



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

| | |
|-------------------------------|--------------------------------------|
| Purpose Permit number: | CPS 11253/1 |
| Permit Holder: | Mandurah Development Company Pty Ltd |
| Duration of Permit: | From 3 July 2026 to 3 July 2031 |

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

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of the development of a residential park home.

2. Land on which clearing is to be done

Lot 119 on Deposited Plan 54842, Furnissdale.

3. Clearing authorised

The permit holder must not clear more than 0.13 hectares of *native vegetation* within a 0.47-hectare footprint, within the area cross-hatched yellow on Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

- (a) avoid the *clearing* of *native vegetation*;
- (b) minimise the amount of *native vegetation* to be cleared; and
- (c) reduce the impact of *clearing* on any environmental value.

5. Weed and dieback management

When undertaking any *clearing* authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared;
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared;
- (d) where dieback or weed-affected soil, mulch, fill, or other material is to be removed from the area to be cleared, ensure it is transferred to areas of comparable soil disease status; and
- (e) only move soils in *dry conditions*.

6. Demarcation of the clearing area

Prior to undertaking *clearing* authorised under this permit that is adjacent to other *native vegetation*, the permit holder must clearly demarcate the *clearing* area using visible markers to avoid inadvertent removal of adjacent *native vegetation*.

7. Fauna management – directional clearing

The permit holder must:

- (a) undertake *clearing* authorised under this permit in one direction, from east to west, towards adjacent *native vegetation*; and
- (b) allow sufficient time for fauna present within the *clearing* area to move into adjacent *native vegetation* ahead of the *clearing* activity.

8. Erosion management

The permit holder must commence building activities within one month of completing *clearing* authorised under this permit, to reduce the risk of erosion and sedimentation.

9. Revegetation – planting

- (a) Within 12 months of commencing *clearing* under this permit, and no later than 3 July 2027, the permit holder must undertake deliberate *planting* of the following minimum numbers of trees in the area cross-hatched red in Figure 2 of Schedule 1:
 - (i) ten (10) *Corymbia calophylla* trees;
 - (ii) five (5) *Eucalyptus rudis* trees;
 - (iii) five (5) *Casuarina obesa* trees; and
 - (iv) five (5) *Banksia illicifolia* or *Banksia littoralis* trees.
- (b) In undertaking the *planting* required under *condition* 9(a), the permit holder must:
 - (i) undertake *planting* at an *optimal time*;
 - (ii) ensure only *local provenance* propagating material is used;
 - (iii) undertake *weed* control activities and watering of *plantings* for at least three years following *planting*; and
 - (iv) ensure the *Corymbia calophylla* trees are *planted* in the highest and most well-drained portions of the area cross-hatched red in Figure 2 of Schedule 1.

- (c) Within 24 months of *planting* the trees under *condition* 9(a), and again at three (3) years following *planting*, the permit holder must assess *planting* survival and determine the number of trees that have survived in the area cross-hatched red in Figure 2 of Schedule 1.
- (d) If fewer than the number of trees specified under *condition* 9(a) have survived at either the two year or three year assessment, the permit holder must undertake additional *planting* and *remedial actions* to achieve the requirements specified in *condition* 9(a).
- (e) Where additional *planting* is undertaken in accordance with *condition* 9(d), the permit holder must repeat the activities required by *condition* 9(a) and *condition* 9(b), *condition* 9(c) and *condition* 9(d).

10. Tree retention

- (a) The permit holder must not clear within the *dripline* of the following *recorded* native trees, in the areas cross-hatched red on Figure 3 of Schedule 1:

| Tree number | Species | Easting | Northing |
|-------------|----------------------------|---------|----------|
| 1 | <i>Corymbia calophylla</i> | 384495 | 6398077 |
| 2 | <i>Corymbia calophylla</i> | 384488 | 6398077 |
| 3 | <i>Corymbia calophylla</i> | 384467 | 6398093 |
| 4 | <i>Corymbia calophylla</i> | 384482 | 6398091 |
| 5 | <i>Corymbia calophylla</i> | 384476 | 6398094 |
| 7 | <i>Eucalyptus rudis</i> | 384479 | 6398127 |
| 19 | <i>Corymbia calophylla</i> | 384524 | 6398112 |
| 25 | <i>Corymbia calophylla</i> | 384526 | 6398098 |

- (b) In avoiding the trees specified under *condition* 10(a), the permit holder must clearly mark the trees with flagging tape or other visible markers prior to commencing *clearing* under this permit, in a manner that is clearly visible to machinery operators.

PART III - RECORD KEEPING AND REPORTING

11. 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 <i>clearing</i> activities generally | <ul style="list-style-type: none"> (a) the species composition, vegetation structure, and density of the cleared area; (b) the location where the <i>clearing</i> occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates |

| No. | Relevant matter | Specifications |
|-----|---|--|
| | | <p>in Eastings and Northings or decimal degrees;</p> <p>(c) the date the area was cleared;</p> <p>(d) the size of the area cleared, in hectares;</p> <p>(e) actions taken to avoid, minimise, and reduce the impacts and extent of <i>clearing</i> in accordance with <i>condition 4</i>;</p> <p>(f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with <i>condition 5</i>;</p> <p>(g) actions taken to demarcate the <i>clearing</i> area in accordance with <i>condition 6</i>;</p> <p>(h) fauna management measures in accordance with <i>condition 7</i>;</p> <p>(i) erosion management measures in accordance with <i>condition 8</i>; and</p> <p>(j) actions taken to retain trees in accordance with <i>condition 10</i>, including georeferenced photographic evidence of trees retained, expressing the geographical coordinates in Eastings and Northings or decimal degrees.</p> |
| 2. | In relation to <i>planting</i> pursuant to <i>condition 9</i> | <p>(a) the dates on which <i>planting</i> occurred;</p> <p>(b) the total number of trees <i>planted</i>;</p> <p>(c) the boundaries of the areas <i>planted</i>, 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;</p> <p>(d) a description of the <i>planting</i> activities undertaken, including actions taken to implement <i>weed</i> control and watering;</p> <p>(e) a copy of the report required under <i>condition 9(c)</i>; and</p> <p>(f) a description of any additional <i>planting</i> and <i>remedial actions</i> undertaken under <i>condition 9(d)</i> and <i>condition 9(e)</i>.</p> |

12. Reporting

- (a) The permit holder must provide to the *CEO* on or before 30 June of each calendar year, a written report containing:
- (i) the records required to be kept under *condition 11*; 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* 11, where these records have not already been provided under *condition* 12(a).

