



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9369/1
Permit Holder:	Mr Kevin Kramer
Duration of Permit:	From 11 February 2022 to 11 February 2027

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of commercially selling firewood.

2. Land on which clearing is to be done

The permit holder is authorised to clear *native vegetation* within the properties described in Table 3 of Schedule 1 of this permit.

3. Clearing authorised

In relation to the areas cross-hatched yellow in Figure 1(a), Figure 1(b), Figure 1(c), Figure 1(d) and Figure 1(e) of Schedule 2 of this permit, the permit holder must not clear more than 50 hectares of native vegetation comprising the following:

- (a) 30 hectares of dead *Acacia acuminata* (jam) trees
- (b) 20 hectares of dead *Eucalyptus wandoo* (wandoo), *Eucalyptus salmonophloia* (salmon gum) or *Eucalyptus loxophleba* (York gum) trees.

4. Clearing not authorised

- (a) the permit holder must not clear any live trees under this permit
- (b) the permit holder must not clear any *riparian vegetation* under this permit
- (c) in relation to the areas cross-hatched yellow in Figure 1(a), Figure 1(b), Figure 1(c), Figure 1(d) and Figure 1(e) of Schedule 2 of this permit, the permit holder must not clear any standing dead trees that have a diameter (measured at 130 centimetres from the base of the tree) of:
 - (i) 30 centimetres or greater for *Eucalyptus salmonophloia* or *Eucalyptus wandoo*
 - (ii) 50 centimetres or greater for *Eucalyptus loxophleba*.

PART II – MANAGEMENT CONDITIONS

5. 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.

6. 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 machinery of soil and vegetation prior to entering and leaving the areas to be cleared;
- (b) clean machinery of soil and vegetation prior to moving between the areas cross-hatched yellow in Figures 1(b), 1(c), 1(d) and 1(e) and the area cross-hatched yellow in Figure 1(a) of Schedule 2 of this permit;
- (c) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the areas to be cleared; and
- (d) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

7. Site access

When accessing areas authorised to clear under this permit, the permit holder must use existing access tracks or cleared paddocks where they are available, to avoid traversing native vegetation.

PART III - RECORD KEEPING AND REPORTING

8. 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	<ol style="list-style-type: none">(a) the species and total number of each tree species cleared;(b) the dates that clearing occurred;(c) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5 of this permit;(d) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 6 of this permit; and(e) actions taken in accordance with condition 7 of this permit;

9. Reporting

- (a) The permit holder must provide to the *CEO* on or before 30 June of each year, a written report:
 - (i) of records required under condition 8 of this permit; and
 - (ii) concerning activities done by the permit holder under this Permit between 1 January and 31 December of the preceding calendar year.
- (b) If no clearing authorised under this permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the *CEO* on or before 30 June of each year.
- (c) The permit holder must provide to the *CEO*, no later than 90 calendar days prior to the expiry date of the permit, a written report of records required under condition 8 of this permit, where these records have not already been provided under condition 9(a) of this permit.


DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department or his/her delegates 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), designated as responsible for administering 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)
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.
Riparian vegetation	means the distinctive vegetation associated with a wetland or watercourse
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.

END OF CONDITIONS



Jessica Burton
A/MANAGER
NATIVE VEGETATION REGULATION

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

20 January 2022

Schedule 1

Table 3: List of properties within which the clearing is authorised in accordance with the conditions of this permit.

Property	Locality
LOT140 ON DEPOSITED PLAN 230104	MOORA
LOT 141 ON DEPOSITED PLAN 230104	MOORA
LOT 139 ON DEPOSITED PLAN 230104	MOORA
LOTS 800 & 802 ON DEPOSITED PLAN 58548B	BINDI BINDI
LOT 171 ON DEPOSITED PLAN 228019	BINDI BINDI
LOT 173 ON DEPOSITED PLAN 245002	BINDI BINDI
LOT 172 ON DEPOSITED PLAN 245027	BINDI BINDI
LOT 371 ON DEPOSITED PLAN 246376	BINDI BINDI
LOT 478 ON DEPOSITED PLAN 246439	BINDI BINDI
LOT 618 ON DEPOSITED PLAN 247260	BINDI BINDI
LOT 429 ON DEPOSITED PLAN 249546	BINDI BINDI
LOTS M 611, M 612, M 613, M 614, M 615, M 616, M 1825, M 1827, M 1828 & M 1841 ON PLAN 3040	BINDI BINDI
LOTS M 620, M 621, M 622, M 624, M 1826 & M 1829 ON PLAN 3041	BINDI BINDI
LOT M 97 ON DIAGRAM 2081	BINDI BINDI
LOT 1 ON DIAGRAM 2946	BINDI BINDI
LOT 821 ON DEPOSITED PLAN 58547	BINDI BINDI
LOT 974 ON DEPOSITED PLAN 249659	BINDI BINDI
LOTS M 619, M 625 & M 626 ON PLAN 3041	BINDI BINDI
LOT 3651 ON DEPOSITED PLAN 205674	BINDI BINDI
LOT M 569 ON PLAN 3005	BINDI BINDI
LOT 812 ON DEPOSITED PLAN 301394	BINDI BINDI
LOT 140 ON DEPOSITED PLAN 228014	BINDI BINDI
LOT 1002 ON DEPOSITED PLAN 103150	BINDI BINDI
LOT 1004 ON DEPOSITED PLAN 103152	BINDI BINDI
LOT M 571 ON PLAN 3005	BINDI BINDI
LOT M 570 ON PLAN 3005	BINDI BINDI
LOT M 537 ON PLAN 3004	BINDI BINDI
LOT 2 ON DIAGRAM 6926	BINDI BINDI
LOT 1 ON DIAGRAM 6927	BINDI BINDI
LOT M 573 ON PLAN 3006	BINDI BINDI
LOT 3618 ON DEPOSITED PLAN 206451	BINDI BINDI
LOT M 1043 ON DIAGRAM 4071	BINDI BINDI

Schedule 2

The boundary of the areas authorised to be cleared under this permit are shown in Figures 1a to 1e below.

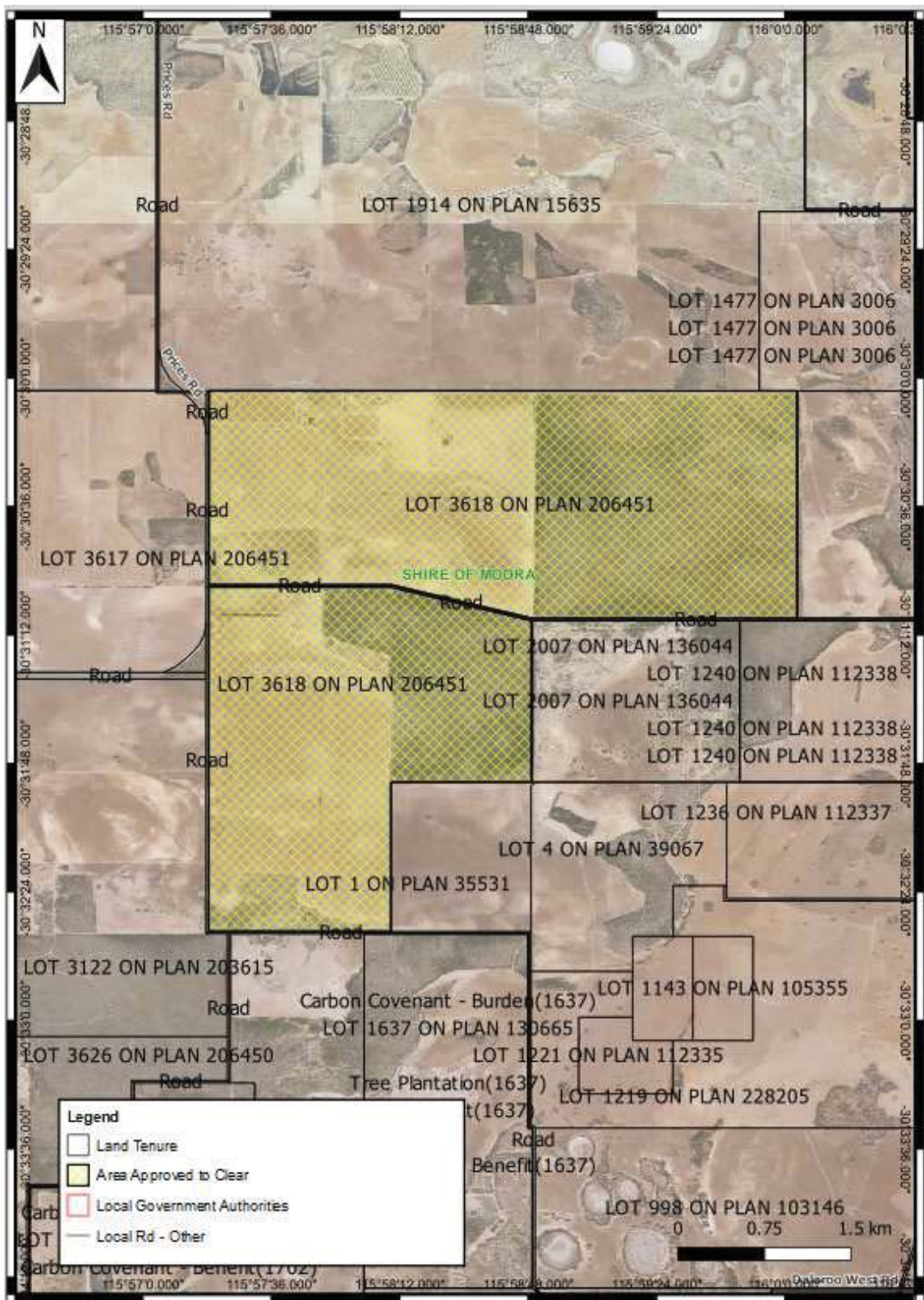


Figure 1a: Map of the boundary of the area (cross-hatched yellow) within which clearing may occur.

