GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10364/1
Permit Holder:	Marvelus Berry Developments Pty Ltd
Duration of Permit:	From 02 August 2025 to 02 August 2035

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 constructing a dam.

2. Land on which clearing is to be done

Lot 9951 on Deposited Plan 203883, Boorara Brook
Lot 9952 on Deposited Plan 203883, Boorara Brook

3. Clearing authorised

The permit holder must not clear more than 2.95 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 02 August 2030.

PART II – MANAGEMENT CONDITIONS

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

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

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

6. Weed and dieback management

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

(a) clean 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.

7. Directional clearing

The permit holder must:

(a) conduct clearing activities in a slow, progressive manner from west to east, towards adjacent remnant *native vegetation*; and

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

8. Fauna management – fauna specialist

(a) in relation to the area cross-hatched yellow in Figure 1 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 *conservation significant fauna*;

(b) clearing activities must cease in any area where fauna referred to in condition 8(a) are identified until either:

  (i) the *conservation significant fauna* individual(s) has moved on from that area to adjoining suitable habitat; or

  (ii) the *conservation significant fauna* individual(s) has been removed by a *fauna specialist*;

(c) any *conservation significant fauna* individual(s), other than western ringtail possum(s) (*Pseudocheirus occidentalis*) individual(s), removed in accordance with condition 8(b)(ii) must be relocated by a *fauna specialist* to an area of *suitable habitat*.

(d) Any western ringtail possum(s) individual removed in accordance with condition 8(b)(ii) must be relocated by a *western ringtail possum specialist* to an area of *suitable habitat*.

(e) Where *conservation significant fauna* identified under condition 8(a) are removed and relocated, the permit holder must within 14 calendar days provide the following records to the CEO:

  (i) the number and species of individuals removed and relocated;

  (ii) the relevant qualifications of the fauna specialist undertaking removal and relocation;

  (iii) the date each individual was removed;

  (iv) the method of removal;

  (v) the date each individual was relocated;

  (vi) the location where each individual was relocated to, recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings

and Northings or decimal degrees; and

(vii) details pertaining to the circumstances of any death of, or injury sustained by, an individual.

9. Revegetation and rehabilitation

The permit holder must implement and adhere to the 'Revegetation Management Plan Dam and Drainage Line at Lots 9951 and 9952, Boorara Brook' (SW Environmental, dated June 2025) within the areas cross-hatched red in Figure 2 of Schedule 2, including but not limited to the following actions:

(a) within 12 months of the commencement of clearing authorised under this permit, commence *revegetation and rehabilitation* within the areas cross-hatched red in Figure 2 of Schedule 2 by:

(i) deliberately *planting* and/or *direct seeding native vegetation* composed of a mix of:

(A) suitable foraging habitat for *black cockatoo species*;

(B) suitable *habitat* for western ringtail possums; and

(C) *riparian vegetation.*

(ii) ensuring only *local provenance* species are used to *revegetate and rehabilitate* the areas;

(iii) ensuring planting is undertaken at the *optimal time*;

(b) undertake watering and weed control of plantings for at least two years post *planting*;

(c) achieve the completion criteria specified in Table 3 of Schedule 2 after a five-year monitoring period for areas *revegetated* and *rehabilitated* under this condition;

(d) undertake *remedial actions* for the *revegetation* area where monitoring required under condition 9(c) indicates the Completion Criteria, outlined in Table 3 of Schedule 2, has not been met, including:

(i) deliberately planting and/or direct seeding *native vegetation* in accordance with condition 9(a)(i)(A)-(a)(i)(C) that will result in the minimum targets specified in Table 3 of Schedule 2;

(ii) undertake further *weed* control activities; and

(iii) continue monitoring of the *revegetated* areas by an *environmental specialist*, until the Completion Criteria, outlined in Table 3 of Schedule 2 has been met;

(e) where an *environmental specialist* has determined that the Completion Criteria, outlined in Table 3 of Schedule 2 has been met, that report is to be provided to the *CEO* within three months of the determination being made; and

(f) where the *CEO* does not agree with the determination made under condition 9(e), the *CEO* may require the permit holder to undertake *remedial actions* in accordance with the requirements under condition 9(d) and repeat the actions under condition 9(e).

PART III - RECORD KEEPING AND REPORTING

10. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to 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 5; and (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 6; (g) actions taken in accordance with condition 7; and (h) actions taken to manage and mitigate impacts to conservation significant fauna in accordance with condition 8.
2.	In relation to the revegetation and rehabilitation pursuant to condition 9 of this permit	(a) a description of the *rehabilitation* and *revegetation* activities undertaken; (b) the size of the area *rehabilitated* and *revegetated*; (c) the date/s on which the *rehabilitation* and *revegetation* was undertaken; (d) the boundaries of the area *rehabilitated* and *revegetated* (recorded digitally as a shapefile using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings); (e) determinations made by an *environmental specialist*; and (f) any other actions taken in accordance with condition 9.

11. Reporting

The permit holder must provide to the *CEO* the records required under condition 10 of this permit when requested by the *CEO*.

DEFINITIONS

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

Table 2: Definitions

Term	Definition
black cockatoo species	means one or more of the following species: (a) *Zanda latirostris* (Carnaby's cockatoo); (b) *Zanda 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.
conservation significant fauna	means those fauna taxa listed as threatened (critically endangered, endangered or vulnerable) or specially protected species under the *Biodiversity Conservation Act 2016* (WA) or as priority fauna classes 1, 2, 3, or 4 in the Department of Biodiversity, Conservation and Attractions Threatened and Priority Fauna List for Western Australia (as amended from time to time) and/or listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*.
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.
dieback	means the effect of *Phytophthora* species on native vegetation.
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 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 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 kilometres and the same Interim Biogeographic Regionalisation for Australia (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 the period from May to July for undertaking planting

Term	Definition
plant/ed/ing	means the re-establishment of vegetation by creating soil conditions and planting seedlings of the desired species
remedial action/s	means for the purpose of this permit, any activity that is required to ensure successful re-establishment and survival of planted trees
rehabilitate/rehabilitated/ rehabilitation	means actively managing an area containing native vegetation in order to improve the ecological function of that area
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
riparian vegetation	has the meaning given to it in Regulation 3 of the Environmental Protection (Clearing of Native Vegetation) Regulation 2004.
suitable habitat	means habitat known support a native fauna species within the known current distribution of the species.
suitable habitat (western ringtail possum)	means habitat known to support western ringtail possums (*Pseudocheirus occidentalis*) within the known current distribution of the species, typically characterised by abundant foliage, presence of suitable nesting structures such as tree hollows, as well as high canopy cover and continuity. Known habitat includes peppermint (*Agonis flexuosa*) dominated woodlands, jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*) forests, riparian vegetation with a canopy of Bullich (*Eucalyptus megacarpa*) or flooded gum (*Eucalyptus rudis*), karri (*Eucalyptus diversicolor*) forests, sheoak (*Allocasuarina fraseriana*) dominated woodlands, and other stands of myrtaceous trees growing near swamps, watercourses or floodplains.
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.
western ringtail possum 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 western ringtail possum (*Pseudocheirus occidentalis*) identification, surveys of western ringtail possums and capture and handling of western ringtail possums, and holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016.*

END OF CONDITIONS

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Caitlin Conway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

10 July 2025

Schedule 1

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

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

Schedule 2

The boundary of the area subject to conditions is shown in the map below (Figure 2).

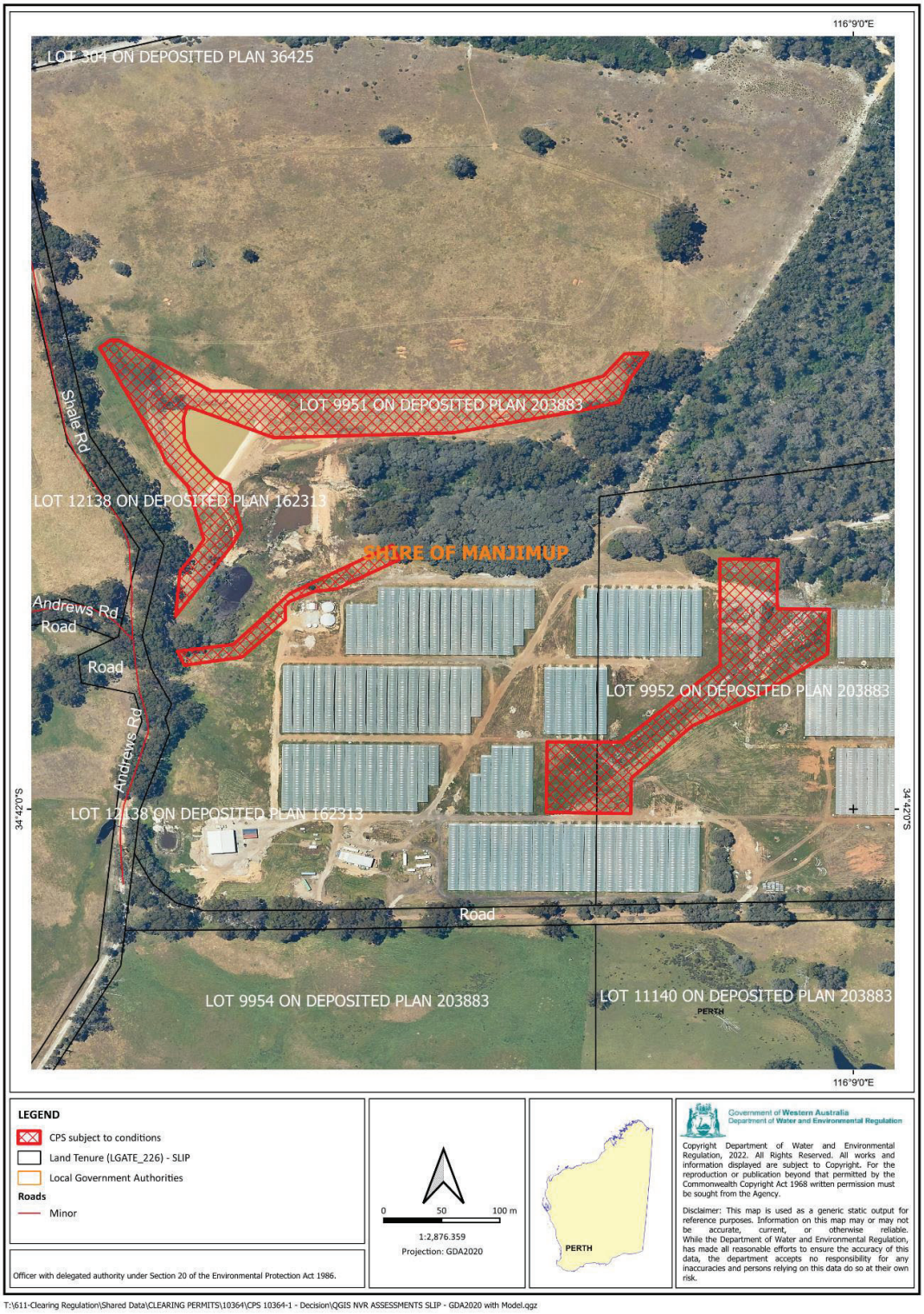


Figure 2: Map of the boundary of the area within which condition 8 applies.

