GOVERNMENT OF WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 11331/1
Permit Holder:	Neoen Australia Pty Ltd
Duration of Permit:	From 22 April 2026 to 22 April 2048

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

ADVICE NOTE

Revegetation and rehabilitation offset

The *Offset Management Plan* referred to in condition 12 of this permit is intended to facilitate the *revegetation* (11.55 hectares) and *rehabilitation* (6.4 hectares) within the *offset site* to restore foraging habitat for Carnaby's cockatoo (*Zanda latirostris*), Baudin's cockatoo (*Zanda baudinii*), forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*), red-tailed phascogale (*Phascogale calura*) and significant remnant vegetation.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of construction and operation of a wind farm, battery energy storage system and associated infrastructure.

2. Land on which clearing is to be done

Lot 101 on Deposited Plan 223210, Williams
Cornwall Road (PIN 553753), Dumberning
Lot 3391 on Deposited Plan 115818, Dumberning
Lot 3392 on Deposited Plan 115819, Dumberning
Lot 10019 on Deposited Plan 84084, Dumberning
Lot 4141 on Deposited Plan 113939, Dumberning
Lot 1067 on Deposited Plan 102909, Dumberning
Lot 3090 on Deposited Plan 113584, Dumberning
Lot 1066 on Deposited Plan 102908, Dumberning
Lot 2 on Plan 14814, Williams

Lot 6121 on Deposited Plan 121056, Minigin
Lot 1422 on Deposited Plan 105192, Minigin
Lot 4870 on Deposited Plan 115822, Minigin
Lot 1817 on Deposited Plan 108254, Minigin
Lot 1341 on Deposited Plan 104837, Minigin
Lot 7237 on Deposited Plan 127805, Minigin
Lot 1357 on Deposited Plan 104836, Minigin
Lot 8931 on Deposited Plan 133000, Minigin
Lot 7617 on Deposited Plan 127803, Minigin
Lot 1250 on Deposited Plan 104156, Minigin
Lot 2484 on Deposited Plan 108492, Minigin
Lot 1251 on Deposited Plan 104157, Minigin
Lot 168 on Deposited Plan 301930, Minigin
Lot 1233 on Deposited Plan 104176, Minigin
Lot 1231 on Deposited Plan 104174, Minigin
Lot 2711 on Deposited Plan 113949, Minigin
Lot 1754 on Deposited Plan 106693, Minigin
Lot 4163 on Deposited Plan 113951, Minigin
Lot 4149 on Deposited Plan 113945, Minigin
Lot 11343 on Deposited Plan 85136, Minigin
Crown Reserve 10054 (R10054), Minigin
Lot 4243 on Deposited Plan 113946, Minigin
Lot 13047 on Deposited Plan 113945, Minigin
Lot 8836 on Deposited Plan 134965, Minigin
Lot 7789 on Deposited Plan 128872, Minigin
Lot 1259 on Deposited Plan 104541, Minigin
Lot 941 on Deposited Plan 102169, Minigin
Lot 1258 on Deposited Plan 104543, Minigin
Lot 1063 on Deposited Plan 102900, Minigin
Lot 1098 on Deposited Plan 102899, Minigin
Lot 1099 on Deposited Plan 102901, Minigin
Lot 1260 on Deposited Plan 104540, Minigin
Lot 6276 on Deposited Plan 121773, Minigin
Lot 1257 on Deposited Plan 104542, Minigin
Lot 1374 on Deposited Plan 104813, Minigin
Lot 492 on Deposited Plan 257440, Minigin
Lot 1410 on Deposited Plan 106692, Minigin
Lot 1197 on Deposited Plan 245629, Minigin
Lot 9337 on Deposited Plan 136439, Minigin
Lot 8822 on Deposited Plan 134014, Minigin
Lot 7201 on Deposited Plan 128326, Minigin
Lot 7236 on Deposited Plan 128327, Minigin
Lot 1229 on Deposited Plan 104038, Minigin
Lot 8100 on Deposited Plan 129751, Minigin

Lot 6120 on Deposited Plan 121057, Minigin
Unnamed road reserve (PIN 11140212), Dumberning
Graham Road reserves (PINs 11140217 and 11140218), Dumberning
Clayton Road reserve (PIN 11318257), Dumberning
Unnamed road reserve (PIN 11318291), Minigin
Lot 808 on Deposited Plan 44274, Minigin
Lot 500 on Deposited Plan 302890, Minigin
Narrogin Road (PIN 11466763), Williams
Moore Street (PIN 11466764), Williams
Unnamed road reserves (PINs 11480415, 11480416, 11480427 and 11480429), Williams
Cornwall Road (PIN11480430), Minigin
Unnamed road reserve (PIN 11480431), Minigin
Cowcher Road (PIN 11508863), Minigin
Unnamed road reserves (PINs 11508867, 11508868, 11508869, 11508870, 11508872), Minigin
Hardie Road reserves (PINs 11508873, 11508874), Minigin
Unnamed road reserves (11508875, 11544889, 11544891), Minigin
Williams-Kondinin Road (PIN 11544897), Dumberning
Williams-Kondinin Road (PIN 11616603), Williams
Glenfield Road (PIN 11618134), Williams
Lot 300 on Deposited Plan 44273, Minigin
Cornwall Road (PIN 11745734), Minigin
Williams-Kondinin Road (PIN 11745735), Minigin
Lot 832 on Deposited Plan 62344, Minigin
Lot 833 on Deposited Plan 62344, Minigin
Lot 301 on Deposited Plan 62344, Minigin
Lot 831 on Deposited Plan 62345, Minigin
Lot 302 on Deposited Plan 62345, Minigin
Cornwall Road (PIN 11858967), Minigin
Lot 1235 on Deposited Plan 104250, Minigin
Lot 8091 on Deposited Plan 132804, Minigin
Rosedale Road (PIN 11318260), Minigin
Easement (PIN 11788964), Minigin
Easement (PIN 11849249), Minigin
Easement (PIN 11788965), Minigin
Williams-Kondinin Road (PIN 11616602), Williams

3. Clearing authorised

The permit holder must not clear more than 7.61 hectares of *native vegetation* within the areas cross-hatched yellow in Figures 1A – 1F of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 22 April 2031.

5. Authorised persons

This permit allows the permit holder to authorise persons, including employees, contractors, and agents of the permit holder, to clear native vegetation for the purposes of this permit subject to compliance with the conditions of this permit and approval from the permit holder.

PART II – MANAGEMENT CONDITIONS

6. 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.

7. 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.

8. Fauna management - directional clearing

The permit holder must:

(a) conduct clearing authorised under this permit in one direction towards adjacent native vegetation; and

(b) allow a reasonable time for fauna present within the area being cleared to move into that adjacent *native vegetation* ahead of the clearing activity.

9. Fauna management – black cockatoos

(a) Prior to undertaking any clearing authorised under this permit within the areas cross-hatched yellow in Figures 1A – 1F of Schedule 1, the permit holder must engage a *fauna specialist* to conduct a fauna survey of the area to be cleared to identify *black cockatoo habitat tree/s.*

(b) Where *black cockatoo habitat tree/s* are identified under condition 9(a), the permit holder must engage a *fauna specialist* to map *black cockatoo habitat tree/s* within the permit area.

(c) Each *black cockatoo habitat tree* identified must be inspected by a *fauna specialist* for evidence of current or past breeding use by *black cockatoo species*.

(d) Where a *black cockatoo habitat tree* with no evidence of current or past use by *black cockatoo species* is identified in accordance with condition 9(a), that tree must only be cleared immediately after the inspection.

(e) where *black cockatoo habitat tree/s* are identified within the areas cross-hatched yellow in Figures 1A – 1F of Schedule 1 and that tree show evidence of current or past breeding use by *black cockatoo species* under condition 9(c), and clearing of that tree cannot be avoided, that tree must be monitored by a *fauna specialist* to determine when it is no longer in use for that breeding season.

(f) Any *black cockatoo habitat tree* with evidence of current breeding use by *black cockatoo species* must not be cleared whilst it is in use for that breeding season as determined by the *fauna specialist* under condition 9(e).

(g) For each suitably sized hollow for *black cockatoo species* nesting that cannot be avoided, the permit holder must install one artificial black cockatoo nesting hollow.

(h) Each artificial black cockatoo nesting hollow required by condition 9(g) must be installed prior to commencement of the next black cockatoo breeding season following clearing of the related *black cockatoo habitat tree/s*.

(i) Within two months of completion of clearing authorised under this permit within the areas cross-hatched yellow on Figures 1A – 1F of Schedule 1, the permit holder must provide the results of the fauna survey in a report to the *CEO*.

(j) The fauna survey report must include the following:
  i) the time(s) and date(s) of inspection(s) by the *fauna specialist*
  ii) A description of the *fauna specialist* inspection methods used
  iii) the location of the *black cockatoo habitat tree(s)* recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  iv) the location of any fauna species listed in condition 9(a), if identified, recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  v) the name and amount of each fauna species identified;
  vi) whether the *black cockatoo habitat tree(s)* identified show current or past use by *black cockatoo species*;
  vii) a photo of the *black cockatoo habitat tree(s)* identified; and
  viii) a description of the *black cockatoo habitat tree(s)* identified, including the:
    A. species of black cockatoo habitat tree(s); and
    B. condition of the *black cockatoo habitat tree(s)*.
  ix) the time and date each *black cockatoo habitat tree* with evidence of current of past breeding use was cleared
  x) the location of the artificial black cockatoo nesting hollow installed.

10. Fauna management – red-tailed phascogale and chuditch

(a) In relation to the area cross-hatched yellow in Figures 1A – 1F of Schedule 1, the permit holder must engage a *fauna specialist* to inspect that area immediately prior to, and for the duration of clearing activities, for the presence of red-tailed phascogale (*Phascogale calura*) and chuditch (*Dasyurus geoffroii*);

(b) Clearing activities must cease in any area where fauna referred to in condition 10(a) are identified until either:
  i) red-tailed phascogale and chuditch individuals have moved on from that area to adjoining *suitable habitat*; or

ii) red-tailed phascogale individuals have been removed by a *red-tailed phascogale specialist* and chuditch individuals by a *fauna specialist*

(c) any red-tailed phascogale individual(s) removed in accordance with condition 10(b)(ii) must be relocated by a *red-tailed phascogale specialist* to adjacent *suitable habitat*

(d) any chuditch individual(s) removed in accordance with condition 10(b)(ii) must be relocated by a *fauna specialist* to adjacent *suitable habitat*

(e) Where red-tailed phascogale individual is identified under condition 10(a), the permit holder must within 14 calendar days provide the following records to the CEO.

i) the number of individuals identified;
ii) the date each individual was identified;
iii) the location where each individual was identified recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
iv) the number of individuals removed and relocated;
v) the relevant qualifications of the *red-tailed phascogale specialist* undertaking removal and relocation
vi) the date each individual was removed;
vii) the method of removal;
viii) the date each individual was relocated;
ix) the location where each fauna individual was relocated to, recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
x) details pertaining to the circumstances of any death of, or injury sustained by, an individual.

11. Revegetation and rehabilitation (temporary works)

The permit holder must:

(a) retain the vegetative material and topsoil removed by clearing authorised under this permit and stockpile the vegetative material and topsoil in an area that has already been cleared;

(b) at an *optimal time* within 12 months following clearing authorised under this permit, *revegetate and rehabilitate* the areas that are no longer required for the purpose for which they were cleared, by:

i) ripping the ground on the contour to remove soil compaction; and
ii) laying the vegetative material and topsoil retained under condition 10(a) on the cleared area(s).

(c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 11(b) of this permit:

i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 11(c)(i) of this permit will not result in similar species composition, structure and density to that of pre-referral clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding native vegetation* that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only local provenance seeds and propagating material are used.

12. Offsets – revegetation and rehabilitation

(a) Within 12 months of the commencement of clearing activities authorised under this permit, the permit holder must submit an *Offset Management Plan* to the *CEO* for approval for the *revegetation* of 11.55 hectares of the area cross-hatched orange *and rehabilitation* of 6.4 hectares of the area cross-hatched green as illustrated in Figure 2 of Schedule 1 of the *offset site*. *The Offset Management Plan* must be developed in accordance with *A Guide to Preparing Revegetation Plans for Clearing Permits* (Department of Water and Environmental Regulation, 2018).

(b) *The Offset Management Plan* must be prepared by an *environmental specialist*.

(c) *The Offset Management Plan* must include the following:

i) the location/s of the *revegetation and rehabilitation* areas required under condition 12(a) of this permit, recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
ii) *site preparation*;
iii) *weed* control;
iv) *regeneration, direct seeding* or *planting*, at an *optimal time*;
v) a *vegetation establishment period*;
vi) *revegetation* success completion criteria to restore significant remnant vegetation and foraging habitat for Carnaby's cockatoo, Baudin's cockatoo, forest red-tailed black cockatoo and red-tailed phascogale based on selected *reference sites*, including but not limited to target weed cover, target species diversity, target vegetation condition, target density, and target structure;
vii) *remedial actions* to be undertaken if completion criteria are not met;
viii) details of ongoing maintenance and monitoring of the area to be *revegetated* and *rehabilitated* for a minimum of five (5) years;
ix) timeframes for completion of the activities; and
x) management commitments that will be achieved.

(d) If the *CEO*, having had regard to conditions 12(b) and 12(c) of this permit, does not approve the *Offset Management Plan*, the permit holder must revise and resubmit the *Offset Management Plan* within three (3) months of the date of the *CEO*'s decision.

(e) If the *CEO*, having had regard to conditions 12(b) and 12(c) of this permit, does not approve a revised *Offset Management Plan* submitted in accordance with condition 12(d) of this permit, the permit holder must again revise and resubmit the *Offset Management Plan* in accordance with condition 12(d) of this permit.

(f) The permit holder must obtain the approval of the *CEO*, prior to implementing the *Offset Management Plan*.

(g) The permit holder must commence the implementation of the approved *Offset Management Plan* within 12 months of the date of approval by the *CEO*.

13. Offset – Conservation Covenant

Within 12 months of the commencement of clearing authorised under this Permit the Permit Holder must provide to the CEO evidence of setting aside the area *revegetated and rehabilitated* under Condition 12 for the protection and management of vegetation in perpetuity.

PART III - RECORD KEEPING AND REPORTING

14. 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 GPS unit set to GDA2020, 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 6; (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 7; and (g) actions taken to mitigate impacts to fauna in accordance with condition 8.
2.	In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 11 of the permit	(a) The size of the area *revegetated* and *rehabilitated*; (b) The date(s) on which the *revegetation* and *rehabilitation* was undertaken; and (c) The boundaries of the area *revegetated* and *rehabilitated* (recorded digitally as a shapefile).
3.	In relation to the offset *revegetation* and *rehabilitation* or areas pursuant to conditions 12 and 13	(a) A description of the *revegetation* and *rehabilitation* activities undertaken; (b) The size of the area *revegetated* and *rehabilitated*; (c) The date/s on which the *revegetation* and *rehabilitation* was undertaken; (d) The boundaries of the area *revegetated* and *rehabilitated*, recorded using a GPS unit set to GDA 2020, expressing the geographical coordinates in Eastings and Northings; (e) any other actions taken in accordance with condition 12; and (f) evidence of setting aside the area *revegetated* and *rehabilitated* for the protection and management of vegetation in perpetuity.

15. Reporting

(a) The permit holder must provide to the *CEO*, on or before 30 June of each calendar year, a written report of:
   i) the records required to be kept under condition 14; and
   ii) records of 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 has been undertaken, a written report confirming that no clearing under this permit has been undertaken must be provided to the *CEO* on or before 30 June of each calendar year.

(c) The permit holder must provide to the *CEO*, no later than 90 days prior to the expiry date of the permit, a written report of records required under condition 14, where these records have not already been provided under condition 15 (a).

DEFINITIONS

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

Table 2: Definitions

Term	Definition
black cockatoo habitat tree	means trees that have a diameter measured over bark at 130 centimetres from the base of the tree of 50 centimetres or greater (or 30 centimetres or greater for *Eucalyptus salmonophloia* or *Eucalyptus wandoo*) that contain hollows suitable for breeding by *black cockatoo species*.
black cockatoo species	means one or more of the following species: a) *Calyptorhynchus lateriosis* (Carnaby's cockatoo); b) *Calyptorhynchus baudinii* (Baudin's cockatoo); and/or c) *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo).
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of *Phytophthora* species on native vegetation.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent and has a minimum of two (2) years' work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the CEO as a suitable environmental specialist.
EP Act	*Environmental Protection Act 1986* (WA)
fauna specialist	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the

Term	Definition
	region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the Biodiversity Conservation Act 2016.
fill	means material used to increase the ground level, or to fill a depression.
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometers and the same IBRA subregion of the area cleared.
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.
Offset	means a direct offset as described in the Government of Western Australia, WA Environmental Offsets Policy, September 2011.
Offset Management Plan	means a document describing the environmental offsets that will be implemented by the permit holder to cover the full cost of establishing and maintaining native vegetation as an environmental offset to counterbalance the significant residual impacts of the clearing activities authorised under this permit.
Offset site	means Lot 2 on Plan 14814, Williams
optimal time	means the period from April to July for undertaking *planting* and *direct seeding*.
planting	means the re-establishment of vegetation by creating favorable soil conditions and planting seedlings of the desired species.
red-tailed phascogale specialist	means a fauna specialist who holds a tertiary qualification specialising in environmental science or equivalent, has a minimum of two years of work experience in red-tailed phascogale identification, surveys of red-tailed phascogale and capture and handling of red-tailed phascogale, and holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016*.
Reference sites	means nearby sites used to provide baseline data for planning a revegetation project. Measurements from fixed reference points or plots where biodiversity components are measured are used to set measurable completion criteria for revegetation projects. The reference sites must contain the following values: • suitable foraging habitat for Carnaby's cockatoo • forest red-tailed black cockatoo • Baudin's cockatoo • Red-tailed phascogale; and • vegetation in a Good to Very Good (Keighery, 1994) or better condition.
regenerate/ regenerated / regeneration	means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing mulch.
rehabilitate/ rehabilitated/ rehabilitation	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
remedial actions/s	means any activity that is required to ensure successful re-establishment of vegetation to its pre-clearing composition, structure and density, and may include a combination of soil treatments and revegetation.

Term	Definition
revegetate/ revegetated/ revegetation	means the re-establishment of a cover of local provenance native vegetation in an area using methods such as natural regeneration, direct seeding and/or planting, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
site preparation	means management of existing site topsoil and preparation of the finished soil surface, for example by ripping or tilling the soil surface and respreading site topsoil and chipped native vegetation.
suitable habitat (red-tailed phascogale)	means habitat known to support red-tailed phascogale (*Phascogale calura*) within the known current distribution of the species, typically characterised by remnant woodlands and forests with hollow-bearing trees and a relatively dense canopy, typically within Wandoo and Sheoak associations
vegetation establishment period	means a period of at least two summers after the revegetation during which time replacement and infill revegetation work may be required for areas in which revegetation has been unsuccessful and involves regular inspections of revegetation sites to monitor the success of revegetation.
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

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by Juraj Galba
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Juraj Galba
MANAGER
GREEN ENERGY APPROVALS