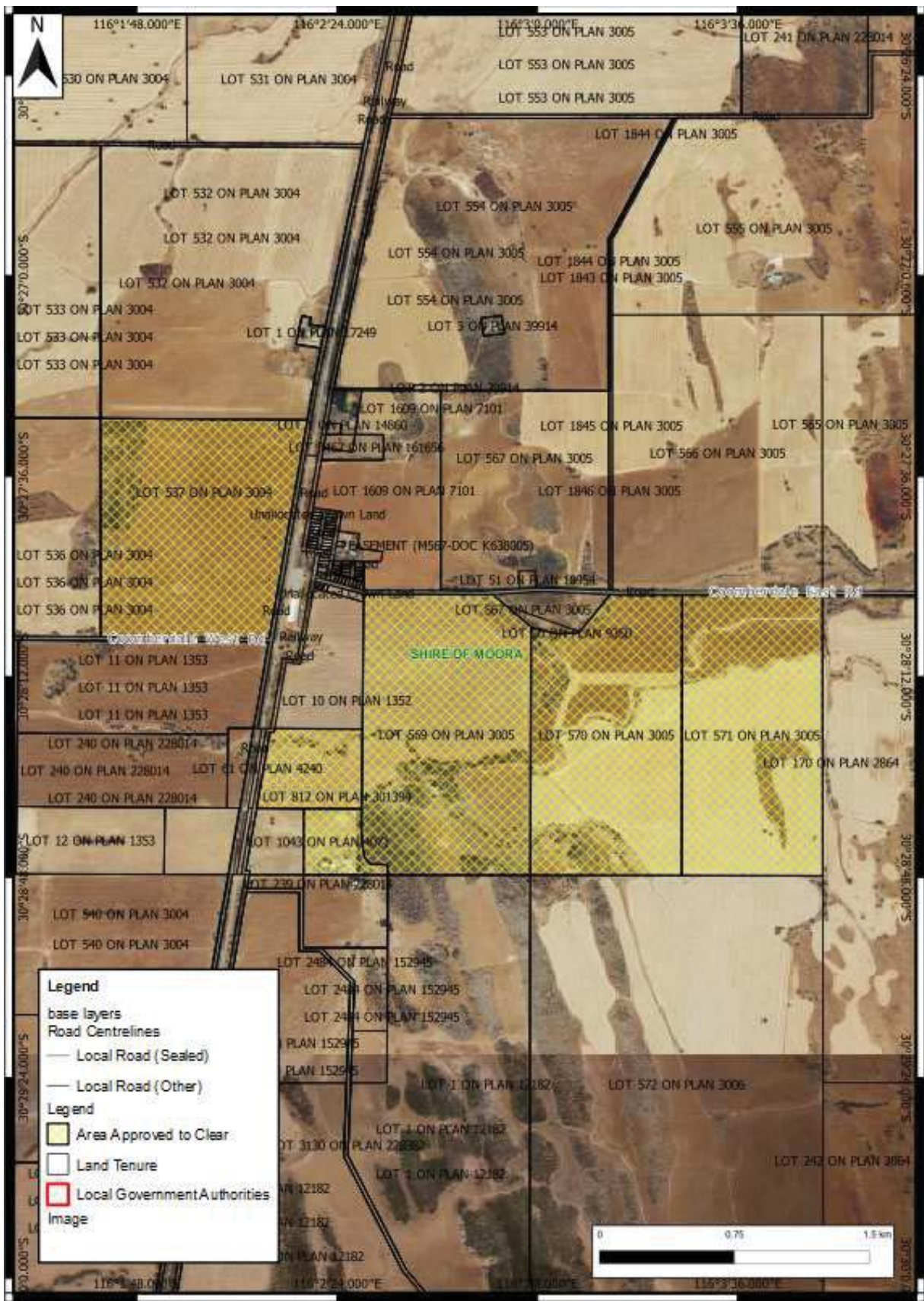


Figure 1b: Map of the boundary of the area (cross-hatched yellow) within which clearing may occur.

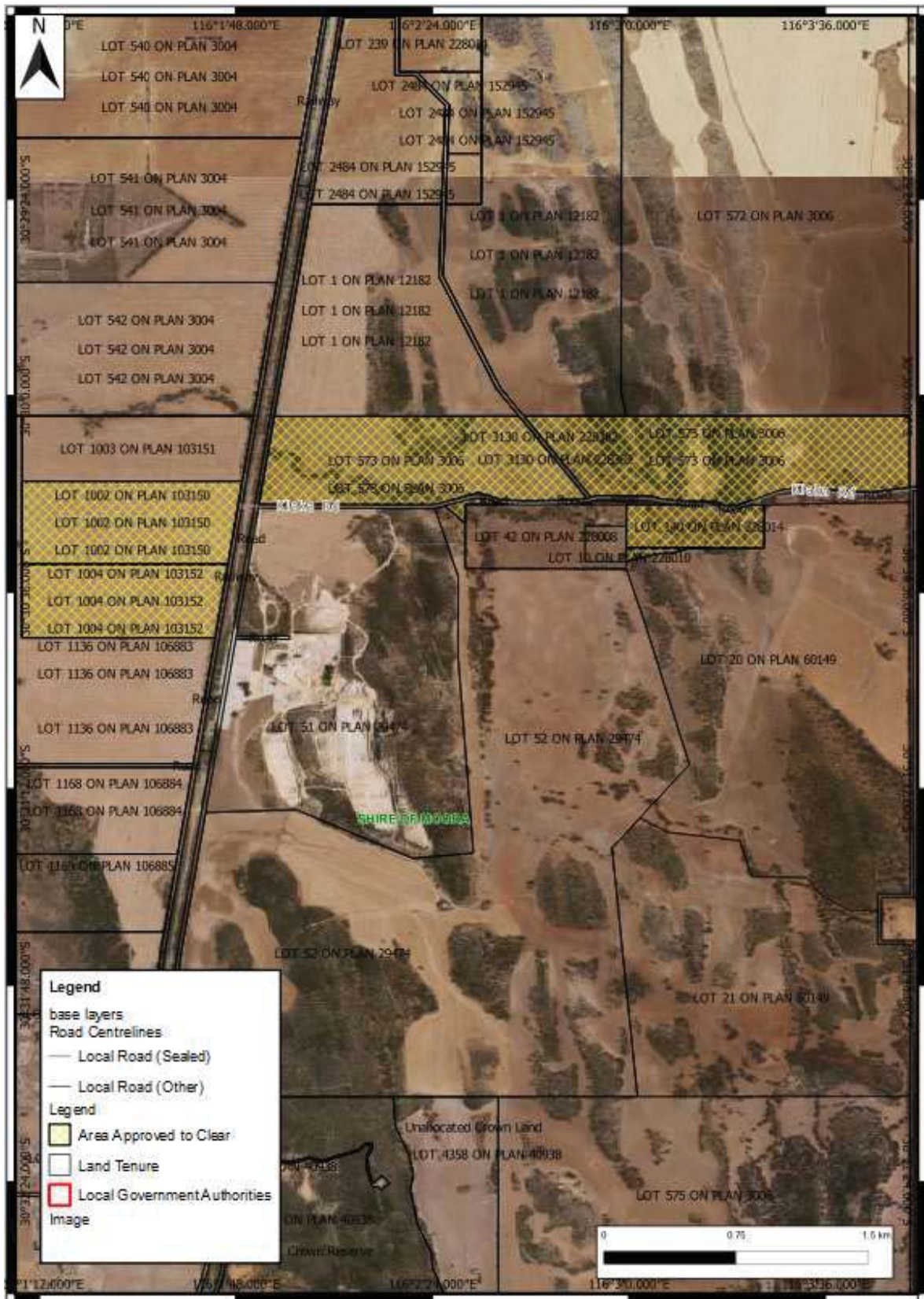


Figure 1c: Map of the boundary of the area (cross-hatched yellow) within which clearing may occur.

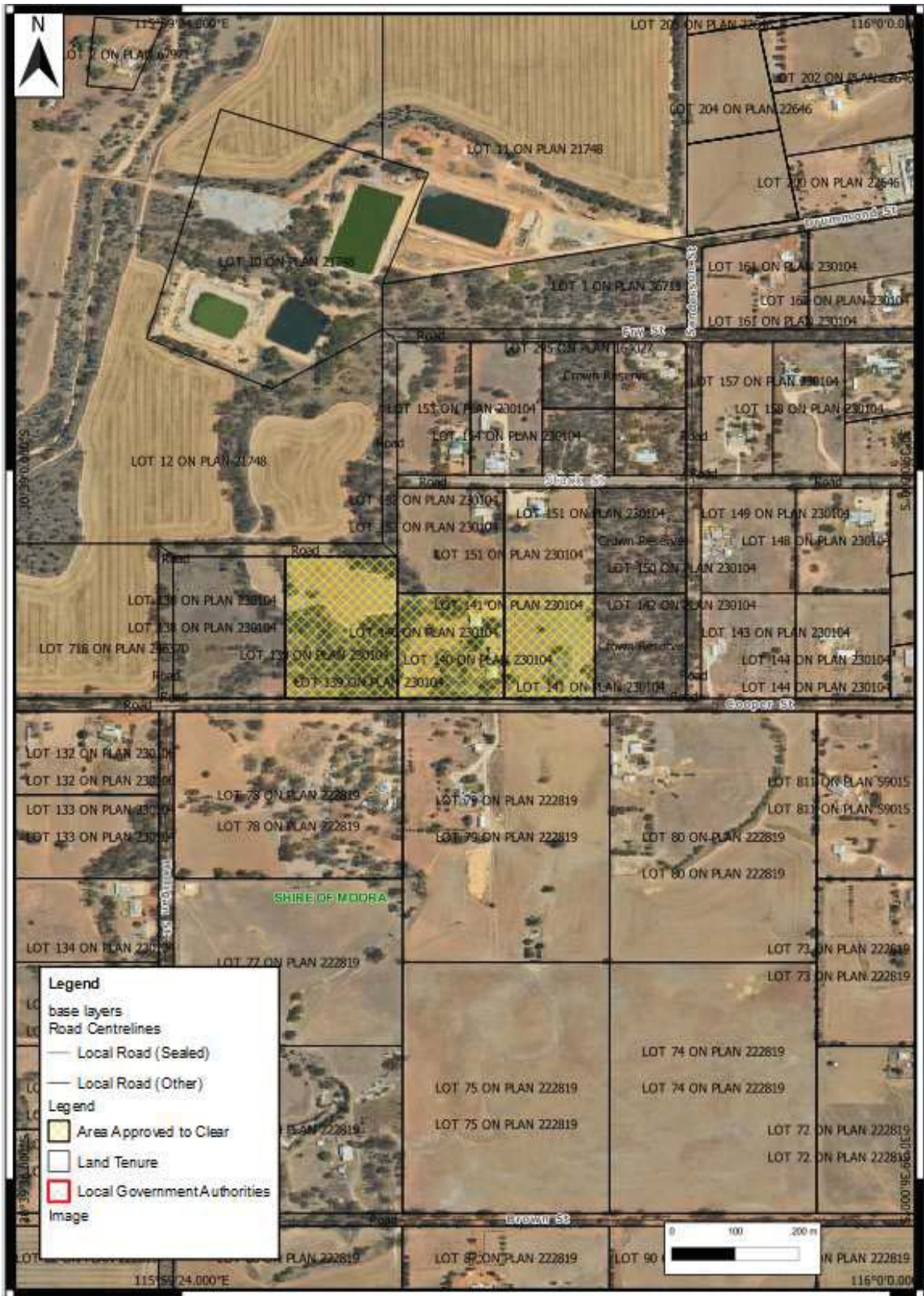


Figure 1d: Map of the boundary of the area (cross-hatched yellow) within which clearing may occur.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9369/1
Permit type:	Purpose permit
Applicant name:	Mr Kevin Kramer
Application received:	2 August 2021
Application area:	50 hectares
Purpose of clearing:	Collecting dead native vegetation for firewood for commercial sale
Method of clearing:	Mechanical
Property:	Properties in the locality of Bindi Bindi and Moora
LGA area(s):	Shire of Moora

1.2. Description of clearing activities

The applicant proposes to clear up to 50 hectares of dead native vegetation within a larger 8,301 hectare area over multiple properties in the Shire of Moora to obtain firewood for commercial sale. The applicant proposes to remove four specific tree species:

- *Acacia acuminata* (jam) (applicant advised that at least 60 per cent of dead vegetation proposed for removal would comprise this species)
- *Eucalyptus loxophleba* (York gum)
- *Eucalyptus wandoo* (wandoo)
- *Eucalyptus salmonophloia* (salmon gum)

The applicant noted that large trees will not be targeted as part of the clearing given that the proposed works are part of a small scale operation involving the removal of individual dead trees with the aid of a chainsaw. The applicant has advised (as depicted in several photographs provided in support of the application) that large areas of fallen jam trees within existing farm paddocks will comprise much of the clearing proposed.