Table 3: *Revegetation* and *rehabilitation* criteria.

Aspect	Attribute	Measure	Target
Flora and vegetation	Vegetation cover	Number of stems per hectare	2000 stems/ha after 5 years.
	Species richness	Number of species present	60 % of species planted to be present after 5 years.
	Weed species presence and abundance	List of weed species and approximate percentage cover.	For number of weeds present to not inhibiting the successful rehabilitation.
	Vegetation condition	Assessment against the Vegetation Condition Scale presented in EPA (2016) Technical Guidance, as adapted from Keighery (1994).	Create vegetation that meets the definition of Good or better vegetation condition.
Fauna	Long-term presence of habitat capable of supporting local fauna for foraging and/or breeding	Presence of fauna habitat features such as growth of foraging species or refuge within vegetation.	For flora with value to local fauna to be present and growth rates to be increasing.
	Presence of local fauna species within revegetated area for foraging and/or breeding habitat	Number of local fauna species observed at site and/or presence of secondary evidence such as feeding residue or scratch marks.	For evidence of local fauna species within the revegetation site to be present after.
Site maintenance	Livestock exclusion fencing installed around revegetation areas	Annual inspections and repairs when necessary	Exclusion of stock and limitation of grazing mammals to secure revegetation success

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 10364/1
Permit type:	Purpose permit
Applicant name:	Marvelus Berry Developments Pty Ltd
Application received:	4 October 2023
Application area:	2.95 hectares of native vegetation
Purpose of clearing:	Dam construction
Method of clearing:	Mechanical
Property:	Lot 9951 on Deposited Plan 203883, and Lot 9952 on Deposited Plan 203883
Location (LGA area/s):	Manjimup
Localities (suburb/s):	Boorara Brook

1.2. Description of clearing activities

The application is to clear 2.95 hectares of native vegetation for the purpose of a dam construction for horticultural purposes. The vegetation is contained within a single contiguous area of remnant vegetation surrounded by previously cleared farmland and adjacent to remnant vegetation associated with state forest.

The application area was reduced during the assessment from 3.6 hectares to 2.95 hectares to more accurately reflect the location of native vegetation proposed to be cleared.

1.3. Decision on application

Decision:	Granted
Decision date:	10 July 2025
Decision area:	2.95 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 the matters raised in the public submission is summarised in Appendix B.

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

- the site characteristics (see Appendix C), relevant datasets (see Appendix J.1),
- the findings of fauna surveys (SW Environmental, 2024 and Beatty & Allen, 2025) (see Appendix G & Appendix H),
- the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), and
- relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- the potential to introduce and/or spread weeds and dieback into adjacent native vegetation,
- the loss of 1.12 hectares of suitable foraging habitat for threatened black cockatoos,
- the loss of 2.95 hectares of suitable habitat for the western ringtail possum,
- the loss of 2.95 hectares of native vegetation that functions as an ecological linkage,
- the loss of 2.95 hectares of native vegetation growing in, or in association with a watercourse, and
- potential indirect impacts to nearby conservation areas from alterations in local surface hydrology and water quality.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed such that it is unlikely to lead to an unacceptable risk to environmental values.

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,
- fauna management condition for the western ringtail possum,
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity,
- engage a fauna specialist for the duration of clearing activities, and
- deliberately plant a minimum of 3.73 hectares of native vegetation within Lot 9951 on Deposited Plan 203883, and Lot 9952 on Deposited Plan 203883, Boorara Brook to mitigate the loss of a local ecological linkage.

1.5. Site map

Figure 1. Map of the application area. The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Alternatives and avoidance

The applicant advised that they considered alternative locations for the proposed dam, including within previously cleared areas, however, it was determined that the topography and soil types for most of the property were unfavourable for the construction of a dam (Marvelus Berry Developments, 2024). The existing dams on the property have also been expanded to their viable extent, however, this is not large enough for the farm's water requirements (Marvelus Berry Developments, 2024).

The proposed clearing area was determined to be the preferred location as it is located within an existing valley on the property and the soil was more suitable for the required use. The proposed clearing site was also selected to avoid clearing very good to excellent (Keighery, 1994) condition vegetation on the eastern side of the property where the watercourse also transects.

Mitigation

During the assessment it was noted that the proposed clearing area is located on a tributary of the Gardner River that drains into the main river within a National Park and the proposed clearing and end land use may significantly alter the surface hydrology of the local area and the values of the Park. The applicant advised that the dam has been designed to include a flow bypass to ensure that the water flows are maintained. Advice from the Department's South Coast Water Licencing Branch advised that this was an appropriate method to mitigate potential impacts to hydrology in the long term (DWER, 2024a).

Additionally, the applicant has designed the dam to retain a strip of vegetation on the southern section of the dam to assist in mitigating impacts to ecological linkage values (Marvelus Berry Developments, 2024). Furthermore, the applicant has proposed to undergo revegetation and rehabilitation around the new dam and another watercourse on the property which is discussed in more detail below.

Revegetation and rehabilitation

The applicant has proposed to revegetate and rehabilitate areas of the property to restore the ecological linkage value following clearing (Marvelus Berry Developments, 2023). This includes revegetating around the new dam and around another existing watercourse on the property, restoring its ecological values (Figure 2). The department has assessed the suitability of this rehabilitation measure through a rehabilitation calculation consistent with the WA Environmental Offsets Metric Calculator and determined that the planting of a minimum 3.73 hectares of native vegetation is sufficient to ensure no significant residual impact remains.

A revegetation plan was developed to support this proposal (SW Environmental, 2025) which noted that the areas proposed to rehabilitate are currently in completely degraded (Keighery, 1994) condition or paddock cleared with weedy grasses and forbs, with some areas of remnant vegetation. A reference site within the vegetation adjacent to the proposed clearing has been selected to support the planned revegetation, composed of *Eucalyptus diversicolor* tall open forest over *Allocasuarina decussata* isolated clumps of mid trees over *Agonis flexuosa* and *Banksia* spp. low trees over closed shrubland over various sedges, ferns and forbs (SW, Environmental, 2025). Both sites have been divided into three management categories, namely the Margin, Interzone and Upslope, to ensure that species

are planted within their appropriate habitat (SW, Environmental). Maps of these areas are available in Appendix I. The applicant has also included species that are suitable habitat for threatened black cockatoos and the western ringtail possum so these habitat values are not permanently lost.

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.

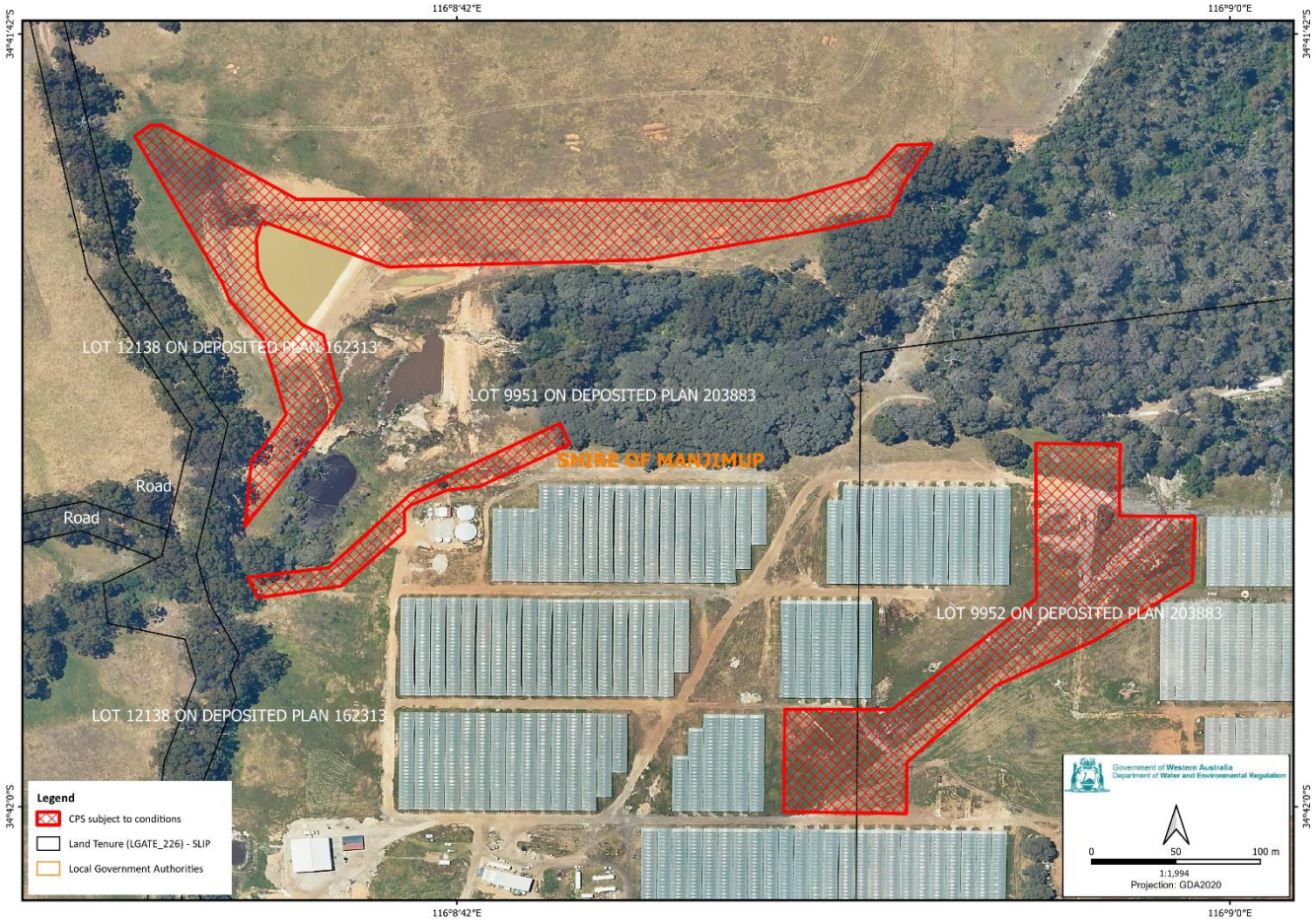


Figure 2. Map of the proposed revegetation areas.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C) 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 D) identified that the proposed clearing presents a risk to biological values, significant remnant vegetation and 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, fauna) – Clearing Principles (a) and (b)

Assessment

The desktop assessment identified 216 records across 22 species of conservation significant fauna within the local area composed of six birds, five fish, four invertebrates, six mammals and one reptile. Two fauna surveys were conducted within the proposed clearing area one for terrestrial fauna and habitats (SW Environmental, 2024) and one for aquatic fauna (Beatty & Allen, 2025).

