GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9700/1
Permit Holder:	Balwyn Margaret River Pty Ltd
Duration of Permit:	From 28 November 2022 to 28 November 2032

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 installing drainage infrastructure.

2. Land on which clearing is to be done

Lot 9014 on Deposited Plan 413998, Margaret River

3. Clearing authorised

The permit holder must not clear more than 0.1 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 28 November 2027.

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 conduct clearing activities in a slow, progressive manner from west to east to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

8. Fauna management – western ringtail possums

(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 western ringtail possum(s) (*Pseudocheirus occidentalis*).

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

  (i) the western ringtail possum(s) individual has moved on from that area to adjoining *suitable habitat*; or
  (ii) the western ringtail possum(s) individual has been removed by a *western ringtail possum specialist*.

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

(d) Where fauna is identified under condition 8(a), the permit holder must within 14 calendar days provide the following records to the *CEO*:

  (i) the number of individuals identified;
  (ii) the date each individual was identified;
  (iii) the location where each individual was identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994/2020 (GDA94/2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  (iv) the number of individuals removed and relocated;
  (v) the relevant qualifications of the *western ringtail possum specialist* undertaking removal and relocation;
  (vi) the date each individual was removed;
  (vii) the method of removal;
  (viii) the date each individual was relocated;
  (ix) the location where each individual was relocated to, recorded using a GPS unit set to GDA94/2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
  (x) details pertaining to the circumstances of any death of, or injury sustained by, an individual.

9. Revegetation - mitigation

(a) The Permit Holder must, within 12 months of the commencement of clearing authorised under this Permit:

(i) undertake *revegetation* within the area cross-hatched red in Figure 2 of Schedule 1, in accordance with the landscaping plan, *Landscape works Rapids Landing Stages 7 and 10 (William James Landscape Architect, 2022)*.

(ii) ensure only *local provenance* propagating material is used for *planting* activities;

(iii) ensure *planting* is undertaken at an *optimal time*;

(iv) undertake *weed* control and watering of seedlings for at least three years post-*planting*.

(b) The Permit Holder must, within 24 months of undertaking *revegetation* in accordance with condition 9(a)(i) of this Permit:

(i) engage an *environmental specialist* to make a determination that the planted vegetation will survive;

(ii) if the determination made by the *environmental specialist* under condition 9(b)(i) is that all planted vegetation will not survive, the Permit Holder must undertake additional *planting* to achieve the species composition and densities detailed in the landscaping plan, *Landscape works Rapids Landing Stages 7 and 10 (William James Landscape Architect, 2022)*.

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 Geocentric Datum Australia 1994/2020 (GDA94/2020), 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); and (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing

No.	Relevant matter	Specifications
		in accordance with condition 5; (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 western ringtail possums in accordance with condition 8.
2.	In relation to revegetation pursuant to condition 9.	(a) actions taken in accordance with condition 9(a) to *revegetate* cleared areas; (b) the size of the area *revegetated*; (c) the date(s) on which the area *revegetation* was undertaken; (d) the boundaries of the area(s) *revegetated* (recorded digitally as a shapefile).

11. 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 10; 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 calendar days prior to the expiry date of the Permit, a written report of records required under condition 10, where these records have not already been provided under condition 11(a).

DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.

Term	Definition
dieback	means the effect of *Phytophthora* species on native vegetation.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
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)
evidence	means showing chew marks or scratching on the habitat tree representative of the species being surveyed, the presence of the species entering or leaving the habitat tree, and/or the presence of chicks/young.
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*.
fauna survey	means a field-based investigation, including a review of established literature, of the biodiversity of fauna and/or fauna habitat of the permit area and where conservation significant fauna are identified in the permit area, also includes a fauna survey of surrounding areas to place the permit area into local context.
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 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 October for undertaking planting and seeding
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species
revegetate / vegetated / 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.
suitable habitat	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 –

Term	Definition
	(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*.

REFERENCES

William James Landscape Architecture (2022). *Landscape works Rapids Landing Stages 7 and 10 (William James Landscape Architect on e-mail.* Available at https://ftp.dwer.wa.gov.au/permit/9700/

END OF CONDITIONS

Meenu Vitarana
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

3 November 2022

Schedule 1

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

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

The boundary of the area within which revegetation is to occur is shown cross-hatched red in the map below (Figure 2).