Officer delegated under Section 20
of the Environmental Protection Act 1986

30 March 2026

Schedule 1

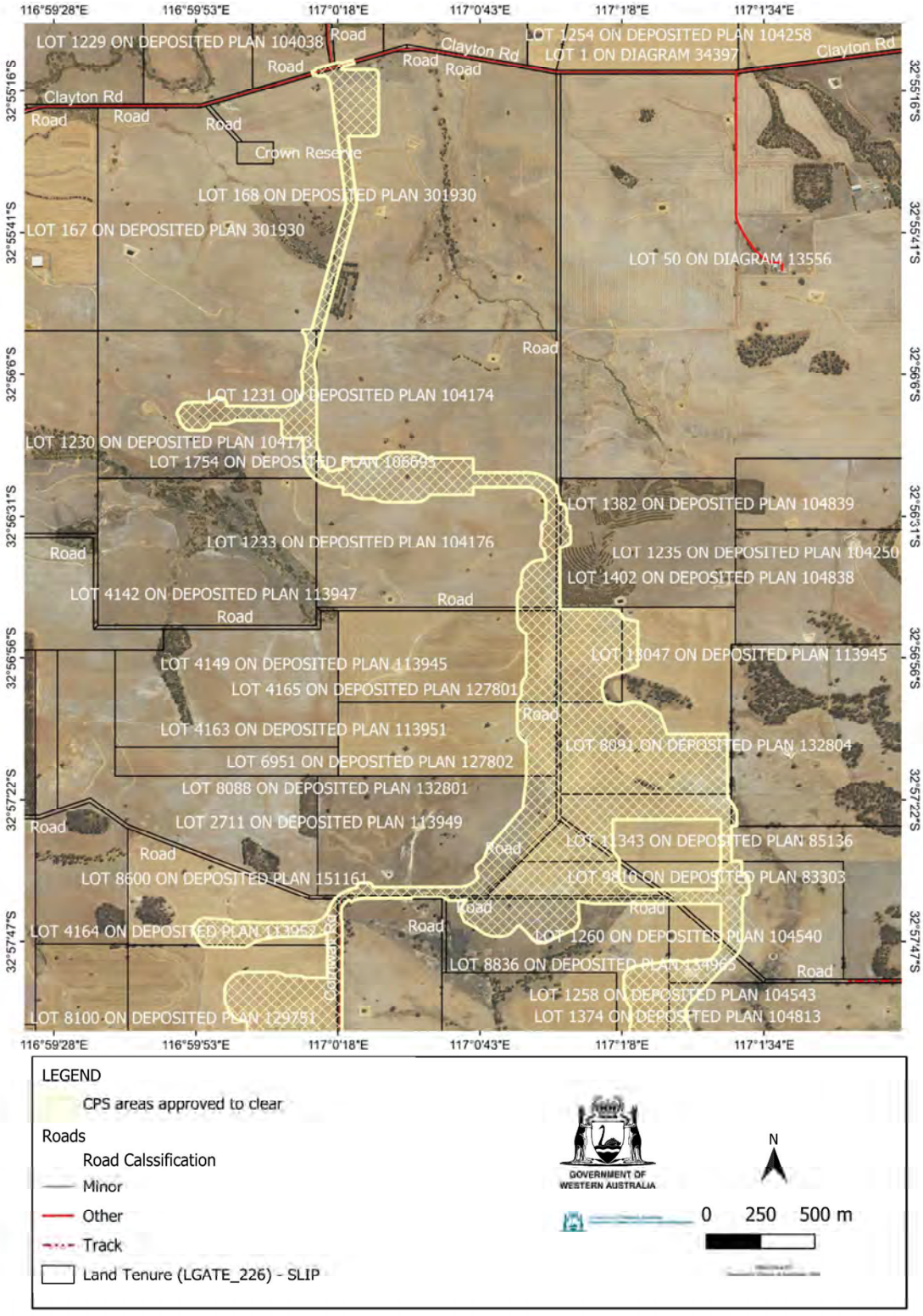


Figure 1A: Map of the boundary of the area within which clearing may occur

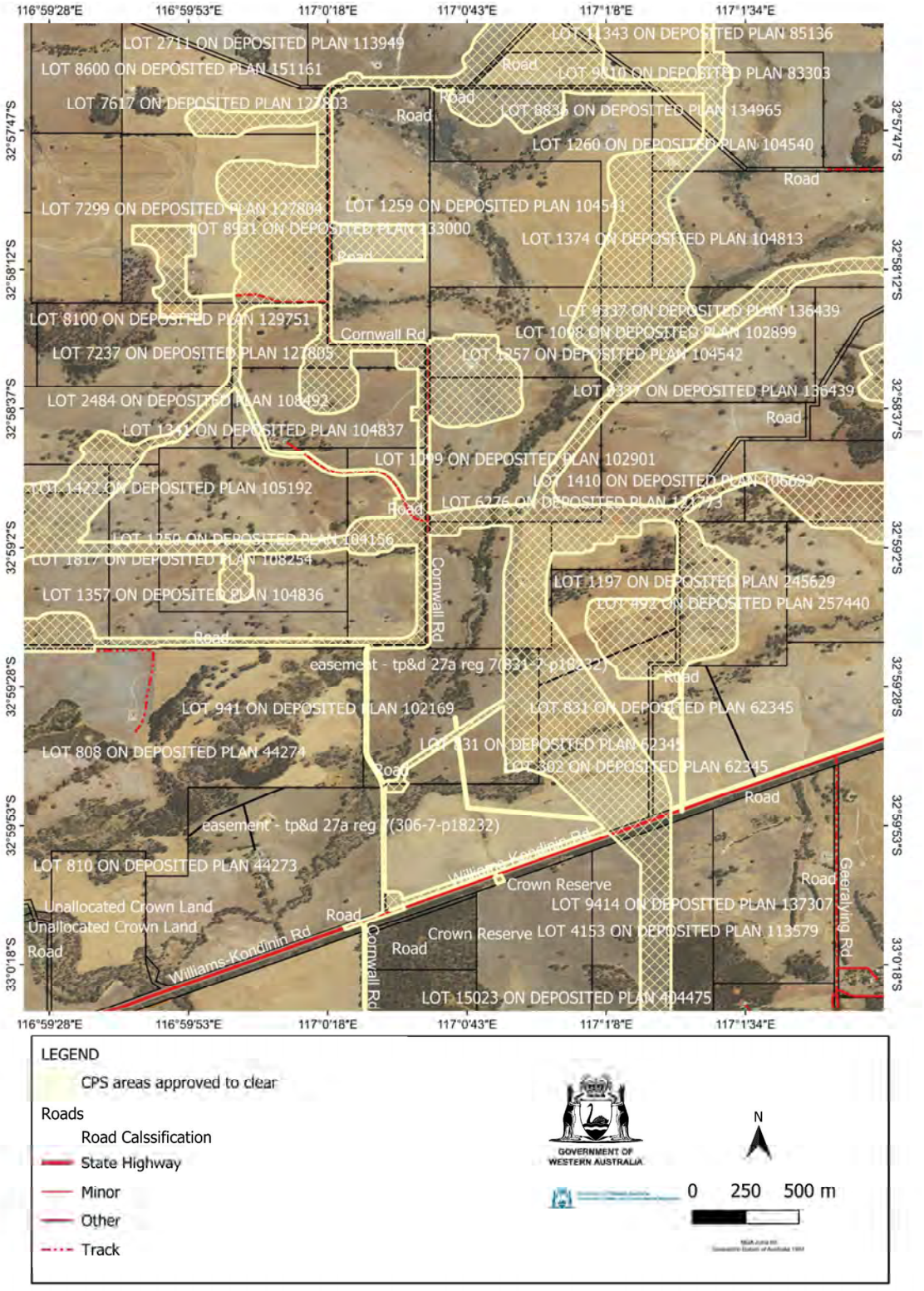


Figure 1B: Map of the boundary of the area within which clearing may occur

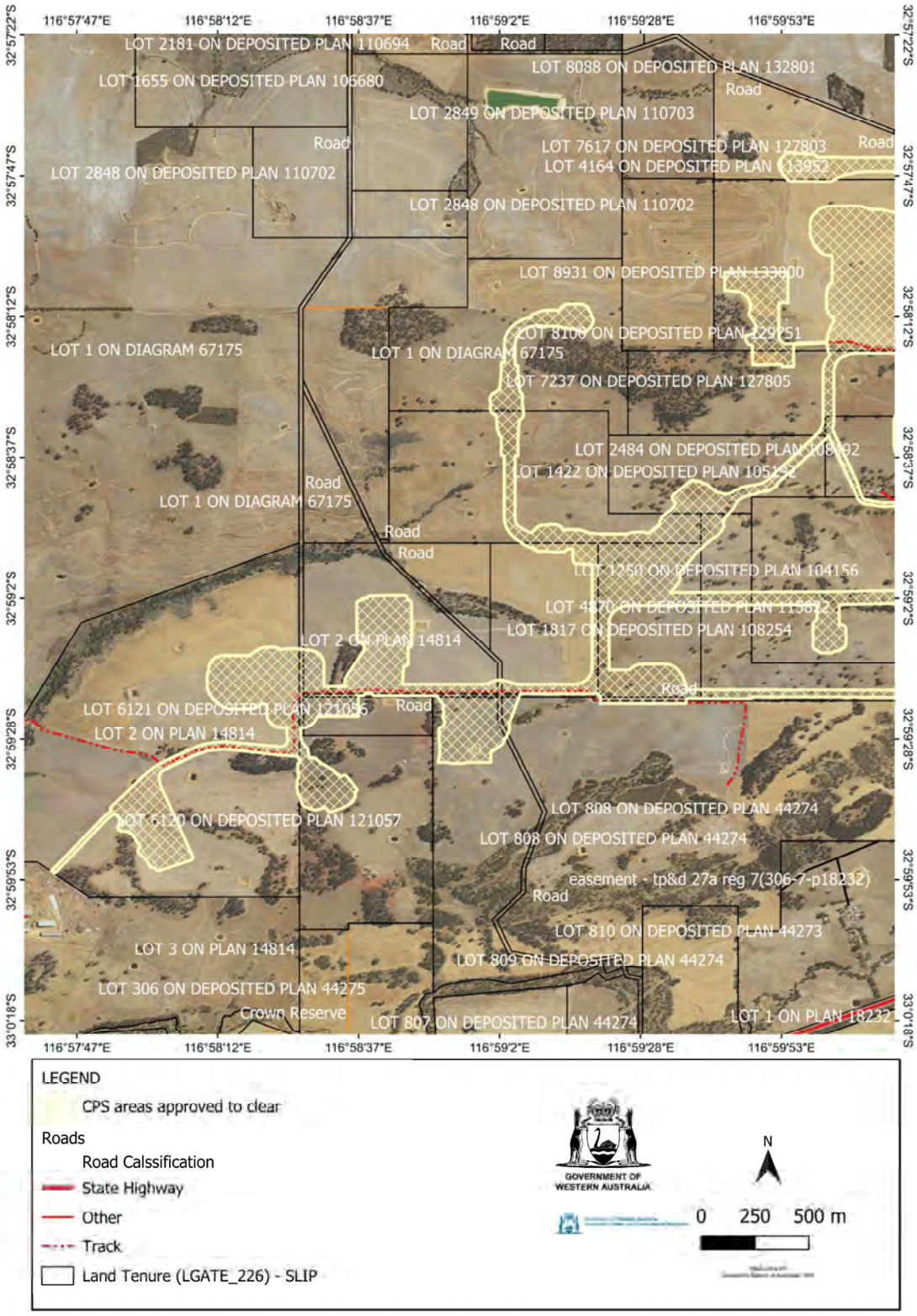


Figure 1C: Map of the boundary of the area within which clearing may occur

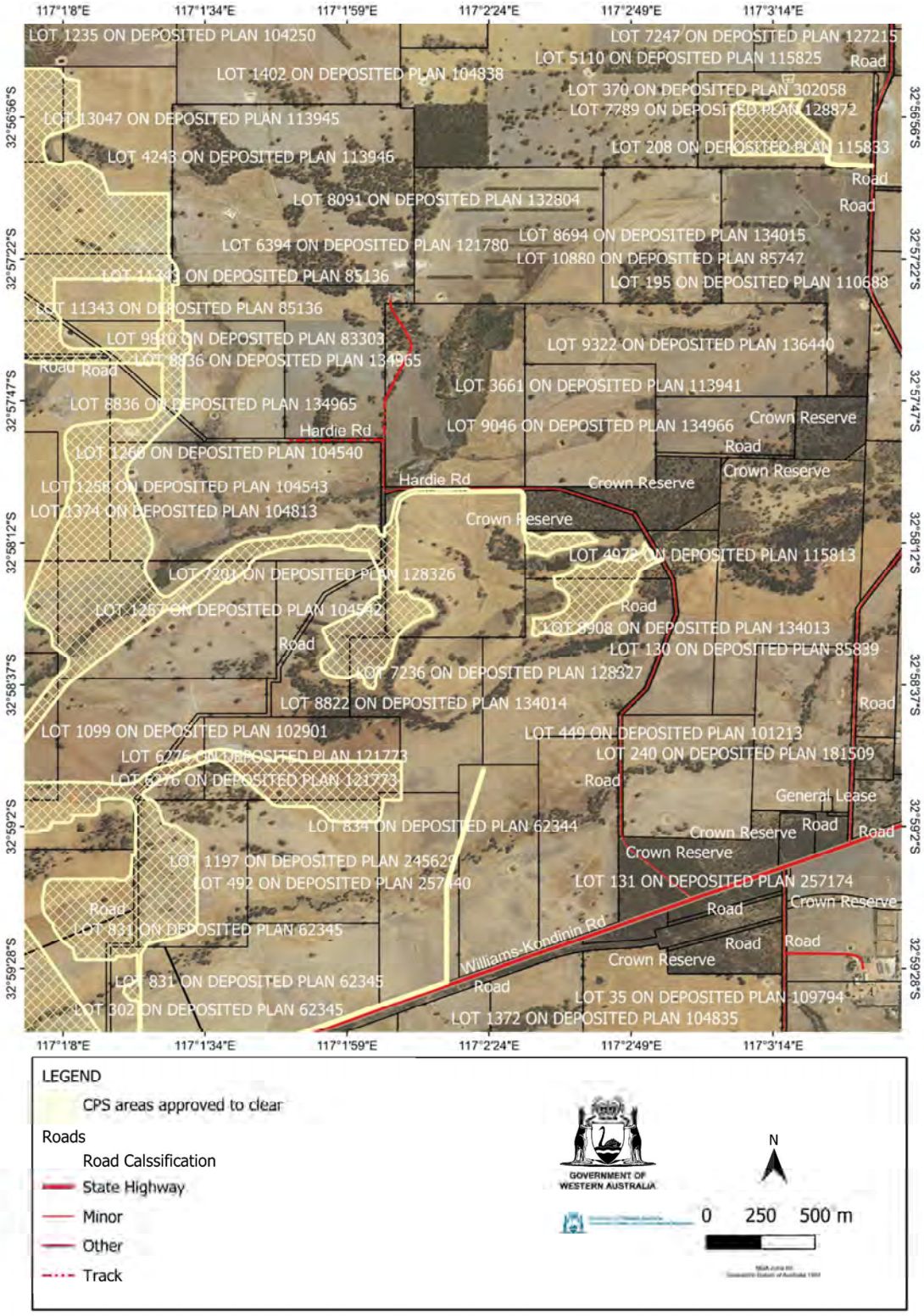


Figure 1D: Map of the boundary of the area within which clearing may occur

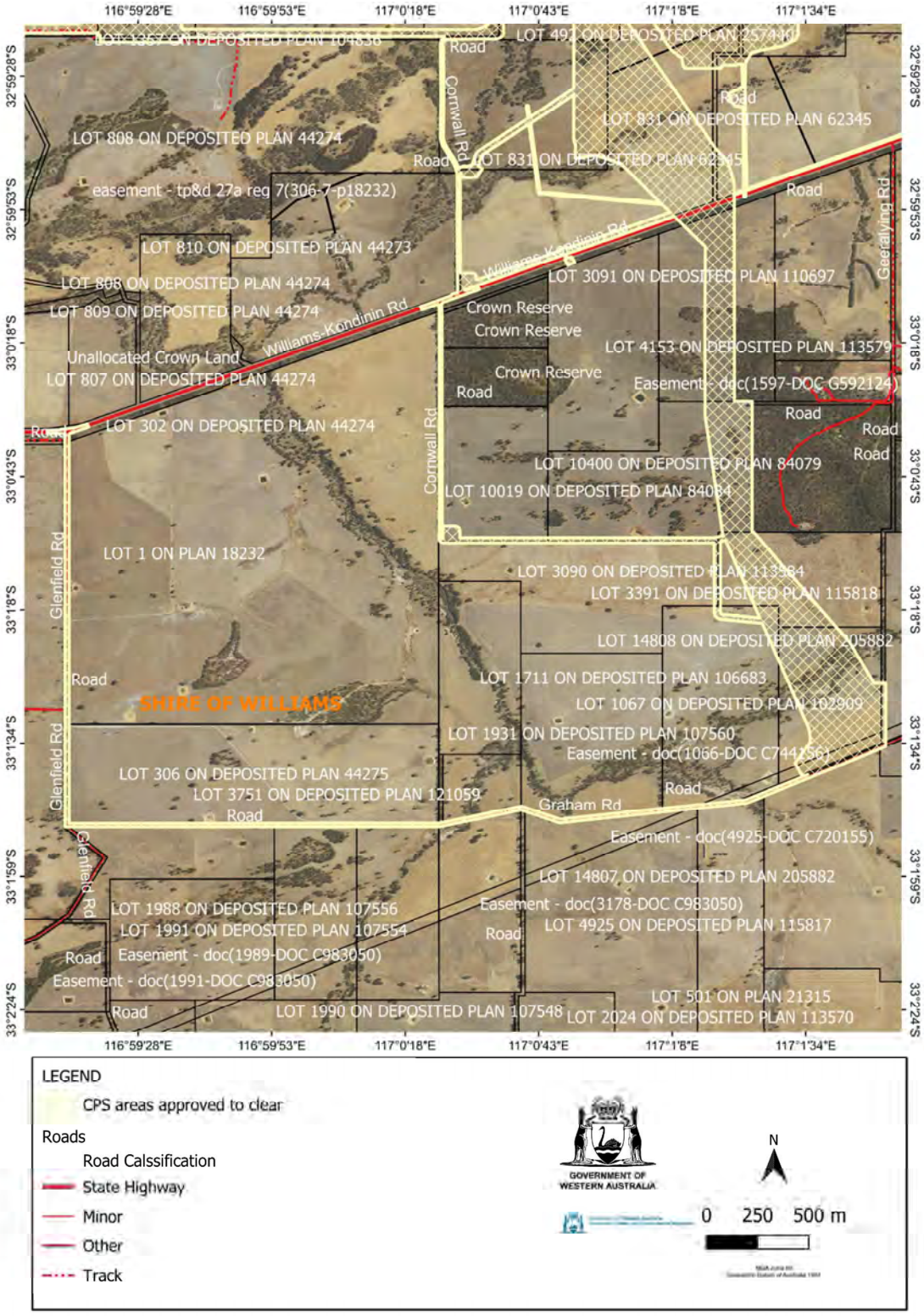


Figure 1E: Map of the boundary of the area within which clearing may occur

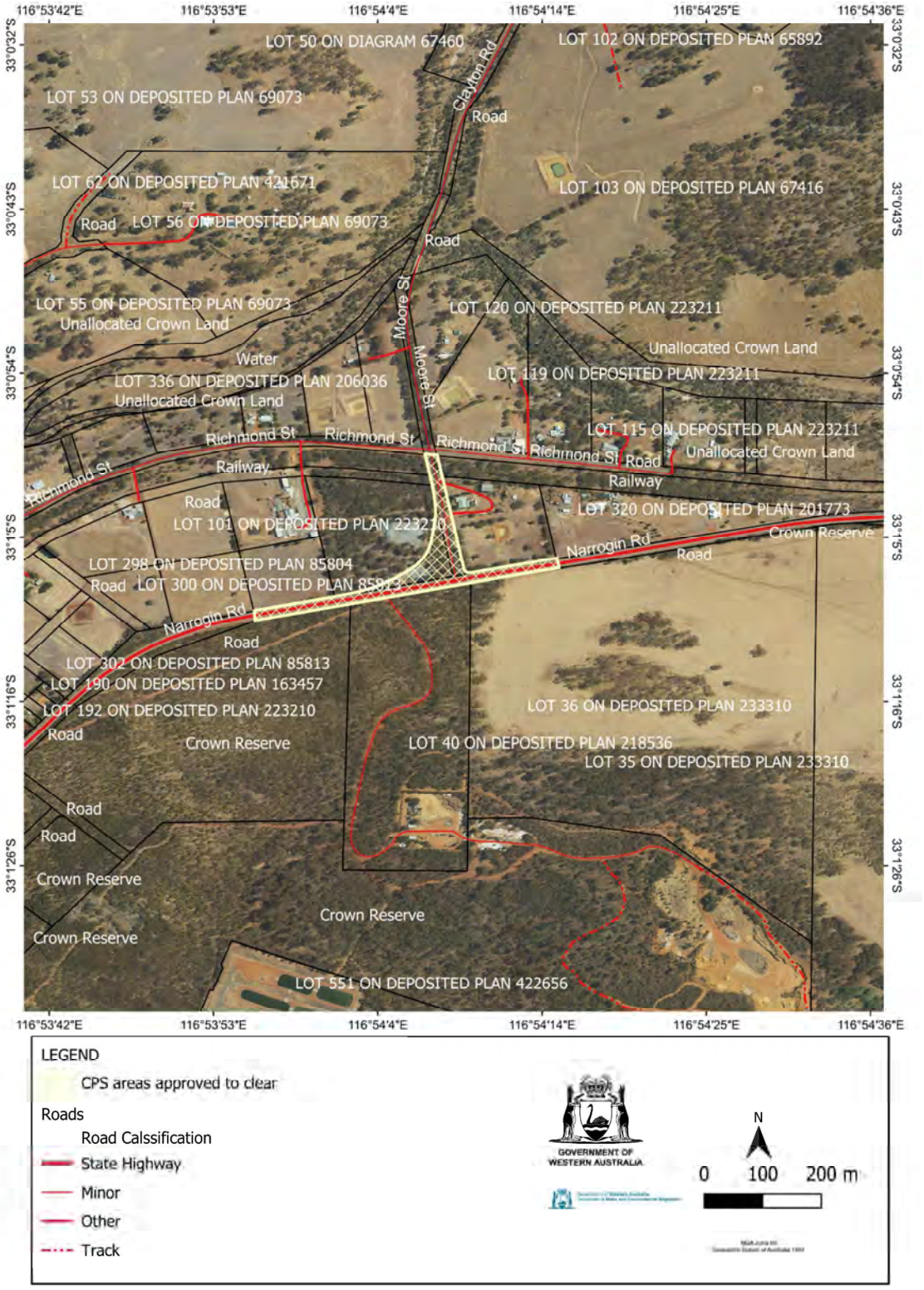


Figure 1F: Map of the boundary of the area within which clearing may occur

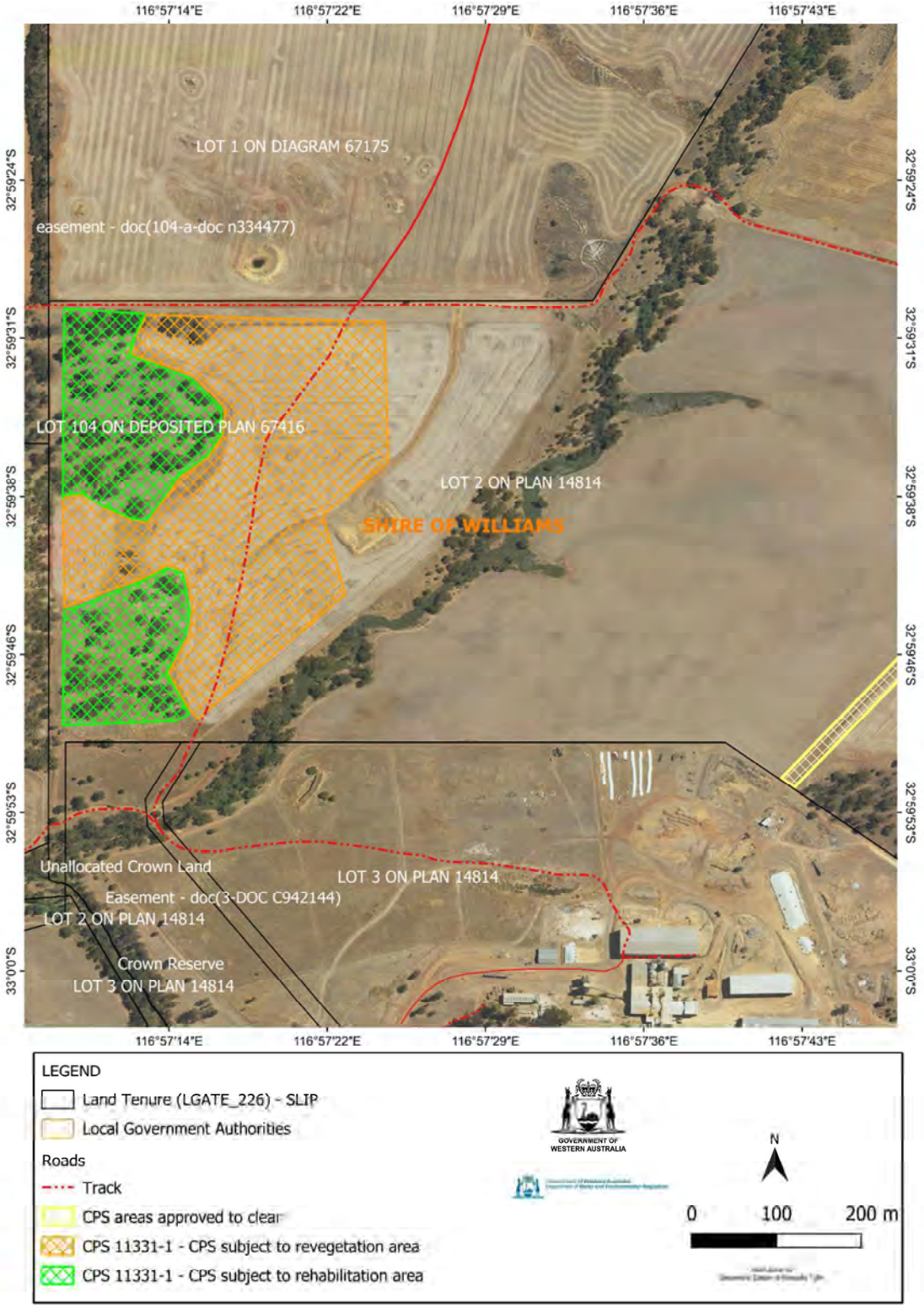
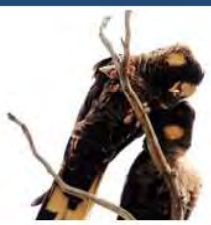


Figure 2: Map of the boundary of the areas cross-hatched orange and cross-hatched green within which the revegetation of 11.55 hectares and rehabilitation of 6.4 hectares in accordance with condition 12 this permit, respectively, must occur.








birdlife AUSTRALIA

WATER CORPORATION

WESTERN AUSTRALIAN museum

How to design and place artificial hollows for Carnaby's cockatoo

Artificial hollows can be used to help conserve the threatened Carnaby's cockatoo by enabling the cockatoos to breed in areas where natural hollows are limited.

