) (DWER-026).
Flora	The desktop assessment identified 33 conservation significant flora records in the local area with the nearest record (*Caladenia huegelii*) located 0.31 kilometres from the application area. There are records of eight threatened flora and 25 priority flora within the local area.
Ecological communities	The application area is mapped over the state Priority three, Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region which is a TEC listed as endangered under the EPBC Act. There are numerous patches of the Banksia Dominated Woodland mapped within the local area.
Fauna	The desktop assessment identified 46 fauna records in the local area with the nearest record being 0.31 kilometres from the application area identified as a Carnaby's cockatoo. Of the 46 species identified, 28 species were classed as birds, seven invertebrates, eight mammals and three reptile species. Twenty-one records of the black cockatoos were identified as "white tailed black cockatoos" and not categorised as either Carnaby's or Baudin's black cockatoos. Within the ten-kilometre radius local buffer, 31 known black cockatoo roost sites were identified.

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
IBRA bioregion**					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	222,916.97	14.85
Vegetation association/complex					
Bassendean vegetation association 1001 **	57,410.23	12,660.76	22.05	1,796.27	3.13
Bassendean complex-central and south complex 44 *	87,476.26	23,508.66	26.87	4,377.36	5.00
Local area					
10km radius	31,469.15	7,774.11	24.70	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

B.3. Flora analysis table

The desktop assessment identified 33 conservation significant flora species which includes eight threatened flora and 25 priority flora species. Flora species associated with wetlands, swamps and damp land vegetation are not included within the flora analysis table. The remaining flora species required further consideration and are listed below.

Species name	Conservation status	Suitable habitat features ? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Amanita preissii	P3	N	1.74	1	N
Austrostipa mundula	P3	N	8.86	1	N
Caladenia huegelii	T	N	0.31	34	N
Dodonaea hackettiana	P4	N	3.47	18	N
Drakaea elastica	T	N	0.37	7	N
Drakaea micrantha	T	N	4.82	1	N
Jacksonia sericea	P4	N	7.67	2	N
Kennedia beckxiana	P4	N	3.66	1	N
Phlebocarya pilosissima subsp. *pilosissima*	P3	N	9.10	1	N
Synaphea sp. *Serpentine* (G.R. Brand 103)	T	N	9.00	2	N
Thelymitra variegata	P2	N	8.85	1	N
Tripterococcus sp. *Brachylobus* (A.S. George 14234)	P4	N	3.88	4	N
Verticordia lindleyi subsp. lindleyi	P4	N	2.60	8	N

B.4. Fauna analysis table

The desktop assessment identified 46 conservation significant fauna species including 28 birds, seven invertebrates, eight mammals and three reptile species. Migratory birds and aquatic fauna species are excluded from the fauna analysis table below.

Species scientific name	Species common name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Year of the most recent record	Are surveys adequate to identify? [Y, N, N/A]
BIRD							
Calyptorhynchus banksii naso	Forest red-tailed black cockatoo	VU	N	1.86	31	2019	N
Calyptorhynchus latirostris	Carnaby's cockatoo	EN	Y (foraging)	0.31	511	2018	N
Calyptorhynchus sp. 'white-tailed black cockatoo'	white-tailed black cockatoo	EN	Y (foraging)	0.62	21	2018	N
Falco peregrinus	peregrine falcon	OS	N	4.82	34	2013	N
Tyto novaehollandiae novaehollandiae	masked owl (southwest)	P3	N	9.41	2	2005	N
INVERTEBRATE							
Idiosoma sigillatum	Swan Coastal Plain shield-backed trapdoor spider	P3	N	7.02	18	2019	N
Leioproctus contrarius	a short-tongued bee	P3	N	6.69	2	1954	N
Leioproctus douglasiellus	a short-tongued bee	EN	N	7.28	2	2006	N
Neopasiphae simplicior	a short-tongued bee	EN	N	7.28	6	2018	N
Synemon gratiosa	Graceful sunmoth	P4	N	1.62	10	2011	N
Throscodectes xiphos	stylet bush cricket, stylet Throsco (Jandakot)	P1	N	7.71	4	1999	N
MAMMAL							
Dasyurus geoffroii	Chuditch, western quoll	VU	N	1.89	2	2013	N
Falsistrellus mackenziei	western false pipistrelle, western falsistrelle	P4	N	4.96	1	1993	N
Isoodon fusciventer	Quenda, southwestern brown bandicoot	P4	N	0.55	689	2020	N
Myrmecobius fasciatus	numbat, walpurti	EN	N	5.13	7	1989	N
Notamacropus eugenii derbianus	tammar wallaby	P4	N	4.67	1	1971	N
Notamacropus irma	Western brush wallaby	P4	N	3.17	36	2019	N
Phascogale tapoatafa wambenger	south-western brush-tailed phascogale, wambenger	CD	N	4.72	3	2013	N
REPTILE							
Lerista lineata	Perth slider, lined skink	P3	N	2.99	201	2018	N
Neelaps calonotos	Black-striped snake, black-striped burrowing snake	P3	N	5.84	8	2018	N