Four habitat types were identified within and adjacent to the proposed clearing, described as (SW Environmental, 2024):

- peppermint open forest and woodland (regrowth);
- karri over peppermint tall open forest (regrowth);

- karri tall open forest over karri oak shrub layer; and
- remnant marri karri jarrah forest over peppermint and native shrubs.

The majority of the proposed clearing area is mapped as the peppermint open forest and woodland (regrowth) (1.04 hectares) and karri tall open forest over karri oak shrub layer (1.03 hectares) (SW Environmental, 2024).

Based on the desktop assessment and the fauna surveys (SW Environmental, 2024 & Beatty & Allen, 2025) several species of conservation significant fauna may have suitable habitat within the proposed clearing area and require further assessment.

Black cockatoos
The application area is within the known distribution of Baudin's cockatoo (*Zanda baudinii*, EN), Carnaby's cockatoo (*Zanda latirostris*, EN) and forest red-tailed black cockatoo (*Calyptorhynchus banksii* naso, VU) (FRTBC). Black cockatoo habitat can be considered in terms of breeding habitat, night-roosting habitat, and foraging habitat (DAWE, 2022).

According to available mapping, the application area is located within the known distribution of all three threatened black cockatoo species. In the context of the application area, the nearest record of a black cockatoo is a Baudin's cockatoo (*Zanda baudinii*) (Endangered) approximately 2.06 kilometres from the proposed clearing. The nearest record of the Carnaby's cockatoo (*Zanda latirostris*) (Endangered) is 4.70 kilometres and the nearest forest red-tailed black cockatoo (FRTBC) (*Calyptorhynchus banksii naso*) (Vulnerable) is approximately 5.79 kilometres from the proposed clearing area.

Food resources within the range of breeding sites and roost sites are important to sustain populations of black cockatoos. Black cockatoos will generally forage up to 12 kilometres from an active breeding site. Following breeding, they will flock in search of food, usually within six kilometres of a night roost (DAWE, 2022) but may range up to 20 kilometres. In the local context, there is one recorded roost site located approximately 9.30 kilometres north of the application.

According to available databases, there are no recorded breeding sites within 12 kilometres of the proposed clearing area, however, the fauna survey did identify one jarrah tree within the vegetation adjacent to proposed clearing that contains a suitable hollow with no signs of use (SW Environmental, 2024).

The quality of black cockatoo foraging habitat to support populations at breeding sites or night roosting sites varies depending upon how black cockatoos utilise the habitat in that location. The application areas consist primarily of peppermint (*Agonis flexuosa*) and karri (*Eucalyptus diversicolor*) forest with some marri (*Corymbia calophylla*). Of these species, marri is considered a high-quality foraging resource with karri not generally being associated with foraging (DAWE, 2022). The fauna survey noted that while evidence of foraging by Baudin's cockatoo and FRTBC were observed within the vegetation adjacent to the proposal, there was no evidence of foraging within the application area (SW Environmental, 2024). Given the low density of suitable foraging habitat and extensive surrounding vegetation, the proposed clearing is not likely to result in the loss of high-quality foraging habitat for black cockatoos. It is also noted that as a condition of the permit, the applicant is required to undertake revegetation and rehabilitation of 3.73 hectares of land surrounding and to the south of the dam with vegetation that includes suitable foraging species for black cockatoos, which will reinstate black cockatoo foraging habitat in the future.

Breeding habitat for species of black cockatoos is described as trees species known to support breeding which either, have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (DAWE, 2022). For most tree species, suitable DBH is 50 centimetres. The South Coast of Western Australia is considered to have some critical breeding habitat for both Baudin's and Carnaby's cockatoo, with both karri and marri being preferred breeding trees for both species (DAWE, 2022). The fauna survey recorded 30 trees (23 karri and six marri) which were identified as having a suitable DBH to develop a hollow (SW Environmental, 2024) within the proposed clearing area. None of the trees assessed contained hollows (SW Environmental, 2024).

It should be noted that while the vegetation may be suitable habitat for black cockatoos, over 81 per cent of the remnant native vegetation within the local area is contained within conservation tenure including National Park and State Forest. These areas are likely to contain suitable habitat, including foraging and hollows for breeding and would be preferred to the proposed clearing area since black cockatoos prefer forested areas for breeding (DAWE, 2022). Furthermore, given that there is extensive vegetation adjacent to the proposed clearing, most of which is within a National Park, the risk that significant breeding habitat within the local area will be lost within the foreseeable future is low and therefore, it is considered that the proposed clearing area is not likely to represent significant habitat for black cockatoos.

Western ringtail possum
Based on available datasets, there are three records of the western ringtail possum (WRP) (*Pseudocheirus occidentalis*) (Critically Endangered) in the local area, the nearest being 7.18 kilometres from the proposed clearing.

The 'Western Ringtail Possum Recovery Plan' (DPaW, 2017) outlines strategies to slow the decline in population size, extent and area of occupancy through managing major threatening processes affecting the subpopulations and their habitats and allowing the persistence of the species in each of the identified key management zones: Swan Coastal Plain, southern forests and south coast (DPaW, 2017).

While the proposed clearing is not mapped within any of the management zones, the nearest is the southern forests zone which is characterised as mainly jarrah or marri dominated forest, adjacent riparian vegetation with an over storey of flooded gum and extending to wandoo forests north-east of Manjimup and karri forests from Northcliffe to west of Manjimup (DPaW, 2017). Critical habitat within the southern forests zone is described as forests with limited anthropogenic disturbance that are intensely fox-baited and have low fragmentation (DPaW, 2017). The recovery plan notes that the biggest threat to WRP in the southern forests zone is related to introduced predators, climate change, timber harvesting and fire since much of the land in this region is owned and managed under conservation tenure (DPaW, 2017).

No WRP were recorded within the proposed clearing area during the fauna survey, however, a drey was identified in the vegetation adjacent to the application (SW Environmental, 2024). Additionally, the presence of karri and peppermint forest (SW Environmental, 2024) suggests that that the vegetation is likely to support WRP who may be within the area. Noting this, given that there is extensive vegetation adjacent to the proposed clearing, most of which is within a National Park, the proposed clearing is not likely to significantly impact on WRP, however, the vegetation may facilitate the movement of WRP through the cleared farmland between National Parks. It is also noted that as a condition of the permit, the applicant is required to undertake revegetation and rehabilitation of 3.73 hectares of land surrounding and to the south of the dam with vegetation that includes suitable habitat for WRP, which will reinstate WRP habitat and a linkage for WRP in the future (more information provided under Ecological linkage below).

Quenda

Quenda (*Isoodon fusciventer*) (Priority 4) are a small ground dwelling marsupial endemic to the south west of Western Australia. Quenda require a dense understorey for cover and are often found digging in leaf litter for invertebrates, earthworms, beetles and plant material, generally inhabiting dense understorey vegetation of forests, woodlands, shrubland and heathland (DBCA, 2017b). According to available databases, there are two records of quenda in the local area, the nearest being 7.49 kilometres from the proposed clearing.

The fauna survey (SW Environmental, 2024) recorded secondary evidence of quenda within the proposed clearing area in the form of diggings. The proposed clearing is not likely to result in the loss of significant habitat for quenda given the presence of extensive vegetation adjacent to the application, however, may result in harm to individuals that are present during clearing activities.

Rakali

Rakali (*Hydromys chrysogaster*) (Priority 4) are a large semi-aquatic native rodent that is found in fresh brackish-water and coastal habitats across Australia and Papua New Guinea (DEC, 2012). In the south west of Western Australia, that have been known to prefer areas with riparian vegetation, better water quality, woody debris, rock ledges and wetland islands for feeding and refuge (DEC, 2012). According to available databases the rakali has been recorded once in the local area, approximately 7.84 kilometres from the proposed clearing.

Habitat loss and degradation, predation from introduced species and changes in hydrology are known to be some of the biggest threats to the rakali (DEC, 2012). According to the fauna survey, no individuals of rakali were observed within the proposed clearing area, however, it did note that the area is composed of core habitat for the species (SW Environmental, 2024). Additionally, an aquatic fauna survey (Beatty & Allen, 2025) also did not identify this species. Given that extensive habitat is available downstream and in the nearby National Park, and neither of the surveys recorded the species, the proposed clearing is not likely to result in the loss of significant habitat for the rakali.

Other mammals

Other species that may be present within the area include:

- quokka (*Setonix brachyurus*) (VU),
- south-western brush-tailed phascogale (*Phascogale tapoatafa wambenger*) (CD),
- western false pipistrelle (*Falsistrellus mackenziei*) (P4)

On the mainland, quokka occupies jarrah, marri, and karri forests and woodlands in high rainfall areas. These habitats generally have thick understorey, nearby to swamps and will be close to more open, recently burnt vegetation (DEC, 2013). According to available databases there are seven records of quokka in the local area, the nearest being 7.54 kilometres from the proposed clearing.

The south-western brush-tailed phascogale is an arboreal dasyurid, associated with dry sclerophyll forests and open woodlands that contain hollow-bearing trees, characterised by high canopy cover and connectivity (DEC, 2012). Records are less common in high rainfall areas (DEC, 2012c). According to available databases, there are two records of the species in the local area, the nearest being. 4.06 kilometres from the proposed clearing.

The western false pipistrelle is a bat found within the jarrah, marri, karri, and tuart forests of the south west of Western Australia. Not much is known about the ecology of the species, however, clearing and habitat degradation is considered to be the biggest threat to the species given their preferred habitat (Armstrong et. al., 2017). According to available databases, there is one record of the species within the local area, approximately 9.62 kilometres from the proposed clearing.

Given the large intact remnant vegetation adjacent to the application area, the vegetation proposed to be cleared is not considered core habitat for these species, however, may be used intermittently to facilitate dispersal throughout the landscape. As a condition of the permit, the applicant is required to undertake revegetation and rehabilitation of 3.73 hectares of land surrounding and to the south of the dam, which will reinstate an ecological linkage for fauna in the future (more information provided under Ecological linkage below).

Aquatic fauna

The South Coast of Western Australia is home to several species of conservation significant aquatic fauna. Based on the desktop assessment and surveys (SW Environmental, 2024 & Beatty & Allen, 2025), the following species may be impacted by the proposed clearing:

- Balston's pygmy perch (*Nannatherina balstoni*) (Vulnerable),
- black-stripe minnow (*Galaxiella nigrostriata*) (Endangered),
- salamanderfish (*Lepidogalaxias salamandroides*) (Endangered)
- Carter's freshwater mussel (*Westralunio carteri*) (Vulnerable),
- mud minnow (*Galaxiella munda*) (Vulnerable),
- pouched lamprey (*Geotria australis*) (Priority 3),

Balston's pygmy perch (*Nannatherina balstoni*) are known from coastal peat flats which are mainly found within the Doggerup, Gardner and Shannon River watersheds, although has been recorded in the Collie River and Moore River (DEWHA, 2008). The species is known to reside in inundated riparian vegetation in winter and spring and is commonly recorded in watercourses and pools that dry during the summer (DEWHA, 2008). According to available data, there are 12 records of the Balston's pygmy perch in the local area, the nearest being 5.66 kilometres from the proposed clearing.