The applicant noted that the proposed clearing is unlikely to comprise 50 hectares, however he has applied for this amount noting that it is difficult to determine an exact clearing extent when removing fallen jam trees, particularly after a storm.

The application areas largely comprise agricultural properties within a highly cleared landscape on the transition zone of the north-eastern portion of the Swan Coastal Plain and north-western portion of the Avon Wheatbelt bioregions.

The application area has been divided into five areas based on location, herein referred to as Areas 1, 2, 3, 4 and 5, respectively.

1.3. Decision on application

Decision:	Granted
Decision date:	20 January 2022
Decision area:	50 hectares of dead native vegetation within the areas depicted in Section 1.5, below.

1.4. Reasons for decision

This application was accepted, assessed, and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act).

The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and one public submission was received. The submission raised concerns at the potential loss of significant current and future breeding habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*). The details of the submission are referred to under Section 3.3.

In undertaking the assessment and in accordance with section 51O of the EP Act, the Delegated Officer had regard to:

- the site characteristics (see Appendix A),
- the Clearing Principles set out in Schedule 5 of the EP Act (see Appendix B),
- relevant planning instruments and other matters (see Section 3.3),
- photographs of the application area provided by the applicant and the Department of Biodiversity Conservation and Attractions (DBCA),
- relevant datasets available at the time of the assessment (see Appendix E), and
- site inspection findings from DBCA regarding the potential occurrence of a threatened flora species.

The Delegated Officer determined that the proposed clearing of 50 hectares of native vegetation within a larger 8,301 hectare footprint may result in the following environmental impacts:

- the loss of trees that provide potential current and future breeding habitat for Carnaby's cockatoo,
- the loss of trees that occur within, and contribute to the environmental value of, areas mapped as the Eucalyptus Woodlands of the Western Australian Wheatbelt federally listed (critically endangered) threatened ecological community (TEC),
- the spread of weeds and dieback into adjacent areas of conservation significant native vegetation,
- the loss of trees that occur within wetlands and watercourses, and associated sedimentation resulting from any clearing within these areas.

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

- only the clearing of dead native vegetation is authorised, specifically comprising jam, York gum, salmon gum and wandoo trees,
- the clearing of no more than 20 hectares of dead York gum, salmon gum and wandoo trees over the five year period of the clearing permit,
- no clearing of any trees with a diameter at breast height (DBH) of greater than 300 millimetres for Salmon gum and wandoo trees and 500 millimetres for York gum, to avoid impacts to any potential breeding habitat for Carnaby's cockatoo,
- avoid and minimise measures to reduce the impacts and extent of clearing,
- hygiene requirements to minimise the risk of the introduction and spread of weeds and dieback,
- no clearing of riparian vegetation,
- the requirement to use existing access tracks or cleared paddocks where they are available, to avoid traversing native vegetation.

Given the above management condition requirements, the Delegated Officer determined that the proposed clearing is unlikely to lead to significant residual impacts, or an unacceptable risk to the environment.

1.5. Site maps

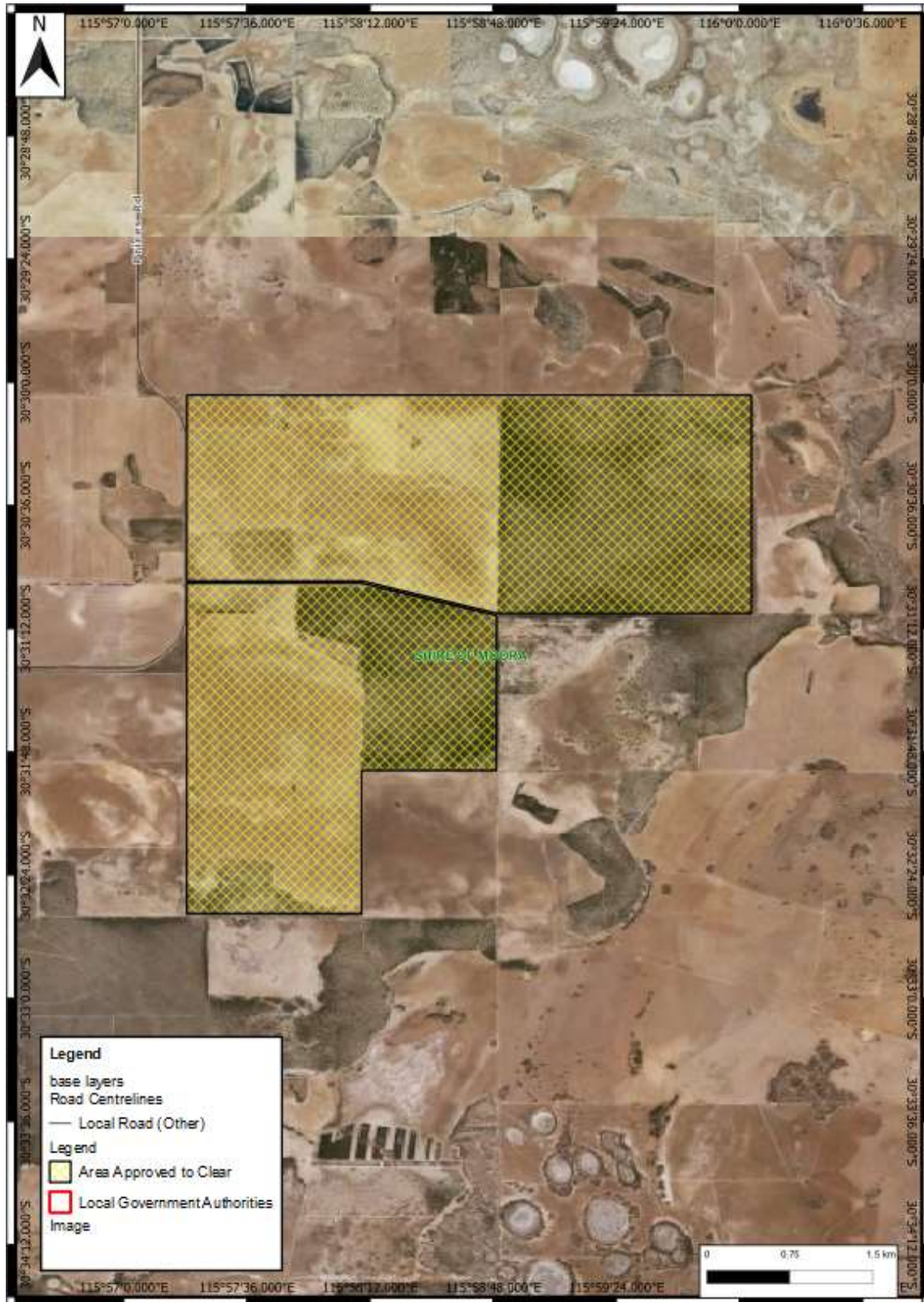


Figure 1. Western most application area (around 1368 hectare footprint) within the eastern boundary of the Swan Coastal Plain bioregion, herein referred to as Area 1.

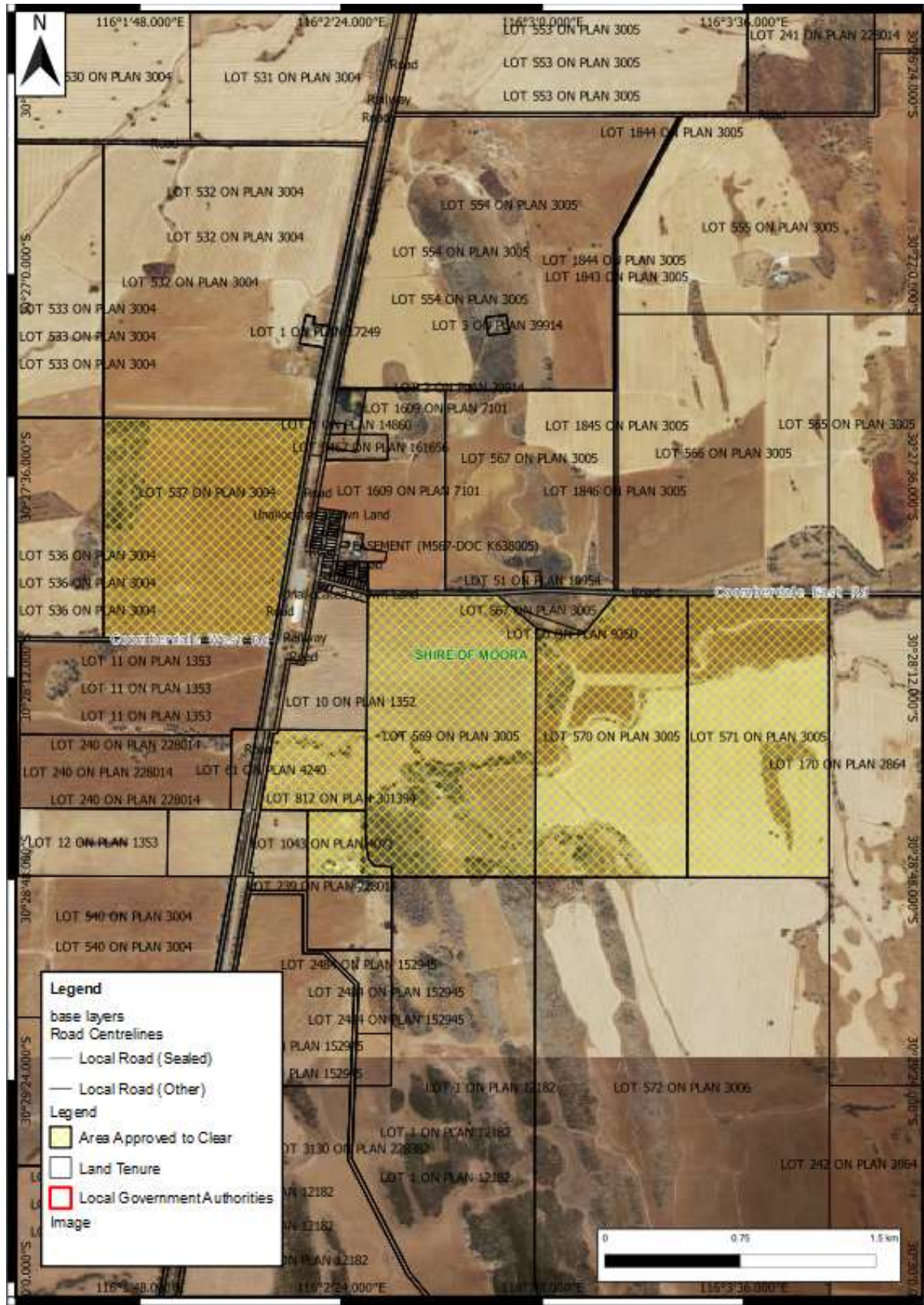


Figure 2. Central application area (474 hectare footprint) within the western boundary of the Avon Wheatbelt bioregion, herein referred to as Area 2.