A wide variety of artificial hollow designs have been used with mixed success. Evidence suggests that, while the hollow must meet some basic requirements, other factors such as proximity to existing breeding areas may be more important in determining the success of artificial hollows. Before using this information sheet to construct or install an artificial hollow, you should refer to the criteria listed in the separate information sheet; *When to use artificial hollows for Carnaby's cockatoo*.

This information sheet contains broad guidelines for the design and placement of artificial hollows for Carnaby's cockatoo.

Below are three examples of successful artificial hollows used by Carnaby's cockatoo for nesting. Artificial hollows made from a natural log with cut side entrance (left), white industrial pipe with top entrance (centre) and natural log with natural side entrance (right).





Photos by Christine Groom (left and right) and Rick Dawson (centre)

Walls

The walls of the artificial hollow need to be constructed from a material that is;

- Durable enough to withstand exposure to elements for an extended period of time (i.e. 20+ years).
- Able to simulate the thermal properties of a natural tree hollow.
- Not less than 380 mm in internal diameter.
- Preferably 1.2 m deep overall and 1m deep to top of substrate/nesting material.

Successful artificial hollows have been constructed from sections of salvaged natural hollow, black and white industrial pipe. When using non-natural materials care must be taken to ensure there are no toxic residues and that the materials are safe to ingest.

Base

The base of the artificial hollow must be;

- Able to support the adult and nestling(s).
- Durable enough to last the life of the nest.
- Free draining.
- At least 380 mm in diameter.
- Covered with 200 mm of sterile, dry, free draining material such as charcoal, hardwood woodchips or wood debris.

  ***Do not use*:**

  - Saw dust or fibre products that will retain moisture.

Example materials that could be used for artificial hollow bases include heavy duty stainless steel, galvanised or treated metal (e.g. Zincalume ®), thick hardwood timber slab or marine ply (not chipboard or MDF). The base material must be cut to size to fit internally with sharp or rough edges ground away or curled inwards and fixed securely to the walls.



Carnaby's cockatoo eggs in an artificial hollow.
Photo by Rick Dawson

Entrance

The entrance of the artificial hollow must;

- Have a diameter of at least 270 mm).
- Preferably be top entry which will minimise use by non-target species.

Top entry hollows are unattractive to nest competitors such as feral bees, galahs and corellas. Side entry hollows have been successful in areas where feral bees are not a problem and where galahs and corellas are deterred.

Ladder

For artificial hollows made of non-natural materials, or of processed boards, it is necessary to provide a ladder to enable the birds to climb in and out of the hollow easily.

The ladder must be;

- Securely mounted to the inside of the hollow.
- Made from an open heavy wire mesh such as WeldMesh™ with mesh size of 30 - 50 mm, or heavy chain.

Do not use:

  - A material that the birds can chew.
  - Galvanized because the birds may grip or chew the ladder and ingest harmful compounds.

If using mesh for the ladder, the width will depend on the curvature of the nest walls. A minimum width of about 60 - 100 mm is recommended.

Sacrificial chewing posts

For artificial hollows made of non-natural materials, or of processed boards, it is necessary to provide sacrificial chewing posts. The birds chew material to prepare a dry base on which to lay their egg(s).

The sacrificial chewing posts must:

- Be made of untreated hardwood such as jarrah, marri or wandoo
- Be thick enough to satisfy the birds' needs between maintenance visits.
- Extend beyond the top of the hollow as an aid to see whether the nest is being used.
- Be placed on the inside of the hollow.
- Be attached in such a way that they are easy to replace e.g. hook over the top of hollow or can slide in/out of a pair of U bolts fitted to the side of the hollow.

It is recommended that at least two posts are provided. Posts 70 x 50 mm have been used, but require replacing at least every second breeding season when the nest is active. Birds do vary in their chewing habits and therefore the frequency at which the chewing posts require replacement will also vary.



Bottom of an artificial hollow showing ladder that is fixed to the wall and a chewed sacrificial post which is 200 mm from the floor.

Photo by Rick Dawson

Mountings

The artificial hollows must be mounted such that:

- The fixings used will last the duration of the nest e.g. galvanized bracket or chain fixed with galvanized coach screws.
- It is secured by more than one anchor for security and stability.
- It is positioned vertically or near vertically.

Placement

Sites should be chosen within current breeding areas and where they can be monitored, but preferably not conspicuous to the general public. It is important that artificial hollows are placed where they will be accessible for future monitoring and maintenance. For more detail refer to the separate information sheet; *When to use artificial hollows for Carnaby's cockatoo*.

The height at which artificial hollows should be placed is variable. The average height of natural hollows in dominant tree species in the area is a good guide. Natural hollows used by Carnaby's cockatoos have been recorded as low as 2 m above the ground. If located on private property the hollows can be placed lower to the ground so they are accessible by ladder or a rope and pulley system can be used. Where public access is possible artificial hollows should be placed at least 7 m high (i.e. higher than most ladders) and on the side of the tree away from public view to reduce the chance of interference or poaching.

Carnaby's cockatoo show no preference for aspect of natural hollows, however, it may still be beneficial to place artificial hollows facing away from prevailing weather and where they receive the most shade and protection.

Artificial hollows to be placed in trees require:

- Accessibility of the tree for a vehicle, elevated work platform or cherry picker.
- A section of trunk 2-3 m long suitable for attaching the hollow

If necessary, artificial hollows may be placed on poles, but this may result in excessive exposure to sun during very hot weather. When erected on poles there should be"

- A hinge at the bottom of the pole that can be secured when the pole is in the upright position.
- Access for a vehicle to assist raising the pole.

Safety

Care needs to be taken when placing artificial hollows to ensure safety is considered at all times. Artificial hollows are heavy and require lifting and manoeuvring into position up to 7 m above the ground.

Maintenance and monitoring

Once artificial hollows have been placed they require monitoring and maintenance to ensure they continue to be useful for nesting by Carnaby's cockatoo. It is important to monitor artificial hollows to determine use by Carnaby's cockatoo, other native species as well as pest species. By undertaking monitoring the success of the design and placement of artificial hollows can be determined and areas for improvement identified for future placement of artificial hollows.

Monitoring can also assess whether any maintenance is required. Without regular maintenance artificial hollows are unlikely to achieve their objective (that is, they will fail to provide nesting opportunities for threatened cockatoos). Therefore it is important to continue a regime of regular maintenance while the artificial hollow is required. It may be several (to many) decades until a natural replacement hollow is available.

For further advice on monitoring and maintenance of artificial hollows please refer to the separate information sheet; *How to monitor and maintain artificial hollows for Carnaby's cockatoo*.



Carnaby's cockatoo female prospecting an artificial hollow.
Photo by Rick Dawson



Example fixing for artificial hollow
Photo by Christine Groom

Acknowledgements

This information sheet is a joint initiative of Birdlife Australia, the Western Australian Museum and the Department of Parks and Wildlife. Many individuals have contributed to its preparation. Special acknowledgement is made for the contributions of Ron Johnstone from the WA Museum, Alan Elliott from the Serpentine-Jarrahdale Land care Centre and Denis Saunders. This updated version was compiled by Rick Dawson Department of Parks and Wildlife).

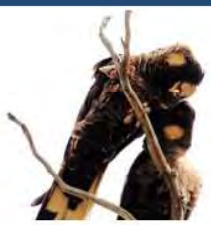
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How to monitor and maintain artificial hollows for Carnaby's cockatoo

It is important to monitor and maintain artificial hollows after they have been erected. Monitoring ensures that the effectiveness of the artificial hollow can be determined. It also means that problems with pest species or any maintenance requirements can be identified and resolved.

Without regular maintenance, artificial hollows are likely to fail to achieve their objective (that is, they will fail to provide nesting opportunities for threatened cockatoos). Therefore it is important to continue a regime of regular maintenance while the artificial hollow is required. It may be several (to many) decades until a natural replacement hollow is available.

Monitoring should be undertaken in order to detect:

- Use by Carnaby's cockatoo
- Maintenance requirements
- Use by other native species
- Use by pest species (e.g. feral bees, galahs, corellas etc.)



Carnaby's cockatoo female prospecting an artificial hollow.
Photo by Rick Dawson

How do I monitor artificial hollows?

Before undertaking monitoring of artificial hollows for Carnaby's cockatoo it is recommended that you seek advice from BirdLife Australia, the WA Museum or the Department of Parks and Wildlife. It is also important to contact Parks and Wildlife, Wildlife Licensing Section, to determine if a scientific licence is required (wildlifelicensing@dpaw.wa.gov.au).

Monitoring artificial hollows requires keen observation and naturalist skills. It is often not possible to observe evidence of breeding directly (i.e. nestlings or eggs) and inferences must be made based on observation. There are many techniques available to monitor artificial hollows. A combination of several is likely to achieve the best results.

Looking for signs of use

Cobwebs covering the entrance to the hollow will indicate that the hollow has not been used recently. This would also apply to other light debris that may have fallen to cover the opening partially. Signs of recent use or interest in the hollow include evidence of chewing.

Observing parent behaviour around the hollow

The behaviour of parent birds around a hollow will indicate an approximate age of young in the nest.

Parent behaviour	**Approximate age/stage of young**
Prospecting for hollow	Unborn
Male only seen out of hollow	Egg or very young nestling (< 3 - 4 weeks)
Both parents seen entering/exiting the hollow	Nestling(s) have hatched (> 3 - 4 weeks)

Observing feeding flocks

Flocks of all male birds indicate that the females are incubating eggs. When flocks are mixed it suggests the birds have either not laid yet or that the nestlings have hatched and no longer require brooding (approximately 3 - 4 weeks old).

Tapping

When females are sitting on eggs they will usually respond to tapping at the base of their tree (or pole) by appearing at the entrance or flying from the hollow opening. This is not a guarantee of breeding activity, but an indication that it is possibly occurring in the hollow.

Observing insect activity around nest

The faecal matter produced by nestlings in a nest attracts insects, especially flies and ants. The type and number of these insects will help indicate how old any nestlings present may be. Factors such as temperature and humidity will also affect insect activity and so observations of insect activity should only be used as supporting evidence for other indications of age/use. Blowflies around a nest usually indicate that a death has occurred.

Listening for nestlings

With experience it is possible to determine if one or two nestlings are present and a broad estimate of age based on the type and loudness of noises they make.

Looking inside the nest

This can be achieved either with the aid of a telescopic pole and camera or mirror, or with the use of a ladder or other climbing equipment. This method can obtain the most detailed monitoring information for artificial hollows. However it is also the most time consuming and difficult to organise. Special equipment is likely to be needed depending on the height and positioning of artificial hollows. There are also safety issues associated with ladder or rope climbing options to reach nests to undertake observations.

How often should I monitor artificial hollows?

The minimum frequency of monitoring and the techniques used will be determined by the aims of the monitoring and the resources available. It is important to limit disturbance to breeding birds and this should be considered when determining the techniques used and frequency.

How do I maintain artificial hollows?

Artificial hollows require maintenance to ensure they continue to have the greatest chance of them being used by Carnaby's cockatoos. Periodic maintenance checks should be undertaken at least every two years, preferably annually. These checks should be undertaken prior to the breeding season which is between July and January with breeding occurring later in this period in southern areas. It is important to maintain a regime of regular maintenance as long as the artificial hollow is required. It may take several (to many) decades until a natural replacement hollow is available.

Maintenance checks should assess the following as a minimum:

- Condition of chewing posts (if present)
- Condition of attachment points
- Condition of hollow bases
- Stability of tree or pole used to mount the artificial hollow



Artificial hollow base needing repair.
Photo by Christine Groom

Repairing hollows

Any problems identified during maintenance checks should be addressed, and any repairs required done, as soon as possible. If breeding is currently occurring, maintenance may need to be delayed if it is likely to disturb the parents or nestling. Likely maintenance needs include replacement of chewing posts (frequently) or nest bases (occasionally) and repairing of any cracks (infrequently). Maintenance concerns regarding the security of attachment points or the stability of the tree or pole should be addressed as a priority for safety reasons.

For artificial hollows known to be used, spare chewing posts should be taken into the field when undertaking maintenance checks.

Monitoring of artificial hollows:

Monitoring aim	Frequency of visits	Monitoring techniques
To determine possible use by Carnaby's cockatoo	At least once during peak breeding season (i.e. between September and December)	• Observing behaviour of adults around hollow • Tapping to see if female will flush from hollow (best undertaken between 10am and 3pm when females most likely to be sitting) • Listening for nestlings • Looking for evidence of chewing • Looking inside nest
To confirm use by Carnaby's cockatoo	At least two visits during peak breeding season (i.e. between September and December)	To observe at least two of the following: • Breeding behaviour of adults around hollow or evidence of chewing • Female flushed from hollow • Noises from nestlings in hollow Or to observe: • Nestlings or eggs in nest
To determine nesting success by Carnaby's cockatoo	The more visits, the better. Preferably fortnightly visits between July and December. As a minimum, at least 3 visits spread throughout breeding season.	• Looking inside nest to observe eggs or nestlings.
To determine use by any species	As often as possible.	• Inspection from ground as a minimum. • Looking inside nest for detailed observations.
To determine maintenance requirements	At least every two years and preferably annually if hollow fitted with sacrificial chewing posts, can be longer if without.	• A basic maintenance check can be undertaken from the ground. A ladder or elevated work platform will be required for a comprehensive check and to replace sacrificial chewing posts

Acknowledgements

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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 11331/1
Permit type:	Purpose permit
Applicant name:	Neoen Australia Pty Ltd
Application received:	7 November 2025
Application area:	7.61 hectares of native vegetation within an 825.25-hectare clearing footprint
Purpose of clearing:	Construction and operation of a wind farm, battery energy storage system and associated infrastructure.
Method of clearing:	Mechanical Removal
Property:	See Appendix G
Location (LGA area/s):	Shire of Narrogin and Shire of Williams
Localities (suburb/s):	Dumberning, Minigin, and Williams

1.2. Description of clearing activities

The application is to clear 7.61 hectare of native vegetation within an 825.25-hectare clearing footprint (see Figure 1, Section 1.5) to develop Narrogin Wind Farm (the proposal) located approximately seven km east of Williams and nine km west of Narrogin. The proposal includes construction and operation of the Narrogin Wind Farm, battery energy storage system and associated infrastructure, which includes:

- 23 wind turbines
- Internal access roads
- Substations; and
- Operations and maintenance facility.

The proposal is projected to generate renewable energy to support the equivalent of over 100,000 households with renewable energy. The proposal will also create local employment and economic opportunities, supporting the regional development and diversification within the Narrogin and Williams area. As a renewable energy development, the Narrogin Wind Farm is an important initiative to reduce carbon emissions and contribute to mitigating the impacts of climate change.

The infrastructure is expected to have an operational life of approximately 30 years, with an estimated construction period of approximately 33 months and a decommissioning phase of approximately 24 months.

1.3. Decision on application

Decision:	Granted
Decision date:	30 March 2026
Decision area:	7.61 hectares of native vegetation, as depicted in Section 1.5, below

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and one submission was received. Consideration of matters raised in the public submission is summarised in Appendix A.

In making this decision, the Delegated Officer had regard for:

- Concerns raised by public members (see Appendix A)
- the site characteristics (see Appendix B),
- relevant datasets (see Appendix H),
- the applicant's mitigation actions (see Section 3.1),
- the findings of biological surveys to support the application (Umwelt, 2024a) (see Appendix F),
- the findings of the DWER's environmental impact assessment of the proposed clearing (see Section 3.2),
- the clearing principles set out in Schedule 5 of the EP Act (see Appendix C),
- planning and other matters relevant to the proposed clearing (see Section 3.3); and
- the rehabilitation and revegetation offsets developed by the applicant in the proximity of the clearing which will cumulatively restore and protect in perpetuity 17.95 hectares of significant remnant vegetation, mitigate impacts on local fauna and achieve a net gain of vegetation in an extensively cleared landscape.

The Delegated Officer also considered that before designing the project, the applicant explored alternative locations which revealed a minimum opportunity for large-scale wind farms without needing substantial upgrades to the South West Interconnected System or building new long transmission corridors, both of which would involve more clearing of native vegetation than the proposal.

The Delegated Officer further considered that the objective of the proposal is to support an increase in the supply of renewable energy in Western Australia and is aligned with the State's objective to develop a cleaner, more diverse energy and climate change mitigation.

The assessment identified that the proposed clearing would result in the loss of:

- native vegetation providing significant habitat for fauna, including three species of black cockatoo and red-tailed phascogale
- 0.2 hectares of vegetation representing the Eucalyptus Woodlands of the Western Australian Wheatbelt (the Wheatbelt Woodlands) priority ecological community (PEC)
- significant remnant vegetation in a landscape which has been extensively cleared; and
- potential spread of weeds into adjacent vegetation.

After consideration of the available information, as well as the applicant's avoidance, minimisation and mitigation measures on environmental values (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on environmental values and can be minimised and managed effectively to prevent unacceptable risk to environmental values.

However, the Delegated Officer determined that the proposed clearing will result in the following significant residual impacts (SRIs) requiring offsets:

- loss of 7.61 ha of significant foraging habitat for Carnaby's cockatoo
- loss of 6.73 ha of significant foraging habitat for Baudin's cockatoo
- loss of 6.7 ha of significant foraging habitat for the forest red-tailed black cockatoo
- loss of 7.61 ha of significant habitat for the red-tailed phascogale; and
- loss of 7.61 ha of significant remnant vegetation.

To address the above SRI and applying the State Offset Metric, the following offset are required at the nominated offset sites (Lot 2 on Plan 14814, Williams):

- Acquisition, rehabilitation and conservation of 6.4 ha of Marri and York Gum woodland; and
- Acquisition, revegetation and conservation of 11.55 ha of which:
    - 11.55 ha provides suitable habitat for Carnaby's cockatoo;
    - 9.94 ha provides suitable habitat for Baudin's cockatoo;
    - 8.33 ha provides suitable habitat for forest red-tailed black cockatoo;
    - 9.77 ha provides suitable habitat for red-tailed phascogale; and
    - 3.57 ha represents significant remnant vegetation.

Having considered the environmental impacts outlined above, the applicant's implementation of the mitigation hierarchy and planning and other matters, the Delegated Officer determined that it was appropriate to grant the clearing permit subject to an adequate environmental offset being provided by the proponent, consistent with the WA *Environmental Offsets Policy (2011)* and the *WA Environmental Offsets Guidelines (2014)*, to counterbalance the SRI of the proposed clearing (see Section 4).

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

- Avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds
- pre-clearance black cockatoo and red-tailed phascogale surveys
- undertake slow, progressive one directional clearing
- revegetation and rehabilitation of temporary cleared areas; and
- rehabilitation and revegetation offsets.

1.5. Site maps

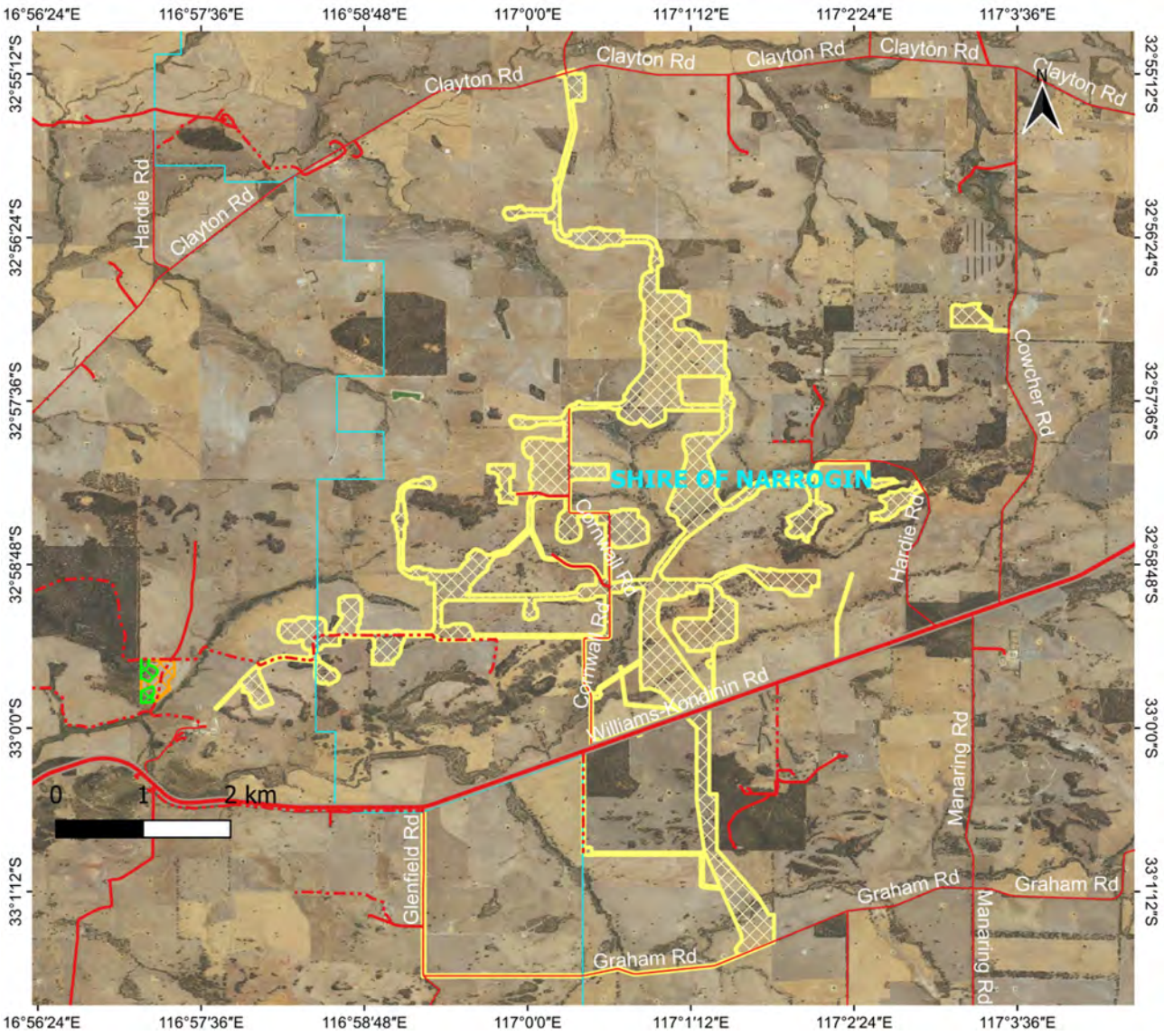


Figure 1: Map of the area within which clearing of 7.61 ha of native vegetation is authorised. The areas cross-hatched green and orange indicate offset rehabilitation and revegetation area, respectively.