DEFINITIONS

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

Table 2: Definitions

| Term | Definition |
|-------------------|--|
| CEO | Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> . |
| clearing | has the meaning given under section 3(1) of the EP Act. |
| condition | means a condition to which this clearing permit is subject to under section 51H of the EP Act. |
| department | means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3. |
| dieback | means the effect of <i>Phytophthora</i> species on <i>native vegetation</i> . |
| dripline | means the outer extent of a tree's canopy. |
| dry conditions | means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches. |
| EP Act | means the <i>Environmental Protection Act 1986</i> (WA). |
| fill | means material used to increase the ground level, or to fill a depression. |
| local provenance | means <i>native vegetation</i> 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. |
| optimal time | means a period suitable for <i>planting</i> , typically between April and July, unless otherwise approved by the <i>CEO</i> . |
| planted/planting | means the re-establishment of vegetation by creating soil conditions and planting seedlings of the desired species |
| recorded | means those trees recorded in the PGV Environmental (28 November |

| Term | Definition |
|------------------|--|
| | 2024) document titled ‘279 Riverside Drive, Furnissdale – Vegetation Assessment’, as depicted in the table on page 8 of that document. |
| remedial actions | in relation to this permit, means actions required to ensure the survival and establishment of planted native trees, including additional <i>planting</i> , watering and weed control. |
| weeds | <p>means any plant –</p> <p>(a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; or</p> <p>(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or</p> <p>(c) not indigenous to the area concerned.</p> |

END OF CONDITIONS


Meenu Vitarana
MANAGER
 NATIVE VEGETATION REGULATION

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

10 June 2026

The boundary of the area subject to tree *planting* requirements is shown in Figure 2.



Figure 2: Map of the boundary of the area cross-hatched red within which *planting* pursuant to *condition 9* must occur.

The boundary of the area subject to tree retention requirements is shown on Figure 3.



Figure 3: Map of the boundary of the area cross-hatched red within which tree retention pursuant to *condition 11* must occur.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

| | |
|-------------------------------|--|
| Permit number: | CPS 11253/1 |
| Permit type: | Purpose permit |
| Applicant name: | Mandurah Development Company Pty Ltd |
| Application received: | 5 September 2025 |
| Application area: | 0.13 hectares of native vegetation within a 0.47-hectare footprint |
| Purpose of clearing: | Construction of a residential park home |
| Method of clearing: | Mechanical |
| Property: | Lot 119 on Deposited Plan 54842 |
| Location (LGA area/s): | Shire of Murray |
| Localities (suburb/s): | Furnissdale |

1.2. Description of application

The applicant proposes to clear up to 0.13 hectares of native vegetation within a 0.47 hectare footprint at Lot 119 on Deposited Plan 54842 (279 Riverside Drive), Furnissdale, to develop a residential park home.

The application area is located at the southeastern portion of Lot 119, and forms part of the broader Providence Lifestyle Resort project, which also includes the adjoining Lot 156. Most of the application has been previously parkland cleared and largely comprises a mix of native and non-native trees over weeds.

The application area is about 5 kilometres (km) southeast of the Mandurah City Centre. The application area is zoned 'rural' under both the Perth Region Scheme and Local Town Planning Scheme. The applicant has obtained Development Approval for the proposed works from the Shire of Murray (refer to section 3.3).

1.3. Decision on application

| | |
|-----------------------|--|
| Decision: | Granted |
| Decision date: | 10 June 2026 |
| Decision area: | 0.13-hectares of native vegetation, as depicted in Section 1.5, below. |

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

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

- the site characteristics (see Appendix A);
- relevant datasets (see Appendix F);
- the findings of a vegetation assessment of the application area;

- the clearing principles set out in Schedule 5 of the EP Act (see Appendix B);
- the applicant's efforts to avoid, minimise and mitigate the environmental impacts of the proposed clearing in accordance with the mitigation hierarchy outlined in the *WA Environmental Offsets Guidelines* (2014);
- planning instruments and other relevant matters (see Section 3.3); and
- the necessity for clearing.

The assessment identified that the proposed clearing is likely to result in the following environmental impacts:

- the loss of 12 native trees that provide suitable foraging habitat for Carnaby's cockatoo, forest red-tailed black cockatoo and Baudin's cockatoo (black cockatoos);
- the potential introduction and spread of weeds and dieback into nearby native vegetation comprising high biodiversity value;
- a risk of fauna injury associated with clearing operations; and
- an increased risk of soil erosion and sedimentation.

The Delegated Officer considered that impacts associated with weed and dieback spread, fauna injury, and soil erosion and sedimentation, can be adequately managed through the imposition of conditions on the clearing permit.

The Delegated Officer further determined that the loss of black cockatoo foraging habitat warrants mitigation through revegetation, given the extent of foraging habitat within the application area, and surrounding landscape context.

The applicant has committed to planting 25 native trees that provide foraging habitat for black cockatoos. The proposed planting is to occur within the eastern portion of Lot 119, within an area of remnant vegetation to be retained long term, and managed in accordance with a Shire approved wetland management plan, as required under the applicants Development Approval. The planting would increase both the extent and quality of black cockatoo foraging habitat within Lot 119.

The revegetation action proposed is consistent with the *WA Environmental Offsets Policy* (2011) and *WA Environmental Offsets Guidelines* (2014), and adequately addresses the impact to black cockatoo foraging habitat and significant remnant vegetation in an extensively cleared landscape.

Considering the above, and the necessity for clearing, the Delegated Officer determined to grant the clearing permit subject to conditions, including requirements to:

- implement native tree planting to address impacts to black cockatoo foraging habitat;
- retain 8 native trees that provide foraging habitat for black cockatoos;
- undertake avoid and minimise measures to reduce the impacts and extent of clearing;
- commence construction activities within one month of clearing to reduce the risk of soil erosion and sedimentation;
- implement hygiene measures to minimise the risk of the introduction and spread of weeds and dieback;
- demarcate the application area prior to clearing to avoid the inadvertent removal of adjacent native vegetation; and
- undertake slow, one-directional clearing to allow fauna to disperse into adjacent habitat.