The black-stripe minnow (*Galaxiella nigrostriata*) is a small fish found in acidic ephemeral wetlands of the south-west of Western Australia. The species is known for burrowing into the ground during the summer when their habitat is often dry and relies on the peatlands to retain soil moisture during these periods (TSSC, 2018a). According to available databases, there are 68 records of the black-stripe minnow in the local area, the nearest being 2.61 kilometres from the proposed clearing.

The salamanderfish (*Lepidogalaxias salamandroides*) is a small fish primarily found in near-coastal wetlands between Augusta and Albany (DWER, n.d.) It is primarily found in acidic, shallow, temporary (dry in summer) pools and swamps in coastal heathland. According to available databases, there are 36 records of the salamanderfish in the local area, the nearest being 4.07 kilometres from the proposed clearing.

The mud minnow (*Galaxiella munda*) is a small fish found in the south west of Western Australia. Their habitat is described as small, relatively undisturbed permanent streams and creeks that are gentle flowing, with low pH (DWER, n.d.). According to available data, there are 22 records of the mud minnow in the local area, the nearest being 4.07 kilometres from the proposed clearing.

Carter's freshwater mussel (*Westralunio carteri*) is a large bivalve found in freshwater habitats in the south-west of Western Australia. They can usually be found in sandy/muddy sediment with dense woody debris and overhanging riparian vegetation near banks and edges of dams and lakes (TSSC, 2018b). According to available databases, there is one record of the Carter's freshwater mussel in the local area, approximately 7.07 kilometres from the proposed clearing area.

The pouched lamprey (*Geotria australis*) is an anadromous (enters rivers from the ocean to spawn) species which spends its juvenile stage within the ocean, with sub-adults then entering freshwater rivers during winter and spring, moving upstream prior to spawning (DWER, n.d.). According to available data, there are two records of the pouched lamprey in the local area, the nearest being 2.06 kilometres from the proposed clearing.

The survey results indicate that the black-striped minnow and salamanderfish are not likely to have suitable habitat within the proposed clearing as they prefer peatlands or wetlands (Beatty & Allen, 2025). There may be suitable habitat in the lower sections of the stream for the mud minnow and Balston's pygmy perch (Beatty & Allen, 2025), however, the proposed clearing and dam is not expected to significantly impact on habitat available for these species, noting that available habitat will be reduced by approximately 250 river metres and nearby DWER survey points have not recorded either of these species (Beatty & Allen, 2025). Neither fauna survey recorded Carter's freshwater mussel (SW Environmental, 2024 & Beatty & Allen, 2025). The species notably is not known to move large distances, with records indicating that if they do move, it's only about 7-10 metres (TSSC, 2018b) meaning that if present, it is likely

that one or both surveys would have recorded it. Therefore, the proposed clearing is not likely to impact Carter's freshwater mussel.

The pouched lamprey was not discussed in the aquatic fauna survey. Pouched lamprey larvae will spend approximately four and half years in rivers before returning to the ocean (DWER, n.d.), meaning it is likely the species requires areas with permanent water flow to survive (Government of South Australia, 2009). Noting this, the presence of existing dams and that flow was reduced to small pools during summer, it is not likely the proposed clearing area contains the preferred habitat for the species.

Ecological linkage
The proposed clearing is mapped approximately 0.8 kilometres from the axis line of a South West Regional Ecological Linkage (SWREL) (Molloy et al., 2009). Ecological linkage axis lines are used to identify the whole of patches of remnant vegetation that have edges which touch or come in proximity of the linkage. Having used the ecological linkage axis line to identify patches of remnant vegetation with connectivity or linkage values, value can be identified and assigned (in consideration of other conservation planning initiatives and values) (Molloy et al, 2009).

Remnant vegetation within the SWREL boundary can be assigned a 'proximity analysis' group. The remnant vegetation within the application area is considered to have a proximity value of 1(b) (the second highest proximity group) as it has an edge touching the vegetation included within the 1(a) proximity group (Molloy et al., 2009). Areas within proximity group 1 are considered to be the highest value in terms of contributing to ecological linkage function. This is because many small mammals, insects and amphibians often avoid venturing into cleared areas except for crossing small gaps into other patches of vegetation (Molloy et al., 2009).

While the surrounding area is extensively vegetated and largely under conservation tenure, the application area is located within a pocket of largely cleared farmland. Aerial imagery suggests that the vegetation within the application area may serve as an ecological linkage to allow for safe passage of fauna through the cleared areas into nearby Boorara-Gardner National Park and D'Entrecasteaux National Park. The proposed clearing would sever his linkage and reduce the ability for local fauna to move safely through the cleared farmlands.

To mitigate the loss of this value, the applicant has purposefully designed the dam to retain a small corridor of the remnant vegetation on the southern section of the proposed dam and has proposed to revegetate and rehabilitate the areas surrounding the new dam and an adjacent watercourse to ensure that this value is not permanently lost.

The department has assessed the suitability of this rehabilitation measure through a rehabilitation calculation consistent with the WA Environmental Offsets Metric Calculator and determined that the planting of a minimum 3.73 hectares of native vegetation is sufficient to ensure no significant residual impact remains.

Conclusion
For the reasons set out above, it is considered that the impacts of the proposed clearing on fauna habitat can be managed by taking steps to minimise the risk of the introduction and spread of weeds and slow directional clearing to allow fauna to move into adjacent vegetation. It is considered that the impacts to any fauna individuals that may be in the area can be managed by inspecting the area to be cleared beforehand and having a specialist present for clearing activities and ecological linkage values can be managed through the revegetation of native vegetation within the property to ensure the linkage values are not permanently lost.

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

- take hygiene steps to minimise the risk of the introduction and spread of weeds
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity,
- inspection of the application area by a fauna specialist immediately prior to and during clearing activities for the presence of conservation significant fauna; and
- deliberately planting a minimum of 3.73 hectares of native vegetation within Lot 9951 on Deposited Plan 203883, and Lot 9952 on Deposited Plan 203883, Boorara Brook to mitigate the loss of a local ecological linkage.

3.2.2. Significant remnant vegetation and conservation areas (conservation areas) and land and water resources - Clearing Principles (f), (g), (h) and (i)

Assessment
A minor non-perennial tributary of the Gardner River is mapped within the application area. Gardner River is mapped within Boorara-Gardner National Park and D'Entrecasteaux National Park. The fauna survey conducted in May 2024 noted that there was some water in the watercourse, mostly in pools (SW Environmental, 2024). Given there was

water still within the course following a very dry and long summer, it is considered likely that the portion of this watercourse within the application area is actually perennial (DWER, 2024b).

Boorara-Gardner National Park is known for its stands of karri and marri forest and wildflowers during the spring (DBCA, n.d.). It was designated a National Park in 2004 to better protect old growth forest in the region (CCWA, 2003). Boorara-Gardner National Park is located approximately 0.35 kilometres from the proposed clearing.

D'Entrecasteaux National Park is a popular National Park along the south coast of Western Australia. D'Entrecasteaux National Park was established as a recommendation from the Conservation Through Reserves Committee in the 1970's to preserve the varied natural features of the region and to conserve karri forest (DEC, 2012). D'Entrecasteaux National Park is located approximately 0.93 kilometres from the proposed clearing.

Topographical contours suggest that the proposed clearing is on a downward slope towards the conservation areas meaning that impacts from clearing and dam construction on the watercourse within the proposed clearing area may indirectly impact the National Parks. This could include the introduction and spread of weeds and dieback through the mobilisation of water containing contaminated soil or plant material from the proposed clearing area and the alteration of surface hydrology.

The conservation areas are composed of karri forests which can be susceptible to dieback. Dieback is a disease caused by *Phytophthora cinnamomi* which is a soil-borne microscopic organism that attacks the roots and collar of susceptible species (Commonwealth of Australia, 2018). The south west of Western Australia is considered to be vulnerable to dieback due to the Mediterranean climate (Commonwealth of Australia, 2018). *P. cinnamomi* is transmitted through infected soil, water, plant material and often through overland and subsurface water flow with greater movement along clay soils and peat (Commonwealth of Australia, 2018). Humans are considered to be the fastest transmitter of dieback, especially in areas subject to summer rainfall which create ideal conditions for spread and reproduction.

The Shannon River Catchment has the highest rainfall in south-west Western Australia with only small portions of the catchment previously cleared for agriculture (DWER, n.d.). Much of the catchment is contained within National Park, which historically has meant that the river is relatively undisturbed (Halse et al., 2003). It is noted that the proposed clearing area and the National Parks are separated by approximately 25 hectares of remnant vegetation, of which the minor river traverses through. This vegetation is likely to act as a buffer to reduce impacts to the Shannon River from the proposed clearing.

If steps are taken to avoid the introduction and spread of weeds and dieback the proposed clearing is not likely to have a significant impact on the environmental values of downstream watercourses and National Parks.

In addition to the above, the mapped soil is also susceptible to wind erosion. Noting that much of the proposed clearing area will be inundated with water following construction and that the revegetation around the new dam will assist in stabilising the banks to minimise erosion, the proposed clearing is not likely to cause appreciable land degradation beyond some short term impacts. The revegetation of riparian species around the dam will also provide a buffer to filter potential nutrients or contaminants from surrounding landuses.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on adjacent conservation areas, hydrology and land degradation can be managed by, taking steps to minimise the risk of the introduction and spread of weeds and dieback.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback;
- deliberately planting a minimum of 3.73 hectares of native vegetation within Lot 9951 On deposited Plan 203883, and Lot 9952 on Deposited Plan 203883, Boorara Brook, some of which will surround the proposed dam to prevent erosion and water quality impacts in downstream habitats.

3.3. Relevant planning instruments and other matters

Clearing context
In response to a request for further information, the applicant advised that the dam construction will support the expansion of the berry farm which is anticipated to have several benefits, including a local market for berries in Western Australia in late summer, autumn and early winter, instead of importing them from places as far as Tasmania or New Zealand, and seasonal employment for the local community which has been greatly impacted by the end to the native timber industry (Marvelus Berry Developments, 2024).

Site history
Two clearing permits have previously been applied for over the proposed clearing area, CPS 3158/1 and CPS 3341/1. The then Department of Environment and Conservation (DEC) determined to refuse to grant CPS 3158/1 to Filomena Ditri in August 2009, which proposed to clear 80 hectares of native vegetation for the purpose of grazing and pasture.