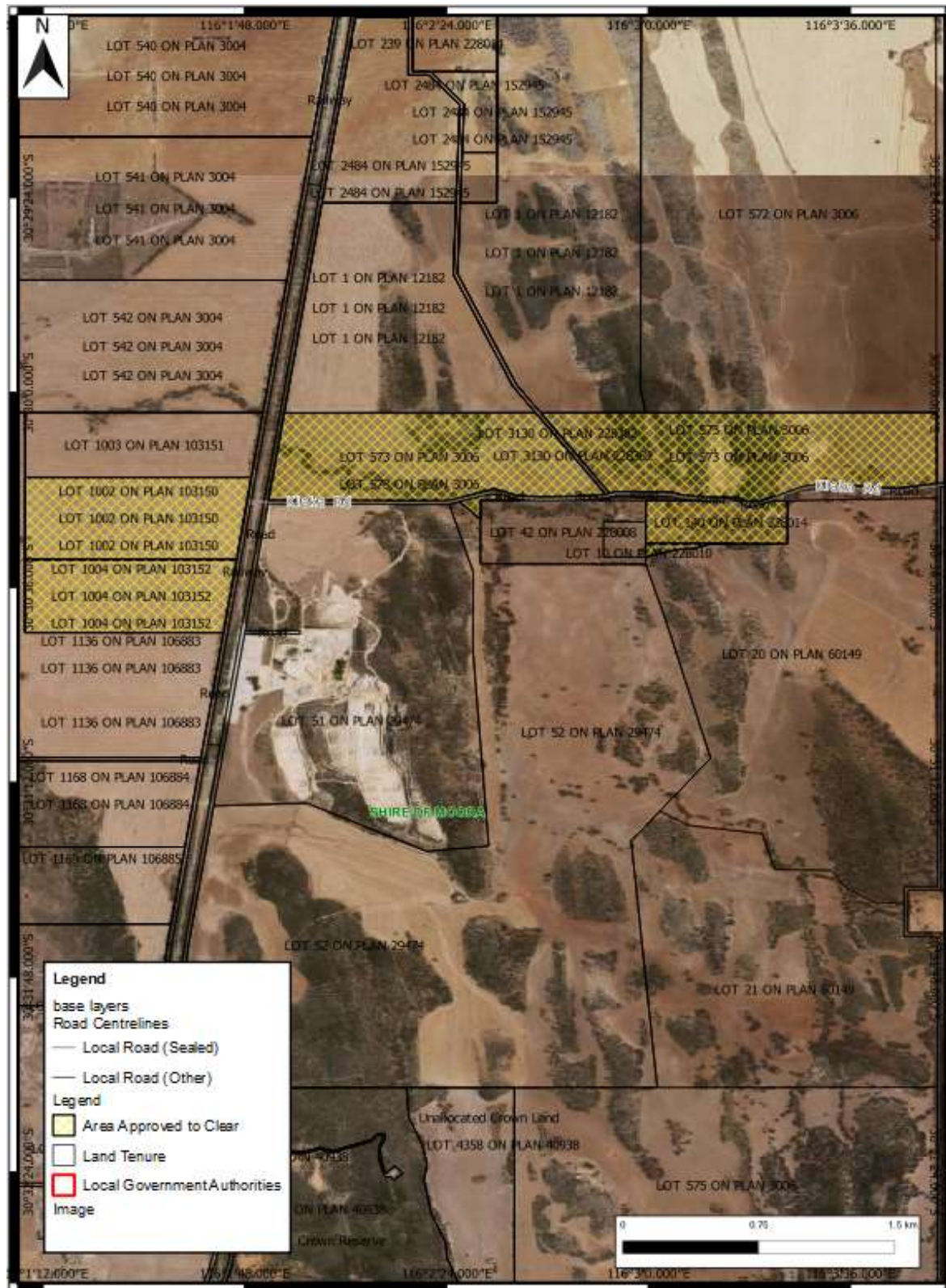


Figure 3. Central application area (around 250 hectare footprint) within the western boundary of the Avon Wheatbelt bioregion, herein referred to as Area 3.

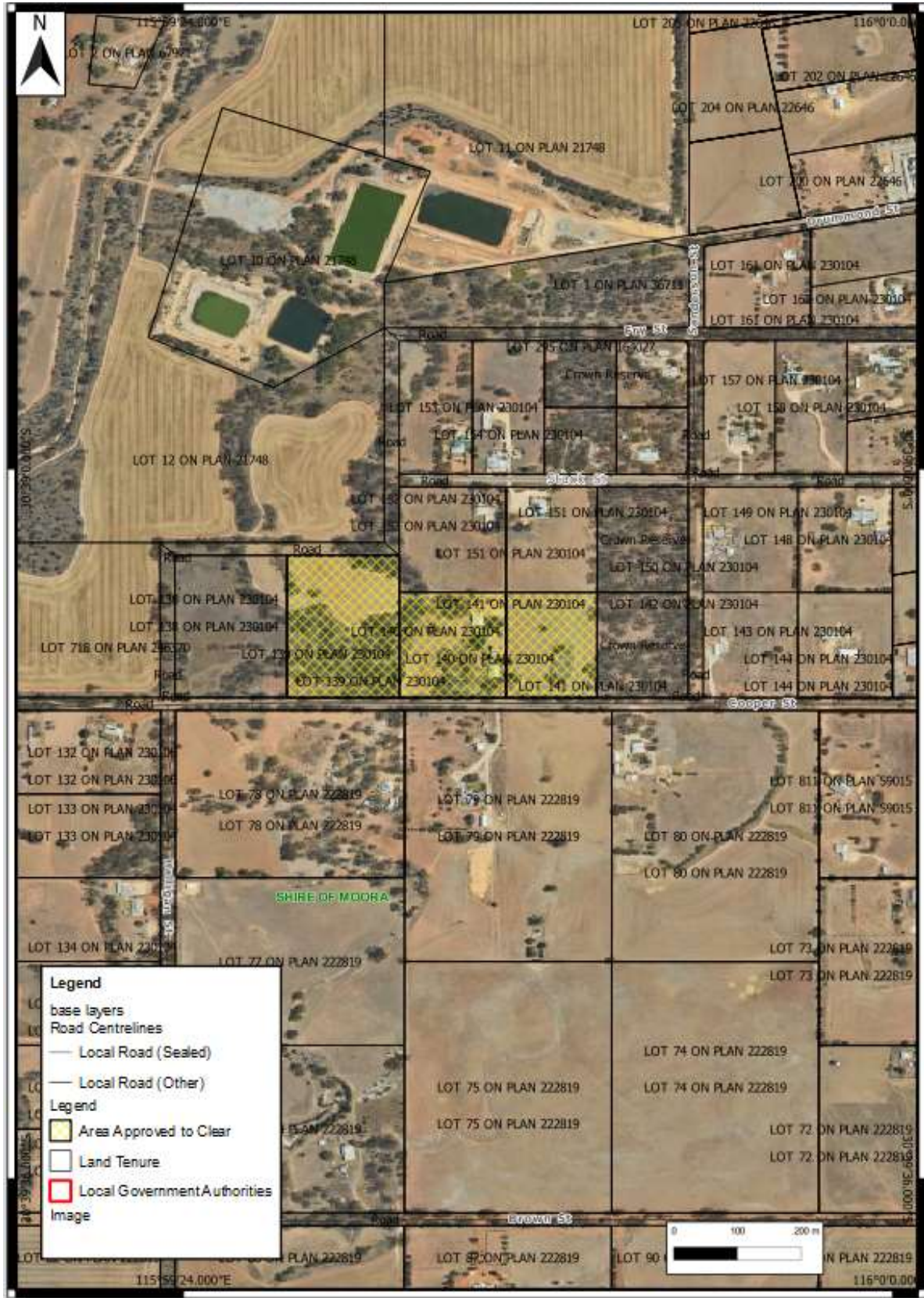


Figure 4. Central application area (around eight hectare footprint) within the western boundary of the Avon Wheatbelt bioregion, herein referred to as Area 4.