1.5. Site maps

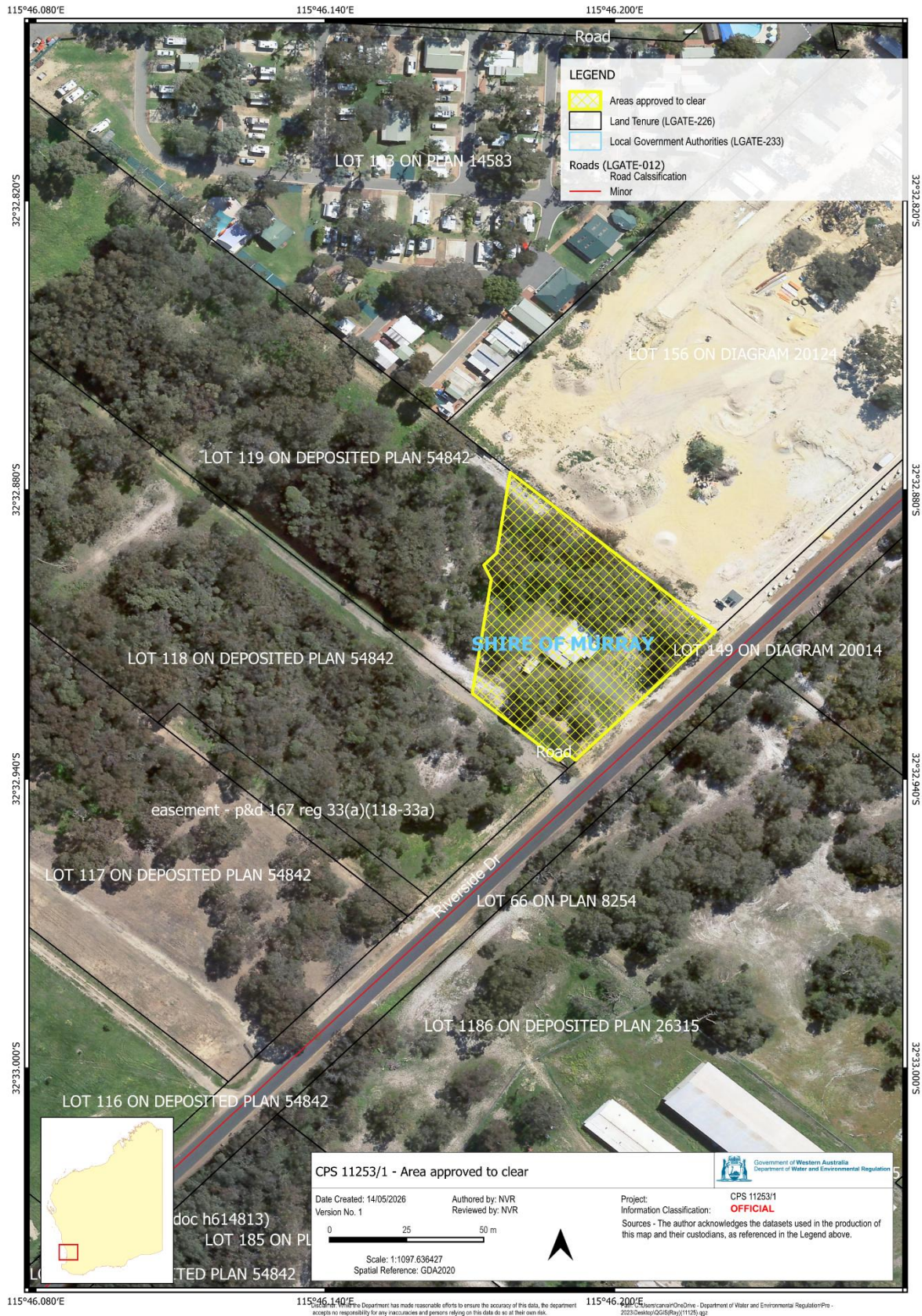


Figure 1: The application area cross-hatched yellow indicates the area authorised to clear under the granted clearing permit.



Figure 2: The area cross-hatched red is the area within which native tree planting must occur. Required plantings will be species that provide black cockatoo foraging habitat.



Figure 3: The area cross-hatched red includes the 8 native trees which must be retained.

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*.

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; and
- 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); and
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

Relevant policies considered during the assessment include the:

- *WA Environmental Offsets Policy* (2011); and
- *Native Vegetation Policy for Western Australia* (2022).

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013); and
- *WA Environmental Offsets Guidelines* (August 2014).

3 Detailed assessment of application

3.1. Avoidance, minimisation and mitigation measures

The applicant submitted supporting information demonstrating the measures taken to avoid and minimise the impacts of the proposed clearing (Bowman and Partners Environmental (BPE), 2025). These measures include:

- the retention of 7 *Corymbia calophylla* trees, of which 3 have a diameter at breast height (DBH) of greater than 500 millimetres (mm); and
- the retention of 1 *Eucalyptus rudis* tree with a DBH of greater than 500mm.

As a result of these avoidance and minimisation measures, the extent of impact to black cockatoo foraging habitat has been reduced from 20 to 12 trees, including three trees with a DBH greater than 500 mm.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and the potential impacts of the proposed clearing on environmental values. After consideration of these measures, the Delegated Officer determined that it was appropriate to consider a revegetation action to address the impact to black cockatoo foraging habitat.

The applicant has committed to planting 25 native trees that provide foraging habitat for black cockatoos within Lot 119. The tree planting will comprise 10 *Corymbia calophylla*, 5 *Eucalyptus rudis*, 5 *Banksia ilicifolia* or *Banksia littoralis*, and 5 *Casuarina obesa* trees.

The selected species target black cockatoo foraging species that are most suited to the environmental conditions of the planting area, located in the western portion of Lot 119, which is partially mapped as a floodplain. This area is partially mapped as floodplain, but includes approximately 0.3 hectares of higher ground identified as suitable for the establishment of *Corymbia calophylla* (BPE, 2026). The proposed tree planting is expected to improve the quality of black cockatoo foraging habitat within Lot 119.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix B) identified that the impact of the proposed clearing presents a risk to conservation listed fauna and nearby wetland values. 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 - significant habitat for fauna - Clearing Principle (b)

Assessment

Background

A vegetation assessment (PGV Environmental (PGV), 2024) (the assessment) was undertaken over a larger area encompassing the application area. The assessment included a site inspection during which all trees were recorded and assessed for species, height, diameter at breast height (DBH), and condition. Understorey species were also recorded and identified (PGV, 2024).

The assessment identified the presence of 21 native trees within the application area, comprising 13 *Corymbia calophylla*, three *Eucalyptus rudis*, two *Allocasuarina fraseriana*, and one individual each of *Banksia attenuata*, *Xylomelum occidentale* and *Callitris preissii*. The understorey was characterised by occasional *Jacksonia furcellata* shrubs. A stand of *Kunzea glabrescens* with a native understorey was also recorded within the broader survey area; however, this vegetation occurs outside the application area and is not subject to clearing (PGV, 2024; BPE, 2025).

Vegetation within the application area was mapped as being in 'completely degraded' condition (Keighery, 1994), with the understorey largely dominated by weeds, including lawn species and *Oxalis pes-caprae* (PGV, 2024). Historical aerial imagery indicates that about half the survey area was cleared between 1985 and 1989 for residential development, landscaping, and firebreaks, with surrounding areas subject to parkland clearing.

DWER's desktop assessment identified that the fauna species listed in Table 1 are most likely to be impacted by the proposed clearing. This is based on the proximity to known records, recorded vegetation and site context and characteristics:

Table 1. Conservation listed native fauna species that may occur in the application area.

| Name | Conservation status |
|--|-------------------------------|
| Baudin's cockatoo (<i>Zanda baudinii</i>) | Endangered; BC Act & EPBC Act |
| Carnaby's cockatoo (<i>Zanda latirostris</i>) | Endangered; BC Act & EPBC Act |
| forest red-tailed black cockatoo (<i>Calyptorhynchus banksii naso</i>) | Vulnerable; BC Act & EPBC Act |
| quenda (<i>Isoodon fusciventer</i>) | Priority 4; DBCA listed |

Black cockatoos (Carnaby's cockatoo, forest red-tailed black cockatoo and Baudin's cockatoo)

Foraging habitat

Of the 21 native trees recorded in the application area, 20 provide known foraging habitat for black cockatoos (excluding *Xylomelum occidentale*).