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)
- *Conservation and Land Management Act 1984*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Aboriginal Heritage Act 1972*

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011)

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 2021)
- *Environmental Offsets Guidelines* (August 2014)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Before designing the project, the applicant evaluated several options, including the possibility of taking no action. They found that alternative sites for large wind farms in the Wheatbelt were limited if they wanted to stay on track with decarbonising the SWIS, mainly because existing transmission infrastructure was not located where it could be used without major upgrades or the creation of long transmission routes. Choosing to do nothing would slow down Western Australia's clean energy shift and the decarbonisation of its energy networks, both of which are central objectives for the state government.

The applicant (Neoen,2025) advised that the following avoidance and mitigation measures have been considered, will be implemented in the proposal, and will continue to be applied throughout the design, construction, and operational phases to minimise the proposal's environmental impacts:

Avoidance
The proposal avoids:

- Areas of conservation significant ecological communities in the project development envelope
- Areas of very good and good vegetation
- Fauna habitats with a higher potential to support conservation significant fauna
- Areas of higher-quality black cockatoo foraging habitat to reduce the likelihood of turbine collision.
- Clearing of Rank 1 (trees with activity observed at hollows) and Rank 2 (trees with suitable hollows and visible chew marks) black cockatoo breeding trees.
- Areas of native vegetation with significant environmental values along the transport route, such as those with evidence of past use by western ringtail possum.

Minimisation
The proposal includes measures to minimise disturbance to:

- Adjacent native vegetation through the demarcation of the areas authorised to be cleared
- Rank 3 black cockatoo breeding trees (trees with potentially suitable hollows).
- Higher-quality foraging habitat.
- Riparian zones.
- Mapped threatened species habitat.

Pre-clearing surveys will be undertaken in areas of potential habitat that have not been previously surveyed for threatened fauna species known or likely to occur within the development footprint.

Native vegetation and fauna habitat clearing
To manage clearing impacts:

- Clearing boundaries will be clearly demarcated prior to clearing, and clearing will not exceed 7.61 ha of remnant native vegetation.
- Known black cockatoo resting trees within 50 m of clearing boundaries will be designated as no-go zones and protected using fencing or flagging.
- Clearing areas will be inspected immediately prior to clearing by a suitably qualified fauna spotter to ensure no fauna, including black cockatoos, chicks, or eggs, are present.
- Clearing will be undertaken progressively towards adjacent native vegetation to facilitate fauna movement into surrounding habitat.
- Topsoil stockpiles will be managed to minimise wind erosion.

Weed, dieback, and pest management
The proposal includes the following measures:

- All ground-disturbing plant and equipment will enter the site clean and free of weeds and dieback.
- Weed-infested areas will be avoided where practicable.
- Waste will be managed to avoid attracting fauna, and the site will be maintained in a tidy condition.
- A carrion removal program will be implemented to reduce the attraction of scavengers in the event of a bird or bat strike.

Fauna Management
Fauna management measures include:

- Maintaining fauna movement corridors through the project area where practicable.
- Ensuring clearing does not exceed approved disturbance limits.
- Use of qualified fauna spotters during all native vegetation clearing.
- Training of all site personnel through inductions and toolbox talks to raise awareness of fauna management requirements.

Matters of national environmental significance (MNES) fauna and black cockatoos
Specific measures to manage impacts on MNES fauna species include:

- Pre-clearance surveys by a licensed fauna spotter for chuditch and red-tailed phascogale habitat.
- Establishment of no-go zones where chuditch or red-tailed phascogale are identified until individuals have naturally dispersed.
- Relocation of habitat features (e.g. hollow logs) where they cannot be retained in situ and were safe and practicable.
- Targeted assessment of all unassessed potential black cockatoo breeding trees will be undertaken within the Final Project Footprint.
- No removal of Rank 1 or Rank 2 black cockatoo breeding trees.
- Minimisation of disturbance to Rank 3 trees through micro-siting, with no-go zones applied where active nesting is identified.
- Cessation of clearing activities where black cockatoos are present until individuals have naturally moved on.

Management of indirect impacts
Indirect impacts to fauna will be minimised through:

- Restriction of construction activities to daylight hours where practicable.
- Dust suppression and traffic management measures, including speed limits and signage.
- Progressive clearing to limit the extent of exposed areas.
- Appropriate lighting design to minimise light spill into surrounding habitat.
- Provision of egress points in open excavations.

Bird and Bat Adaptive Management Plan
Potential impacts to birds and bats will be managed in accordance with a Bird and Bat Adaptive Management Plan which adopts a trigger-based, adaptive management framework to monitor and mitigate turbine strike impacts during operation.

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.

After consideration of avoidance and mitigation measures, it was determined that an offset was required to counterbalance the significant residual impacts associated with the loss of significant foraging habitat for three black cockatoo species, red-tailed phascogale, and native vegetation considered significant. In accordance with the Government of Western Australia's *Environmental Offsets Policy* and *Environmental Offsets Guidelines*, these significant residual impacts have been addressed through the conditioning of environmental offset requirements on the permit. The nature and suitability of the offset provided are summarised in Section 4.

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 B**Error! Reference source not found.**) identified that the impacts of the proposed clearing present a risk to biological values (fauna, adjacent flora and vegetation), conservation areas, and land and water resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (biodiversity and flora) - Clearing Principles (a) and (c)

Assessment

Vegetation and condition
The Study Area is located across Jarrah Forest and Avon Wheatbelt Interim Biogeographic Regionalisation for Australia (IBRA) bioregions, and Katanning and Northern Jarrah Forest sub-bioregions. The Katanning subregion largely comprises woodlands of wandoo, york gum and salmon gum, with jam and casuarina also common. The vegetation of the Northern Jarrah Forest subregion comprises Jarrah-Marri forest in the west, with Bullich and Blackbutt in the valleys grading to Wandoo and Marri woodlands in the east and Powder Bark on breakaways (Umwelt, 2024c).

The following surveys were undertaken to ensure that all relevant environmental values and potential impacts were identified and considered (Umwelt, 2024c).

- Flora and Vegetation Reconnaissance Survey and Fauna Habitat Assessment (Phase 1) - May 2023 (Umwelt, 2023): This report provides an overview of initial flora, vegetation, and fauna habitat identified within the search area.
- Flora and Vegetation Reconnaissance and Targeted Assessment Survey (Phase 2) - Sept 23, Nov 23 and April 24 (Umwelt, 2024a): this assessment builds on the findings of Phase 1, offering targeted insights into flora and vegetation within the study boundaries.
- Vertebrate Fauna Survey Report (Umwelt, 2024b): this report documents the results of vertebrate fauna surveys undertaken in the project area.
- Bird and Bat Utilisation Survey Summary Report (Umwelt, 2024c) this summary outlines the utilisation of the area by bird and bat species, contributing to the overall assessment of habitat value.

Vegetation condition is predominantly completely degraded (82.3%) and degraded (17.6%) condition. A very small portion of the Study Area was mapped as being in 'Good' condition (0.4 ha, 0.008% of the Study Area). This area is the only mapped location of VT12. Due to the history of clearing, logging and grazing in the Study Area, there was no vegetation observed that was considered to be in 'Pristine', 'Excellent' or 'Very Good' condition.

Multiple flora and vegetation surveys undertaken across the application area and broader survey footprint (Umwelt, 2024c, Section 6.2) confirm that the native vegetation proposed to be cleared comprises a mosaic of mixed eucalypt woodlands and shrublands, including:

- *Eucalyptus loxophleba* (York gum) woodland
- *Eucalyptus salmonophloia* (Salmon gum) woodland
- Eucalyptus longicornis, York gum, and jam woodland
- Mixed Banksia, Melaleuca, Allocasuarina and proteaceous shrubland

- Remnant creekline vegetation and granite-derived shrub mosaics

A total of 22 Vegetation Types (VTs) were identified in the Study Area. This area covers 1146.6 ha and represents 18.1% of the Study Area (Umwelt, 2024a). The majority of VTs have been no longer considered to be intact remnant vegetation. This is a result of the long history of agricultural activities and other development in the Study Area, including direct clearing for cropping, pasture, roads and other infrastructure, and grazing by stock.

Remnant vegetation was mapped primarily as occurring either on drainage lines, or on the tops of hills influenced by either granite or laterite; these areas being the least favoured for agricultural purposes.

- VT7 constitutes the largest portion of remnant vegetation within the Study Area, covering 5.6%. This vegetation type is characterised by a low to mid woodland transitioning to open woodland, predominantly featuring Eucalyptus rudis subsp. rudis and Eucalyptus loxophleba subsp. Loxophleba. The understorey comprises low to open sedgeland, primarily of Juncus acutus subsp. acutus over tussock grassland dominated by pasture weeds along drainage lines.
- VT6 is the second most extensive vegetation type, occupying 2.9% of the Study Area. It consists of woodland dominated by Corymbia calophylla and Eucalyptus wandoo subsp. Wandoo, with occasional occurrences of Allocasuarina huegeliana and Eucalyptus astringens subsp. astringens; and
- VT8 ranks as the third largest, representing 1.3% of the Study Area. It consists of woodland primarily made up of Eucalyptus astringens subsp. astringens and Eucalyptus gardneri subsp. gardneri.

Areas where natural vegetation has been completely and apparently permanently removed, with either no or very scattered native taxa (trees) remaining, have been mapped as ‘Cleared’ (Cl). This category mainly consists of paddocks, with tracks and firebreaks providing a minor proportion of this area. A total of 5098.9 ha of ‘Cleared Land’ was mapped, representing 80.4% of the Study Area.

Ecological communities

The above surveys identified a total of 41.8 ha of the Wheatbelt Woodlands PEC within the project development envelop. The remaining areas did not meet the criteria for the PEC classification, primarily due to failing condition thresholds. This was largely attributable to factors such as the absence of native understorey vegetation and the presence of introduced species covering more than 70% of the ground layer in most instances (Umwelt, 2023). None of the Wheatbelt Woodlands PEC occurs within the proposed clearing area.

A vegetated area located at the intersection of Clayton Road and Narrogin-Williams Highway that is proposed to be cleared for the transport of wind turbines components to the project development envelope was assessed for potential inclusion within the Wheatbelt Woodlands PEC. The total patch measures approximately 5.4 hectares (including fully degraded sections such as tracks and gravel pits) or 4.84 hectares excluding these degraded areas. It is possible that this site does not satisfy the criteria required for listing. A portion of the patch currently serves as a gravel storage area. Temporary clearance of up to 0.2 hectares of vegetation may be necessary to facilitate turbine blade delivery. The permit will require the applicant to restore this area following completion of works. Considering the limited extent of disturbance, primarily in already degraded condition, and the required rehabilitation, the proposed clearing is unlikely to adversely affect the Wheatbelt Woodlands PEC.

Flora

A total of 56 flora species were considered potentially occurring in the application area. A flora survey (Umwelt, 2024c) conducted over a larger area encompassing the application area did not identify any threatened flora listed under the BC Act or EPBC Act or flora listed as Priority by the Department of Biodiversity, Conservation and Attractions. The targeted flora and vegetation surveys covered areas assessed as being in good condition and were undertaken at a time when significant flora would have been detectable. Areas of degraded or completely degraded condition were regarded as having very low likelihood of presence of significant flora taxa due to the disturbed nature of the vegetation (generally consisting of a tree layer over pasture weeds, with impacting processes present such as historical clearing and livestock in combination with lack of fences protecting remnant vegetation, as observed during the Phase 1 May 2023 field survey) (Umwelt, 2024c).

A review of historical records for *Xanthorrhoea brevistyla* (Priority 4) and *Gastrolobium ovalifolium* (Priority 4) identified errors in their spatial coordinates, which now place both species in areas of cleared agricultural land. No significant flora species were recorded during the 2023–2024 targeted flora and vegetation survey (Umwelt, 2024a).

No conservation significant flora taxa were recorded in areas proposed for clearing in the transport development envelope, and given the degraded condition of vegetation, these areas were considered as unlikely to provide suitable habitat for such species.

Noting the findings of the targeted flora surveys and that 99.9 per cent of the application area is in degraded and completely degraded condition with the understory dominated by weeds, the application area does not provide significant habitat for conservation significant flora.

Conclusion
The proposed clearing will remove 7.61 hectares of native vegetation spread across several fragmented areas. Although no conservation-significant flora will be impacted, up to 0.2 hectares of the Wheatbelt Woodlands PEC will be impacted. These impacts are considered minor and can be managed through the conditions set out in the clearing permit. With mitigation measures in place, the proposal is not expected to have significant impacts on biological diversity.

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

- Avoid, minimise and reduce impacts and extent of clearing
- Rehabilitation of temporary cleared areas; and
- Weed and dieback management.

3.2.2. Biological values (fauna) - Clearing Principles (b)

Assessment
Based on available databases, a total of 18 conservation-significant fauna species have been identified within the local vicinity, including two Critically Endangered (CR), four Endangered (EN), four Vulnerable (VU), one Priority 3 (P3), four Priority 4 (P4), one Migratory (MI), one specially protected (OS), and one conservation-dependent (CD) species.

Five broad habitat types were mapped within the project development envelope:

- Eucalypt woodland on laterite rise (approximately 6 per cent)
- Eucalypt-sheoak woodland with granites (approximately 3 per cent)
- Creekline (approximately 9 per cent)
- Planted (approximately 2 per cent); and
- Cleared (approximately 80 per cent)

Based on habitat requirements, distribution, mapped vegetation type and the condition of the vegetation, the application area was considered to provide suitable habitat for the following species (Umwelt, 2024b):

- forest red-tailed black cockatoo
- Baudin's cockatoo
- Carnaby's cockatoo
- red-tailed phascogale
- chuditch
- fork-tailed swift
- inland western rosella
- western false pipistrelle
- masked owl
- barking owl
- central long-eared bat
- quenda; and
- peregrine falcon

Black cockatoos
Collectively known as black cockatoo species, the forest red-tailed black-cockatoo, Baudin's cockatoo and Carnaby's cockatoo are known to nest in hollows of live and dead trees, including marri, jarrah (*Eucalyptus marginata*), karri (*Eucalyptus diversicolor*), wandoo (*Eucalyptus wandoo*), tuart (*Eucalyptus gomphocephala*), flooded gum, and other *Eucalyptus* spp. (DAWE, 2022). 'Breeding habitat' for black cockatoos includes trees of these species that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow, where suitable DBH for nest hollows is 500 millimetres for most tree species (DAWE, 2022). While breeding, black cockatoos generally forage within a six kilometre to 12-kilometre radius of their nesting site (DAWE, 2022). According to available datasets, mapped potential black cockatoo feeding habitat is recorded within 12 kilometres of the application area, making it a suitable location for breeding if appropriate hollows are present (Umwelt, 2024b). The application area is also mapped within the known breeding range of Carnaby's cockatoo and within the predicted

occurrence and potential breeding range for both Baudin's cockatoo and the forest red-tailed black cockatoo (DAWE, 2022).

Breeding

A black cockatoo habitat assessment within the project development envelope identified a total of 109 black cockatoo habitat trees. The survey found no evidence, either active or historical, of breeding or roosting activity. Among these trees, five contained hollows potentially suitable for black cockatoo breeding, while one possessed a hollow unlikely to be suitable.

To address potential impacts on black cockatoo breeding, the applicant must conduct inspections of habitat trees prior to commencement of clearing activities and install artificial nesting hollows corresponding to each impacted hollow deemed suitable for breeding by this species.

Foraging

The fauna habitat types identified in the application area include primary and secondary foraging species for black cockatoos in the form or marri, jarrah, Banksia sp (*Banksia sessilis*), york gum and wandoo trees. Foraging evidence was recorded within the project development envelope from the presence of aged foraging material. Noting the differences in foraging preferences, it was calculated that the application area includes:

- 7.61 ha of foraging habitat for Carnaby's cockatoo
- 6.73 ha of foraging habitat for Baudin's cockatoo; and
- 6.7 ha of foraging habitat for forest red-tailed black cockatoo.

According to current databases, roosting and breeding sites for black cockatoos are located approximately eight and twelve kilometres from the application area, respectively. Consequently, the application area provides foraging habitat that supports these activities for black cockatoos, and is therefore regarded as significant and necessitating appropriate offset measures.

To mitigate these impacts, the applicant is proposing to rehabilitate and conserve 6.4 hectares of marri-york gum woodland and revegetate and conserve 11.55 hectares of native vegetation in the proximity of the application area, of which:

- 11.55 ha provides suitable habitat for Carnaby's cockatoo;
- 9.94 ha provides suitable habitat for Baudin's cockatoo; and
- 8.33 ha provides suitable habitat for forest red-tailed black cockatoo.

The proposed offset will address the impacts of the proposed clearing on local populations of black cockatoos and result in a net gain of vegetation in an extensively cleared landscape. The proposed offset aligns with the *WA Environmental Offsets Policy* (2011) and *WA Environmental Offsets Guideline (2014).*

Red-tailed Phascogale

The red-tailed phascogale (*Phascogale calura*) is currently listed as Vulnerable under the EPBC Act and Conservation Dependent under the BC Act. Within the study area, this species was recorded at one site, with an additional two records at nearby locations (Umwelt, 2024b). Red-tailed phascogale shows a preference for Wandoo or York Gum woodlands that include Rock Sheoak, but it is also known to utilise other habitats such as shrublands (Umwelt, 2024b).

Critical habitat for the red-tailed phascogale in the application area includes Eucalypt Sheoak woodland with granite outcrops and Eucalypt woodland on laterite rises. The species may also disperse through creekline habitats or areas where native vegetation has been replanted. Small and degraded woodland patches are less likely to support the red-tailed phascogale due to insufficient shelter and limited foraging opportunities (Umwelt, 2024b). Cleared land and isolated paddock trees are generally unsuitable and are not likely to be used by this species. A targeted survey for the red-tailed phascogale along the Williams Narrogin Highway confirmed its presence in a patch of native vegetation situated to the west of the study area (Umwelt, 2024b).

Based on the above, the entire application area is identified as significant habitat for the red-tailed phascogale. To minimise potential impacts on this species, the applicant will be required to conduct pre-clearance surveys to confirm the presence of red-tailed phascogale within the application area. Furthermore, the applicant must rehabilitate 6.4 hectares of degraded marri-york gum woodland near the clearing area and revegetate an additional 9.77 hectares of suitable habitat for this species. The proposed offset aims to restore a continuous, self-sustaining, and resilient patch supporting the red-tailed phascogale, address impacts on the local population, and achieve a net gain for the species within the locality. The proposed offset aligns with the *WA Environmental Offsets Policy* (2011) and *WA Environmental Offsets Guideline (2014).*

Chuditch
The application area contains native vegetation which provides suitable habitat for chuditch. Chuditch is a known resident of Dryandra Woodland National Park located approximately 1.85 kilometres north of the application area. Despite substantial survey efforts totalling 1,276 camera nights, only a single chuditch individual was recorded in the Eucalypt woodland habitat. This indicates that the application area may be used by chuditch for dispersal but is unlikely to regularly support a population of chuditch due to the majority of habitat patches being too small and fragmented. Also, the species is susceptible to predation by foxes which were recorded across 12 of the 21 camera traps established.

Other fauna
The application area may also provide potential habitat for species such as the fork-tailed swift, inland western rosella, western false pipistrelle, masked owl, barking owl, central long-eared bat, quenda, and peregrine falcon. However, considering these species' high mobility and ability to disperse over long distances, as well as the fragmented state of the application area—which primarily consists of severely degraded native vegetation with limited understory—the application area is unlikely to provide significant habitat values necessary for the existence of these species.

Conclusion
Based on the above assessment, the proposed clearing will have a significant residual impact on black cockatoo species and red-tailed phascogale. These impacts will be mitigated through rehabilitation of 6.4 hectares and revegetation of 11.55 hectares of vegetation. The application area is unlikely to provide significant habitat for other conservation significant fauna.

Conditions
To address the above impacts, the following conditions will be required on the clearing permit:
- Weed and dieback management measures to assist in mitigating impacts to fauna habitat
- Slow and directional clearing, which allows fauna to move into adjacent vegetation ahead of the clearing activity and minimises impact to individuals
- Red-tailed phascogale and black cockatoo pre-clearance surveys; and
- Rehabilitation and revegetation offsets which will cumulatively restore and protect in perpetuity 17.95 hectares of vegetation for black cockatoos and red-tailed phascogale.

3.2.3. Significant remnant vegetation and conservation areas - Clearing Principles (e)

Assessment
The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The application area is located within the Avon Wheatbelt IBRA bioregion which retains approximately 18.51 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). The application area is mapped within Beard vegetation types which has an extent lower than the 30 per cent threshold, either statewide or within the Avon Wheatbelt IBRA bioregion (see Appendix B.2). The vegetation extent in the local area also falls below the national targets, with approximately 20.53 per cent of pre-European vegetation extent remaining within a 10-kilometre radius of the application area. Given the above, and that the application area provides significant habitat for conservation significant fauna, the application area is considered a significant remnant within an extensively cleared landscape.

The application area has the potential to facilitate the spread of weeds and dieback into other remnant vegetation in the local area. A weed and dieback management condition is considered to minimise this risk, and it is not considered likely that the proposed clearing will have a significant impact of environmental values of any adjacent remnant vegetation patches.

Conclusion
The clearing will result in the loss of 7.61 hectares of significant remnant vegetation and may result in indirect impacts on adjacent native vegetation through the spread of weed and dieback.

Conditions
To address the above impacts, the following conditions will be required on the clearing permit:
- Weed and dieback management measures to assist in mitigating impacts to surrounding vegetation; and
- Rehabilitation and revegetation offsets which will cumulatively restore and protect in perpetuity 17.95 hectares of vegetation in the local area.

3.3. Relevant planning instruments and other matters

The Department invited the following Local Government Authorities to comment, and responses were provided by:

- Shire of Williams
- Shire of Narrogin

Other relevant authorisations required for the proposed land use include:

- Development approval under the *Planning and Development Act 2005* (issued by the Shire of Williams Local Government Authority).
- Letter of Authority – PTA letter (DWERDT1271682)
- WAPC approval form 11B-1 significant development application

The application area is located within the Murray River Surface Water Area, as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Neoen submitted a Bed and Banks permit for its proposed Narrogin Wind Farm for the installation of waterway crossings, electrical infrastructure, and water pipelines that would impact a local watercourse. The Bed and Banks permit has been granted under instrument number PMB213584(1).

The Shire of Williams provided a response to DWER. They advised that local government approvals included a condition relating to turbine tower setbacks determined by the WAPC. This setback requirement for property boundaries is inconsistent with the Shire of William Local Planning Policy No. 1 – *Wind Farm and Renewable Energy Facilities*, which recommends an 800m setback from property boundaries.