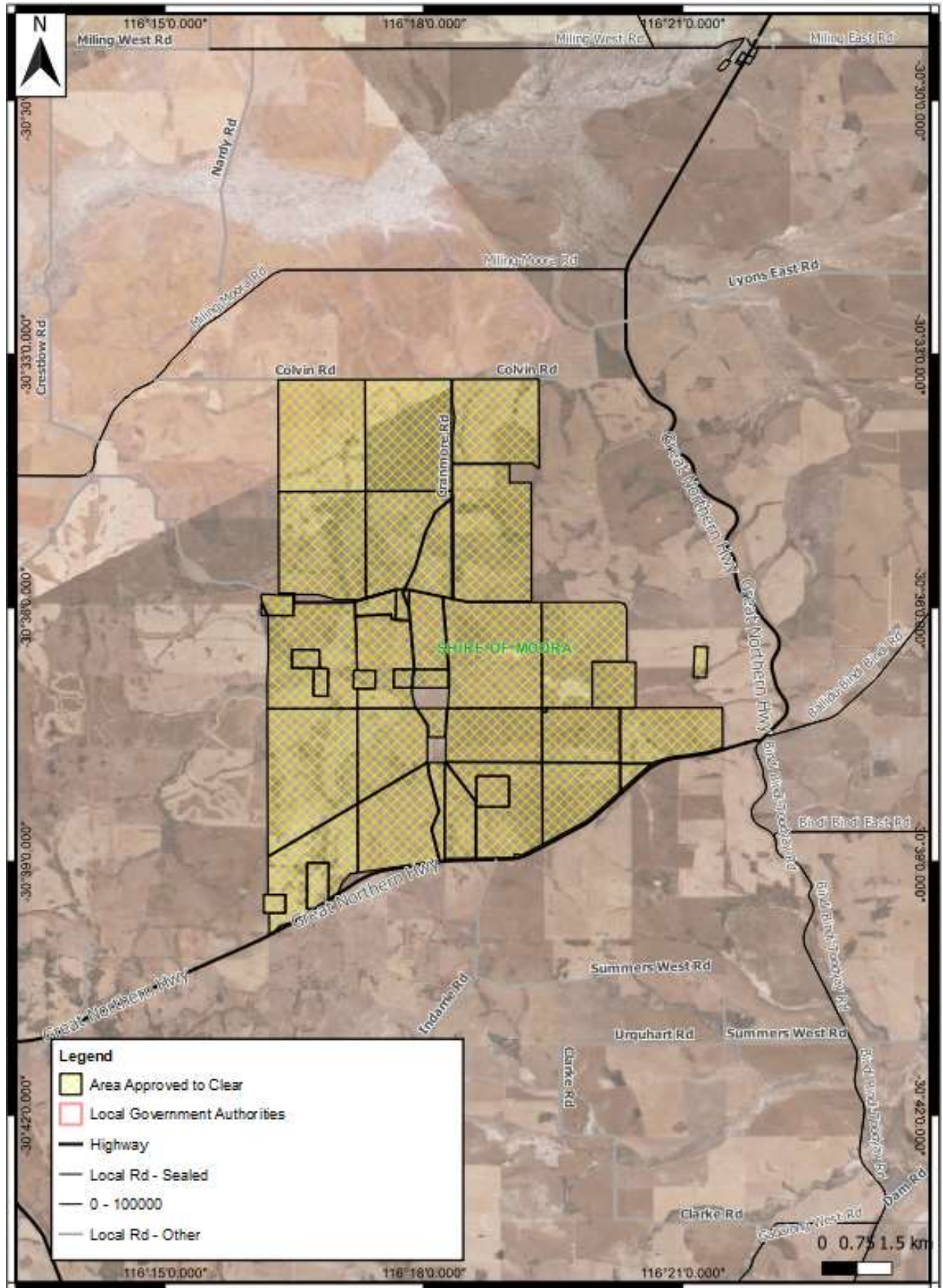


Figure 5. Eastern most application area (around 6201 hectare footprint), herein referred to as Area 5.

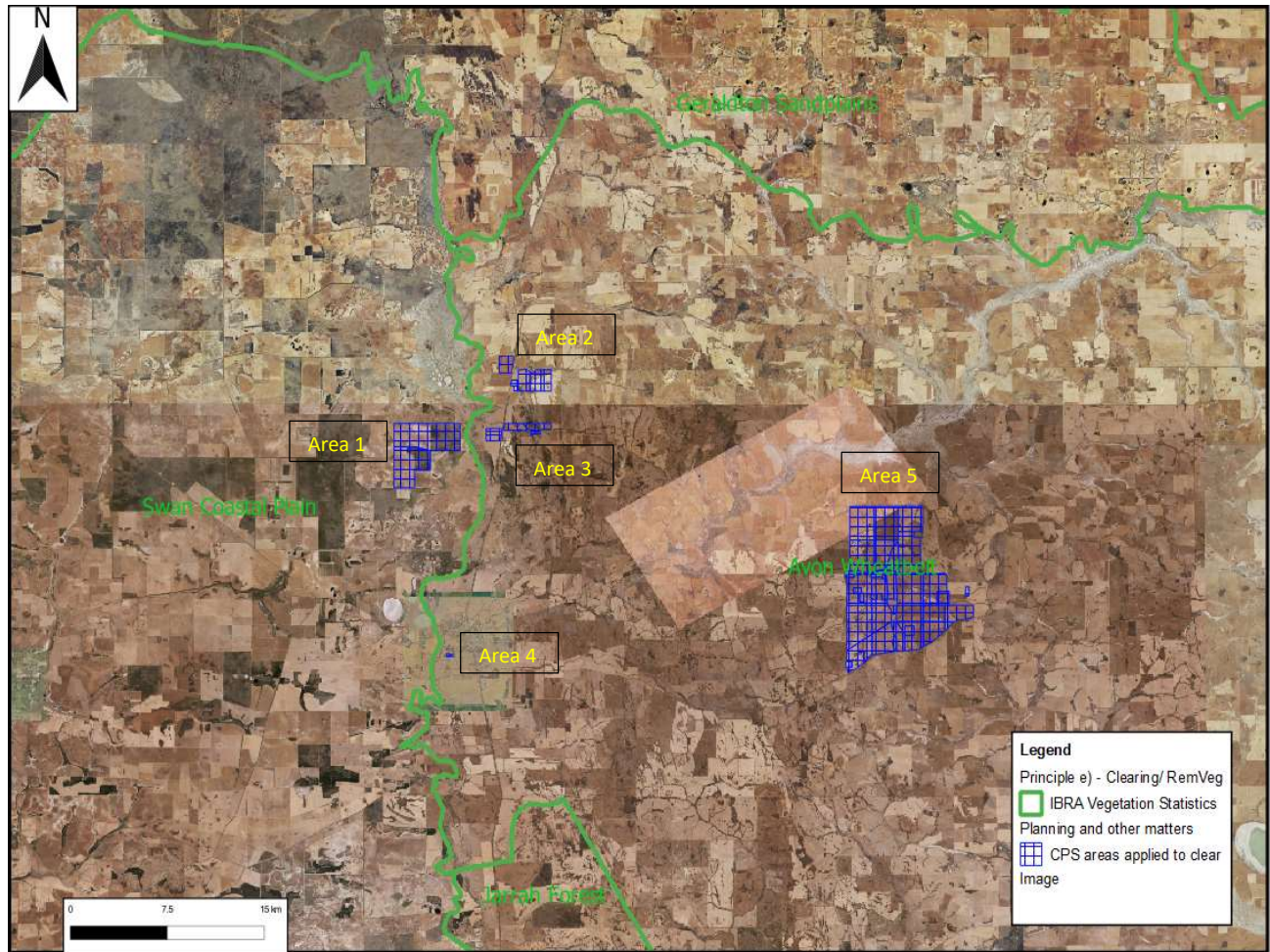


Figure 6. Context map of all application areas within their respective IBRA Bioregions.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the polluter pays principle
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Avoidance measures

In relation to measures to avoid and minimise the clearing of native vegetation, the applicant has verbally that the following measures will be committed to:

- only dead trees will be cleared,
- most trees taken will be smaller fallen *Acacia acuminata* (jam),
- large trees, and any trees with hollows, will not be cleared,
- the proposed clearing will comprise a small scale operation with manual removal of trees with a chainsaw,
- the method of accessing the site will be undertaken with a 4WD and a trailer, and existing tracks and cleared areas on the property will be used to access (where they exist) these sites.

Conclusion

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. The clearing permit contains conditions to ensure the above commitments are adhered to (as discussed under section 1.4 and below under Section 3.2).

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer had regard for the site characteristics (see Appendix A.1), current datasets and other supporting information, and the extent to which the impacts of the proposed clearing present a risk to biodiversity, conservation, or land and water resource values.

The assessment identified that the clearing presents a risk to flora, fauna and threatened ecological community values, and that these required further consideration. The consideration of impacts to these values, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Environmental value: Biological values (fauna) – Clearing Principle (b)

Fauna habitat suitability

The desktop assessment identified that 16 conservation listed fauna species have been recorded with the local area (20 kilometre radius), as shown under Appendix A (A.1.).

Of these species, based on the suitability of habitat, known distribution, and age and number of records, the application areas may provide suitable habitat for the following conservation listed fauna species:

- Carnaby's cockatoo (*Calyptorhynchus latirostris*) (previously recorded within the Area 2 in 2000)
- shield-backed trapdoor spider (*Idiosoma nigrum*) (previously recorded within Area 5 in 1955)
- blue-billed duck (*Oxyura australis*)
- Dandaragan Plateau shield-backed trapdoor spider (*Idiosoma Dandaragan*)
- peregrine falcon (*Falco peregrinus*)
- malleefowl (*Leipoa ocellata*)
- western spiny-tailed skink (*Egernia stokesii badia*)
- woma (*Aspidites ramsayi* (southwest subpop.))

It is noted that the larger application areas may comprise suitable habitat for all of the above species, however the applicant proposes to clear only dead jam, wandoo, salmon gum, and York gum trees. These dead trees are not likely to provide significant habitat for the blue-billed duck, malleefowl, shield-backed trapdoor spider, woma, western spiny-tailed skink or Dandaragan Plateau shield-backed trapdoor spider, noting that these species rely on understory habitat. Further, noting that the proposed clearing will occur through selective tree removal with a chainsaw, the proposed clearing is not likely to result in any significant indirect impacts to these species.

The proposed clearing is also not likely to impact on significant habitat for the peregrine falcon, noting this species is highly mobile, occurs over a large home range, occupies a wide variety of habitat, and most often lays its eggs in a scrape or depression in a rock face.

Carnaby's cockatoo

The application area is within the current known distribution of Carnaby's cockatoo, and is within the breeding range, and a known breeding area of this species.

Carnaby's cockatoo forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008). The proposed clearing of dead trees is not likely to impact on significant foraging habitat for this species.

There is one known Carnaby's cockatoo roost sites within the local area, and any large dead trees proposed for clearing may include suitable roost habitat for this species.

Carnaby's cockatoo generally breeds in woodland or forest, but also in former woodland/forest present as isolated trees. This species nests in hollows in live or dead trees of salmon gum, wandoo, tuart, jarrah, York gum, karri and marri (Commonwealth of Australia, 2012). Suitable breeding habitat for Carnaby's cockatoo includes trees which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species a suitable DBH is 500 millimetres (Commonwealth of Australia, 2012).

The application area does not contain any known breeding records, however there are numerous breeding records within the local area, including three records that occur adjacent to Area 3.

The tree species proposed for clearing include species that Carnaby's cockatoo are known to breed within (York gum, wandoo and salmon gum). Any of these trees with a suitable DBH for breeding that contain a suitably sized nest hollow would provide current breeding habitat for Carnaby's cockatoo. Further, any suitable DBH breeding trees without a suitably sized nest hollow may provide future breeding habitat for Carnaby's cockatoo, noting the potential for these trees to develop suitably sized hollows in the future.

It is estimated that Carnaby's cockatoo has disappeared from more than one-third of its historical breeding range due to extensive habitat loss through broad scale agricultural clearing in the Avon-Wheatbelt region (EPA, 2019). The Carnaby's Cockatoo Recovery Plan notes that a key impact to this species includes any activity or action that leads to the permanent loss of eucalypts within the species range that currently or potentially provide nest hollows for breeding (Department of Parks and Wildlife, 2013).

Wheatbelt eucalypts may take from 100 to 200 years to produce hollows suitable for breeding, representing a significant time lag between loss and replacement of habitat (Commonwealth of Australia, 2012). This emphasises the importance of retaining suitably sized trees for future Carnaby's cockatoo breeding habitat within this species breeding range, and particularly in the Avon Wheatbelt.