To minimise the impact to black cockatoo foraging habitat, the applicant has committed to retaining 7 *Corymbia calophylla* trees and 1 *Eucalyptus rudis*, which reduces the impact to black cockatoo foraging habitat. Therefore, the residual impact relates to the clearing of 12 trees that provide foraging habitat, comprising:

- 6 *Corymbia calophylla* which provide preferred foraging habitat for Baudin's and forest red-tailed black cockatoo and marginal foraging habitat for Carnaby's cockatoo;
- 2 *Eucalyptus rudis* which provide marginal foraging habitat for all three species;
- 2 *Allocasuarina fraseriana*, which provide foraging habitat for forest red-tailed black cockatoo;
- 1 *Banksia attenuata*, which provides preferred foraging habitat for Carnaby's cockatoo and marginal foraging habitat for Baudin's and forest red-tailed black cockatoo; and
- 1 *Callitris preissii*, which provides marginal foraging habitat for all three species.

The Commonwealth referral guidelines for black cockatoos (DAWE, 2022) identify foraging habitat, roosting habitat, and nesting trees as critical to the survival of these species. The importance of foraging habitat for Carnaby's cockatoo increases when it occurs within foraging distance of nesting sites (about 12 km) as it supports breeding effort (EPA, 2019). Food resources within the range of roost sites (6 km) are also important to sustain populations of black cockatoos (EPA, 2019).

There are 8 Carnaby's cockatoo nesting sites recorded within 12 km of the application area (including 5 confirmed breeding sites), and 11 known black cockatoo roost sites (combination of Carnaby's and forest red-tailed black

cockatoo) within 6 km. The foraging habitat present within the application area may therefore support both roosting individuals and breeding populations of Carnaby's cockatoo.

Having regard to the above, the Delegated Officer determined that the proposed clearing of 12 trees that provide foraging habitat for black cockatoos constitutes a significant impact. This determination considered:

- the presence and type of foraging habitat within the application area;
- the proximity to known roosting and nesting sites;
- the cumulative loss of black cockatoo foraging habitat across the central and southern Swan Coastal Plain.

Noting the extent of proposed impact to black cockatoo foraging habitat, and the applicant's adherence to the mitigation hierarchy, the Delegated Officer determined that it was appropriate to consider a revegetation action to address this impact.

The applicant has committed to planting 25 native trees that provide foraging habitat for black cockatoos within Lot 119. The tree planting will comprise 10 *Corymbia calophylla*, 5 *Eucalyptus rudis*, 5 *Banksia ilicifolia* or *Banksia littoralis*, and 5 *Casuarina obesa* trees. The trees will be planted amongst about 1 hectare of remnant native vegetation immediately west of the application area. While this area is largely vegetated, it contains localised gaps that would benefit from infill planting (BPE, 2026).

The species proposed for planting have been selected for their suitability to site conditions and their value as black cockatoo foraging habitat. The planting area is partially mapped as floodplain; however, about 0.3 hectares of slightly elevated land has been identified as suitable for the establishment of *Corymbia calophylla* (BPE, 2026). The proposed tree planting is expected to improve the quality of black cockatoo foraging habitat within Lot 119.

Roosting and breeding habitat

Breeding habitat for black cockatoos includes trees with suitable nesting hollows or those of sufficient size to develop hollows (generally greater than 500 millimetres DBH) (DAWE, 2022).

The vegetation assessment identified 3 trees proposed for clearing with a DBH of greater than 500 mm, comprising 2 *Corymbia calophylla* and one *Allocasuarina fraseriana*. Large *Corymbia calophylla* trees are known to provide breeding habitat for black cockatoos, whereas *Allocasuarina fraseriana* typically are not. None of these trees were observed to contain hollows during the vegetation assessment (PGV, 2024). One of the retained trees was identified as having small hollows, however, the proposed clearing will not occur within 10 metres (m) of this tree.

Noting the findings of the vegetation assessment, the proposed clearing is not likely to impact on current breeding habitat for black cockatoos.

Black cockatoos commonly night roost in tall eucalypts near food and water resources. Noting the presence of tall eucalypts in the application area, and proximity to foraging habitat and nearby water resources, some of the trees proposed to clear may provide roosting habitat for black cockatoos.

The loss of potential roosting habitat, and potential future breeding habitat, is not considered to represent a significant residual impact in this instance. This is based on the absence of current breeding habitat within the application area and the relatively limited extent of potential roosting habitat to be cleared. Therefore, a revegetation action has not been specifically required to address this impact. However, the Delegated Officer notes that the applicant has committed to plant tree species that are known to provide breeding (*Corymbia calophylla*) and roosting (*Corymbia calophylla* and *Eucalyptus rudis*) habitat for black cockatoos, as detailed above.

Quenda

The application area is within the known distribution of quenda, and there are 286 quenda records in the local area (10 km radius surrounding the application area). The closest record is 750 m from the application area.

Quenda inhabit areas of dense vegetation cover, often in wet environments. Quenda forage amongst leaf litter for invertebrates, fungi and plant material (DEC, 2012). Given that the application area contains limited native understorey vegetation and lacks dense vegetation cover, the proposed clearing is not likely to impact on significant habitat for this species.

However, this species is likely to use the riparian vegetation that exists west within the same lot and may on occasion move through the application area. This creates a risk of fauna injury during clearing operations. The implementation

of fauna management measures, including slow, progressive, one-directional clearing during daylight hours, will assist in minimising this risk.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 12 trees that provide foraging habitat for black cockatoos. This impact requires addressing through a revegetation action. The applicant has committed to planting 25 trees (*Corymbia calophylla*, *Eucalyptus rudis*, *Banksia ilicifolia* or *Banksia littoralis*, and *Casuarina obesa*) that provide foraging habitat for black cockatoos.

The above revegetation measures were input into the DWER WA environmental offsets calculator to determine the quantum of mitigation afforded by these measures. A summary of these calculations is available in Appendix E. The Delegated Officer determined that the revegetation action was sufficient that no significant residual impact remained.

The Delegated Officer determined that it was appropriate to consider a revegetation action to address the above impact in this instance, noting the applicant's adherence to the mitigation hierarchy, the extent of impact, and the site context.

The proposed clearing also presents a risk of fauna injury during clearing operations, which requires appropriate management.

Conditions

To address the identified impacts, the clearing permit includes conditions requiring the permit holder to:

- undertake nearby revegetation with 25 native trees that provide foraging habitat for black cockatoos, which will provide a greater density of foraging habitat than the application area;
- undertake avoid and minimise measures to reduce the impacts and extent of clearing;
- implement hygiene measures to minimise the risk of the introduction and spread of weeds and dieback; and
- undertake slow, progressive one directional clearing to allow fauna to disperse into adjacent habitat.