The Shire of Narrogin had no objections to the proposed clearing and advised that it is consistent with the approved State Development Assessment Unit (SDAU) development application. The LGA requested that the applicant:

- provide advance notification of the proposed works prior to commencement; and
- ensure that all trees and vegetation proposed for removal within road reserves are clearly identified and marked (e.g. taped) at least 21 days prior to removal, to allow the Shire to verify the vegetation to be removed.

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.

On 24 December 2024, the Environmental Protection Authority decided to not assess the Narrogin Wind Farm proposal under Part IV of the EP Act.

On 1 May 2025, the Commonwealth Department of Climate Change, Energy, the Environment and Water determined that the proposal is not a controlled action under the EPBC Act.

On 24 September 2025, a Development Approval under the *Planning and Development Act 2005* was approved.

4 Suitability of offsets

Through the detailed assessment outlined in Section 3.2 above, the Delegated Officer has determined that the following significant residual impacts remain after the application of the avoidance and mitigation measures summarised in Section 3.1:

- the loss of 7.61 ha of significant foraging habitat for Carnaby's cockatoo,
- the loss of 6.73 ha of significant foraging habitat for Baudin's cockatoo,
- the loss of 6.7 ha of significant foraging habitat for the forest red-tailed black cockatoo,
- the loss of 7.61 ha of significant habitat for the red-tailed phascogale, and
- the loss of 7.61 ha of native vegetation considered significant containing significant remnant vegetation.

To counterbalance the above SRI, the applicant considered multiple offset sites. The assessment of the sites considered their environmental characteristics, soil types, topography, habitat structures and the capacity of each site to regenerate habitat for the impacted environmental value. Noting these criteria, the applicant nominated Lot 2 on Plan 14814 (Figure 2) containing the following values (Neoen, 2026):

- soils suitable for York Gum, Wandoo or Marri; species known to provide primary foraging value for black cockatoos and marsupials such as the Red tailed Phascogale
- 6.4 ha of degraded woodland (predominantly Marri and York Gum), suitable for rehabilitation and ongoing protection
- 17.7 ha of completely degraded (cleared cropland) suitable for revegetation to Marri woodland, providing high-value black-cockatoo foraging habitat
- Creekline remnant vegetation
- location adjacent to degraded remnant vegetation that links to larger areas of good-quality remnant vegetation to the west, where black-cockatoos have previously been recorded; and
- strong feasibility and regeneration potential to deliver conservation outcomes for the impacted species.

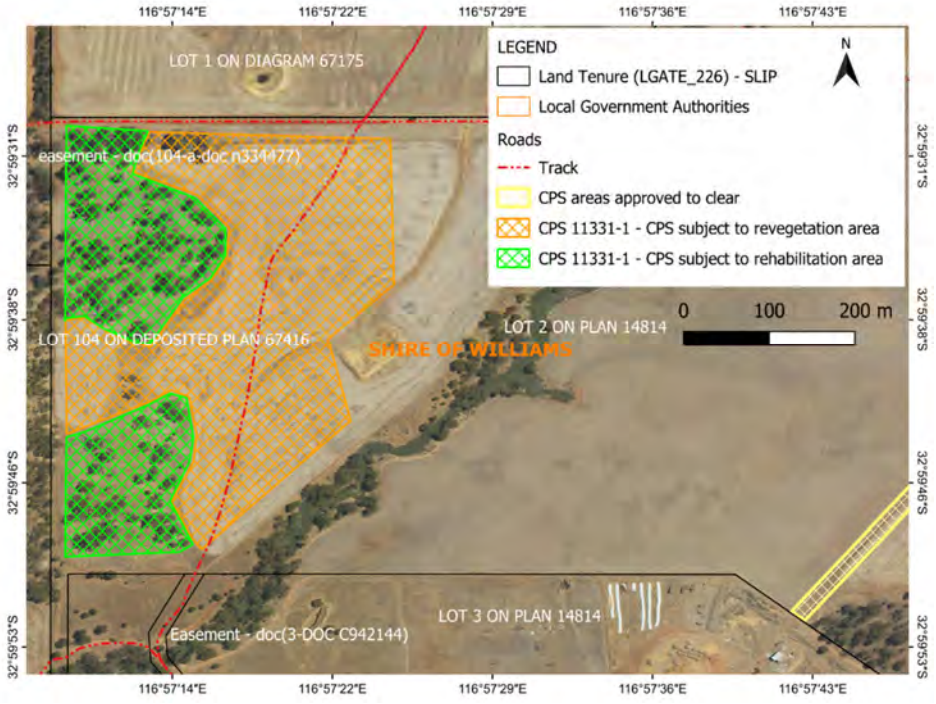


Figure 2: Map of the area within which native vegetation clearing is authorised

Calculations using the WA Offsets Metric determined that the following revegetation and rehabilitation is required to counterbalance the SRIs.

- Acquisition, rehabilitation and conservation of 6.4 ha of degraded areas; and
- Acquisition, revegetation and conservation of 11.55 ha of which:
  - 11.55 ha provides suitable habitat for Carnaby's cockatoo
  - 9.94 ha provides suitable habitat for Baudin's cockatoo
  - 9.77 ha provides suitable habitat for red-tailed phascogale
  - 8.33 ha provides suitable habitat for forest red-tailed black cockatoo; and
  - 3.57 ha represents significant remnant vegetation;

The Delegated Officer considers that this adequately counterbalances the SRIs listed above. The justification for the values used in the offset calculation is provided in Appendix E.

End

Appendix A. Details of public submissions

Summary of comments	Consideration of comment
The submission opposed clearing of 7.61 ha of black cockatoo foraging habitat considered significant, citing severe consequences for endangered cockatoos from ongoing habitat loss. The submitter emphasised that protecting remaining vegetation corridors should be vital for the birds' survival.	The submission's concerns were considered during the assessment. As discussed throughout the decision report, the proposed clearing will impact significant foraging habitat for all three black cockatoo species. To mitigate these effects, the applicant must restore 6.4 hectares of marri-york woodland and restore 11.55 hectares of vegetation providing habitat for black cockatoos. This offset is designed to counterbalance the impact on local fauna and will result in a net gain of vegetation in an area that has been largely cleared. The offset is consistent with the *WA Environmental Offsets Policy (2013)* and *WA Environmental Offsets Guidelines (2014).*

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. It is seven km east of the township of Williams and nine km west of the township of Narrogin. The proposed clearing area contains of small, isolated remnants on peripheries of larger vegetated areas in a highly cleared landscape. Spatial data indicate the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 21 % of the original native vegetation cover.
Ecological linkage	The application area is not within any mapped linkages and within a formal ecological linkage.
Conservation areas	The application area is not located within a conservation area. The nearest conservation area is Dryandra Woodland National Park, which is mapped approximately 1.85 km to the north of the application area.
Vegetation description	Flora and vegetation survey undertaken by Umwelt (Sept 2024) indicate the vegetation within the proposed clearing area consists of the following types: • *Eucalyptus loxophleba* (York gum) woodland • *Eucalyptus salmonophloia* (Salmon gum) woodland • Eucalyptus longicornis, York gum, and jam woodland • Mixed Banksia, Melaleuca, Allocasuarina and proteaceous shrubland • Remnant creekline vegetation and granite-derived shrub mosaics The full survey descriptions and maps are available in Appendix F. This is consistent with the Beard mapped vegetation types: • Dryandra 1023, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia.* Goldfields; *gimlet, redwood etc. E. salubris, E. oleosa*. Riverine; *rivergum E. camaldulensis*. Tropical; *messmate, woolyb* • Dryandra 352, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; *gimlet, redwood etc.* E. salubris, E. oleosa. Riverine; *rivergum E. camaldulensis*. Tropical; *messmate, woolyb*

Characteristic	Details
	• Dryandra 5, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia.* Goldfields; *gimlet, redwood etc*. *E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis*. Tropical; *messmate, woolyb* • Dryandra 946, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; *gimlet, redwood etc. E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; *messmate, woolyb* • Narrogin 5, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; *gimlet, redwood etc. E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; *messmate, woolyb* • Narrogin 1023, which is described as, 'York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; *gimlet, redwood etc*. *E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis*. Tropical; *messmate, woolyb* • Narrogin 1073, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia.* Goldfields; *gimlet, redwood etc. E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; *messmate, woolyb* • Narrogin 352, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; *gimlet, redwood etc. E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; *messmate, woolyb* • Narrogin 947, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia.* Goldfields; *gimlet, redwood etc. E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; *messmate, woolyb* • Williams 7, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; *gimlet, redwood etc. E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; *messmate, woolyb* • Williams 4, which is described as, 'Jarrah, marri and wandoo Eucalyptus marginata, Corymbia calophylla, *E. wandoo*. • Wagin 1023, which is described as, 'Wheatbelt, York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; *gimlet, redwood etc. E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; *messmate, woolyb* For details of the mapped vegetation type extent remaining for each vegetation association, please refer to Vegetation Extent Table B2
Vegetation condition	Flora and Vegetation survey report (Umwelt 2024) indicates the vegetation within the proposed clearing area is in varied from a good to completely degraded (Keighery, 1994) conditions. The full Keighery (1994) condition rating scale is provided in Appendix D. The mapping of vegetation condition is available in Appendix F
Climate and landform	Climate data for the Study Area were obtained from the Narrogin Station (010614), located approximately 1.1 km southwest of Narrogin, and are considered representative of local climatic conditions (Bureau of Meteorology (BOM), 2024). • The hottest months occur between December and March, with an average maximum daily temperature of 31.4°C, while the coldest months occur between May and October, with average minimum and maximum daily temperatures of 5.2°C and 22.3°C, respectively.

Characteristic	Details
	Narrogin receives an average annual rainfall of approximately 435.9 mm, with the highest rainfall occurring between May and August and a peak average monthly rainfall of 72.7 mm in July (BOM, 2024).
Soil description	The soil is mapped across the following 3 soil systems: • Dellyanine system (257De) described as, 'Undulating rises and low hills on granite, in the southern Zone of Rejuvenated Drainage. Grey sandy duplex (shallow and deep), sandy gravel and red deep sandy duplex. Wandoo-Sheoak woodland'. • Narrogin System (257Ng) described as, 'Interfluves with significant gradient, aggressively stripped by headward incision, at the headwaters of the Hotham and Blackwood catchments. Numerous dolerite dyke swarms. • Dryandra system (257Dy) described as, 'Gently undulating granitic terrain, in the central Zone of Rejuvenated Drainage, with deep sandy duplex, loamy duplex and brown loamy earth.'
Land degradation risk	The area has a: • Low flood risk, small northern and southern part of the application area have a moderate to high flood risk (3-10%). • low salinity risk <3% of map unit has a moderate to high salinity risk whereas the southern part of the application 30-50% of map unit has a moderate to high salinity risk or is presently saline. • High to extreme risk, 10- 30% of map unit has a high to extreme phosphorus export risk • low water erosion risk, <3-10% of map unit has a high to extreme water erosion risk • 3-10% of map unit has a moderate to high waterlogging risk • High to extreme, 3-10% of map unit has a high to extreme wind erosion risk • The groundwater salinity is 7000-14000
Waterbodies	The desktop assessment and review of aerial of imagery indicate that one minor, non-perennial watercourse transverses the area proposed to be cleared. The assessment further indicates that: • the proposed clearing area on the eastern side is located within the Williams River catchment and is intersected by non-perennial, man-made tributaries; and • One non-perennial, man-made waterbody occurs within the proposed clearing area on the eastern side.
Hydrogeography	The application area is located within the Murray River Surface Water Area as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The groundwater within the area is characterised by salinity levels mapped as total dissolved solids (TDS) concentrations of approximately 7000–14000 mg/L. There are no Public Drinking Water Source Areas located within 10 kms of the application area and the location is not a *Country Areas Water Supply Act 1947* clearing control catchment.
Flora	A desktop assessment identified 56 significant flora taxa as occurring or potentially occurring within the Study Area. Targeted flora and vegetation surveys undertaken in 2023–2024 (Umwelt, 2024a) covered areas assessed as being in good condition and were conducted at a time when significant flora would have been detectable. Based on survey results and habitat assessment, 40 taxa are considered unlikely to occur due to the absence of suitable habitat or because the Study Area lies outside their known distribution.

Characteristic	Details
	The remaining 16 taxa are considered to have a low potential to occur. Historical records of *Xanthorrhoea brevistyla* (P4) and *Gastrolobium ovalifolium* (P4) were reviewed and found to be spatially inaccurate. No significant flora species were recorded during the 2023–2024 targeted flora survey (Umwelt, 2024a).
Ecological communities	One conservation significant ecological community was identified in the local area: the Wheatbelt Woodland PEC.
Fauna	There are records of 18 fauna of conservation significance within the local area comprising two Critically Endangered (CR), four Endangered (EN), four Vulnerable (VU), one Priority 3 (P3), four Priority 4 (P4), one Migratory (MI), one specially protected (OS) and one conservation dependent (CD). Threatened species recorded or considered likely to occur, and for which the habitats of the study area are likely to provide critical habitat are: Red-tailed Phascogale (*Phascogale calura*; Vulnerable); Forest Red-tailed Black-cockatoo (*Calyptorhynchus banksii naso*; Vulnerable); and Carnaby's Cockatoo (*Zanda latirostris*; Endangered) (Umwelt, 2024b)

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*					
Avon Wheatbelt (AV)	9,517,109.95	1,761,187.42	18.51	174,980.68	1.84
Jarrah Forest (JF)	4,506,660.25	2,399,838.15	53.25	1,673,614.25	37.14
Vegetation complex					
Wagin_1073	13,407.34	4,757.68	35.49	1,954.69	14.58
Williams_1006	737.52	276.97	37.55	-	-
Williams_5	1,991.02	582.11	29.24	9.61	0.48
Narrogin_1073	873.12	419.56	48.05	40.80	4.67
Williams_352	370.97	41.99	11.32	-	-
Williams_7	11,301.70	1,990.87	17.62	85.02	0.75
Dryandra_1023	10,388.10	1,505.55	14.49	580.18	5.59
Dryandra_5	31,817.93	15,186.21	47.73	12,051.44	37.88
Narrogin_947	19,255.57	7,726.51	40.13	3,529.99	18.33
Williams_4	170,810.07	27,487.20	16.09	1,339.88	0.78
Narrogin_5	16,162.64	7,444.72	46.06	5,241.77	32.43
Dryandra_4	40,554.99	6,832.01	16.85	878.02	2.17
Dryandra_946	1,681.52	874.15	51.99	816.53	48.56
Dryandra_352	7,705.15	1,383.51	17.96	384.32	4.99
Narrogin_352	15,729.07	1,730.35	11	100.58	0.64
Narrogin_1023	189,088.48	31,369.71	16.59	5,807.24	3.07

	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
Local area (10km radius)					

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

B.3. Flora analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Acacia brachyphylla var. recurvata	P3	N	N	N	1	Y
Acacia cuneifolia	P4	Y	N	N	1	Y
Andersonia bifida	P2	N	Y	Y	6	Y
Anthotium odontophyllum	P3	N	Y	Y	4	Y
Asterolasia hyalina	P2	Y	N	N	4	Y
Dicrastylis reticulata	P3	N	Y	Y	1	Y
Gastrolobium ovalifolium	P4	Y	Y	Y	7	Y
Gastrolobium tomentosum	P4	Y	N	Y	1	Y
Leucopogon darlingensis subsp. rectus	P2	Y	Y	Y	8	Y
Loricobbia pauciflora	T	N	N	Y	7	N
Pultenaea pauciflora	T	Y	Y	N	2	Y
Stylidium expeditionis	P4	Y	N	N	1	Y
Stylidium rhipidium	P3	N	N	N	1	Y
Xanthorrhoea brevistyla	P4	Y	Y	Y	4	Y

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

B.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Likelihood of occurrence	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Zanda baudinii (Baudin's cockatoo)	EN	Y	Y	Y	3	Y
Zanda latirostris (Carnaby's cockatoo)	EN	Y	Y	Y	15	Y
Nyctophilus major tor (Central long-eared bat)	P3	Y	Y	Y	1	Y
Dasyurus geoffroii (Chuditch, western quoll)	VU	Y	Y	N	24	Y
Calyptorhynchus banksii naso (forest red-tailed black cockatoo)	VU	Y	Y	Y	6	Y
Falco peregrinus (Peregrine falcon)	OS	Y	N	N	1	Y
Phascogale calura (Red-tailed phascogale, kenngoor)	CD	Y	N	Y	31	Y

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Likelihood of occurrence	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Notamacropus eugenii derbianus (Tammar wallaby)	P4	Y	Y	Y	2	Y
Falsistrellus mackenziei (Western false pipistrelle, western falsistrelle)	P4	Y	Y	N	2	Y
Platycercus icterotis xanthogenys (Western rosella (inland))	P4	Y	Y	N	2	Y

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

B.5. Land degradation risk table

Risk Categories	Land Unit
Wind erosion	M1: 10-30% of the map unit has a high to extreme hazard
Water erosion	L2: 3-10% of the map unit has a very high to extreme hazard
Salinity	L1: <3% of the map unit has a moderate to high salinity risk or is presently saline
Subsurface acidification	H2: 10-30% of the map unit has a high subsurface acidification or presently acid
Flood risk	L1: <3% of the map unit has a moderate to low risk
Water logging	L2: 3-10% of the map unit has a moderate to very high to risk
Phosphorus export risk	M1: 3-10% of the 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 area proposed to be cleared contains habitat for conservation significant fauna and 0.2 ha of vegetation representing the Wheatbelt Woodland PEC.	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 contains foraging, roosting, potential breeding habitat for black cockatoos species and red-tailed phascogale.	At variance	Yes *Refer to Section 3.2.2, 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 unlikely provides habitat for flora listed under the BC Act.	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 vegetation within the application area does not represent ecological communities listed under the State BC Act.	Not likely to be at variance	Yes *Refer to Section 3.2.3, 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 application area is within the Wheatbelt region which is extensively cleared. The extent of native vegetation in the local area (approximately 20.5%) is inconsistent with the national objectives and targets (a threshold of 30%) for biodiversity in Australia.	At variance	Yes *Refer to Section 3.2.4, above.*
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: The application area is not located or mapped within a conservation area. Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		

Assessment against the clearing principles	Variance level	Is further consideration required?
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: Minor water courses intersect the development envelop. The proposed clearing is therefore at variance with the principle. But given the small extent of the proposed clearing along these watercourses and the applicant's legal requirement under the RIWI Act, the clearing is unlikely to impact an environment associated with on or off-site hydrology and water quality.	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 within the application area may be susceptible to wind erosion, nutrient export, subsurface acidification, and water repellence. However, noting the relatively small and limited extent of the application area and the condition 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: There are no wetlands or Public Drinking Water Sources Areas (PDWSA) recorded within the application area. Given no nearest watercourse is intersecting the application area, the proposed clearing is unlikely to be at variance.	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: 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.	Not likely to be at variance	No

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 Southwest and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.

Condition	Description
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. Offset calculator value justification

Carnaby's cockatoo

***Area* (offset site)**

Offset calculation *Area*						
Offsets calculation	Description	Proposed offset (area in hectares)	6.40	Duration of offset implementation (maximum 20 years)	20.00	Offset value 0.79
	Rehabilitation and conservation of degarded areas	Current quality of offset site (scale)	6.00	Time until offset site secured (years)	2.00	What-if Analysis 17.4%
		Future quality WITHOUT offset (scale)	6.00	Risk of future loss WITHOUT offset (%)	15.0%	
		Future quality WITH offset (scale)	7.00	Risk of future loss WITH offset (%)	5.0%	What-if Analysis Reinstate Formula
		Time until ecological benefit (years)	17.00			
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE? NO

Environmental value to be offset			
Calculation	*Score (Area)*		*Rationale*
Conservation significance			
Description	Loss of 7.61 ha of significant foraging habitat for Carnaby's cockatoo		The loss of 7.61ha of Significant foraging habitat for Carnaby's Cockatoo
Type of environmental value	Species (flora/fauna)		Fauna species
Conservation significance of environmental value	Rare/threatened species - endangered		Carnaby's Cockatoo - endangered
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 7.61 ha of significant foraging habitat for Carnaby's cockatoo		The impact area includes 7.61ha of vegetation that is suitable as foraging habitat for Carnaby's Black Cockatoo
Significant impact (hectares) / Type of feature	7.61		Extent of Carnaby's Cockatoo foraging habitat within the application area
Quality (scale) / Number	6.00		The clearing area includes primary and secondary species for Carnaby's cockatoo in the form of york gum, salmon gum, jarrah, marri and wandoo etc, within a 12km radius of known Carnaby's Cockatoo roosting sites
Rehabilitation credit			
Description	No Rehabilitation proposed		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	Rehabilitation and conservation of degarded areas		
Proposed offset (area in hectares)	6.40		Extent of habitat at the offset site available for rehabilitation.
Current quality of offset site / Start number (of type of feature)	6.00		The proposed offset site, located immediately west of the proposed clearing area, contains Carnaby's cockatoo foraging habitat with primary and secondary species (marri and york gums)
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	6.00		Without the offset the foraging habitat quality for Carnaby's Cockatoo is expected to remain unchanged.
Future quality WITH offset (scale) / Future number WITH offset	7.00		Rehabilitation actions at the offset site, guided by a rehabilitation plan approved by DWER, are likely to improve the quality of Carnaby's cockatoo foraging habitat at the offset site.
Time until ecological benefit (years)	17.00		Revegetation activities are planned to commence in two years, with environmental benefits for the impacted species expected to be realised over a 15-year timeframe.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will improve fauna habitat quality at the site
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

***Area* (offset site)**

Offset calculation *Area*							
Offsets calculation	Description	Proposed offset (area in hectares)	11.55	Duration of offset implementation (maximum 20 years)	20.00	Offset value	3.77
	Revegetation and conservation of completely degraded areas	Current quality of offset site (scale)	0.00	Time until offset site secured (years)	2.00	What-if Analysis	82.6%
		Future quality WITHOUT offset (scale)	0.00	Risk of future loss WITHOUT offset (%)	15.0%		
		Future quality WITH offset (scale)	5.00	Risk of future loss WITH offset (%)	5.0%	What-if Analysis Reinstate Formula	
		Time until ecological benefit (years)	17.00				
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE?	NO