CPS 3341/1 was subsequently granted to Filomena Ditri over the proposed clearing area, authorising the clearing of 55 hectares of native vegetation in December 2009. This permit expired in December 2011 and included other sections of the property which were cleared under this permit.

Planning instruments
The Shire of Manjimup (2023) advised DWER that local government approvals are not required, and that the proposed clearing is consistent with the Shire's Local Planning Scheme. The Shire did not have any objections to the proposed clearing (Shire of Manjimup, 2023).

The proposed clearing is not located within a Proclaimed surface water or groundwater area under the *Rights in Water and Irrigation Act 1914* (RIWI Act), meaning that a water licence or permit to interfere with the bed and banks of a watercourse is not required for this project. Advice was sought from the Department's South Coast Licencing who advised that while the proposed dam is large, the applicant's inclusion of a low flow bypass in the design is an appropriate measure to mitigate significant impacts to local hydrology (DWER, 2024a).

Aboriginal heritage
No sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Fauna survey (SW Environmental, 2024)	See Section 3.2.2. and Appendix G. of the decision report
Additional background information and avoidance and mitigation measures	See Section 3.1. Avoidance and mitigation measures
Aquatic fauna survey (Beatty & Allen, 2025)	See Section 3.2.2 and Appendix H of the decision report
Revegetation management plan (SW Environmental, 2025)	See Section 3.1 Avoidance and mitigation measures and Appendix I of the decision report

Appendix B. Details of public submissions

Summary of comments	Consideration of comment
Alternatives and avoidance The applicant has not adequately applied the mitigation hierarchy to avoid native vegetation. It is not clear why clearing of instream and riparian vegetation is necessary, as opposed to expanding existing dams in cleared areas, which would negate the need to clear a significant area of vegetation along and adjacent to a waterway. The permit should not be granted in its current form and alternative existing dam expansions be considered instead.	See Section 3.1 of the decision report for consideration of alternatives, avoidance and mitigation measures.
Impacts to fauna flowing stream with intact instream and riparian vegetation, that provides habitat for Carters Freshwater Mussel (*Westralunio carterii*) which occurs in similar habitats in the nearby Gardner River and Boorara Brook. The site also contains habitat suitable for Rakali (*Hydromys chrysogaster*). No details are provided on occurrences and potential impacts to these in the application. The clearing of 3.6 ha of native vegetation and major ground disturbance for dam construction will significantly impact both these species.	See Section 3.2.2 of the decision report for consideration of impacts to fauna.
Native Vegetation Policy The Proposal is inconsistent with the Native Vegetation Policy for WA (Government of Western Australia 2022) which seeks to "contribute to a net gain and landscape-scale conservation and restoration" as a key outcome. The Department should consider how net gain and conservation and restoration is to be achieved with granting this permit without adequate consideration of alternatives and impacts to native species and their habitats.	See Section 3.1 of the decision report. The applicant has proposed to undergo revegetation within the property that is larger than the area to be cleared.
Habitat connectivity The application area provides a section of continuous waterway habitat to conservation estate across cleared lands, as such has important connectivity value, particularly for connected surface water.	See Section 3.1 and Section 3.2.2 of the decision report for consideration of impacts to habitat connectivity
Clearing Principles The application is likely at variance with clearing principles a), b), f), h) and possibly at variance to g), i).	See Section 3 and Appendix D of the Decision report. The department's assessment determined that the proposed clearing is at variance to Principle's (a), (b) and (f) and is not likely to be at variance with the remaining clearing principles.

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of a part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. It is surrounded by farmlands and protected forests. Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 73.6 per cent of the original native vegetation cover.
Ecological linkage	The proposed clearing is mapped adjacent to an axis line associated with the South West Regional Ecological Linkages dataset. Aerial imagery suggests that the vegetation within the application area may serve as a local ecological linkage to allow for safe passage of fauna through the cleared areas into nearby Boorara-Gardner National Park and D'Entrecasteaux National Park.
Conservation areas	The proposed clearing is not mapped within a conservation area. There are six conservation areas within the local area (10-kilometre radius), two of which are near the application, namely: • Boorara-Gardner National Park – 0.35 km • D'Entrecasteaux National Park – 0.93 km
Vegetation description	The fauna survey (SW Environmental, 2024) indicates the vegetation within the proposed clearing area consists of the following habitat types: • Peppermint open forest and woodland (regrowth) • Karri over peppermint tall open forest (regrowth) • Karri open forest over karri oak shrub layer • Remnant marri/karri/jarrah forest over peppermint and native shrubs; and • Cleared or paddock trees The full survey descriptions and maps are available in Appendix G. This is consistent with the mapped vegetation type(s): • Granite Valleys (Vh2) Vegetation complex which is described as Tall open forest of *Eucalyptus diversicolor-Eucalyptus patens* on slopes with *Agonis flexuosa-Allocasuarina decussata -Callistachys lanceolata* on valley floors in hyperhumid and perhumid zones. The mapped vegetation complex retains approximately 84 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	The fauna survey (SW Environmental, 2024) indicates the vegetation within the proposed clearing area is in degraded to Very Good (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos and excerpt of the survey descriptions and mapping are available in Appendix G.
Climate and landform	The proposed clearing is located within the South West of Western Australia which is described as having a temperate climate characterised by warm summers and cold winters. Northcliffe is the nearest town to the proposed clearing, which has an average maximum temperature of 20.5 degrees Celsius and a mean annual rainfall of 988.4 mm. The landform of the proposed clearing area is described as major valleys 20 – 40 m deep.
Soil description	The soil is mapped as Major Valleys V2 Subsystem (Pimelia), which is described as Valleys in granitic areas; 20-40 m relief; smooth, moderate slopes; narrow terrace. The soil is primarily comprised of loamy gravels, Duplex sandy gravels, Friable red/brown loamy earths and Brown loamy earths.
Land degradation risk	The mapped soils are at high risk of land degradation from wind erosion and subsurface acidification and medium risk from water erosion and phosphorous export.
Waterbodies	The desktop assessment and aerial imagery indicated that a non-perennial minor river associated with the Shannon River is mapped within the proposed clearing area. The Shannon River is located approximately 0.4 km east of the application.
Hydrogeography	The proposed clearing area is not mapped within any proclaimed surface water or groundwater areas or drinking water protection areas. The mapped soils are at medium

Characteristic	Details
	risk of land degradation from water erosion and low risk of degradation from waterlogging.
Flora	According to available databases, there are 80 records across 18 species of conservation significant flora in the local area (10-kilometre radius) including three threatened species, none of which is found within one kilometre of the proposed clearing. The nearest record to the proposed clearing is *Chamelaucium floriferum* subsp. *Diffusum* (Priority 2), which is located over two kilometres from the application area.
Ecological communities	The proposed clearing is not mapped within a threatened or priority ecological community. Two ecological communities are recorded within the local area, the nearest being the '*Reedia spathacea - Empodisma gracillimum - Schoenus multiglumis* dominated peat paluslopes and sandy mud floodplains of the Warren Biogeographical Region' ecological community which is listed at Priority 2 in Western Australia and Endangered under the EPBC Act, located approximately 7.84 km from the proposed clearing area.
Fauna	According to available databases, there are 216 records across 22 species of conservation significant fauna in the local area (10-kilometre radius), none of which are found within close proximity of the proposed clearing area. The nearest fauna record is from a pouched lamprey (*Geotria australis*) (P3) located approximately 2.06 km from the proposed clearing area. There is one black cockatoo roost recorded within the local area, approximately 9.27 km from the proposed clearing. A fauna survey (SW Environmental, 2024) identified the following conservation significant species within the proposed clearing area: • Baudin's cockatoo (*Zanda baudinii*) (EN) • Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) (VU) • Quenda (*Isoodon fusciventer*) (P4)

C.2. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Calyptorhynchus banksii naso (forest red-tailed black cockatoo)	VU	Y	Y	5.79	3	Y
Falsistrellus mackenziei (western false pipistrelle)	P4	Y	Y	9.62	1	Y
Galaxiella munda (mud minnow, western dwarf galaxias)	VU	Y	Y	4.07	22	Y
Galaxiella nigrostriata (black-stripe minnow, black-striped dwarf galaxias)	EN	Y	Y	2.61	68	Y
Geotria australis (pouched lamprey)	P3	Y	Y	2.06	2	N
Hydromys chrysogaster (water-rat, rakali)	P4	Y	Y	7.84	1	Y
Isoodon fusciventer (quenda, southwestern brown bandicoot)	P4	Y	Y	7.49	2	Y
Lepidogalaxias salamandroides (salamanderfish)	EN	Y	Y	4.07	36	Y
Nannatherina balstoni (Balston's pygmy perch)	VU	Y	Y	5.66	12	Y
Phascogale tapoatafa wambenger (south-western brush-tailed phascogale, wambenger)	CD	Y	Y	4.36	2	Y
Pseudocheirus occidentalis (western ringtail possum, ngwayir)	CR	Y	Y	7.18	3	Y
Setonix brachyurus (quokka)	VU	Y	Y	7.54	7	Y

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Westralunio carteri (Carter's freshwater mussel)	VU	Y	Y	7.07	1	Y
Zanda baudinii (Baudin's cockatoo)	EN	Y	Y	2.09	19	Y
Zanda latirostris (Carnaby's cockatoo)	EN	Y	Y	4.70	10	Y
Zanda sp. 'white-tailed black cockatoo' (white-tailed black cockatoo)	EN	Y	Y	6.14	10	Y

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

C.3. Land degradation risk table

Risk categories	*Risk level*
Wind erosion	H1: 50-70% of map unit has a high to extreme wind erosion risk

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared does not contain locally or regionally significant flora, fauna or assemblages of plants. The area contains habitat for a number of conservation significant fauna.	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 proposed clearing area contains suitable habitat for several conservation significant fauna species including all three black cockatoo species, western ringtail possum, quenda, rakali and numerous aquatic species. The proposed clearing area may also function as an ecological linkage for fauna.	At variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: Three threatened flora species are recorded within the local area, however, none of them have suitable habitat within the proposed clearing area. Furthermore, given the history of and ongoing disturbance within the site, the proposed clearing area is not likely to contain suitable habitat for threatened flora.	Not likely to be at variance	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The area proposed to be cleared does not contain species indicative of a threatened ecological community.	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		
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 extents of the mapped vegetation type and native vegetation in the local area are consistent with the national objectives and targets for biodiversity conservation in Australia.	Not at variance	No
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 within any conservation area, however, it is surrounded by state forests protected for conservation. The proposed clearing would not have a direct impact on the conservation areas nearby, but it may have indirect impacts through the introduction of weeds and dieback and changes is in hydrology that could reduce their habitat and conservation values. It is considered that these impacts can be minimised through weed and dieback management conditions.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: The proposed clearing is within a watercourse discharging into the nearby Gardner River and will remove riparian vegetation. Clearing of the riparian vegetation may impact on - or off-site hydrology and water quality.	At variance	Yes *Refer to Section 3.2.2, above.*
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are highly susceptible to water erosion and sub-surface acidification. Noting the purpose of clearing is to create a dam, the exposed soil will be inundated with water and that the vegetation is surrounded by previously cleared farmland, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	Yes *Refer to Section 3.2.2, above.*
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: The application area is not mapped within any Public Drinking Water Sources Areas or proclaimed areas under the RIWI Act and CAWSA, the proposed clearing is unlikely to result in impacts to sensitive groundwater resources. The removal of riparian vegetation may impact on local surface water quality but it is expected to be short lived during the clearing for the dam and will be mitigated through revegetation around the newly constructed dam as a condition of the permit.	May be at variance	Yes *Refer to Section 3.2.2, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
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 E. Vegetation condition rating scale