3.2.2 Water resources - Clearing Principles (f) and (i)

The application area is around 30 m upland from a mapped floodplain of the Serpentine River, which lies around 365 m west. The closest mapped floodplain (UFI 15691) is largely classified as 'conservation' category under the Department of Biodiversity, Conservation and Attractions (DBCA) Geomorphic Wetlands, Swan Coastal Plain dataset. Riparian vegetation is confirmed to occur within the mapped floodplain (PGV, 2024; BPE, 2025).

Based on the assessment, riparian vegetation within the application area is largely limited to three *Eucalyptus rudis* trees of which one will be retained (PGV, 2024).

Conservation Category Wetlands (CCW) are the highest priority wetlands for protection as they support a high level of ecological functions and attributes (Water and Rivers Commission, 2001). Guidance recommends that a buffer of 50 m be maintained around CCW's to minimise the edge effects associated with habitat modification (WAPC, 2005).

The proposed clearing involves the removal of scattered trees and occasional shrubs over a weed dominated understorey. While the application area does not provide a full 50-metre buffer to the CCW, the Delegated Officer considered that, given the limited extent of clearing, the completely degraded condition of the vegetation, and the proposed retention of some native trees (refer to Section 3.1), the clearing is unlikely to significantly impact the long-term ecological function of the wetland. This is also considering that the existing buffer between the application area and CCW remains largely vegetated, excluding minor disturbance such as firebreaks.

However, short term risks to the CCW may arise during clearing given the potential for soil erosion, and sedimentation to occur in periods of heavy rainfall. This may temporarily increase surface run-off from the application area into the floodplain particularly where there is a delay between clearing and site development. There is also a risk of weeds and dieback spreading into the riparian vegetation of the floodplain.

The Delegated Officer considered that these short-term risks can be appropriately managed through the implementation of conditions requiring clearing to occur in dry conditions, timely commencement of construction, and the application of weed and dieback hygiene measures.

Potential impacts associated with the end land use, including hydrological and water quality changes, are addressed under the Development Approval issued by the Shire of Murray.

Conclusion

The Delegated Officer determined that the proposed clearing is unlikely to result in significant long-term impacts to the ecological function of the nearby mapped floodplain (CCW). However, there is potential for short-term impacts associated with erosion and sedimentation, as well as the introduction and spread of weeds and dieback. Conditional requirements are required to manage these risks.

Conditions

To manage the above impacts, the clearing permit includes conditions requiring the permit holder to:

- undertake avoid and minimise measures to reduce the impacts and extent of clearing;
- clearly demarcate the clearing area prior to clearing;
- implement hygiene measures to minimise the risk of introduction and spread of weeds and dieback, including the requirement to only move soils during dry conditions; and
- commence construction activities within one month of clearing to limit the exposure time of bare soils.

The Delegated Officer also considered the applicants commitment to plant 25 native trees within retained vegetated portions of Lot 119, which is expected to contribute to improving the ecological values of the CCW.

In setting the above conditional requirements, the Delegated Officer had regard to the Development Approval issued by the Shire of Murray, which includes requirements to manage the end land use (refer to Section 3.3).

3.3. Relevant planning instruments and other matters

The application area is zoned 'rural' under the Peel Region Scheme and Shire of Murray Local Planning Scheme.

The Shire of Murray was invited to provide comment on the proposed clearing and advised that approval has been granted for the development, with clearing of native vegetation considered and conditioned prior to the commencement of works (Shire of Murray, 2025).

Development approval was issued for a 'Park Home Park' and includes several conditions relevant to environmental management, including requirements to:

- prepare and implement a wetland management plan (for the western portion of Lot 119), including weed management, vermin fencing, feral animal control, and ongoing management obligations;
- prepare an acid sulphate soil management plan; and
- prepare a construction management plan for the Shire's approval.

The Delegated Officer considered that the requirements of the development approval will assist in adequately managing the risk to the environment from the construction and end land use.

The application area is within the area covered by the *Environmental Protection (Peel Inlet – Harvey Estuary) Policy 1992*. This Policy was developed to:

- set out environmental quality objectives for the Peel Inlet – Harvey Estuary which if achieved will rehabilitate the Estuary and protect it from further degradation; and
- outline how the environmental quality objectives for the Estuary are to be achieved and maintained.

The application area is also within the Peel Inlet Management Area, declared under the *Waterways Conservation Act 1976*.

The proposed clearing will not result in the removal of native vegetation from the Peel-Harvey Estuary system. The Delegated Officer considers that, subject to the conditions of the clearing permit and the requirements of the development approval, risks to water quality and environmental values of the estuary are unlikely to be significant and can be appropriately managed.

The application area does not intersect any mapped Aboriginal Sites of Significance. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972 (WA)* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Site Characteristics

A.1. Site characteristics

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

| Characteristic | Details |
|------------------------|---|
| Local context | <p>The application area is in the Swan Coastal Plain Bioregion and Perth Subregion. The application area is 365 m east of the Serpentine River. The application area is within the intensive land use zone.</p> <p>The local area has been subject to extensive historical clearing for both rural and urban development and retains about 23.16 per cent native vegetation cover (excluding open water).</p> |
| Ecological linkage | <p>The nearest formally mapped ecological linkage is a South West Regional Ecological Linkages Technical Report (Molloy et al. 2009) linkage, located about 390 m from the application area and largely follows the Serpentine River. The application area is not considered to substantially contribute to this linkage.</p> |
| Conservation areas | <p>The closest conservation area to the application area is a nature reserve associated with Black Lake, located 2 km east of the application area.</p> |
| Vegetation description | <p>The vegetation assessment identified that the application area largely comprises <i>Corymbia calophylla</i> trees, with occasional <i>Eucalyptus rudis</i> and <i>Allocasuarina fraseriana</i> over occasional <i>Jacksonia furcellata</i> shrubs over lawn and other weeds (particularly <i>Oxalis pes-caprae</i>). A small stand of <i>Kunzea glabrescens</i> over weeds and some native understorey was recorded just beyond the northwest boundary of the application area (PGV, 2024).</p> <p>According to broad scale vegetation mapping, the application area is mapped as the following vegetation complex:</p> <ul style="list-style-type: none"> Bassendean Complex – Central and South, described as: ranging from woodland of jarrah (<i>Eucalyptus marginata</i>)- sheoak (<i>Allocasuarina fraseriana</i>) - <i>Banksia</i> species to low woodland of <i>Melaleuca</i> species, and sedgelands on the moister sites; this area includes the transition of jarrah to pricklybark (<i>Eucalyptus todtiana</i>) in the vicinity of Perth (Heddlie et. al., 1980). <p>While some of the overstorey species recorded within the application are consistent with Bassendean Complex – Central and South, the application area has been highly modified and is not truly representative of this vegetation complex.</p> <p>The mapped vegetation complex retains 26.87 per cent of its original extent (Government of Western Australia, 2019).</p> |
| Vegetation condition | <p>The vegetation assessment identified that the vegetation in the application area is in a completely degraded (Keighery, 1994) condition, reflecting historical clearing and ongoing disturbance associated with residential land uses.</p> <p>The full Keighery (1994) vegetation condition rating scale is provided in Appendix C. Representative photographs, along with detailed survey descriptions and vegetation mapping, are provided in Appendix D.</p> |
| Climate and landform | <p>The application area experiences a mean annual rainfall of approximately 900 mm and a mean annual evapotranspiration of approximately 800 mm.</p> <p>The underlying geology of the application area comprises alluvial, shoreline and aeolian deposits.</p> |
| Soil description | <p>The soil type across the vegetated portions of the application area is mapped as Bassendean B2 Phase (212Bs__B2), described as flat to very gently undulating</p> |