Environmental value to be offset			
Calculation	*Score (Area)*		*Rationale*
Conservation significance			
Description	Loss of 7.61 ha of significant foraging habitat for Carnaby's cockatoo		The loss of 7.61ha of Significant foraging habitat for Carnaby's Cockatoo
Type of environmental value	Species (flora/fauna)		Fauna species
Conservation significance of environmental value	Rare/threatened species - endangered		Carnaby's Cockatoo - endangered
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 7.61 ha of significant foraging habitat for Carnaby's cockatoo		The impact area includes 7.61ha of vegetation that is suitable as foraging habitat for Carnaby's Black Cockatoo
Significant impact (hectares) / Type of feature	7.61		Extent of Carnaby's Cockatoo foraging habitat within the application area
Quality (scale) / Number	6.00		The clearing area includes a mixture of primary and secondary species for Carnaby's cockatoo in the form of york gum, salmon gum, jarrah, marri and wandoo etc, within a 12km radius of known Carnaby's Cockatoo roosting sites
Rehabilitation credit			
Description	No rehabilitation proposed		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	Revegetation and conservation of completely degraded areas		
Proposed offset (area in hectares)	11.55		The calculated offset area, together with the rehabilitation of 6.4 ha of degraded Carnaby's cockatoo habitat at the offset site, will counterbalance 100% of the significant residual impacts of the proposed clearing.
Current quality of offset site / Start number (of type of feature)	0.00		The area is completely degraded, with no remnant vegetation present
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	0.00		Without the offset, the foraging habitat quality is expected to remain unchanged.
Future quality WITH offset (scale) / Future number WITH offset	5.00		Revegetation actions at the offset site, guided by a revegetation plan approved by DWER, will restore Carnaby's cockatoo foraging habitat at the offset site.
Time until ecological benefit (years)	17.00		Revegetation activities are planned to commence in two years, with environmental benefits for the impacted species expected to be realised over a 15-year timeframe.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will improve fauna habitat quality at the site
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

Baudin's cockatoo

***Area* (offset site)**

Offset calculation *Area*							
Offsets calculation	Description	Proposed offset (area in hectares)	6.40	Duration of offset implementation (maximum 20 years)	20.00	Offset value	0.79
	Rehabiliation and conservation of degraded areas	Current quality of offset site (scale)	6.00	Time until offset site secured (years)	2.00	What-if Analysis	19.6%
		Future quality WITHOUT offset (scale)	6.00	Risk of future loss WITHOUT offset (%)	15.0%		
		Future quality WITH offset (scale)	7.00	Risk of future loss WITH offset (%)	5.0%	What-if Analysis Reinstate Formula	
		Time until ecological benefit (years)	17.00				
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE?	NO

Environmental value to be offset			
Calculation	***Score (Area)***		***Rationale***
Conservation significance			
Description	Loss of 6.73 ha of significant foraging habitat for Baudin's cockatoo		The loss of 6.73ha of Significant foraging habitat for Baudin's cockatoo
Type of environmental value	Species (flora/fauna)		Fauna species
Conservation significance of environmental value	Rare/threatened species - endangered		Baudin's cockatoo - endangered
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 6.73 ha of significant foraging habitat for Baudin's cockatoo		The impact area includes 6.73ha of vegetation that is suitable as foraging habitat for Baudin's cockatoo
Significant impact (hectares) / Type of feature	6.73		Extent of Baudin's Cockatoo foraging habitat within the application area
Quality (scale) / Number	6.00		The clearing impacts primary foraging species for Baudin's cockatoo (marri) scattered across the application area. The application area occurs outside the modelled distribution of this species
Rehabilitation credit			
Description	No Rehabilitation proposed		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	Rehabiliation and conservation of degraded areas		
Proposed offset (area in hectares)	6.40		Extent of BC habitat available for rehabilitation at the offset site
Current quality of offset site / Start number (of type of feature)	6.00		The offset site contains primary foraging species for Baudin's cockatoo scattered across the property
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	6.00		Without the offset the foraging habitat quality for Baudin's cockatoo is expected to remain unchanged.
Future quality WITH offset (scale) / Future number WITH offset	7.00		Rehabilitation actions at the offset site, guided by a rehabilitation plan approved by DWER, are likely to improve the quality of Baudin's cockatoo foraging habitat at the offset site.
Time until ecological benefit (years)	17.00		Revegetation activities are planned to commence in two years, with environmental benefits for the impacted species expected to be realised over a 15-year timeframe.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will improve fauna habitat quality at the site
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

***Area* (offset site)**

Offset calculation *Area*							
Offsets calculation	Description	Proposed offset (area in hectares)	9.94	Duration of offset implementation (maximum 20 years)	20.00	Offset value	3.24
	On-ground management and conservation of completely degraded areas	Current quality of offset site (scale)	0.00	Time until offset site secured (years)	2.00	What-if Analysis	80.4%
		Future quality WITHOUT offset (scale)	0.00	Risk of future loss WITHOUT offset (%)	15.0%		
		Future quality WITH offset (scale)	5.00	Risk of future loss WITH offset (%)	5.0%	What-if Analysis Reinstate Formula	
		Time until ecological benefit (years)	17.00				
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE?	NO

Environmental value to be offset			
Calculation	*Score (Area)*		*Rationale*
Conservation significance			
Description	Loss of 6.73 ha of significant foraging habitat for Baudin's cockatoo		The loss of 6.73ha of Significant foraging habitat for Baudin's cockatoo
Type of environmental value	Species (flora/fauna)		Fauna species
Conservation significance of environmental value	Rare/threatened species - endangered		Baudin's cockatoo - endangered
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 6.73ha of significant foraging habitat for Baudin's cockatoo		The impact area includes 6.73ha of vegetation that is suitable as foraging habitat for Baudin's cockatoo
Significant impact (hectares) / Type of feature	6.73		Extent of Baudin's Cockatoo foraging habitat within the application area
Quality (scale) / Number	6.00		The clearing impacts primary foraging species for Baudin's cockatoo (marri) scattered across the application area. The application area occurs outside the modelled distribution of this species
Rehabilitation credit			
Description	0		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	On-ground management and conservation of completely degraded areas		
Proposed offset (area in hectares)	9.94		The calculated offset area, together with the rehabilitation of 6.4 ha of degraded Carnaby's cockatoo habitat at the offset site, will counterbalance 100% of the significant residual impacts of the proposed clearing.
Current quality of offset site / Start number (of type of feature)	0.00		The area is completely degraded with no remnant vegetation present
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	0.00		Without the offset, the foraging habitat quality is expected to remain unchanged.
Future quality WITH offset (scale) / Future number WITH offset	5.00		Revegetation actions at the offset site, guided by a revegetation plan approved by DWER, will restore Baudin's cockatoo foraging habitat at the offset site.
Time until ecological benefit (years)	17.00		Revegetation activities are planned to commence in two years, with environmental benefits for the impacted species expected to be realised over a 15-year timeframe.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will improve fauna habitat quality at the site
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

Forest red-tailed black cockatoo

Area **(offset site)**

Offset calculation *Area*						
Offsets calculation	Description	Proposed offset (area in hectares)	6.40	Duration of offset implementation (maximum 20 years)	20.00	Offset value 0.87
	Rehabilitation and conservation of degarded areas	Current quality of offset site (scale)	6.00	Time until offset site secured (years)	2.00	What-if Analysis 21.6%
		Future quality WITHOUT offset (scale)	6.00	Risk of future loss WITHOUT offset (%)	15.0%	
		Future quality WITH offset (scale)	7.00	Risk of future loss WITH offset (%)	5.0%	What-if Analysis Reinstate Formula
		Time until ecological benefit (years)	17.00			
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE? NO

Environmental value to be offset			
Calculation	***Score (Area)***		***Rationale***
Conservation significance			
Description	Loss of 6.7ha of significant foraging habitat for forest red-tailed black cockatoo		The loss of 6.7ha of Significant foraging habitat for Forest red-tailed black cockatoo
Type of environmental value	Species (flora/fauna)		Fauna species
Conservation significance of environmental value	Rare/threatened Species - vulnerable		Forest red-tailed black cockatoo - vulnerable
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 6.7 ha of significant foraging habitat for forest red-tailed black cockatoo		The impact area includes 6.7ha of vegetation that is suitable as foraging habitat for Forest red-tailed black cockatoo
Significant impact (hectares) / Type of feature	6.70		Extent of Forest red-tailed black cockatoo foraging habitat within the application area
Quality (scale) / Number	6.00		The clearing impacts primary foraging species for FRTBC (marri, wandoo) scattered across the application area. The application area occurs on the eastern boundary of the FRTBC modelled distribution
Rehabilitation credit			
Description	No Rehab proposed		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	Rehabilitation and conservation of degarded areas		
Proposed offset (area in hectares)	6.40		Extent of FRTBC habitat available for rehabilitation at the offset site
Current quality of offset site / Start number (of type of feature)	6.00		The offset site contains primary foraging species for FRTBC scattered across the property
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	6.00		Without the offset the foraging habitat quality for FRTBC is expected to remain unchanged.
Future quality WITH offset (scale) / Future number WITH offset	7.00		Rehabilitation actions at the offset site, guided by a rehabilitation plan approved by DWER, are likely to improve the quality of FRTBC foraging habitat at the offset site.
Time until ecological benefit (years)	17.00		Revegetation activities are planned to commence in two years, with environmental benefits for the impacted species expected to be realised over a 15-year timeframe.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will improve fauna habitat quality at the site
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

***Area* (offset site)**

Offset calculation *Area*						
Offsets calculation	Description	Proposed offset (area in hectares)	8.33	Duration of offset implementation (maximum 20 years)	20.00	Offset value 3.15
	Rehabilitation and conservation of completely degarded areas	Current quality of offset site (scale)	0.00	Time until offset site secured (years)	2.00	78.4%
		Future quality WITHOUT offset (scale)	0.00	Risk of future loss WITHOUT offset (%)	15.0%	
		Future quality WITH offset (scale)	5.00	Risk of future loss WITH offset (%)	5.0%	
		Time until ecological benefit (years)	17.00			
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE? NO

Environmental value to be offset			
Calculation	*Score (Area)*		*Rationale*
Conservation significance			
Description	Loss of 6.7ha of significant foraging habitat for forest red-tailed black cockatoo		The loss of 6.7ha of Significant foraging habitat for Forest red-tailed black cockatoo
Type of environmental value	Species (flora/fauna)		Fauna species
Conservation significance of environmental value	Rare/threatened Species - vulnerable		Forest red-tailed black cockatoo - vulnerable
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 6.7ha of significant foraging habitat for forest red-tailed black cockatoo		The impact area includes 6.7ha of vegetation that is suitable as foraging habitat for Forest red-tailed black cockatoo
Significant impact (hectares) / Type of feature	6.70		Extent of Forest red-tailed black cockatoo foraging habitat within the application area
Quality (scale) / Number	6.00		The clearing impacts primary foraging species for FRTBC (marri, wandoo) scattered across the application area. The application area occurs on the eastern boundary of the FRTBC modelled distribution
Rehabilitation credit			
Description	No Rehab proposed		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	Rehabilitation and conservation of completely degarded areas		
Proposed offset (area in hectares)	8.33		The calculated offset area, together with the rehabilitation of 6.4 ha of degraded Carnaby's cockatoo habitat at the offset site, will counterbalance 100% of the significant residual impacts of the proposed clearing.
Current quality of offset site / Start number (of type of feature)	0.00		The area is completely degraded with no remnant vegetation present
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	0.00		Without the offset, the foraging habitat quality is expected to remain unchanged.
Future quality WITH offset (scale) / Future number WITH offset	5.00		Revegetation actions at the offset site, guided by a revegetation plan approved by DWER, will restore FRTBC foraging habitat at the offset site.
Time until ecological benefit (years)	17.00		Revegetation activities are planned to commence in two years, with environmental benefits for the impacted species expected to be realised over a 15-year timeframe.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will improve fauna habitat quality at the site
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

Red-tailed phascogale

***Area* (offset site)**

Offset calculation *Area*						
Offsets calculation	Description	Proposed offset (area in hectares)	6.40	Duration of offset implementation (maximum 20 years)	20.00	Offset value 0.87
	On-ground management and conservation of degraded areas	Current quality of offset site (scale)	6.00	Time until offset site secured (years)	2.00	What-if Analysis 19.0%
		Future quality WITHOUT offset (scale)	6.00	Risk of future loss WITHOUT offset (%)	15.0%	
		Future quality WITH offset (scale)	7.00	Risk of future loss WITH offset (%)	5.0%	What-if Analysis Reinstate Formula
		Time until ecological benefit (years)	17.00			
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE? NO

Environmental value to be offset			
Calculation	***Score (Area)***		***Rationale***
Conservation significance			
Description	Loss of 7.61 ha of significant habitat for red-tailed phascogale		The loss of 7.61ha of Significant foraging habitat for Red-tailed phascogale
Type of environmental value	Species (flora/fauna)		Fauna species
Conservation significance of environmental value	Rare/threatened Species - vulnerable		Red-tailed phascogale - endangered
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 7.61 ha of significant habitat for red-tailed phascogale		The impact area includes 7.61ha of vegetation that is suitable as foraging habitat for Red-tailed phascogale
Significant impact (hectares) / Type of feature	7.61		Extent of Red-tailed phascogale foraging habitat within the application area
Quality (scale) / Number	6.00		The application area includes suitable phascogale habitat in the form of Eucalypt–sheoak woodland on granite and Eucalypt woodland on laterite rises restricted to individual trees on the perimater of larger patches of suitable habitat
Rehabilitation credit			
Description	No rehabilitation proposed		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	On-ground management and conservation of degraded areas		
Proposed offset (area in hectares)	6.40		Extent of habitat at the offset site available for rehabilitation.
Current quality of offset site / Start number (of type of feature)	6.00		The proposed offset site, located immediately west of the proposed clearing area, contains phascogale habitat with habitat comparable to that in the application area.
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	6.00		Without the offset the habitat quality for phascogale is expected to remain unchanged.
Future quality WITH offset (scale) / Future number WITH offset	7.00		Rehabilitation actions at the offset site, guided by a rehabilitation plan approved by DWER, are likely to improve the quality of phascogale habitat at the offset site.
Time until ecological benefit (years)	17.00		Revegetation activities are planned to commence in two years, with environmental benefits for the impacted species expected to be realised over a 15-year timeframe.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will improve fauna habitat quality at the site
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

***Area* (offset site)**

Offset calculation *Area*						
Offsets calculation	Description	Proposed offset (area in hectares)	9.77	Duration of offset implementation (maximum 20 years)	20.00	Offset value 3.70
	Revegetation and conservation of completely degraded areas	Current quality of offset site (scale)	0.00	Time until offset site secured (years)	2.00	81.0%
		Future quality WITHOUT offset (scale)	0.00	Risk of future loss WITHOUT offset (%)	15.0%	
		Future quality WITH offset (scale)	5.00	Risk of future loss WITH offset (%)	5.0%	
		Time until ecological benefit (years)	17.00			
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE? NO

Environmental value to be offset			
Calculation	***Score (Area)***		***Rationale***
Conservation significance			
Description	Loss of 7.61 ha of significant habitat for red-tailed phascogale		The loss of 7.61ha of Significant foraging habitat for Red-tailed phascogale
Type of environmental value	Species (flora/fauna)		Fauna species
Conservation significance of environmental value	Rare/threatened Species - vulnerable		Red-tailed phascogale - endangered
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 7.61 ha of significant habitat for red-tailed phascogale		The impact area includes 7.61ha of vegetation that is suitable as foraging habitat for Red-tailed phascogale
Significant impact (hectares) / Type of feature	7.61		Extent of Red-tailed phascogale foraging habitat within the application area
Quality (scale) / Number	6.00		The application area includes suitable phascogale habitat in the form of Eucalypt–sheoak woodland on granite and Eucalypt woodland on laterite risesrestricted to individual trees on the perimater of larger patches of suitable habitat
Rehabilitation credit			
Description	No rehabilitation proposed		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	Revegetation and conservation of completely degraded areas		
Proposed offset (area in hectares)	9.77		The calculated offset area, together with the rehabilitation of 6.4 ha of degraded phascogale habitat at the offset site, will counterbalance 100% of the significant residual impacts of the proposed clearing.
Current quality of offset site / Start number (of type of feature)	0.00		The area is completely degraded, with no remnant vegetation present
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	0.00		Without the offset, the foraging habitat quality is expected to remain unchanged.
Future quality WITH offset (scale) / Future number WITH offset	5.00		Revegetation actions at the offset site, guided by a revegetation plan approved by DWER, will restore phascogale habitat at the offset site.
Time until ecological benefit (years)	17.00		Revegetation activities are planned to commence in two years, with environmental benefits for the impacted species expected to be realised over a 15-year timeframe.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will improve fauna habitat quality at the site
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

Significant Native Vegetation

Area **(offset site)**

Offset calculation *Area*							
Offsets calculation	Description	Proposed offset (area in hectares)	6.40	Duration of offset implementation (maximum 20 years)	20.00	Offset value	1.18
	On-ground management and conservation of degraded areas	Current quality of offset site (scale)	3.00	Time until offset site secured (years)	2.00	What-if Analysis	51.7%
		Future quality WITHOUT offset (scale)	3.00	Risk of future loss WITHOUT offset (%)	15.0%		
		Future quality WITH offset (scale)	5.00	Risk of future loss WITH offset (%)	5.0%	What-if Analysis Reinstate Formula	
		Time until ecological benefit (years)	12.00				
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE?	NO

Environmental value to be offset			
Calculation	***Score (Area)***		***Rationale***
Conservation significance			
Description	Loss of 7.61ha of significant remnant vegetation		The loss of 7.61ha of Significant Native vegetation
Type of environmental value	Vegetation/habitat		Vegetation
Conservation significance of environmental value	Terrestrial native vegetation complex - <30% extent remaining in the bioregion		Vegetation
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 7.61 ha of significant remnant vegetation		The impact area includes 7.61ha of Significant Native vegetation
Significant impact (hectares) / Type of feature	7.61		Extent of Significant Native vegetation within the application area
Quality (scale) / Number	3.00		The vegetation proposed for clearing is located within an extensively cleared landscape. Although 99 per cent of the vegetation is in a degraded or completely degraded condition, it continues to provide significant habitat for conservation-significant fauna.
Rehabilitation credit			
Description	No Rehabiliation proposed		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	On-ground management and conservation of degraded areas		
Proposed offset (area in hectares)	6.40		Extent of degraded areas at the offset site available for rehabilitation.
Current quality of offset site / Start number (of type of feature)	3.00		The offset site contains native vegetation in degraded condition (marri, york gum) within an extensively cleared landscape which provides significant habitat for conservation-significant fauna
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	3.00		Without the offset, the quality of vegetation is expected to remain unchanged
Future quality WITH offset (scale) / Future number WITH offset	5.00		Rehabilitation actions at the offset site, guided by a rehabilitation plan approved by DWER, are likely to improve the quality of vegetation at the offset site to good to very good
Time until ecological benefit (years)	12.00		Rehabilitation activities are planned to commence in two years. The proposed rehabilitation actions will likely result in a sustainable and resilient patch of vegetation in 10 years.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will improve vegetation quality at the site from degarded to good to good to very good
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

***Area* (offset site)**

Offset calculation *Area*							
Offsets calculation	Description	Proposed offset (area in hectares)	3.57	Duration of offset implementation (maximum 20 years)	20.00	Offset value	1.10
	On-ground management and conservation of completely degraded areas	Current quality of offset site (scale)	0.00	Time until offset site secured (years)	2.00	What-if Analysis	48.3%
		Future quality WITHOUT offset (scale)	0.00	Risk of future loss WITHOUT offset (%)	15.0%		
		Future quality WITH offset (scale)	4.00	Risk of future loss WITH offset (%)	5.0%	What-if Analysis Reinstate Formula	
		Time until ecological benefit (years)	12.00				
		Confidence in offset result (%)	80.0%			OFFSET ADEQUATE?	NO

Environmental value to be offset			
Calculation	*Score (Area)*		*Rationale*
Conservation significance			
Description	Loss of 7.61 ha of significant remnant vegetation		The loss of 7.61ha of Significant Native vegetation
Type of environmental value	Vegetation/habitat		Vegetation
Conservation significance of environmental value	Terrestrial native vegetation complex - <30% extent remaining in the bioregion		Vegetation
Landscape-level value impacted	yes/no		yes
Significant impact			
Description	Loss of 7.61 ha of significant remnant vegetation		The impact area includes 7.61ha of Significant Native vegetation
Significant impact (hectares) / Type of feature	7.61		Extent of Significant Native vegetation within the application area
Quality (scale) / Number	3.00		The vegetation proposed for clearing is located within an extensively cleared landscape. Although 99 per cent of the vegetation is in a degraded or completely degraded condition, it continues to provide significant habitat for conservation-significant fauna.
Rehabilitation credit			
Description	No Rehabilitation proposed		No onsite rehabilitation proposed
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	On-ground management and conservation of completely degraded areas		
Proposed offset (area in hectares)	3.57		The calculated offset area, together with the rehabilitation of 6.4 ha of degraded vegetation at the offset site, will counterbalance 100% of the significant residual impacts of the proposed clearing.
Current quality of offset site / Start number (of type of feature)	0.00		The area is completely degraded with no vegetation present
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	0.00		Without the offset, the vegetation quality is expected to remain unchanged.
Future quality WITH offset (scale) / Future number WITH offset	4.00		Revegetation actions at the offset site, guided by a revegetation plan approved by DWER, will restore good quality vegetation at the offset site.
Time until ecological benefit (years)	12.00		Rehabilitation activities are planned to commence in two years. The proposed rehabilitation actions will likely result in a sustainable and resilient patch of vegetation in 10 years.
Confidence in offset result (%)	0.8		There is a high level of confidence that on-ground actions guided by a DWER-approved revegetation management plan will achieve good quality vegetation at the site
Duration of offset implementation (maximum 20 years)	20.00		offset areas will be protected in perpetuity. 20 years is the maximum value that can be input.
Time until offset site secured (years)	2.00		Time required until the protection of the offset area in perpetuity through the conservation covenant under the Soil and Land Conservation Act 1945 is finalised
Risk of future loss WITHOUT offset (%)	15.0%		the offset site is situated within a rural area.
Risk of future loss WITH offset (%)	5.0%		The level of protection afforded by the offset reduces the risk of vegetation loss at the offset site to 5%.
Offset ratio (Conservation area only)	N/A		

Appendix F. Biological survey information excerpts

A total of 22 Vegetation Types (VTs) were identified during the 2023-2024 survey in the Study Area, encompassing an area of 1146.6 ha and represents 18.1% of the Study Area (Umwelt, 2024a).
Among the identified vegetation types:

- VT7 constitutes the largest portion of remnant vegetation within the Study Area, covering 5.6%. This vegetation type is characterised by a low to mid woodland transitioning to open woodland, predominantly featuring *Eucalyptus rudis* subsp*. rudis* and *Eucalyptus loxophleba* subsp. *Loxophleba*. The understorey comprises low to open sedgeland, primarily of *Juncus acutus* subsp. *acutus* over tussock grassland dominated by pasture weeds along drainage lines.
- VT6 is the second most extensive vegetation type, occupying 2.9% of the Study Area. It consists of woodland dominated by *Corymbia calophylla and Eucalyptus wandoo* subsp. *Wandoo,* with occasional occurrences of *Allocasuarina huegeliana* and *Eucalyptus astringens subsp. astringens*; and
- VT8 ranks as the third largest, representing 1.3% of the Study Area. It consists of woodland primarily made up of *Eucalyptus astringens* subsp. *astringens* and *Eucalyptus gardneri* subsp*. gardneri*.