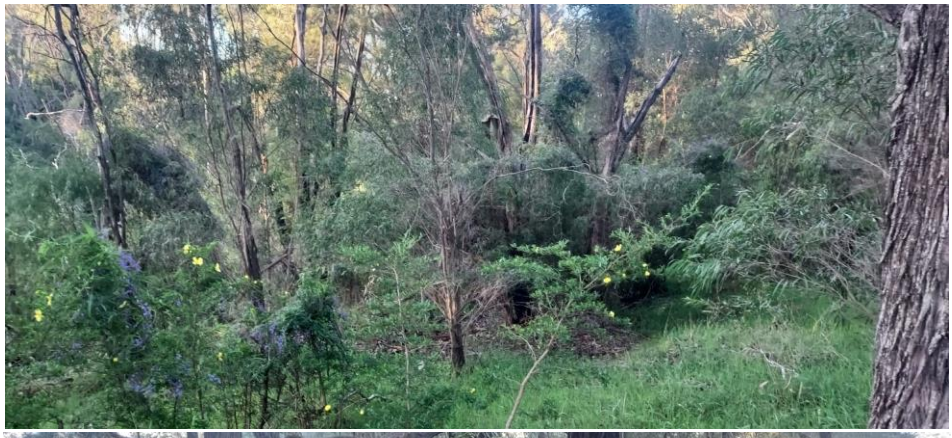
Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree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

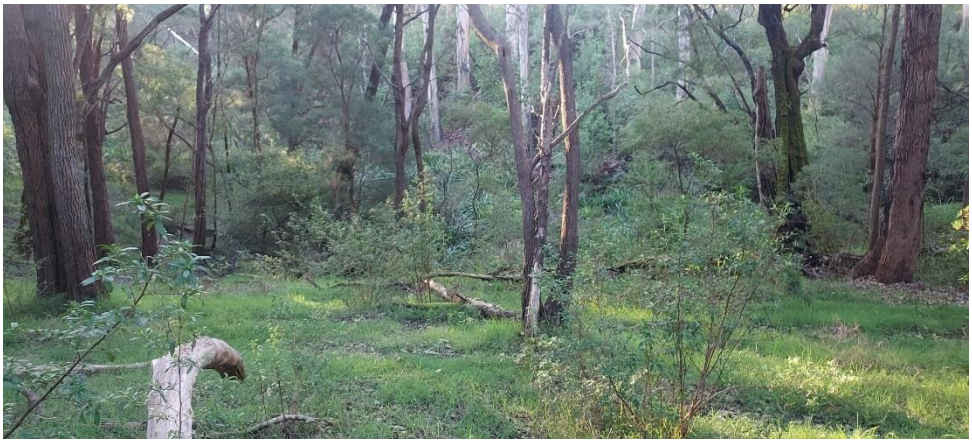
Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

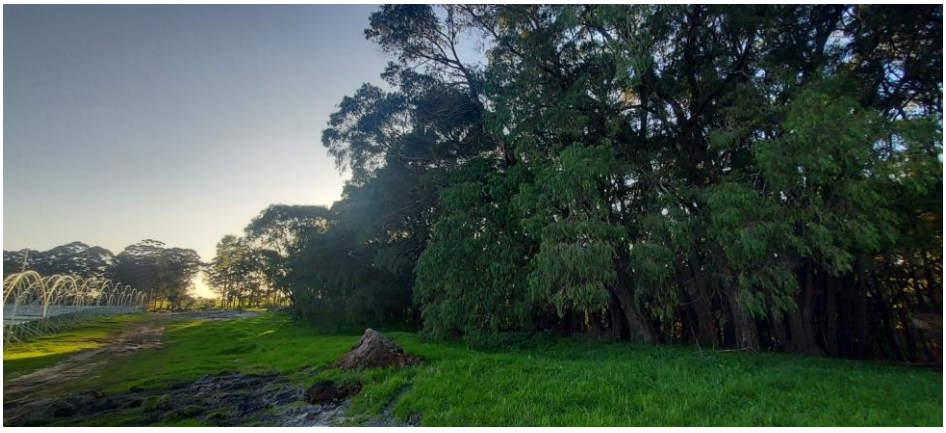
Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

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

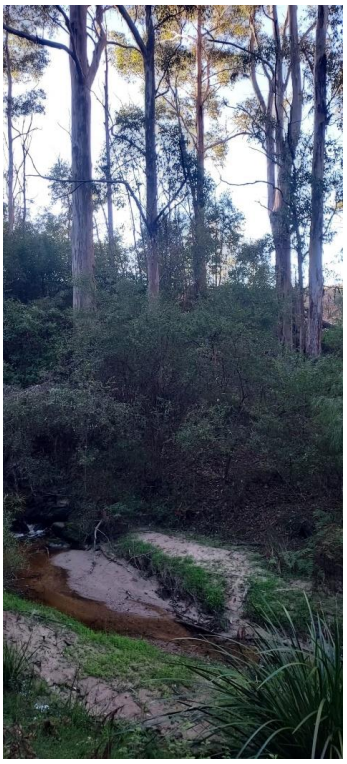
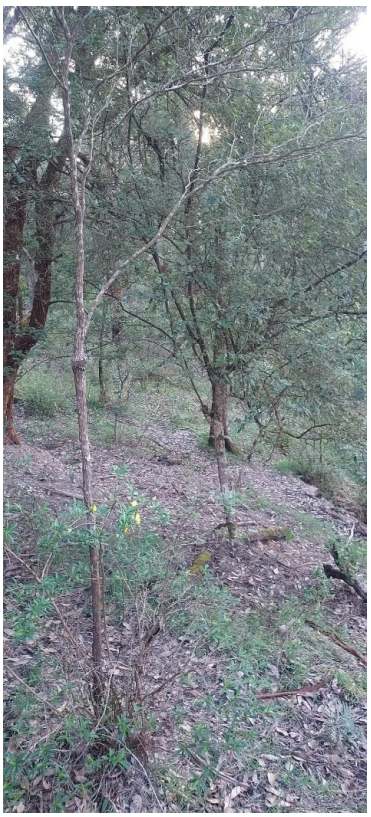
Appendix F. Photographs of the vegetation (Marvelus Berries, 2023a)





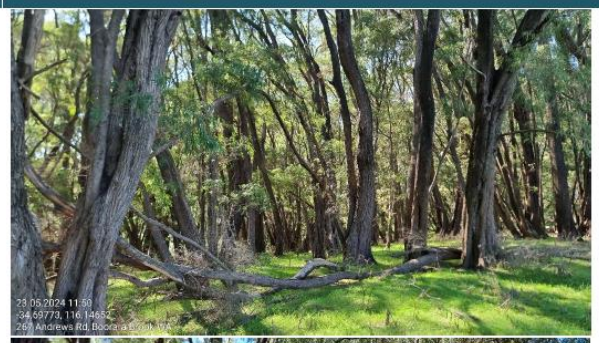




Appendix G. Biological survey information excerpts (SW Environmental, 2024)

Table 4-1 Fauna habitat types within the survey area

Code	Fauna habitat type	Fauna habitat quality	Area (ha)	Photo
1	Peppermint open forest and woodland (regrowth)	Moderate	1.23 ha	
2	Karri over Peppermint tall open forest (regrowth)	Moderate	1.67 ha	
3	Karri tall open forest over Karri oak shrub layer	Good	1.17 ha	
4	Remnant Marri Karri Jarrah forest over Peppermint and native shrubs	Good	0.65 ha	

C	Cleared or paddock trees	Poor	1.84 ha
FD	Existing farm dam	Moderate	0.91 ha

Figure 3. Habitat types within the survey area.

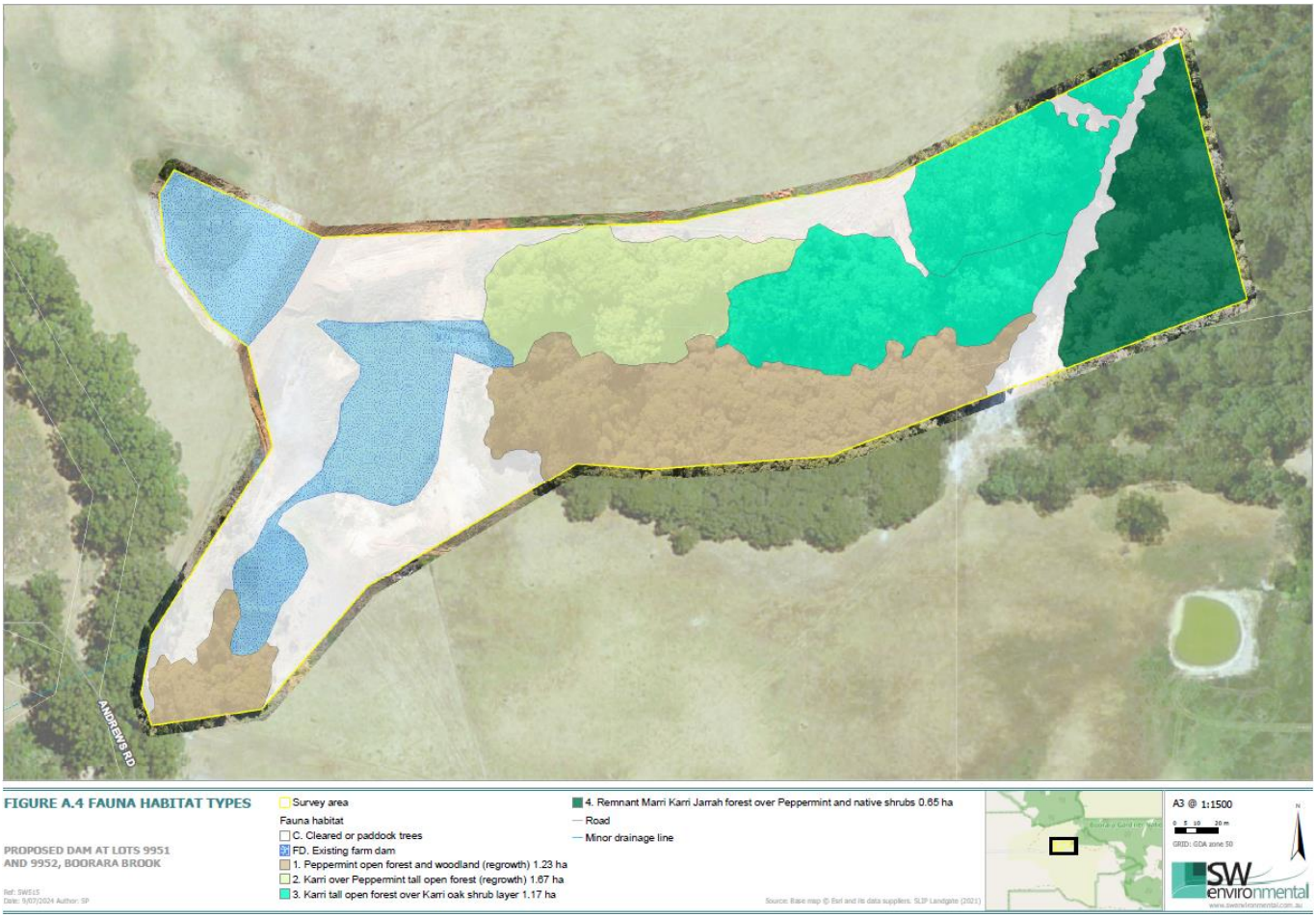


Figure 4. Habitat types mapped within the survey area.