| Characteristic | Details | | | | | | | | | | | | | | | | | |
|---------------------------|--|--------------|--|---------------|---|--------------|---|--|------------------|---|--------------------------|--|-------------------|---|---------------|--|----------|---|
| | sandplain with well to moderately well drained deep bleached grey sands with a pale-yellow B horizon or a weak iron-organic hardpan 1-2 m. | | | | | | | | | | | | | | | | | |
| Land degradation risk | <p>The land degradation risk factors mapped over the application area are detailed below:</p> <table border="1"> <tbody> <tr> <td>Wind erosion</td> <td>30-50% of map unit has a high to extreme wind erosion risk</td> </tr> <tr> <td>Water erosion</td> <td>>70% of map unit has a high to extreme water erosion risk</td> </tr> <tr> <td rowspan="2">Waterlogging</td> <td>3-10% of map unit has a moderate to very high waterlogging risk</td> </tr> <tr> <td>>70% of map unit has a moderate to very high waterlogging risk</td> </tr> <tr> <td>Water Repellence</td> <td>>70% of map unit has a high-water repellence risk</td> </tr> <tr> <td>Subsurface acidification</td> <td>>70% of map unit has a high subsurface acidification risk or is presently acidic</td> </tr> <tr> <td>Phosphorus export</td> <td>>70% of map unit has a high to extreme phosphorus export risk</td> </tr> <tr> <td>Salinity risk</td> <td>>70% of map unit has a moderate to high salinity risk or is presently saline</td> </tr> <tr> <td>Flooding</td> <td><3% of the map unit has a moderate to high flood risk</td> </tr> </tbody> </table> <p>Groundwater salinity is mapped as 1000-3000 milligrams per litre total dissolved solids.</p> | Wind erosion | 30-50% of map unit has a high to extreme wind erosion risk | Water erosion | >70% of map unit has a high to extreme water erosion risk | Waterlogging | 3-10% of map unit has a moderate to very high waterlogging risk | >70% of map unit has a moderate to very high waterlogging risk | Water Repellence | >70% of map unit has a high-water repellence risk | Subsurface acidification | >70% of map unit has a high subsurface acidification risk or is presently acidic | Phosphorus export | >70% of map unit has a high to extreme phosphorus export risk | Salinity risk | >70% of map unit has a moderate to high salinity risk or is presently saline | Flooding | <3% of the map unit has a moderate to high flood risk |
| Wind erosion | 30-50% of map unit has a high to extreme wind erosion risk | | | | | | | | | | | | | | | | | |
| Water erosion | >70% of map unit has a high to extreme water erosion risk | | | | | | | | | | | | | | | | | |
| Waterlogging | 3-10% of map unit has a moderate to very high waterlogging risk | | | | | | | | | | | | | | | | | |
| | >70% of map unit has a moderate to very high waterlogging risk | | | | | | | | | | | | | | | | | |
| Water Repellence | >70% of map unit has a high-water repellence risk | | | | | | | | | | | | | | | | | |
| Subsurface acidification | >70% of map unit has a high subsurface acidification risk or is presently acidic | | | | | | | | | | | | | | | | | |
| Phosphorus export | >70% of map unit has a high to extreme phosphorus export risk | | | | | | | | | | | | | | | | | |
| Salinity risk | >70% of map unit has a moderate to high salinity risk or is presently saline | | | | | | | | | | | | | | | | | |
| Flooding | <3% of the map unit has a moderate to high flood risk | | | | | | | | | | | | | | | | | |
| Waterbodies | <p>The closest watercourse is the Serpentine River, 365 metres west of the application area.</p> <p>There are no wetlands mapped within the application area, however a floodplain is mapped over part of the western portion of Lot 119. The floodplain has been classified as a CCW (UFI 15691) and multiple use wetland (UFI 15692).</p> <p>At its closest point the application is 30 metres from the CCW.</p> | | | | | | | | | | | | | | | | | |
| Hydrogeography | The application area is within the 'Coastal Plain' Hydrological Zone, and the 'Peel Estuary – Serpentine River' Hydrographic Catchment. The application area is also within the mapped 'Murray' Groundwater Area under the <i>Rights in Water and Irrigation Act 1914</i> . | | | | | | | | | | | | | | | | | |
| Conservation listed flora | According to available datasets, 36 conservation listed flora taxa have been recorded in the local area. The closest of these is <i>Dillwynia dillwynioides</i> , recorded 800 m north. Based on the findings of the vegetation assessment (PGV, 2024), none of these species are likely to occur in the application area. | | | | | | | | | | | | | | | | | |
| Ecological communities | <p>There are no threatened or priority ecological communities mapped over the application area.</p> <p>The closest conservation listed ecological community to the application area is an occurrence of the 'Banksia Woodlands of the Swan Coastal Plain' ecological community (Endangered; EPBC Act, Priority 3; BC Act), located about 10 m from the north western boundary of the application area. The application area is not considered to be an occurrence of this community.</p> | | | | | | | | | | | | | | | | | |
| Conservation listed fauna | <p>A total of 59 conservation listed fauna species have been recorded in the local area.</p> <p>The closest conservation significant fauna records to the application area are Carnaby's cockatoo and quenda, located approximately 500 m and 800 m away, respectively. Those fauna species most likely to occur within the application area are listed below under Section A.3 and assessed under section 3.2.1.</p> | | | | | | | | | | | | | | | | | |

A.2. Vegetation extent

| | Pre-European extent (ha) | Current extent (ha) | Extent remaining (%) | Current extent in all DBCA managed land (ha) | Current proportion (%) of pre-European extent in all DBCA managed land |
|--|--------------------------|---------------------|----------------------|--|--|
| IBRA bioregion* | | | | | |
| Swan Coastal Plain | 1,501,222 | 579,813 | 38.6 | 222,917 | 14.85 |
| Vegetation complex | | | | | |
| Bassendean Complex – Central and South** | 87,476 | 23,509 | 26.9 | 4,377 | 5 |
| Local area | | | | | |
| 10km radius (excluding open water) | 4652.53 | 20213.91 | 23.16 | - | - |

*Government of Western Australia (2019)

**Government of Western Australia (2019a)

A.3. Flora analysis

With consideration of the site characteristics, relevant datasets, and vegetation assessment (PGV, 2024), the proposed clearing is not likely to impact on any threatened or priority flora known from the local area.