Vegetation types of the Study Area (Umwelt, 2024c)

Table 4.5 Vegetation Types of the Study Area

VT	Description	Sampling Effort	Extent within Study Area (ha)	Representative Photo
Native Vegetation				
VT1	Low to mid isolated trees to woodland of *Eucalyptus rudis* subsp. *rudis*, occasionally over tall isolated shrubs to tall open shrubland of *Acacia acuminata* and *Acacia saligna* over mid open sedgeland of **Juncus acutus* subsp. *acutus* over low closed tussock grassland of pasture weeds on brown sandy loam on drainage lines.	VM02, VM03, VM05, VM06, VM07, VM13, VT17, VM18, VM20, VM21, VM65, VM66, VM67, VM99, VM100, VM143, VM152, VM345	164.1 (2.6%)	
VT2	Low to mid open woodland of *Corymbia calophylla* over isolated tall shrubs of *Acacia saligna* and *Acacia microbotrya* over tall open sedgeland of **Typha orientalis* over low open sedgeland of **Juncus acutus* subsp. *acutus* over low tussock grassland of pasture weeds on brown sandy clay loam on drainage lines on slopes.	VM08	9.9 (0.2%)	
VT3	Low open woodland of *Allocasuarina huegeliana* over isolated tall shrubs of *Acacia saligna, Acacia microbotrya* and *Acacia acuminata* over low open sedgeland of **Juncus acutus* subsp. *acutus* over low tussock grassland of pasture weeds on brown sandy clay loam adjacent to drainage lines on slopes.	VM36	17.9 (0.2%)	
VT4	Low to mid woodland to open woodland of *Eucalyptus loxophleba* subsp. *loxophleba* over low closed tussock grassland of pasture weeds on brown-red clay loam on slopes.	VM16, VM41, VM68, VM121, VM135, VM242	63.4 (1.0%)	

VT5	Tall shrubland of *Acacia acuminata* with isolated low to mid scattered trees of *Eucalyptus loxophleba* subsp. *loxophleba* and *Corymbia calophylla* over low tussock grassland of pasture weeds on red-brown sandy clay loam on lower slopes with granite outcropping.	VM19, VM32	7.9 (0.1%)	
VT6	Low to mid woodland to open woodland of *Corymbia calophylla* and occasional *Eucalyptus wandoo* subsp. *wandoo*, *Eucalyptus astringens* subsp. *astringens* and/or *Allocasuarina huegeliana* over low tussock grassland to low open tussock grassland of pasture weeds on lateritic ridges and upper slopes with lateritic gravel on brown loam.	VM22, VM23, VM25, VM26, VM27, VM31, VM37, VM38, VM39, VM44, VM45, VM49, VM51, VM55, VM57, VM60, VM61, VM69, VM102, VM103, VM107, VM112, VM115, VM120, VM123, VM125, VM126, VM127, VM131, VM132, VM133, VM134, VM137, VM138, VM144, VM148, VM362, VM363, VM368	186.5 (2.9%)	
VT7	Low to mid woodland to open woodland of *Eucalyptus rudis* subsp. *rudis* and *Eucalyptus loxophleba* subsp. *loxophleba* over low sedgeland to open sedgeland of **Juncus acutus* subsp. *acutus* over low tussock grassland of pasture weeds on drainage lines with red-brown clay loam on gentle slopes.	VM14, VM15, VM28, VM29, VM30, VM35, VM46, VM50, VM52, VM53, VM54, VM70, VM72, VM136, VM162, VM175, VM180, VM182, VM183, VM184, VM185, VM186, VM190, VM194, VM195, VM342	360.1 (5.6%)	
VT8	Low to mid woodland of *Eucalyptus astringens* subsp. *astringens* and occasionally *Eucalyptus gardneri* subsp. *gardneri* on brown-red clay loam with some lateritic outcropping on the edge of breakaways, crests, and upper slopes.	VM33, VM34, VM40, VM47, VM48, VM56, VM58, VM64, VM105, VM114, VM118, VM124, VM130, VM146, VM147, VM261, VM262, VM263, VM265, VM267, VM268, VM373	88.5 (1.3%)	
VT9	Low open woodland of *Eucalyptus drummondii* over low open tussock grassland of pasture weeds on red-brown sandy loam with lateritic outcropping on edges of breakaways or crests.	VM24	0.4 (0.006%)	
VT10	Isolated trees to mid open woodland of *Eucalyptus wandoo* subsp. *wandoo* and *Corymbia calophylla* over low tussock grassland of pasture weeds on red-brown sandy loam with laterite extensions on upper slopes.	VM01, VM43, VM247, VM248, VM249, VM250, VM251, VM252, VM253, VM254, VM261, VM262, VM366	65.2 (1.0%)	

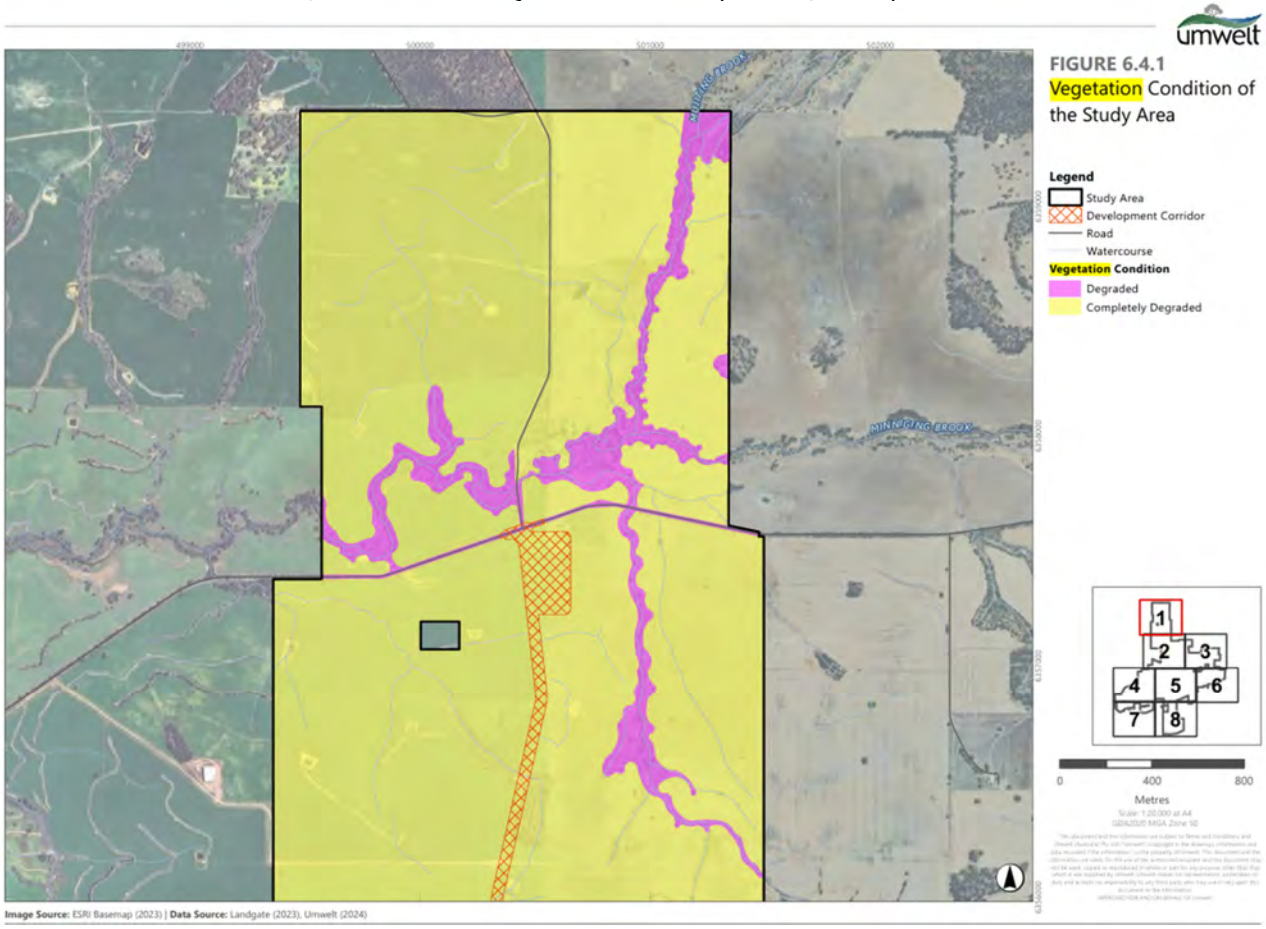
VT11	Low to mid open woodland of *Corymbia calophylla* and *Eucalyptus wandoo* subsp. *wandoo* and *Allocasuarina huegeliana* with occasional *Eucalyptus drummondii* over tussock grassland to open tussock grassland of pasture weeds on lateritic ridges and upper slopes with lateritic gravel on brown loam.	VM59	5.8 (0.09%)	
VT12	Mid woodland of *Allocasuarina huegeliana* and *Eucalyptus wandoo* subsp. *wandoo* over tall open shrubland of *Banksia sessilis* var. *sessilis*, sometimes with *Santalum murrayanum* over sparse sedgeland of *Gahnia aristata* on laterite hills.	NR03	0.4 (0.008%)	
VT13	Mid woodland of *Eucalyptus accedens* and *Eucalyptus astringens* subsp. *astringens* over isolated clumps of grasses of pasture weeds on lateritic slopes.	VM266	0.8 (0.01%)	
VT14	Mid open woodland of *Eucalyptus wandoo* subsp. *wandoo*, sometimes with *Eucalyptus marginata* subsp. *marginata* and occasional *Corymbia calophylla* over low to mid open shrubland of mixed species over low sparse tussock grassland with laterite or granite.	VM255, VM256, VM260	10.2 (0.2%)	
VT15	Low open woodland of *Eucalyptus dorrienii* over low open tussock grassland of pasture weeds on red-brown sandy loam with lateritic outcropping on edges of breakaways or crests.	VM264	0.1 (0.002%)	
VT16	Mid open woodland of *Allocasuarina huegeliana*, occasional *Eucalyptus wandoo* subsp. *wandoo* or *Eucalyptus loxophleba* subsp. *loxophleba*, associated with granite outcropping.	VM119, VM145, VM200, VM205, VM259	15.3 (0.2%)	

VT17	Mid woodland of *Casuarina obesa* over **Juncus acutus* subsp. *acutus* mid sedgeland, associated with drainage or outwash areas with brown sandy loam.	Not included within the Study Area. Note: sampling for this VT was undertaken in the Additional Survey Area, with mapping of this unit continued into the Study Area	4.1 (0.06%)	
VT18	Mid sedgeland of **Juncus acutus* subsp. *acutus*, with no overstorey, or with occasional *Eucalyptus wandoo* subsp. *wandoo* and *Allocasuarina huegeliana* in drainage lines.	VM63, VM343, VM368, VM370	10.5 (0.1%)	
VT19	Mosaic, disturbed. Mid open woodland of *Casuarina obesa, Eucalyptus* spp. and assorted planted species, both local and exotic over low tussock grassland of pasture weeds, with saline influences, associated with drainage and outwash areas with brown sandy loam.	VM85, VM244, VM245, VM246	14.1 (0.2%)	
VT21	Isolated trees to mid open woodland of *Eucalyptus loxophleba* subsp. *loxophleba* and *Allocasuarina huegeliana* with occasional *Corymbia calophylla* and/or *Eucalyptus rudis* subsp. *rudis*, tall isolated shrubs of *Acacia acuminata* and sometimes *Acacia microbotrya* on slopes with exposed granite and brown sandy clay loam.	VM101, VM104, VM108, VM109, VM110, VM111, VM116, VM117, VM139, VM140, VM141, VM142, VM374	74.2 (1.2%)	
VT22	Isolated trees to mid open woodland of *Eucalyptus wandoo* subsp. *wandoo* with *Allocasuarina huegeliana*, occasionally with *Eucalyptus loxophleba* subsp. *loxophleba* over low tussock grassland of pasture weeds on granite outcropping.	VM62, VM204	2.1 (0.03%)	
VT23	Mosaic of isolated remnant native trees, including *Eucalyptus wandoo* subsp. *wandoo, Eucalyptus loxophleba* subsp. *loxophleba, Corymbia calophylla, Eucalyptus rudis* subsp. *rudis, Eucalyptus astringens* subsp. *astringens, Allocasuarina huegeliana* and isolated mid to tall shrubs *of Acacia acuminata, Acacia microbotrya* and *Acacia saligna*, occasionally *Hakea prostrata* or *Banksia sessilis* var. *sessilis*, over low tussock grassland of pasture weeds; associated with road verges.	VM155, VM158, VM159, VM161, VM163, VM165, VM166, VM167, VM168, VM169, VM170, VM171, VM172, VM173, VM174, VM176, VM177, VM178, VM179, VM187, VM188, VM189, VM191, VM192, VM193, VM198, VM199, VM201, VM202, VM203, VM206, VM230, VM231, VM232, VM233, VM234, VM344, VM346, VM347, VM348, VM349	44.3 (0.7%)	

Other Areas Mapped				
Pl	Planted trees of local and other exotic species over pasture weeds on brown loam on slopes or undulating plains.	VM04, VM09, VM10, VM11, VM12, VM71, VM73, VM106, VM113, VM122, VM128, VM156, VM157, VM235, VM243, VM257, VM369, VM371, VM372	96.6 (1.5%)	
Cl	Cleared areas with occasional isolated (remnant native and exotic) trees over pasture weeds.	VM42, VM129, VM181, VM196, VM197	5098.9 (80.4%)	NA
NA	Not Assessed	NA	1.8 (0.02%)	NA

Vegetation Condition of the Study Area (umwelt, 2024c)

The majority of the Study Area has been mapped as 'Completely Degraded' (5,221.5 ha, 82.3%). This largely consists of areas mapped as Cleared land ('Cl') and Planted ('Pl') areas, in which the land has been cleared for pasture or cropping. Little to no native vegetation remains in these areas, although isolated remnant trees do occur. A small extent (25.9 ha) of VTs 7, 10, 18 and 19 were also mapped as Completely Degraded. Nearly one fifth of the Study Area was mapped as being in 'Degraded' condition (1,120.2 ha, 17.6%); these areas predominately consisted of native trees over no or very little understorey taxa, and high levels of introduced (weed) taxa. A very small portion of the Study Area was mapped as being in 'Good' condition (0.4 ha, 0.008% of the Study Area). Due to the history of clearing, logging and grazing in the Study Area, there was no vegetation observed that was considered to be in 'Pristine', 'Excellent' or 'Very Good' condition (Umwelt, 2024c).



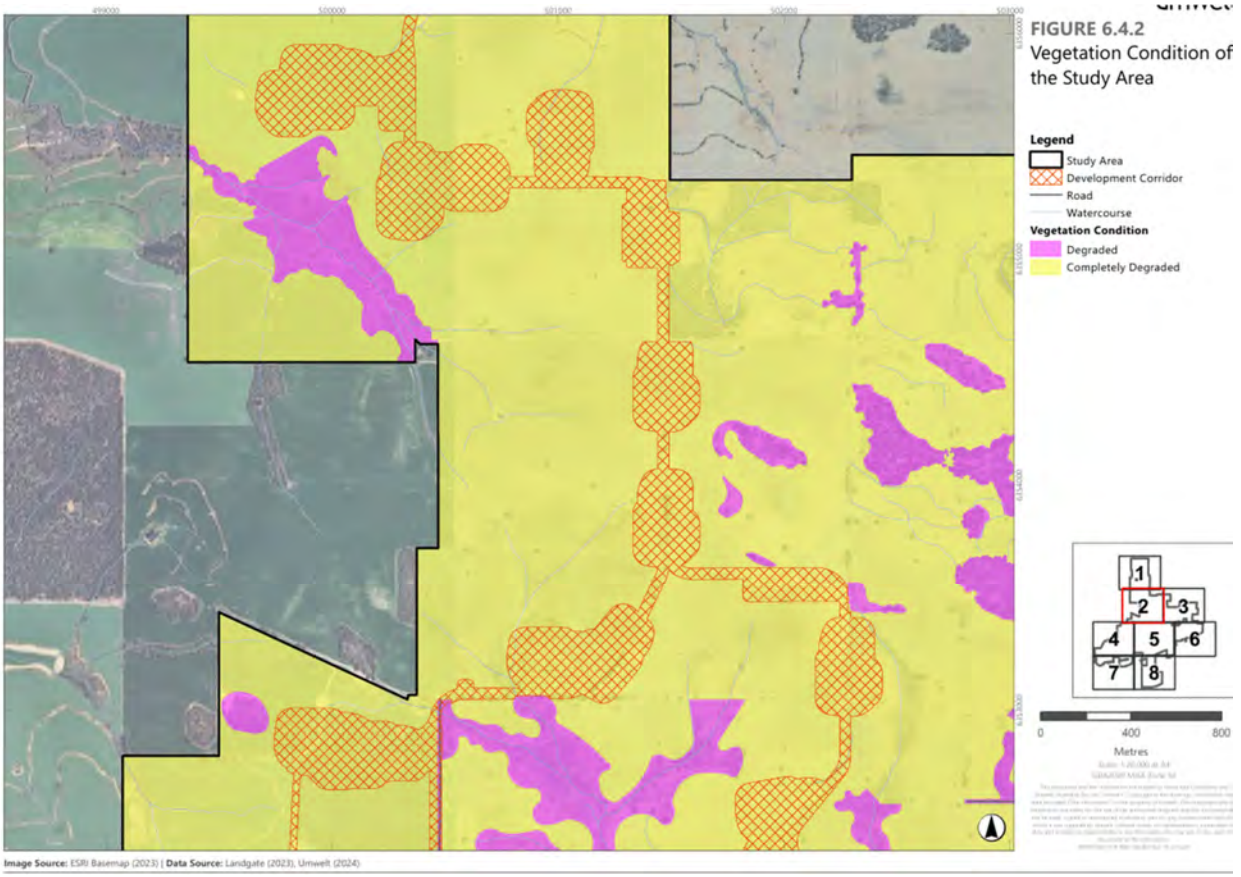


FIGURE 6.4.2
Vegetation Condition of the Study Area

Image Source: ESRI Basemap (2023) | Data Source: Landgate (2023), Urnwelt (2024)