Noting the above, the loss of multiple large trees with a suitable DBH for breeding would constitute a significant impact to Carnaby's cockatoo breeding habitat.

The applicant has committed to retaining large trees. To ensure this commitment is adhered to, as a condition of the clearing permit the applicant will be required to retain any trees with a suitable DBH for Carnaby's cockatoo breeding.

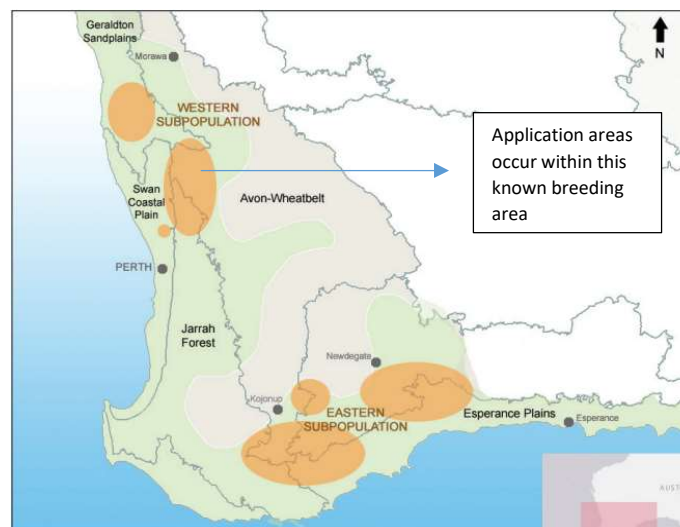


Figure 7. Carnaby's cockatoo distribution, with known breeding areas shaded orange.

Conclusion

Based on the above assessment, the Delegated Officer has determined that proposed clearing of dead York gum, salmon gum and wandoo trees may impact on significant breeding habitat for Carnaby's cockatoo, noting that these trees may be of a suitable size to provide future breeding habitat, or contain hollows large enough to support current Carnaby's cockatoo breeding.

The applicant has committed to retaining large trees, or any trees with hollows, within the application areas.

Outcome

The Delegated Officer determined that the proposed clearing requires management conditions in relation to this environmental value. Therefore, the following management measures will be required as conditions on the clearing permit:

- only the clearing of dead native vegetation is authorised, specifically comprising jam, York gum, salmon gum and wandoo trees,
- clearing of no more than 20 hectares of dead York gum, salmon gum and wandoo trees over the five year period of the clearing permit,
- no clearing of any trees with a diameter at breast height of greater than 300 millimetres for Salmon gum and wandoo and 500 millimetres for York gum, to avoid impacts to any suitable current or future breeding habitat for Carnaby's cockatoo,
- avoid and minimise measures to reduce the impacts and extent of clearing.

These measures will ensure that there are no significant residual impacts to Carnaby's cockatoo breeding habitat.

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

Threatened and Priority Flora

There are no historical records of priority flora species within the application areas. While several species of priority flora have the potential to occur within the application areas based on habitat suitability and known nearby records, the proposed targeted clearing of dead trees is not likely to impact on any priority flora species.

There are historical records of two threatened flora species within the application areas:

- *Gastrolobium hamulosum* (state and federally listed as endangered)
- *Daviesia dielsii* (state and federally listed as endangered)

Daviesia dielsii was historically recorded within Areas 1 and 3. This species is described as a divaricate shrub, that grows to between 0.5 and 0.9 metres high, and flowers in July (Western Australian Herbarium, 1998-). The record within Area 1 is an unvalidated record from 1997, within a cleared paddock. The location of this record has been maintained as a cleared paddock since at least 2000 (based on historical imagery). It is likely that the recorded location of this record is slightly inaccurate, noting there is a validated record (from 2008) within a nearby (around 180 metres away) road reserve outside of Area 1. Therefore, the proposed clearing is not likely to impact on this record.

The *Daviesia dielsii* record within Area 3 is a validated record, identified in 2004, which occurs within a patch of remnant vegetation. While the proposed clearing is for dead trees, noting the presence of a confirmed record within Area 2, the potential exists for this endangered species to be inadvertently impacted through the felling of any dead trees in and around this area. Subsequently, a targeted site inspection was undertaken by two DBCA regional officers on 2 December 2021, to identify the presence/absence of this species in and around the recorded location. This species was not identified during the targeted search (DBCA, 2021). It is noted that if present and emergent, this shrub species is recognisable outside of its flowering period.

DBCA note that *Daviesia dielsii* is relatively short lived and relies on soil stored seed, germinating after disturbance, mostly likely through fire (DBCA, 2021). DBCA noted the applicant's advice that a fire had not occurred in the area since 1981, and therefore there may be seed persisting at this location. DBCA also noted that the record location is heavily degraded with signs of intense grazing pressures, that may have impacted on the persistence of this species (DBCA, 2021).

While the potential for *Daviesia dielsii* soil stored seed to exist, the proposed manual removal (via chainsaw) of individual dead trees is not likely to significantly impact on any soil stored seed that may remain at this location.

Gastrolobium hamulosum was historically recorded within Area 2. This unvalidated record is from 1932 and occurs within a cleared paddock, which has been maintained as such since at least 2000 (based on historical imagery). Therefore, this record could not have persisted within the recorded location and the proposed clearing is not likely to impact on this species.

Conservation Significant Fauna

As discussed in Section 3.2.1., the proposed clearing may impact on significant breeding habitat for Carnaby's cockatoo.

Threatened and Priority Ecological Communities (TEC's/PEC's)

According to available datasets, there are two federally listed TEC's (both also state listed as PEC's) and one state listed TEC (not federally listed) mapped within the application areas. These are known as:

- Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region (Banksia Woodland TEC) (federally listed as endangered and state listed as priority 3).
- Eucalypt woodlands of the Western Australian Wheatbelt (Wheatbelt Woodland TEC) (federally listed as critically endangered and state listed as priority 3).
- Vegetation alliances on ridges and slopes of the chert hills of the Coomberdale Floristic Region (Coomberdale Chert Hills TEC) (state listed as endangered, not federally listed).

Banksia Woodland TEC

The Banksia Woodland TEC is mapped over 590 hectares of Area 1, which comprises 1,368 hectares. The dominant canopy of this TEC includes *Banksia attenuata* and/or *Banksia menziesii* (Department of the Environment and Energy (DotEE), 2016). Other trees of a medium height that may be present and codominant with the above *Banksia* species, include *Eucalyptus todtiana*, *Nuytsia floribunda*, *Allocasuarina fraseriana*, *Callitris arenaria*, *Callitris pyramidalis* and *Xylomelum occidentale* (DotEE, 2016). Surveys of Area 1 to determine the presence or absence of this community have not previously been undertaken.

The proposed clearing will comprise of dead wandoo, York gum, salmon gum and jam trees, which are not the commonly associated with the Banksia Woodland TEC. Therefore, the proposed clearing is not likely to significantly impact on this community. The applicant has advised that Area 1 includes numerous dead jam trees, hence this area has been included with this application.

Coomberdale Chert Hills TEC

The Coomberdale Chert Hills TEC is mapped within Area 3. Area 3 comprises 250 hectares, of which 39.6 hectares is mapped as this TEC. This TEC comprises the following seven vegetation alliances:

- *Allocasuarina campestris* (sheoak) shrubland
- *Allocasuarina microstachya* scrub
- *Regelia megacephala* shrubland
- *Kunzea praestans* shrubland and scrub
- *Melaleuca calyptroides* heath
- *Hibbertia subvaginata* shrubland
- *Xanthorrhoea drummondii* shrubland

A DBCA site inspection identified vegetation representative of the Coomberdale Chert Hills TEC within Area 3. DBCA note that this area also includes numerous dead jam trees, and has undergone historical grazing disturbance (DBCA, 2021).

The dead trees proposed for clearing do not include any of the above flora species associated with the Coomberdale Chert Hills TEC and are not commonly associated with any of above vegetation alliances. While the proposed clearing will not directly impact on native vegetation that is representative of the Banksia Woodland and Coomberdale Chert Hills TEC's, the proposed clearing will increase the risk of weeds and dieback spreading through these areas, unless specific hygiene measures are adhered to.

Wheatbelt Woodland TEC

The Wheatbelt Woodland TEC occurs within Areas 2, 3, 4 and 5. This TEC comprises 339 hectares of these larger areas. According to the approved conservation advice for this TEC, three of the four tree species proposed for clearing (York gum, salmon gum and wandoo) may be dominant or co-dominant within a given patch of this TEC (Department of the Environment (DotE), 2015). It is also noted that non eucalypt species such as *Acacia acuminata* (jam) may be present in the tree canopy of this TEC (DotE, 2015).

Surveys of this area to determine the presence or absence of this community have not previously been undertaken. However, it is considered likely that any York gum, salmon gum or wandoo trees proposed for clearing that occur within the mapped occurrence of the TEC, will be representative of vegetation that forms part of a patch of this TEC.

The approved conservation advice for this TEC notes that avoiding the removal of large trees that have hollows, regardless of whether trees are living or dead, is one of the highest priorities to protect and recover the WA Wheatbelt Woodlands, noting they provide high value fauna habitat (DotE, 2015).

Noting the above, the proposed clearing may impact on trees that provide an important fauna habitat component of this TEC, should it include the removal of large hollow bearing trees.

The applicant has committed to retaining large trees. To ensure this commitment is adhered to, as a condition of the clearing permit, the applicant will be required to retain large trees with a DBH of greater than 500 millimetres for York gum and a DBH of greater than 300 millimetres for salmon gum and wandoo trees. This will avoid the clearing of trees that provide important fauna habitat values for patches of this TEC.

Dieback and weed risk to biodiversity

A site inspection by DBCA of a portion of Area 3 identified numerous weed species, and it is considered that all application areas, which appear to have been subject to historical cropping and grazing practices, will contain some level of weed invasion.

The application areas are in a dieback susceptible region, based on rainfall, soils, drainage and vegetation.

The proposed clearing and, more specifically driving between sites that are potentially weed and dieback infested and those that are not, will increase the risk of spreading weeds and dieback into adjacent areas of native vegetation. This may also impact on the biodiversity values of these areas, particularly those mapped as the above TEC's.

Conclusion

Based on the above assessment the Delegated Officer has determined that the proposed clearing may impact on native vegetation that has the potential to contain a high level of biodiversity. This is based on the proposed removal of dead trees from areas mapped as the Wheatbelt Woodland TEC that may contain high value fauna habitat, and specifically, breeding habitat for Carnaby's cockatoo.

The Delegated Officer has determined that the proposed clearing will also increase the risk of spreading weeds and dieback into adjacent remnant vegetation with biodiversity values, specifically the above mentioned TEC's.