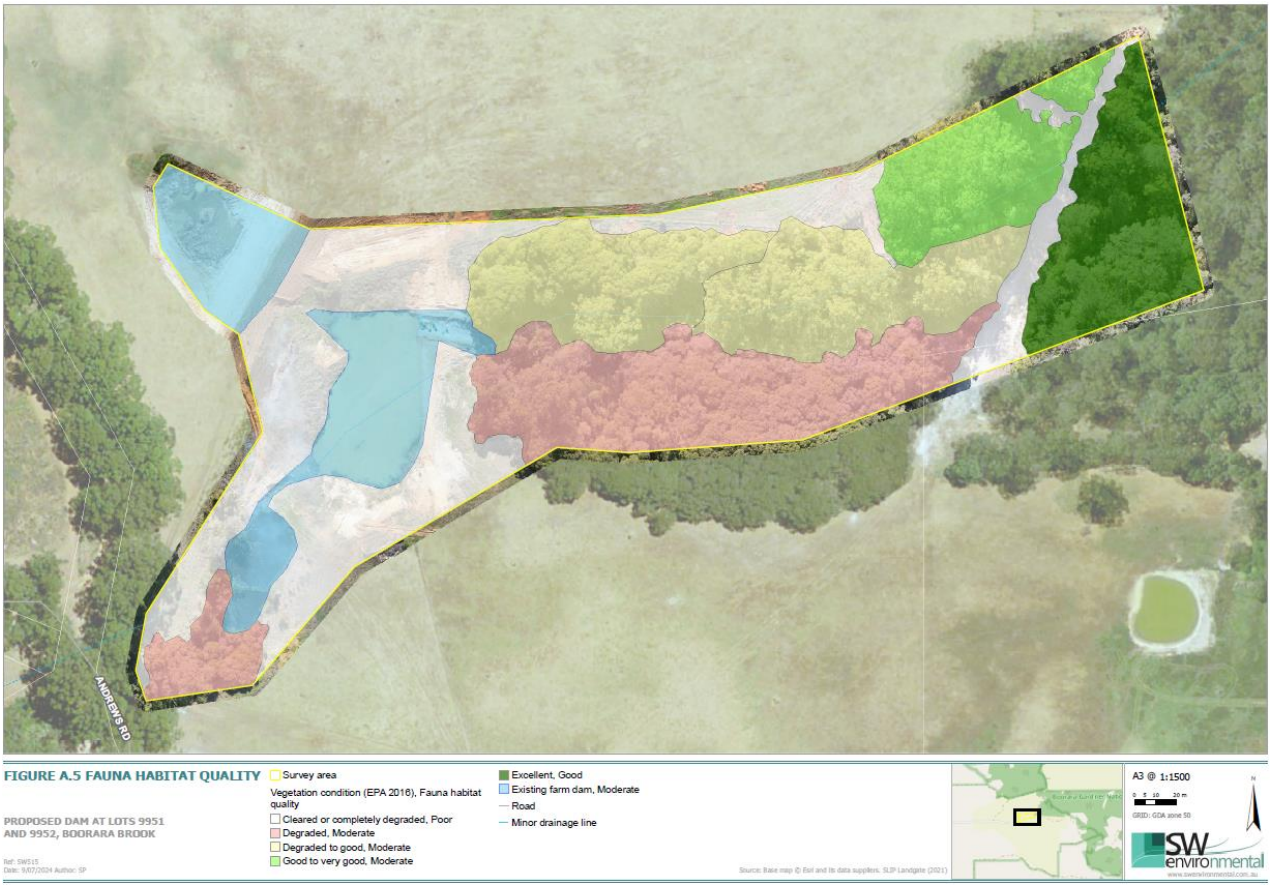


Figure 5. Mapped vegetation condition within the survey area.

Figure 6. Habitat trees and drey identified within the survey area.

Appendix H. Aquatic fauna survey excerpts (Beatty & Allen, 2025)

Figure 7. Map of the sites surveyed.

Figure 2: Sampling site 1, located downstream of the existing dams on Lot 9951.

Figure 8. Photographs of the sampling locations.

Species	Site 1	Site 2	Site 3	Site 4	Site 5
Native Freshwater Fish					
Western Minnow *Galaxias occidentalis*	✓	✓		✓	
Native Freshwater Crayfish					
Smooth Marron *Cherax cainii*	✓	✓			
Koonac *Cherax preissii*				✓	✓
Introduced Freshwater Crayfish					
Yabby *Cherax destructor*		✓			✓

Figure 9. Aquatic species recorded at each site.

Appendix I. Revegetation management plan excerpts (SW, Environmental, 2025)

Photo 3-1 Revegetation area containing weedy grasses and forbs

Photo 3-2 Cleared ground within revegetation area

Photo 3-3 Remnant patch of vegetation in eastern paddock revegetation area

Photo 3-4 Fragmented patches of remnant vegetation and weeds in eastern paddock revegetation area

Figure 10. Photographs of the revegetation areas.

Figure 11. Photograph of the reference vegetation used for the proposed revegetation.

Photo 3-6 Drainage line in eastern paddock revegetation area

Photo 3-7 Erosion present along drainage line

Figure 12. Photographs of the location of the drainage line to be revegetated in the eastern paddock.

Photo 4-1 Topsoil mounds surrounding drainage line

Photo 4-2 Erosion gully

Figure 13. Examples of erosion present within the proposed revegetation areas.

Photo 4-3 Dominant Kikuyu (*Cenchrus clandestine*) weedy grass

Photo 4-4 Concentrated patch of broadleaf weeds

Photo 4-5 Fleabane (*Erigon* sp.) in flower

Photo 4-6 Arum Lily (*Zantedeschia aethiopica*) at site

Figure 14. Photographs of weeds observed within the proposed revegetation areas.

Photo 4-7 Kangaroo scat

Photo 4-8 Kangaroo tracks

Figure 15. Secondary evidence of kangaroos observed within the proposed revegetation areas.

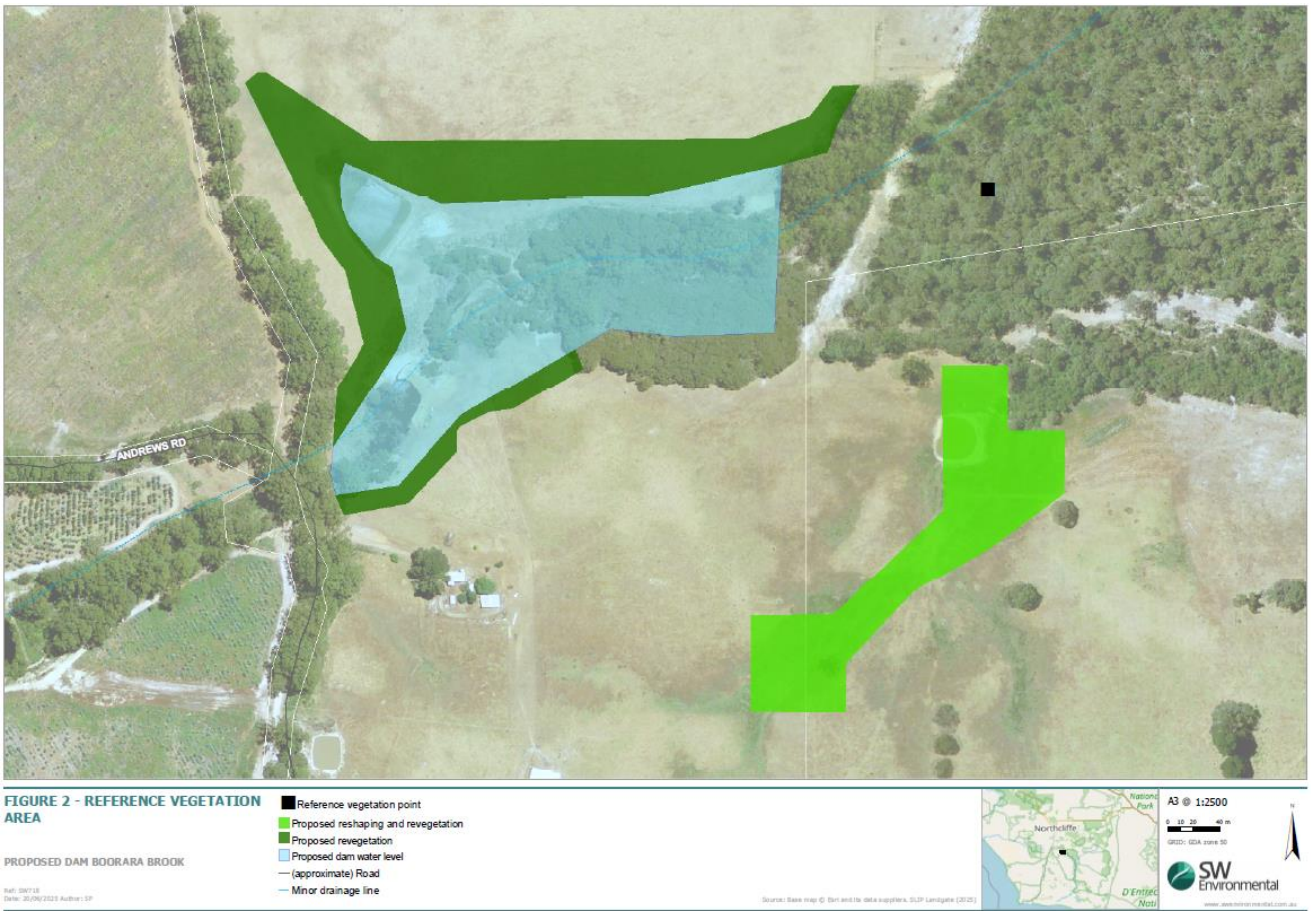


Figure 16. Map of the proposed revegetation areas and Reference site.