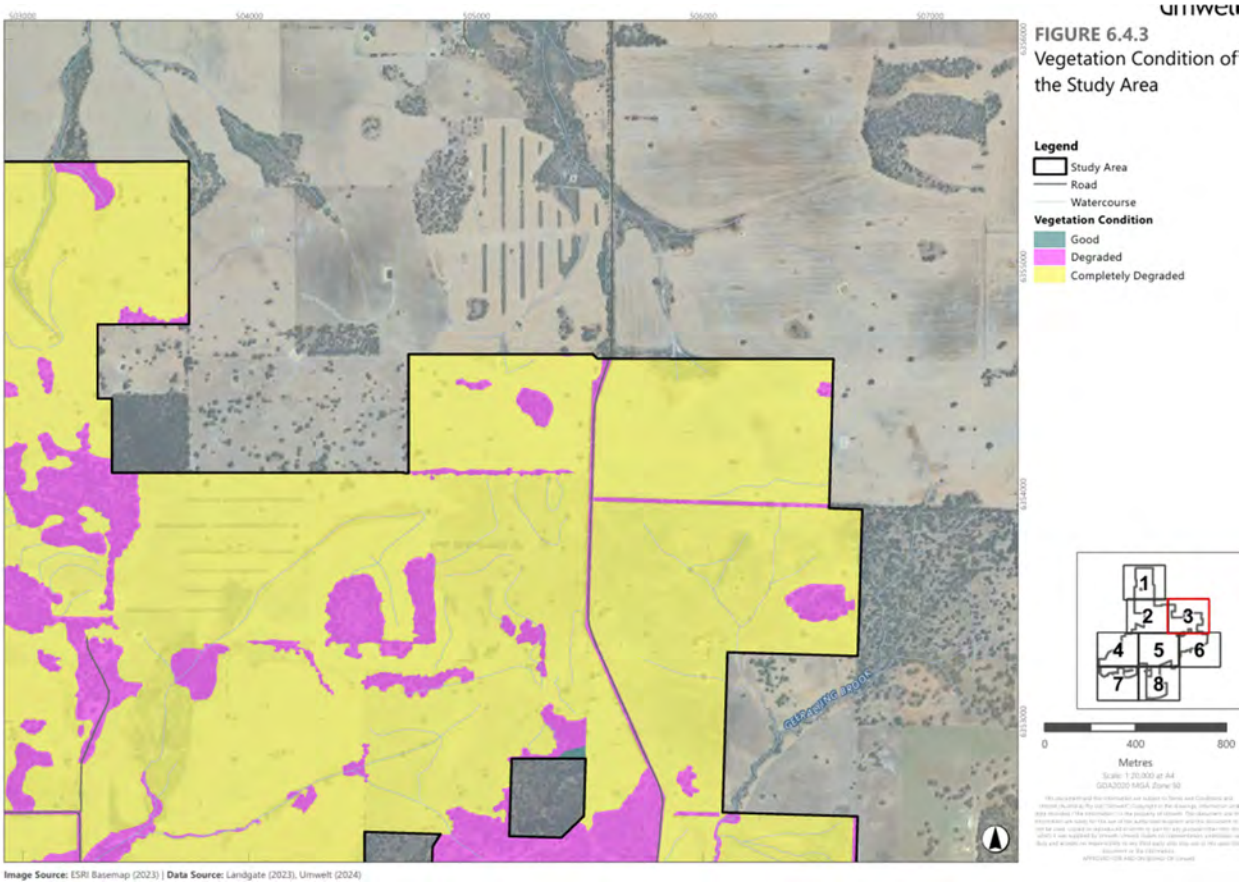
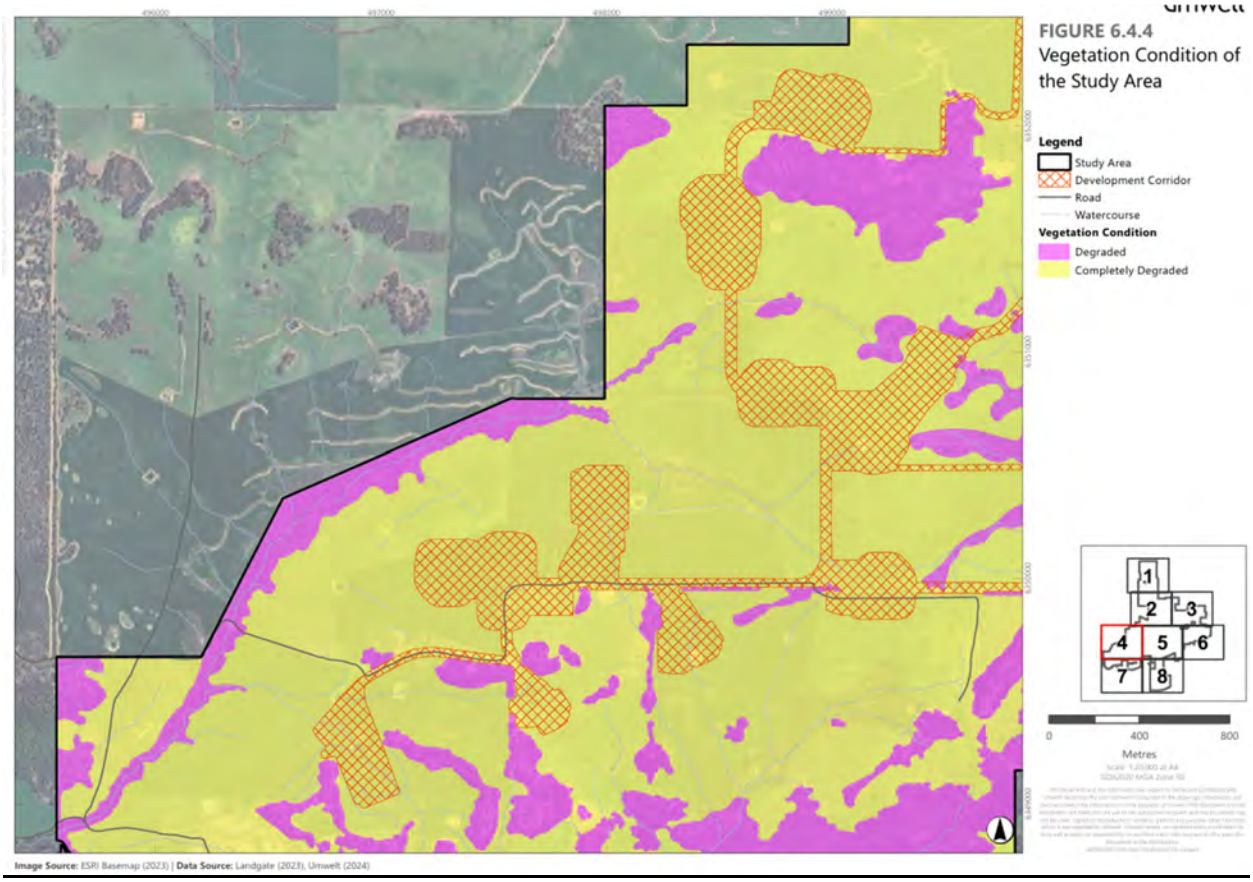
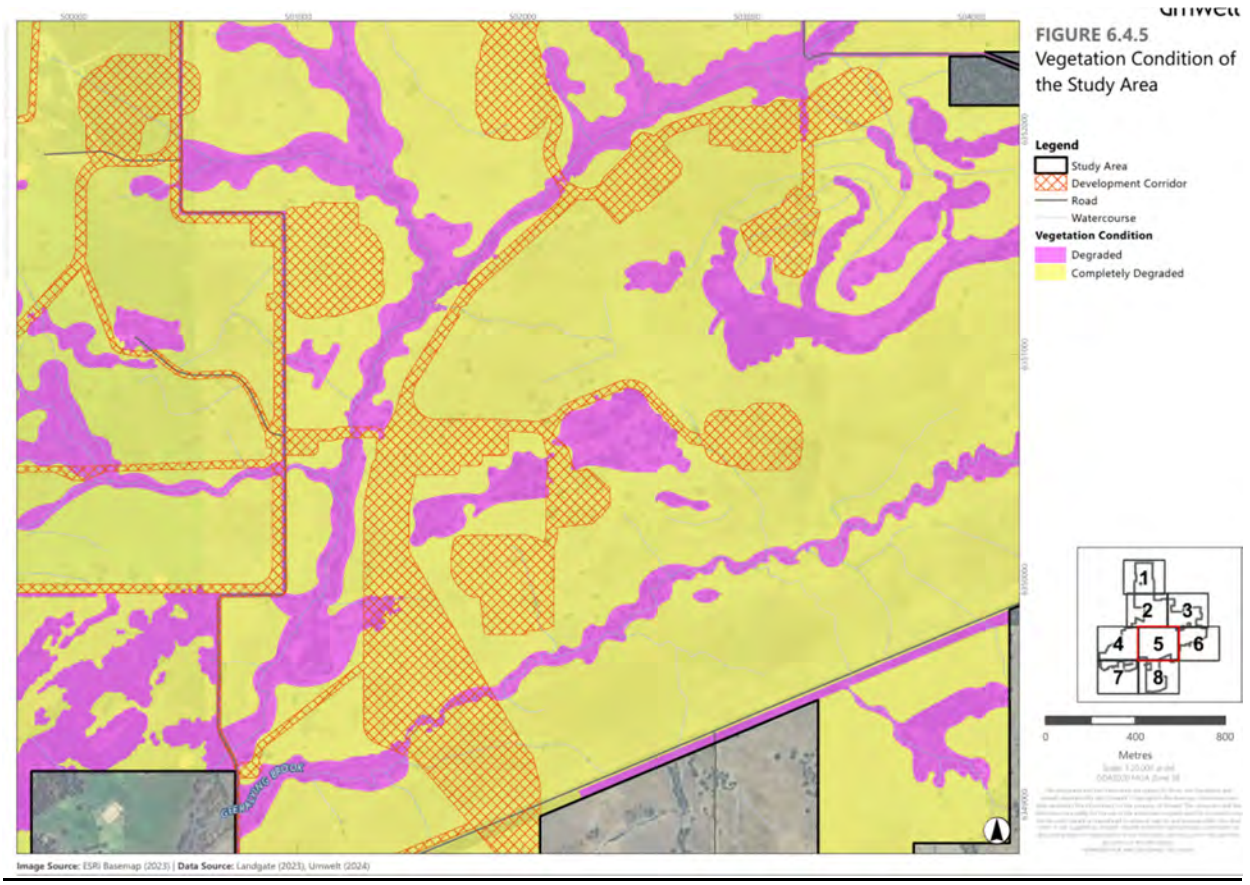
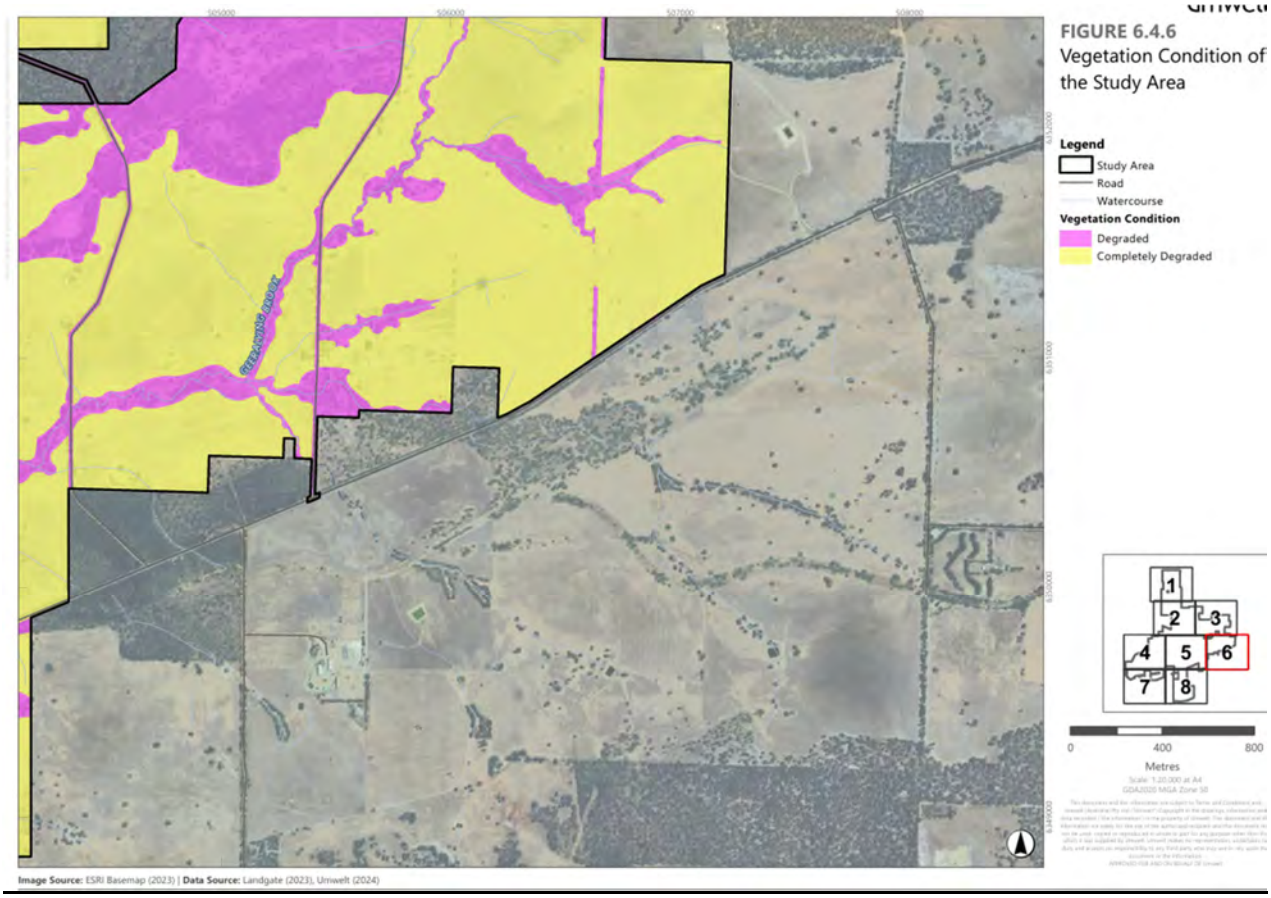


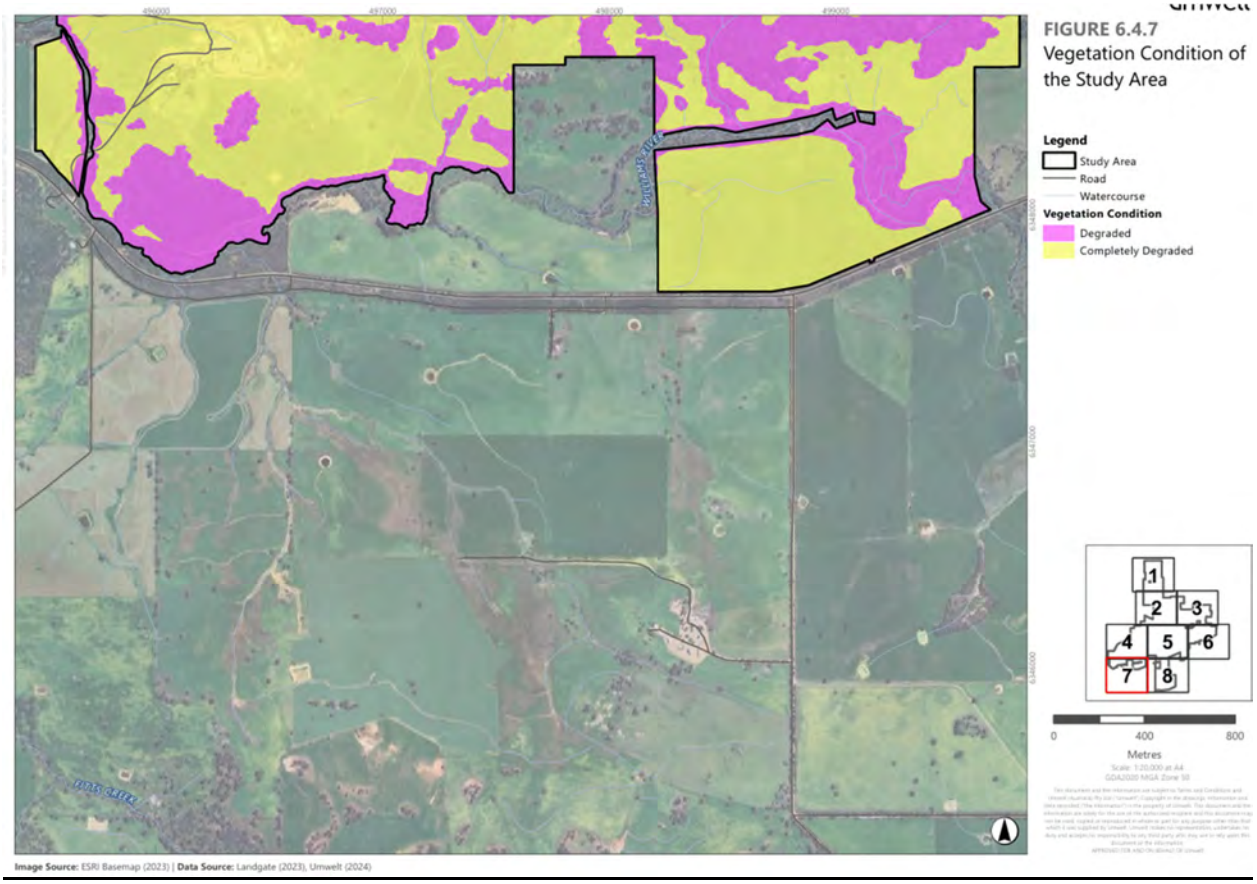
FIGURE 6.4.3
Vegetation Condition of the Study Area

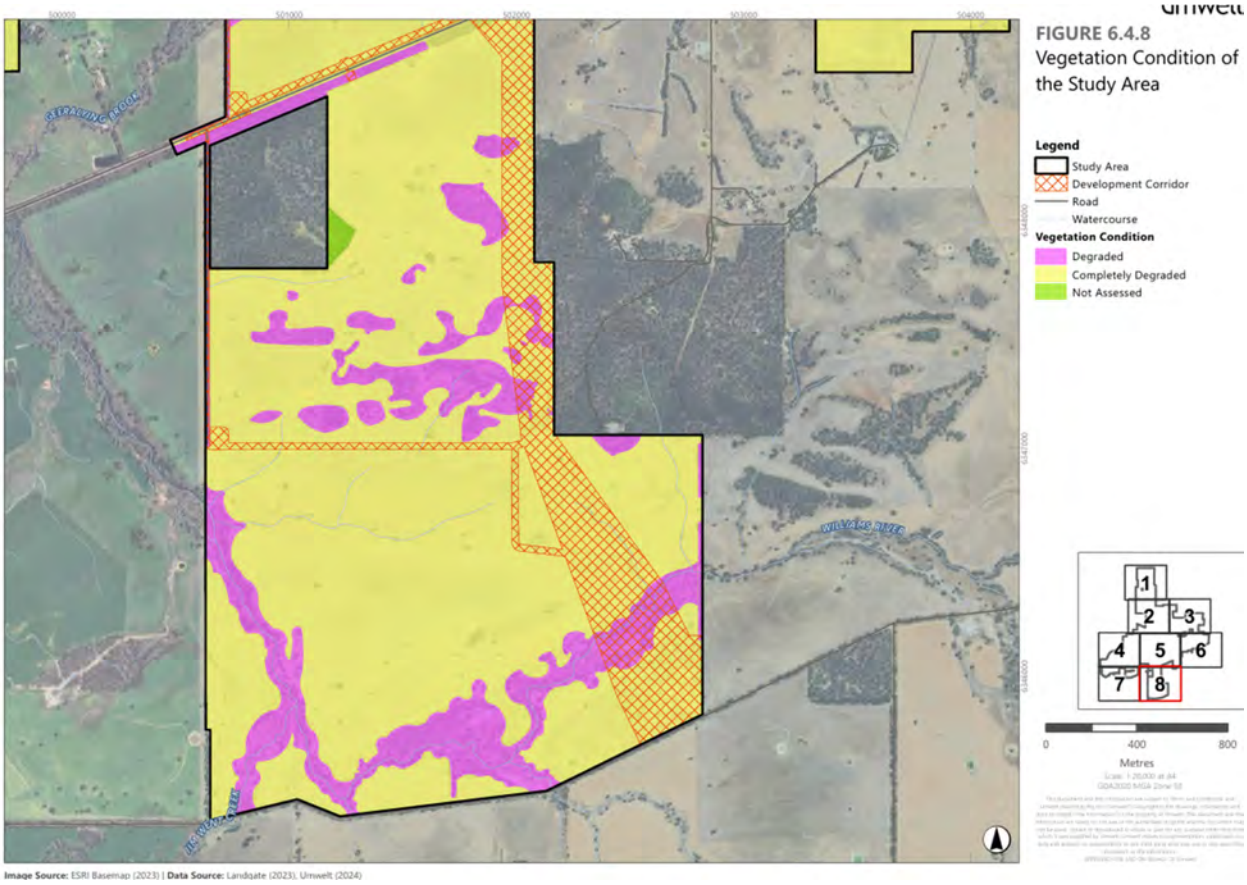
Image Source: ESRI Basemap (2023) | Data Source: Landgate (2023), Urnwelt (2024)


FIGURE 6.4.4
Vegetation Condition of the Study Area
Legend
Study Area
Development Corridor
Road
Watercourse
Vegetation Condition
Degraded
Completely Degraded
1
2
3
4
5
6
7
8
0
400
800
Metres
Image Source: ESRI Basemap (2023) | Data Source: Landgate (2023), Umwelt (2024)


FIGURE 6.4.5
Vegetation Condition of the Study Area
Legend
Study Area
Development Corridor
Road
Watercourse
Vegetation Condition
Degraded
Completely Degraded
1
2
3
4
5
6
7
8
0
400
800
Metres
Image Source: ESRI Basemap (2023) | Data Source: Landgate (2023), Umwelt (2024)


FIGURE 6.4.6
Vegetation Condition of the Study Area
Legend
Study Area
Road
Watercourse
Vegetation Condition
Degraded
Completely Degraded
0
400
800
Metres
Image Source: ESRI Basemap (2023) | Data Source: Landgate (2023), Umwelt (2024)


FIGURE 6.4.7
Vegetation Condition of the Study Area
Legend
Study Area
Road
Watercourse
Vegetation Condition
Degraded
Completely Degraded
0
400
800
Metres
Image Source: ESRI Basemap (2023) | Data Source: Landgate (2023), Umwelt (2024)



Appendix G. List of properties within which clearing is authorised

- Lot 101 on Deposited Plan 223210, Williams
- Cornwall Road (PIN 553753), Dumberning
- Lot 3391 on Deposited Plan 115818, Dumberning
- Lot 3392 on Deposited Plan 115819, Dumberning
- Lot 10019 on Deposited Plan 84084, Dumberning
- Lot 4141 on Deposited Plan 113939, Dumberning
- Lot 1067 on Deposited Plan 102909, Dumberning
- Lot 3090 on Deposited Plan 113584, Dumberning
- Lot 1066 on Deposited Plan 102908, Dumberning
- Lot 2 on Plan 14814, Williams
- Lot 6121 on Deposited Plan 121056, Minigin
- Lot 1422 on Deposited Plan 105192, Minigin
- Lot 4870 on Deposited Plan 115822, Minigin
- Lot 1817 on Deposited Plan 108254, Minigin
- Lot 1341 on Deposited Plan 104837, Minigin
- Lot 7237 on Deposited Plan 127805, Minigin
- Lot 1357 on Deposited Plan 104836, Minigin
- Lot 8931 on Deposited Plan 133000, Minigin
- Lot 7617 on Deposited Plan 127803, Minigin
- Lot 1250 on Deposited Plan 104156, Minigin
- Lot 2484 on Deposited Plan 108492, Minigin
- Lot 1251 on Deposited Plan 104157, Minigin
- Lot 168 on Deposited Plan 301930, Minigin
- Lot 1233 on Deposited Plan 104176, Minigin
- Lot 1231 on Deposited Plan 104174, Minigin
- Lot 2711 on Deposited Plan 113949, Minigin

- Lot 1754 on Deposited Plan 106693, Minigin
- Lot 4163 on Deposited Plan 113951, Minigin
- Lot 4149 on Deposited Plan 113945, Minigin
- Lot 11343 on Deposited Plan 85136, Minigin
- Crown Reserve 10054 (R10054), Minigin
- Lot 4243 on Deposited Plan 113946, Minigin
- Lot 13047 on Deposited Plan 113945, Minigin
- Lot 8836 on Deposited Plan 134965, Minigin
- Lot 7789 on Deposited Plan 128872, Minigin
- Lot 1259 on Deposited Plan 104541, Minigin
- Lot 941 on Deposited Plan 102169, Minigin
- Lot 1258 on Deposited Plan 104543, Minigin
- Lot 1063 on Deposited Plan 102900, Minigin
- Lot 1098 on Deposited Plan 102899, Minigin
- Lot 1099 on Deposited Plan 102901, Minigin
- Lot 1260 on Deposited Plan 104540, Minigin
- Lot 6276 on Deposited Plan 121773, Minigin
- Lot 1257 on Deposited Plan 104542, Minigin
- Lot 1374 on Deposited Plan 104813, Minigin
- Lot 492 on Deposited Plan 257440, Minigin
- Lot 1410 on Deposited Plan 106692, Minigin
- Lot 1197 on Deposited Plan 245629, Minigin
- Lot 9337 on Deposited Plan 136439, Minigin
- Lot 8822 on Deposited Plan 134014, Minigin
- Lot 7201 on Deposited Plan 128326, Minigin
- Lot 7236 on Deposited Plan 128327, Minigin
- Lot 1229 on Deposited Plan 104038, Minigin
- Lot 8100 on Deposited Plan 129751, Minigin
- Lot 6120 on Deposited Plan 121057, Minigin
- Unnamed road reserve (PIN 11140212), Dumberning
- Graham Road reserves (PINs 11140217 and 11140218), Dumberning
- Clayton Road reserve (PIN 11318257), Dumberning
- Unnamed road reserve (PIN 11318291), Minigin
- Lot 808 on Deposited Plan 44274, Minigin
- Lot 500 on Deposited Plan 302890, Minigin
- Narrogin Road (PIN 11466763), Williams
- Moore Street (PIN 11466764), Williams
- Unnamed road reserves (PINs 11480415, 11480416, 11480427 and 11480429), Williams
- Cornwall Road (PIN11480430), Minigin
- Unnamed road reserve (PIN 11480431), Minigin
- Cowcher Road (PIN 11508863), Minigin
- Unnamed road reserves (PINs 11508867, 11508868, 11508869, 11508870, 11508872), Minigin
- Hardie Road reserves (PINs 11508873, 11508874), Minigin
- Unnamed road reserves (11508875, 11544889, 11544891), Minigin
- Williams-Kondinin Road (PIN 11544897), Dumberning
- Williams-Kondinin Road (PIN 11616603), Williams
- Glenfield Road (PIN 11618134), Williams
- Lot 300 on Deposited Plan 44273, Minigin
- Cornwall Road (PIN 11745734), Minigin
- Williams-Kondinin Road (PIN 11745735), Minigin
- Lot 832 on Deposited Plan 62344, Minigin
- Lot 833 on Deposited Plan 62344, Minigin
- Lot 301 on Deposited Plan 62344, Minigin
- Lot 831 on Deposited Plan 62345, Minigin
- Lot 302 on Deposited Plan 62345, Minigin
- Cornwall Road (PIN 11858967), Minigin
- Lot 1235 on Deposited Plan 104250, Minigin
- Lot 8091 on Deposited Plan 132804, Minigin
- Rosedale Road (PIN 11318260), Minigin

- Easement (PIN 11788964), Minigin
- Easement (PIN 11849249), Minigin
- Easement (PIN 11788965), Minigin
- Williams-Kondinin Road (PIN 11616602), Williams

Appendix H. Sources of information

H.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- 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

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)

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