A.4. Fauna analysis table

With consideration of the fauna habitat within the application area, relevant datasets, and biological survey information, impacts to the following conservation listed fauna required consideration.

| Species name | Conservation status | Suitable habitat features? [Y/N] |
|---|------------------------|----------------------------------|
| Birds | | |
| <i>Zanda baudinii</i> (Baudin's cockatoo) | EN; BC Act & EPBC Act | Y |
| <i>Zanda latirostris</i> (Carnaby's cockatoo) | EN; BC Act & EPBC Act | Y |
| <i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo) | VU | Y |
| <i>Apus pacificus</i> - Pacific swift | M; BC Act and EPBC Act | Y |
| Mammals | | |
| <i>Dasyurus geoffroii</i> (chuditch) | VU; BC Act & EPBC Act | N |
| <i>Falco peregrinus</i> (peregrine falcon) | OS; BC Act | Y |
| <i>Phascogale tapoatafa wambenger</i> (south-western brush-tailed phascogale) | CD; BC Act | N |
| <i>Isoodon fusciventer</i> (quenda) | Priority (P) 4 | Y |
| Reptiles | | |
| <i>Neelaps calonotos</i> (black-striped snake) | P3 | N |
| <i>Lerista lineata</i> (Perth slider) | P3 | N |
| Invertebrates | | |
| <i>Synemon gratiosa</i> (graceful sun-moth) | P4 | N |
| <i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider) | P3 | N |

CR: critically endangered, EN: endangered, VU: vulnerable, CD: conservation dependant, OS: other specially protected

Based on the absence of required or preferred habitat features (including critical habitat), the quoll, black-striped snake, Perth slider, graceful sun-moth, and Swan Coastal Plain shield-backed trapdoor spider were not considered further in the assessment of impacts to conservation-listed fauna under Section 3.2.1.

Similarly, while the application area may be used opportunistically for foraging by highly mobile species such as the peregrine falcon, Pacific swift, and western brush wallaby, the proposed clearing is not likely to result in a significant impact to these species habitat. This conclusion is based on the limited size of the application area, the large home ranges of these species, and the proposed tree retention measures. Accordingly, these species have not been considered further under Section 3.2.1.

Appendix B. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|--|------------------------------|-------------------------------------|
| Environmental value: biological values | | |
| <p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The application area includes foraging habitat for black cockatoos, however given the (PGV, 2024):</p> <ul style="list-style-type: none"> • low species richness • limited structural and floristic diversity; • completely degraded (Keighery, 1994) vegetation condition; and • absence of conservation listed flora or ecological communities; <p>the application area is not likely to comprise a high level of biodiversity.</p> | Not likely to be at variance | No |
| <p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The application area includes primary foraging habitat for Carnaby’s cockatoo, Baudin’s cockatoo and forest red-tailed black cockatoo. The assessment against this principle is detailed under section 3.2.1.</p> | At variance | Yes Refer to Section 3.2.1 above |
| <p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There is no threatened flora mapped within or nearby the application area. The vegetation assessment did not identify any conservation listed flora (PGV, 2024). The completely degraded (Keighery, 1994) application area, which is dominated by weeds and contains minimal native understorey vegetation (PGV, 2024), is unlikely to contain, or be necessary for threatened flora.</p> | Not likely to be at variance | No |
| <p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The Banksia Woodlands of the Swan Coastal Plain ecological community (Endangered; EPBC Act and P3; BC Act) is mapped near the application area in the west portion of Lot 119. Based on available vegetation information, this mapped occurrence is not likely to represent an occurrence of this community (BPE, 2026), given an absence of characteristic dominant <i>Banksia</i> species.</p> <p>The application area is in a completely degraded (Keighery, 1994) condition (PGV, 2024) and does not comprise <i>Banksia</i> woodland (one <i>Banksia</i> recorded (PGV, 2024)), therefore it is not considered an occurrence of this community.</p> | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|--|------------------------------|---------------------------------------|
| Environmental value: significant remnant vegetation and conservation areas | | |
| <p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>Noting the vegetation extent in the local area and fragmentation of vegetation in the Shire of Murray from urban and rural development, the application area is within an extensively cleared area.</p> <p>However, the extent of the mapped vegetation complex and native vegetation in the local area is consistent with the minimum vegetation representation thresholds (retention of at least 10% of remnant vegetation) for constrained areas, as recognised by the Environmental Protection Authority (EPA, 2008). The application area is in a constrained area.</p> <p>While the application area is a significant remnant of native vegetation within an extensively cleared landscape, the extent of clearing is limited and the overall minimum vegetation representation thresholds for the mapped vegetation complex, and the local area, are maintained.</p> <p>It is noted that the applicant has committed to planting 25 native trees within bare patches of the remaining vegetated portion of Lot 119, which will have the effect of contributing to the reinstatement of native vegetation in the local area.</p> | At variance | No |
| <p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area, and limited extent of clearing, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p> | Not likely to be at variance | No |
| Environmental value: land and water resources | | |
| <p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>The application area is 30 m from a mapped CCW (floodplain of the Serpentine River), and includes three <i>Eucalyptus rudis</i> trees, which are considered riparian species (one proposed for retention). The assessment against this principle is detailed under section 3.2.2.</p> | At variance | Yes Refer to Section 3.2.2, above. |
| <p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>Noting the extent of proposed clearing, soil type, topography, and landscape position, the proposed clearing is not likely to result in appreciable land degradation, subject to permit conditions requiring the applicant to:</p> <ul style="list-style-type: none"> • commence development within one month of clearing, and • only move soils in dry conditions (see conditions detailed under Section 3.2.2) <p>These conditions will adequately manage the risk of wind and water erosion from the proposed clearing.</p> | May be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|--|------------------------------|---------------------------------------|
| <p><u>Principle (i):</u> “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.”</p> <p><u>Assessment:</u></p> <p>Noting the proximity of the Serpentine River floodplain, the proposed clearing may increase the risk of sedimentation within the adjacent floodplain. The assessment against this principle is detailed under section 3.2.2.</p> | May be at variance | Yes Refer to Section 3.2.2, above. |
| <p><u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>While the application area is around 30 m from a mapped floodplain, considering the underlying topography and highly permeable soil types mapped, the proposed clearing of vegetation in a completely degraded condition is not likely to cause or exacerbate flooding.</p> | Not likely to be at variance | No |

Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation’s ability to regenerate. Disturbance at a site can be a cumulative effect from 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 (1994).