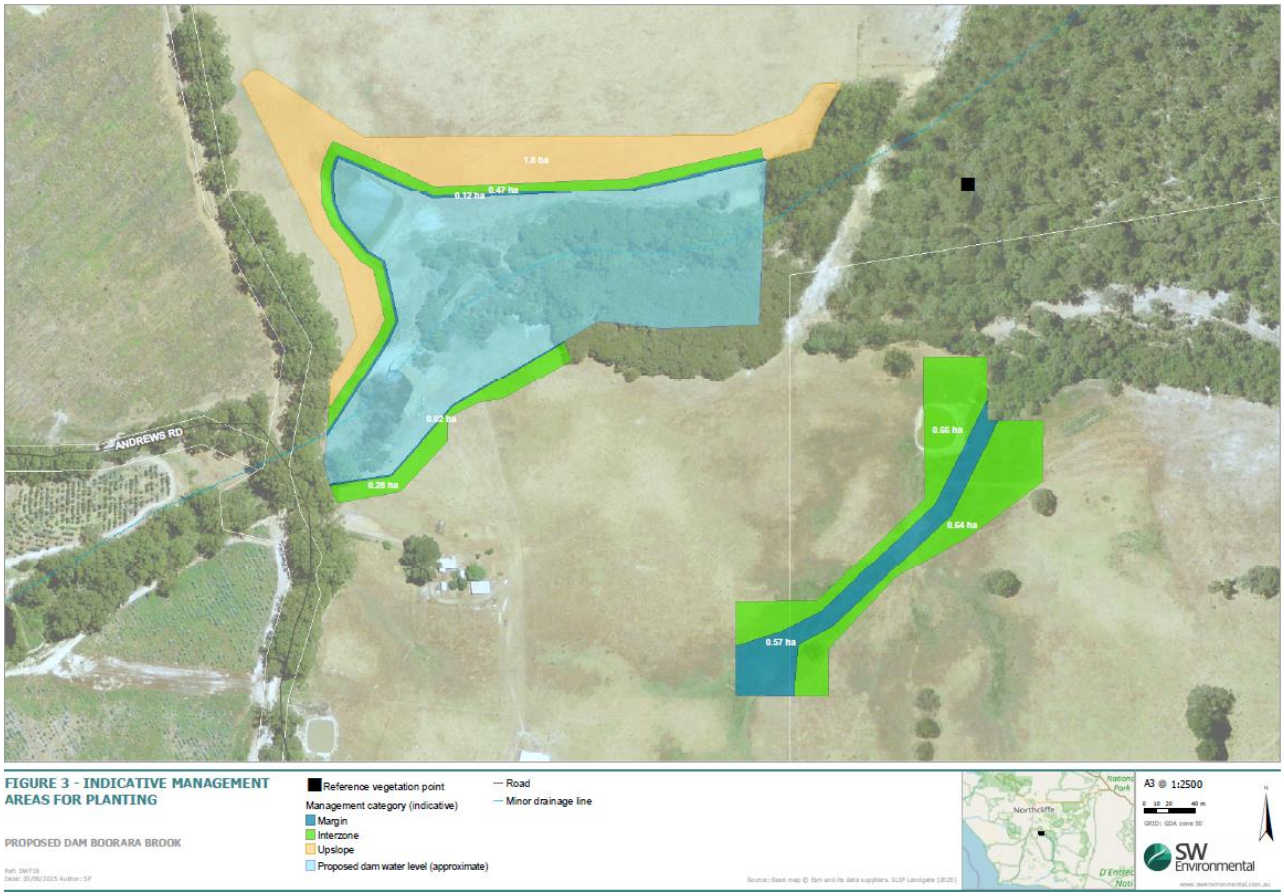


Figure 17. Map of the management categories within the revegetation areas.

Appendix J. Sources of information

J.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

J.2. References

Armstrong, K., J. Woinarksi, and A. A. Burbidge (2017). *Falsistrellus mackenziei*. The IUCN Red List of Threatened Species [WWW Document]. Retrieved from http://www.iucnredlist.org/details/17348/0.

Beatty, S. & Allen, M. (2025) *Aquatic faunal survey of Lot 9951 Boorara Brook and assessment of impact of potential dam construction*, received 4 March 2025 (Ref: DWERDT1085587).

Commonwealth of Australia (2018). Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomi, Canberra. Available from: Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomi - 2018 - DCCEEW

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

Conservation Commission of Western Australia (CCWA) (2003). Forest management plan 2004–2013

Department of Agriculture, Water and the Environment (DAWE) (2022), *Referral guideline for 3 WA threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and the Forest Red-tailed Black cockatoo*, Department of Agriculture, Water and the Environment, Canberra, February. Available from: Referral guideline for 3 WA threatened black cockatoo species - DCCEEW.

Department of Biodiversity, Conservation and Attractions (DBCA) (n.d.). *Boorara - Gardner National Park*. Available from: Boorara - Gardner National Park

Department of Biodiversity, Conservation and Attractions (DBCA) (2017). *Fauna notes – Living with Quenda*. Available from http://www.dbca.wa.gov.au.

Department of Environment and Conservation (DEC) (2012a). *Shannon and D'Entrecasteaux National Parks Management Plan No. 71 2012*. Department of Environment and Conservation, Perth, WA. Available from: Home | Department of Biodiversity, Conservation and Attractions

Department of Environment and Conservation (DEC) (2012b). *Fauna profiles: Brush-tailed Phascogale Phascogale tapoatafa (Meyer, 1793)*. Available from: Home | Department of Biodiversity, Conservation and Attractions

Department of Environment and Conservation (DEC) (2012c). *Fauna profiles: Water Rat (Rakali) Hydromys chrysogaster* (Geoffroy, 1804). Available from: Home | Department of Biodiversity, Conservation and Attractions

Department of Environment and Conservation (DEC) (2013). *Quokka* Setonix brachyurus *Recovery Plan. Wildlife Management Program No. 56*. Department of Environment and Conservation, Perth, WA. Available from: http://www.environment.gov.au/resource/quokka-setonix-brachyurus-recovery-plan. In effect under the EPBC Act from 30-Jan-2014.

Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf.

Department of Parks and Wildlife (DPaW) (2017). *Western Ringtail Possum (Pseudocheirus occidentalis) Recovery Plan*. Wildlife Management Program No. 58. Department of Parks and Wildlife, Perth, WA. Available from: http://www.environment.gov.au/biodiversity/threatened/publications/recovery/western-ringtail-possum-recovery-plan. In effect under the EPBC Act from 16-Aug-2017 as *Pseudocheirus occidentalis*.

Department of Primary Industries and Regional Development (DPIRD) (2019). *NRInfo Digital Mapping. Department of Primary Industries and Regional Development.* Government of Western Australia. URL: https://maps.agric.wa.gov.au/nrm-info/

Department of the Environment, Water, Heritage and the Arts (DEWHA) (2008). *Approved Conservation Advice for* Nannatherina balstoni *(Balston's Pygmy Perch)*. Canberra: Department of the Environment, Water, Heritage and the Arts. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/66698-conservation-advice.pdf. In effect under the EPBC Act from 03-Jul-2008.

Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF.

Department of Water and Environmental Regulation (DWER) (n.d.) *Healthy Rivers South-West. Department of Water and Environmental Regulation.* Government of Western Australia. URL: Healthy Rivers - Collaboration between river users and managers.

Department of Water and Environmental Regulation (DWER) (Regulatory Services – Water) (2024). *Rights in Water and Irrigation Act 1914 advice for clearing permit application CPS 10364/1*, received 27 August 2024 and 4 October 2024 (DWER Ref: DWERDT997097, DWERDT1028221).

Department of Water and Environmental Regulation (DWER) (Water Science – River Science) (2024). *Advice for clearing permit application CPS 10364/1*, received 22 August 2024 and 4 October 2024 (DWER Ref: DWERDT997095, DWERDT1028227).

Environmental Protection Authority (EPA) (2016). *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment*. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf.

Environmental Protection Authority (EPA) (2020). *Technical Guidance – Terrestrial Fauna Surveys.* Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf.

Government of South Australia (2009). Adelaide and Mount Lofty Ranges South Australia Threatened Species Profile – Geotria Australia, Pouched lamprey. SA Department for Environment and Heritage, Adelaide. Available from: FRESHWATER FISH

Government of Western Australia (2019). *2018 South West Vegetation Complex Statistics. Current as of March 2019*. WA Department of Biodiversity, Conservation and Attractions, Perth, https://catalogue.data.wa.gov.au/dataset/dbca

Government of Western Australia. (2019). *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019.* WA Department of Biodiversity, Conservation and Attractions. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

Halse, Stuart & Ruprecht, John & Pinder, Adrian. (2003). *Salinisation and prospects for biodiversity in rivers and wetlands of south-west Western Australia*. Australian Journal of Botany. 51. 673-688. 10.1071/BT02113.

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

Marvelus Berry Developments Pty Ltd (2023a). *Clearing permit application CPS 10364/1*, received 4 October 2023 (DWER Ref: DWERDT844430).

Marvelus Berry Developments Pty Ltd (2023b). *Supporting information for clearing permit application CPS 10364/1,* received 4 October 2023 (DWER Ref: DWERDT844430).

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

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

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

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

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

Shire of Manjimup (2023). *Advice for clearing permit application CPS 10364/1*, received 16 November 2023 (DWER Ref: DWERDT868718).

SW Environmental (2024). *Basic and targeted fauna survey*, Received 9 July 2024 (DWER Ref: DWERDT974728).

SW Environmental (2025). *Revegetation Management Plan, Dam and Drainage Line at Lots 9951 and 9952, Boorara Brook*, received 24 June 2025 (Ref: DWERDT1149869).

Submission (2023). *Public submission in relation to clearing permit application CPS 10364/1,* received 20 November 2023 (DWER Ref: DWERDT870014).

Threatened Species Scientific Committee (TSSC) (2018a). *Conservation Advice* Galaxiella nigrostriata *black-stripe minnow*. Canberra: Department of the Environment and Energy. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/88677-conservation-advice-11052018.pdf. In effect under the EPBC Act from 11-May-2018.

Threatened Species Scientific Committee (2018b). *Conservation Advice* Westralunio carteri *Carter's freshwater mussel*. Canberra: Department of the Environment and Energy. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/86266-conservation-advice-15022018.pdf. In effect under the EPBC Act from 15-Feb-2018.

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