Outcome

The Delegated Officer determined that the proposed clearing requires management conditions in relation to this environmental value. Therefore, the following management measures will be required as conditions on the clearing permit:

- only the clearing of dead native vegetation is authorised, specifically comprising jam, York gum, salmon gum and wandoo trees
- clearing of no more than 20 hectares of dead York gum, salmon gum and wandoo trees over the five year period of the clearing permit
- no clearing of any trees with a diameter at breast height of greater than 300 millimetres for Salmon gum and wandoo trees and 500 millimetres for York gum, to avoid impacts to any suitable current or future breeding habitat for Carnaby's cockatoo

- avoid and minimise measures to reduce the impacts and extent of clearing
- weed and dieback hygiene management measures

These measures will ensure that there are no significant residual impacts to biodiversity values, including the Wheatbelt Woodland TEC.

3.3. Relevant planning instruments and other matters

Aboriginal Heritage

Areas 2 and 3 intersect three Aboriginal Sites of Significance. 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.

Shire of Moora

The application areas are zoned 'general agriculture' under the Shire of Moora's town planning scheme. To date the Shire of Moora has not provided comment on the proposed clearing.

Land Holder Authorisation

The applicant has received authority to access and clear dead York, salmon gum, wandoo and jam trees within all of the properties that form the subject of this application.

DBCA Licence

A Private land supplier's licence is required where flora (including native timber) is taken from private land and is to be sold either directly to the public or to a flora wholesaler or timber mill. The applicant has advised that a Private land supplier's licence has been applied for through DBCA, with a determination on that licence awaiting the outcome of a decision on this clearing permit application.

Public Submissions

One public submission was received in relation to this application. The submission raised concerns at the loss of large trees that provide current and potential future breeding habitat for Carnaby's cockatoo, and specifically noted that:

- the removal of dead trees may represent the removal of significant breeding habitat for endangered Carnaby's cockatoo, noting the area is known breeding habitat for this species, with several nearby breeding records.
- the removal of dead trees will limit the recruitment of future hollows, given that they are the best candidates for developing large hollows in the near future.
- the removal of fallen dead trees will remove important shelter and foraging habitat for other native fauna
- a black cockatoo habitat assessment should be undertaken to quantify breeding habitat (including number of large hollows, both with and without evidence of use; and smaller hollows).
- all known and suspected nesting trees should be retained, noting the recent loss of breeding habitat from the Yarloop fires, and that the lack of suitable breeding habitat is one of the major threats to this species.
- other large potential breeding trees at the site with a suitable DBH should be retained noting their importance as potential future breeding habitat.
- If clearing is approved, it should be able to demonstrate no net loss, for Carnaby's cockatoos.

As per conditional requirements on the clearing permit (discussed under Sections 1.4 and 3.2), the applicant is not authorised to clear any York gums with a DBH of greater than 500 millimetres, or any salmon gum or wandoo trees with a DBH of greater than 300 millimetres. This will ensure that large trees with significant habitat values, including hollows of a suitable size for Carnaby's cockatoo breeding, will not be impacted.

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details				
Local context	<p>The application areas occur within the northwest portion of the Avon Wheatbelt (Areas 2-5) and north east portion of the Swan Coastal Plain Bioregions (Area 1), within the Shire of Moora. These areas all occur within a highly cleared agricultural landscape. The proposed clearing is for 50 hectares of dead native vegetation within a larger 8,301 hectare area mostly comprising large agricultural properties.</p> <p>Spatial data indicates that the local area (20-kilometre radius surrounding the application area), of Areas 1 to 4 retain around 15.5 per cent of the original native vegetation cover. The local area of Area 5 retains 7.6 per cent of its original native vegetation cover.</p>				
Climate and Landform	<p>Moora experiences cool winters and warm, dry summers. Rainfall is generally received in the winter months (June - August) and the mean annual rainfall is around 480 millimetres.</p>				
Vegetation description and condition	<p>According to broad scale vegetation mapping, the application area is mapped as the following Beard Vegetation Associations (BVA's) (Shepherd et al, 2001):</p> <ul style="list-style-type: none"> • BVA 1036 – Low woodland; <i>Banksia prionotes</i> (Area 1) (1612 hectares) • BVA 142 – Medium woodland; York gum & salmon gum (Areas 2, 3 and 5) (6300 hectares) • BVA 1041 - Low woodland; <i>Allocasuarina huegeliana</i> & jam (a small portion of Areas 2 and 3) (165 hectares) • BVA 7 - Medium woodland; York gum (<i>Eucalyptus loxophleba</i>) & wandoo (a small portion of Area 5) (224 hectares) <p>Photographs of the application areas provided by the applicant indicate that portions are representative of these vegetation types, noting also that large areas of cleared, and parkland cleared agricultural areas exist within the application areas.</p> <p>It is noted that the applicant is selectively targeting the following four flora species for clearing, and will not be removing any other species (as conditioned on the clearing permit):</p> <ul style="list-style-type: none"> • <i>Acacia acuminata</i> (applicant advised that at least 60 per cent vegetation proposed for removal would comprise this species) • <i>Eucalyptus loxophleba</i> (York gum) • <i>Eucalyptus wandoo</i> (wandoo) • <i>Eucalyptus salmonophloia</i> (salmon gum) <p>Aerial imagery and photographs provided by the applicant and DBCA indicate that the application area is likely to range from an excellent to completely degraded (Keighery, 1994) condition. The areas likely to be in excellent condition appear limited to portions of Area 1. Large portions of the application areas appear to be in a completely degraded condition (cleared or parkland cleared), noting the extensive historical agriculture that's occurred within these areas.</p> <p>The full Keighery (1994) condition rating scale, with a description of each condition, is provided in Appendix C.</p>				
Soil and landform description	<p>The application is mapped as the following land system and soil types (DPRID, 2019).</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Capitella System</td> <td>subdued stripped lateritic plateau, undulating to gently undulating low rises with gently undulating plain including dunes; pale and yellow deep sands, sandy gravels, some duplex; from sandstones plus alluvial and aeolian deposits</td> </tr> </tbody> </table>	Name	Description	Capitella System	subdued stripped lateritic plateau, undulating to gently undulating low rises with gently undulating plain including dunes; pale and yellow deep sands, sandy gravels, some duplex; from sandstones plus alluvial and aeolian deposits
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	<table border="1"> <tr> <td>Agaton System</td> <td>gently undulating and level plains, dunefields common; yellow and pale sands, sandy duplexes and shallow sands over clay, iron or carbonate pans, some saline including salt lakes; alluvial and aeolian deposits – majority</td> </tr> <tr> <td>Ranfurly System</td> <td>level to gently undulating plain being a relict flood plain, partially rejuvenated; loamy earths and clay, some duplex; from alluvium</td> </tr> <tr> <td>Coorow System</td> <td>Undulating to gently undulating rises and intervening level to gently undulating flats; Yellow deep sand, pale deep sand and grey sandy duplexes (some alkaline), some yellow sandy earths, and minor loamy earths and duplexes and rock</td> </tr> <tr> <td>Burabidge Hill System</td> <td>Undulating rises to low hills with rock outcrop. granite, migmatite, gneiss. Brown and red loamy and sandy earths, yellow/brown shallow loamy duplex and some stony soil. York gum-jam woodland</td> </tr> </table> <p>Most of the application area is mapped as the Burabidge Hill System (around 7,400 hectares of the larger 9,301 hectare footprint).</p>	Agaton System	gently undulating and level plains, dunefields common; yellow and pale sands, sandy duplexes and shallow sands over clay, iron or carbonate pans, some saline including salt lakes; alluvial and aeolian deposits – majority	Ranfurly System	level to gently undulating plain being a relict flood plain, partially rejuvenated; loamy earths and clay, some duplex; from alluvium	Coorow System	Undulating to gently undulating rises and intervening level to gently undulating flats; Yellow deep sand, pale deep sand and grey sandy duplexes (some alkaline), some yellow sandy earths, and minor loamy earths and duplexes and rock	Burabidge Hill System	Undulating rises to low hills with rock outcrop. granite, migmatite, gneiss. Brown and red loamy and sandy earths, yellow/brown shallow loamy duplex and some stony soil. York gum-jam woodland
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Burabidge Hill System	Undulating rises to low hills with rock outcrop. granite, migmatite, gneiss. Brown and red loamy and sandy earths, yellow/brown shallow loamy duplex and some stony soil. York gum-jam woodland								
Conservation areas	The closest conservation area to the application area is an un-named (Class A) nature reserve located around 2.6 kilometres south of Area 3.								
Waterbodies	<p>According to available datasets, there is one wetland (comprising three segments) within the application areas (Area 5), which is classified as a minor peripheral basin within the Wheatbelt Wetlands Geomorphic dataset.</p> <p>Area 5 also includes two mapped non-perennial rivers known as Dungaroo Creek and Indera Creek. There are also numerous non-perennial watercourses that intersect the application areas.</p>								
Flora	<p>There are no historical records of priority flora species within the application area.</p> <p>There are historical records of two threatened priority flora species recorded within the application areas. These include:</p> <ul style="list-style-type: none"> • <i>Daviesia dielsii</i> (recorded within Areas 1 and 3) • <i>Gastrolobium hamulosum</i> (recorded within Area 2) <p>The records of <i>Daviesia dielsii</i> and <i>Gastrolobium hamulosum</i> within Areas 1 and 3 were recorded in 1999 and 1932, respectively. These records are un-validated. The location of the <i>Daviesia dielsii</i> record is considered inaccurate as it is within a long cleared paddock, and likely represents an adjacent more recent validated record which occurs outside of the application area within a road reserve.</p> <p>The location of the un-validated <i>Gastrolobium hamulosum</i> record has also been long cropped, and does not persist in this location.</p> <p>The record of <i>Daviesia dielsii</i> in Area 3, is within existing remnant vegetation and it was considered that this population may persist. A site inspection of Area 3 by DBCA regional officers did not identify evidence of this species (DBCA, 2021).</p>								
Ecological communities	<p>There are three conservation significant ecological communities recorded within the application area as described below:</p> <ul style="list-style-type: none"> • Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region (Banksia Woodland TEC) (federally listed as endangered and state listed as priority 3) • Eucalypt woodlands of the Western Australian Wheatbelt (Wheatbelt Woodland TEC) (federally listed as critically endangered and state listed as priority 3) • Vegetation alliances on ridges and slopes of the chert hills of the Coomberdale Floristic Region (Coomberdale Chert Hills TEC) (state listed as endangered, not federally listed) 								