B.5. Land degradation risk table

Risk categories	*Land Unit: 212Bs_B1*
Wind erosion	H1: 52% of map unit has a high to extreme hazard
Water erosion	L1: 0% of map unit has a very high to extreme hazard
Salinity	L1: 0% of map unit has a moderate hazard
Subsurface Acidification	H2: 100% of map unit has a high susceptibility
Flood risk	L1: 0% of the map unit has a moderate to high hazard
Water logging	L2: 10% of map unit has a moderate to very high risk
Phosphorus export risk	H2: 83% of map unit has a high to extreme hazard

Appendix C. 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 vegetation proposed to be cleared is mapped as Banksia Dominated Woodland of the Swan Coastal Plain IBRA Region (listed as endangered under the EPBC Act) and contains foraging habitat for Carnaby's cockatoos. Given the condition of the vegetation proposed for clearing and the absence of the key species that comprise the banksia dominated woodland community, the application area is not representative of this ecological community or any other PEC's. The application area is unlikely to provide significant habitat for the conservation significant flora and fauna species recorded in the local area.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
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 area proposed to be cleared does not contain roosting and breeding habitat for conservation significant fauna. *Banksia menziesii* over the application area will provide foraging habitat for Carnaby's cockatoos however, given the extent of available foraging species within the local area, the proposed clearing is not considered to be significant.	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: The area proposed to be cleared is unlikely to contain habitat for Threatened flora.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
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 is mapped over a federally listed TEC, however, the vegetation over the application area and condition does not indicate it is a representation of the Banksia Woodland TEC.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
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 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 (Commonwealth of Australia, 2001).	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
The Bassendean vegetation association 1001, Bassendean complex-central and south complex 44 and the native vegetation extent in the local area retains less than the 30 per cent of its pre-European extent (Government of Western Australia, 2019a; Government of Western Australia, 2019b). However, given the proposed area is within the Perth Metropolitan Region constrained area, a minimum ten per cent representation threshold applies (EPA, 2008). Noting the above, the proposed clearing is not likely to be significant as a remnant of native vegetation in an extensively cleared area. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.		
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 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: Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality. The proposed clearing will not include clearing of riparian vegetation.	Not 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 soils are highly susceptible to nutrient export and subsurface acidification. Noting the extent, location, purpose of the proposed clearing and the condition (Keighery, 1994) of the vegetation, the proposed clearing is not likely to have an appreciable impact on 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: No watercourses and wetlands are recorded within the application area. The application area is located over a public drinking water source area. No groundwater will be intercepted. Given the purpose of clearing, the degraded nature of the proposed clearing and the absence of any watercourses within the application area, it is unlikely that the proposed clearing will impact surface or ground water quality.	Not likely to be at variance	No
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:	Not at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
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. Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.		

Appendix D. 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 E. Photographs of the vegetation

CPS 9574/1 - Supporting information – Photographs of proposed native vegetation to be removed

Figure 3: Photos of the application area provided in support of the application (Treeby. S and Treeby. F, 2022b)

Appendix F. Sources of information

F.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)
- 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)

F.2. References

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