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

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

| Condition | Description |
|---------------------|--|
| Pristine | Pristine or nearly so, no obvious signs of disturbance. |
| Excellent | Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species. |
| Very good | Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing. |
| Good | Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing. |
| Degraded | Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing. |
| Completely degraded | The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as ‘parkland cleared’ with the flora comprising weed or crop species with isolated native trees or shrubs. |

Appendix D. Biological survey information excerpts / photographs of the vegetation / DWER site inspection report

| Tree # | Species | Easting | Northing | Photo | Height (m) | Diameter (cm) | 2nd Branch (cm) | 3rd Branch (cm) | Comments |
|--------|---------------------------------|---------|----------|--------|------------|---------------|-----------------|-----------------|---|
| 1 | <i>Corymbia calophylla</i> | 384495 | 6398077 | 9.59 | 11 | 52 | 23 | | Healthy, no hollows |
| 2 | <i>Corymbia calophylla</i> | 384488 | 6398077 | 10.01 | 16 | 74 | | | Healthy, no hollows |
| 3 | <i>Corymbia calophylla</i> | 384467 | 6398093 | 10.04 | 13 | 61 | 49 | | Healthy, small hollows |
| 4 | <i>Corymbia calophylla</i> | 384482 | 6398091 | 10.06 | 11 | 42 | | | Leaning 45 degrees, no hollows |
| 5 | <i>Corymbia calophylla</i> | 384476 | 6398094 | 10.07 | 9 | 31 | | | Healthy, no hollows |
| 6 | <i>Banksia attenuata</i> | 384478 | 6398113 | 10.13 | 5 | 15 | | | Healthy |
| 7 | <i>Eucalyptus rudis</i> | 384479 | 6398127 | 10.14 | 20 | 72 | | | Healthy, no hollows |
| 8 | <i>Corymbia calophylla</i> | 384491 | 6398120 | 10.16 | 19 | 38 | | | Average tree, no hollows |
| 9 | <i>Eucalyptus rudis</i> | 384484 | 6398132 | 10.19 | 18 | 43 | 20 | | Healthy, no hollows |
| 10 | <i>Eucalyptus rudis</i> | 384489 | 6398141 | 10.21 | 24 | 44 | | | Healthy, no hollows |
| 11 | <i>Allocasuarina fraseriana</i> | 384506 | 6398129 | 10.31L | 20 | 53 | 48 | 18 | Healthy |
| 12 | <i>Allocasuarina fraseriana</i> | 384498 | 6398133 | 10.31R | 17 | 25 | 24 | 16 | Average tree |
| 13 | <i>Corymbia calophylla</i> | 384495 | 6398114 | 10.44 | 21 | 64 | | | Healthy, no hollows |
| 14 | <i>Corymbia calophylla</i> | 384510 | 6398107 | 10.46L | 19 | 41 | 39 | | Leaning, no hollows |
| 15 | <i>Corymbia calophylla</i> | 384508 | 6398104 | 10.46R | 21 | 53 | | | Healthy, no hollows |
| 16 | <i>Corymbia calophylla</i> | 384508 | 6398126 | 10.49L | 16 | 27 | | | Healthy, no hollows |
| 17 | <i>Corymbia calophylla</i> | 384509 | 6398124 | 10.49R | 15 | 38 | | | Healthy, no hollows |
| 18 | <i>Washington Palm</i> | 384509 | 6398098 | 10.51 | 4 | 40 | | | Healthy |
| 19 | <i>Corymbia calophylla</i> | 384524 | 6398112 | 10.54 | 17 | 27 | | | Average tree, no hollows |
| 20 | <i>Xylomelum occidentale</i> | 384526 | 6398115 | 10.55 | 4 | 14 | | | Healthy |
| 21 | <i>Eucalyptus camaldulensis</i> | 384532 | 6398094 | 10.56 | 22 | 66 | | | Healthy, no hollows |
| 22 | <i>Corymbia maculata</i> | 384532 | 6398092 | 10.58 | 19 | 38 | | | Healthy, no hollows |
| 23 | <i>Melaleuca quinquenervia</i> | 384529 | 6398085 | 10.59 | 16 | 51 | | | Healthy |
| 24 | <i>Callitris preissii</i> | 384526 | 6398085 | 11.01 | 4 | 23 | | | Poor tree |
| 25 | <i>Corymbia calophylla</i> | 384526 | 6398098 | 11.03 | 12 | 31 | 15 | 9, 8 | Healthy, multiple small stems, no hollows |
| 26 | <i>Agonis flexuosa</i> | 384502 | 6398062 | | 6 | | | | Healthy small tree |

Figure 4. List of trees recorded during the vegetation assessment.



Figure 5. Location of trees recorded during the vegetation assessment. Note that trees 1-5, 7, 19 and 25 are proposed for retention.

Appendix E. Revegetation action calculation with justification

| Calculation | Score (Area) | Rationale |
|---|---|---|
| Conservation significance | | |
| Description | Foraging habitat for all three species of black cockatoos | The proposed clearing of suitable foraging habitat for all three species of black cockatoos. |
| Type of environmental value | Species (flora/fauna) | The application area contains suitable foraging habitat for all three species of black cockatoo. |
| Conservation significance of environmental value | Rare/threatened species - endangered | Carnaby's cockatoo is listed as endangered under the BC Act and EPBC Act, so have used the highest conservation ranking. |
| Landscape level value impacted | Yes/No | Yes |
| Significant impact | | |
| Description | Clearing 1 native tree within an extensively cleared landscape | Suitable foraging habitat species was identified within the application area. |
| Significant impact (hectares) | 0.12 | Approximately 0.12 hectares of the application area is considered to provide foraging habitat for Carnaby's cockatoo. |
| Quality (scale) | 7.00 | Habitat assessment determined the application area provides preferred foraging habitat for Carnaby's cockatoo in moderate value. There is a recorded roost site 1.1km from the application area. The application area is approximately 6km from 12 confirmed black cockatoo breeding sites and likely supports foraging by breeding cockatoos in a heavily fragmented landscape. |
| Rehabilitation credit | | |
| Description | Planting of 25 trees that provide foraging resource for black cockatoos | Revegetation and rehabilitation of existing partially vegetated areas with black cockatoo foraging habitat. |
| Proposed rehabilitation (area in hectares) | 0.25 | 25 trees are proposed for planting, representing 0.25 ha |
| Current quality of rehabilitation site /Start number (of type of feature) | 1 | The areas proposed for infill planting will be largely bare patches in a larger vegetated patch. |
| Future quality WITHOUT rehabilitation (scale) | 1 | It is considered that the quality of the habitat value will not change without implementing infill planting. |

| Calculation | Score (Area) | Rationale |
|--|--------------|--|
| Future quality WITH rehabilitation (scale) | 6 | Planting 25 suitable habitat trees is required to counterbalance 100% of the significant residual impact of the proposed clearing. Species to be planted to include marri, sheoak, banksia, and flooded gum, similar to species being cleared. These species provide preferred foraging habitat for black cockatoos. |
| Time until ecological benefit (years) | 16 | 15 years minimum to achieve foraging resource, plus 1 year for planting to commence. |
| Confidence in rehabilitation result | 80% | 80% confidence that the proposed planting will survive to provide black cockatoo foraging habitat. |
| Offset | | |
| Description | NA | Offset not required. Rehabilitation action reduces the total quantum of impact that no significant residual impact remains from clearing. |

Appendix F. Sources of information

F.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Geomorphic Wetlands Swan Coastal Plain
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- 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 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).

F.2. References

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