	<p>The proposed clearing is for dead jam, wandoo, York and salmon gum trees. These species are not representative of the dominant species described for the Banksia Woodland TEC (DotEE, 2016) or Coomberdale Chert TEC.</p> <p>These species are however representative of the dominant species described for the Wheatbelt Woodlands TEC (DotE, 2015).</p>
Fauna	<p>According to available datasets, there are records of 15 conservation listed fauna species within the local area.</p> <ul style="list-style-type: none"> • Carnaby's cockatoo (<i>Calyptorhynchus latirostris</i>) (previously recorded within Area 2) (state listed as endangered) • shield-backed trapdoor spider (<i>Idiosoma nigrum</i>) (previously recorded within Area 5) (endangered) • western ground parrot (<i>Pezoporus flaviventris</i>) (state listed as critically endangered) • Australian painted snipe (<i>Rostratula australis</i>) (state listed as endangered) • chuditch (<i>Dasyurus geoffroii</i>) (state listed as vulnerable) • forest red-tailed black cockatoo (<i>Calyptorhynchus banksii naso</i>) (state listed as vulnerable) • malleefowl (<i>Leipoa ocellata</i>) (state listed as vulnerable) • woma (southwest subpop.) (<i>Aspidites ramsayi</i> (southwest subpop.)) (state listed as Priority 1) • western spiny-tailed skink (<i>Egernia stokesii badia</i>) (state listed as vulnerable) • Dandaragan Plateau shield-backed trapdoor spider (<i>Idiosoma Dandaragan</i>) (state listed as priority 2) • blue-billed duck (<i>Oxyura australis</i>) (state listed as priority 4) • water-rat (<i>Hydromys chrysogaster</i>) (state listed as priority 4) • western rosella (inland) (<i>Platycercus icterotis xanthogenys</i>) (state listed as Priority 4) • hooded plover (<i>Thinornis rubricollis</i>) (state listed as Priority 4) • peregrine falcon (<i>Falco peregrinus</i>) (state listed as other specially protected fauna) <p>Of these, a likelihood of occurrence analysis (based on known records in the local area and habitat suitability) identified eight species that may occur within the application areas:</p> <ul style="list-style-type: none"> • Carnaby's cockatoo • shield-backed trapdoor spider • blue-billed duck • malleefowl • woma (southwest subpop.) • western spiny-tailed skink • Dandaragan Plateau shield-backed trapdoor spider • peregrine falcon <p>It is considered that the dead trees proposed for clearing are most likely to provide habitat for one of the above fauna species, Carnaby's cockatoo.</p>

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*					
Avon Wheatbelt (AW)	9,517,109	1,761,187	18.51	174,980	1.84
Swan Coastal Plain (SCP)	1,501,221.93	579,813.47	38.62	222,916.97	14.85

	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
Vegetation association (within Bioregion)					
BVA 7 (AW)	144,189	15,279	10.6	156	0.11
BVA 142 (AW)	637,707	79,310	12.4	2,381	0.37
BVA 1036 (SCP)	85,526	31,697	37.1	16,238	18.99
BVA 1041 (AW)	4,781	1,507	31.5	318.44	6.66
Local area					
20km radius (application areas 1-4)	249,006	38,703	15.5	-	-
20km radius (application area 5)	249,673	19,105	7.6		

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biodiversity values		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The application areas include one previously recorded threatened flora species (<i>Daviesia dielsii</i>), two federally listed threatened ecological communities (state listed as priority ecological communities), known as the Wheatbelt Woodland and Banksia Woodland communities, and one state listed TEC known as the Coomberdale Chert TEC.</p> <p>It is noted that a DBCA site inspection for <i>Daviesia dielsii</i> at its previously recorded validated location within Area 3 did not identify evidence of this species (DBCA, 2021).</p> <p>The proposed clearing is for up to 50 hectares of dead jam, wandoo, York gum and salmon gum trees. Given that these tree species are representative of the dominant species described for the Wheatbelt Woodland TEC, and that they may contain breeding habitat for Carnaby's cockatoo, they may provide a high level of biodiversity</p> <p>As per conditions on the clearing permit, the applicant is required to retain large trees, which will mitigate impacts to the Wheatbelt Woodland TEC and Carnaby's cockatoo habitat, as discussed further under Section 3.2.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."</p> <p><u>Assessment:</u></p> <p>The application area is within the known distribution (and breeding range) of Carnaby's cockatoo, and the dead trees proposed for clearing have the potential to provide suitable breeding habitat for this species. The loss of breeding habitat for Carnaby's cockatoo within this highly cleared</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>agricultural landscape and known breeding area, would be considered significant.</p> <p>The dead trees proposed for clearing are not likely to provide significant habitat for any other fauna species.</p> <p>As per conditions on the clearing permit, the applicant is required to undertake management measures to mitigate impacts to Carnaby's cockatoo habitat, as discussed further under Section 3.2.</p>		
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>There are historical records of two threatened flora species in the application areas:</p> <ul style="list-style-type: none"> • <i>Daviesia dielsii</i> (two records in Areas 1 and 3 respectively) • <i>Gastrolobium hamulosum</i> (one record, in Area 2) <p>The <i>Gastrolobium hamulosum</i> record is within a completely cleared cropping paddock and this population no longer exists, or was erroneously recorded noting its age (1933). This is also the case for one of the above mentioned <i>Daviesia dielsii</i> records which was an unvalidated record from 1999 located within a long cropped paddock.</p> <p>One of the <i>Daviesia dielsii</i> records occurs (Area 3) within existing remnant native vegetation. DBCA undertook a targeted search for this species and did not identify its presence (DBCA, 2021).</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (d):</u> "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."</p> <p><u>Assessment:</u></p> <p>According to available datasets, two federally listed TEC's (state listed as priority ecological communities), known as the Wheatbelt Woodland and Banksia Woodland communities, and one state listed TEC, known as the Coomberdale Chert TEC, are mapped within the application areas.</p> <p>The proposed clearing is not likely to impact on the Banksia Woodland or Chert Coomberdale TEC's noting that the proposed clearing comprises four specific tree species, none of which are considered dominant for patches of these TEC's.</p> <p>Three of the four dead tree species proposed for clearing are however described as dominant species within the Wheatbelt Woodland TEC, and therefore any of these trees that occur within mapped portions of this TEC would comprise part of any patch they occur within. Specifically, the proposed clearing may impact on trees that provide an important fauna habitat component of this TEC, should it include the removal of large hollow bearing trees.</p> <p>As per conditions on the clearing permit, the applicant is required to undertake management measures to mitigate impacts to the Wheatbelt Woodland TEC and Carnaby's cockatoo habitat, as discussed further under Section 3.2.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: significant remnant vegetation and conservation areas		
<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 national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).</p> <p>The extent of the mapped vegetation types and native vegetation in the local area for Areas 1 to 4, and 5 respectively, are less than the national objectives and targets for biodiversity conservation in Australia (as shown within Appendix A.2.). Two of the four vegetation associations mapped within the application areas also retain less than the 30 per cent threshold.</p> <p>Noting the above, the vegetation proposed for clearing is within an extensively cleared landscape.</p> <p>It is considered that any dead trees that provide suitable breeding habitat for Carnaby's cockatoo within the application areas are significant, noting that these trees also contribute significant value to the Wheatbelt Woodland TEC which is mapped over 339 hectares of the application areas. Noting the potential for such trees to be cleared, the proposed clearing may impact on significant remnant vegetation within an extensively cleared landscape.</p> <p>Given the above, the proposed clearing may be at variance to this Principle.</p> <p>The clearing permit contains conditions that require the applicant to retain any large dead trees with a DBH of greater than 500 millimetres for York Gum, and greater than 300 millimetres for either Salmon gum or wandoo. This will ensure that significant Carnaby's cockatoo habitat trees within a highly cleared and fragmented portion of their known breeding habitat, are not impacted, and will limit the extent of impact on high value fauna habitat within patches of the Wheatbelt Woodland TEC.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<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 application area does not intersect or occur within any DBCA managed land. The closest DBCA managed land includes an un-named conservation reserve (Class A) located around 2.6 kilometres south of Area 3.</p> <p>The proposed clearing is not likely to impact on this conservation area.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<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>According to available datasets, there is one wetland mapped within the application areas (Area 5). This wetland is mapped as three segments and is classified as a minor peripheral basin within the Wheatbelt Wetlands Geomorphic dataset.</p>	May be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>Area 5 also includes two mapped non-perennial rivers known as Dungaroo Creek and Indera Creek. There are also numerous non-perennial watercourses that intersect the application areas.</p> <p>The applicant has specified that four tree species are proposed for clearing, and none of these species comprise riparian species.</p> <p>To ensure adherence to this commitment, the clearing permit contains a condition specifying that riparian vegetation cannot be removed.</p>		
<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 proposed selective clearing of dead trees within an extensive area of 8,301 hectares is not likely to result in appreciable land degradation.</p>	Not likely to be at variance	No
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>The proposed selective clearing of up to 50 hectares of dead trees over multiple agricultural properties of 8,301 hectares is not likely to impact on groundwater salinity or result in the surface expression of salinity.</p> <p>Area 5 is intersected by a peripheral basin, several minor non-perennial watercourses and two major watercourses. The proposed clearing may increase the risk of temporary sedimentation within these wetlands/watercourses, should any dead trees occur close to the banks of these wetlands/watercourses.</p> <p>The applicant is not authorised to clear any riparian vegetation, as per a conditional requirement of the clearing permit. This will help to minimise any risk of sedimentation that exists, which is likely to be minor and short term noting the method of clearing.</p>	May be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing of 50 hectares of dead trees within a larger area of 8,301 hectares is not likely to cause or exacerbate flooding.</p>	Not likely to be at variance	No

Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from several 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.

Appendix D. Photographs

The below photographs depict those taken by the applicant for Areas 2, 3, 4 and 5, and those taken by DBCA for a portion of Area 3. Note that the applicant was not able to provide photographs for Area 1.



Figure 8. Applicants representative photograph of Area 2.



Figure 9. Applicants representative photograph of Area 2.



Figure 10. DBCA representative photograph of a portion of Area 3.



Figure 11. DBCA representative photograph of a portion of Area 3.



Figure 12. Applicants representative photograph of Area 3.



Figure 13. Applicants representative photograph of Area 3.



Figure 14. Applicants representative photograph of Area 4.



Figure 15. Applicants representative photograph of Area 4.



Figure 16. Applicants representative photograph of Area 5.



Figure 17. Applicants representative photograph of Area 5.



Figure 18. Applicants representative photograph of Area 5.



Figure 19. Applicants representative photograph of Area 5.

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)
- Cadastre (LGATE-218)
- Consanguineous Wetlands Suites (DBCA-020)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Pre-European Vegetation Statistics
- Ramsar Sites (DBCA-010)
- Remnant Vegetation, All Areas
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands (DBCA-018)

Restricted GIS Databases used:

- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities

E.2. References

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

Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species. Department of Sustainability, Environment, Water, Populations and Communities, Canberra.

Department of Biodiversity, Conservation and Attractions (DBCA) (2021) Site inspection for Clearing Permit Application CPS 9369/1 (DWER Ref A2072648).

Department of Environment and Conservation (DEC) (2008) Forest Black Cockatoo (Baudin's Cockatoo *Calyptorhynchus baudinii* and Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso*) Recovery Plan.

Department of the Environment (2015) *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt.

Department of the Environment and Energy (2016) *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (s 266B). Approved Conservation Advice (including listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community.

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- 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>
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- 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. <http://florabase.dpaw.wa.gov.au/> (Accessed January 2022).