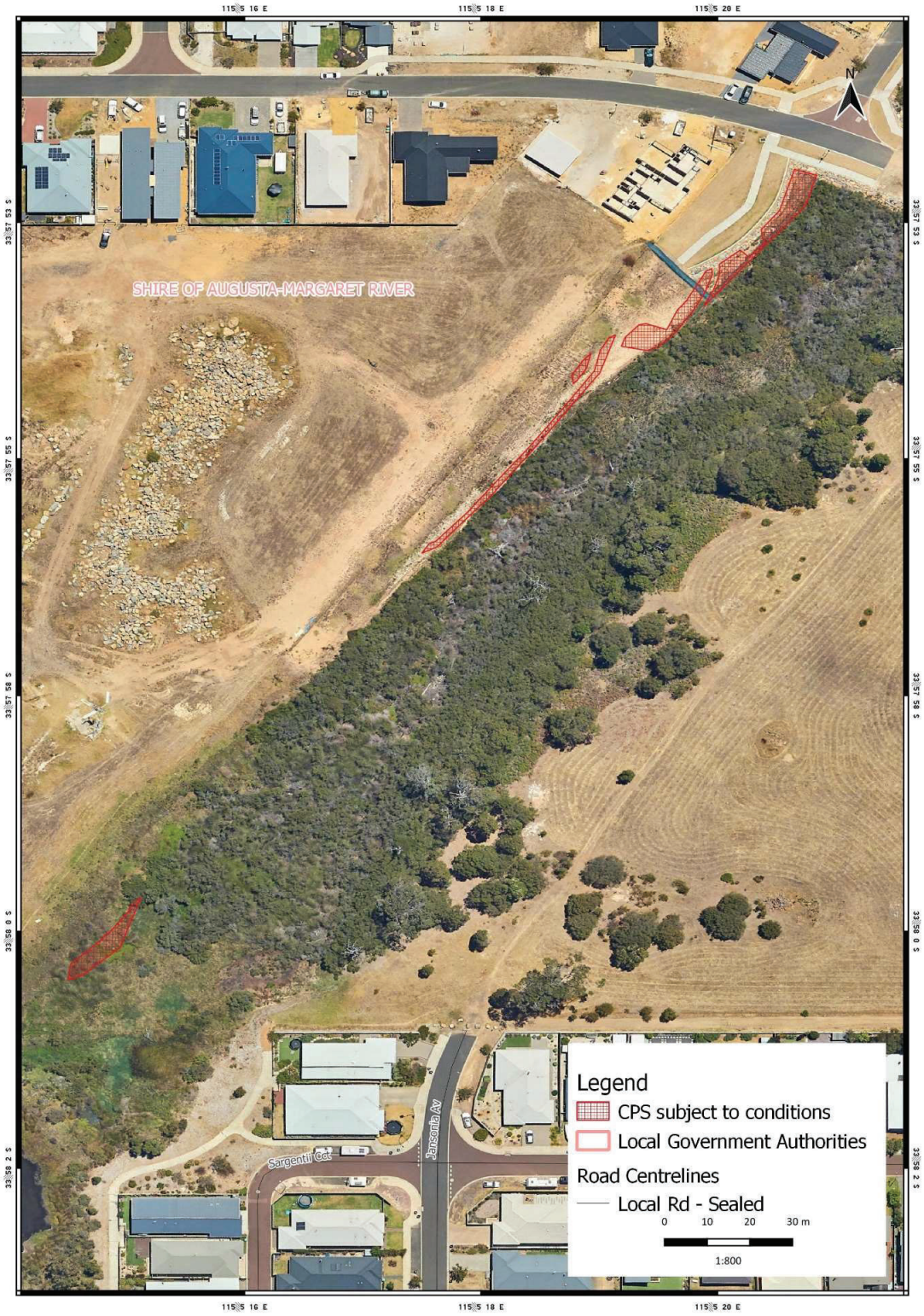


Figure 2: Map of the boundary of the area within which conditions apply

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 9700/1
Permit type:	Purpose permit
Applicant name:	Balwyn Margaret River Pty Ltd
Application received:	13 April 2022
Application area:	0.1 hectares (ha) of native vegetation
Purpose of clearing:	Installing drainage infrastructure
Method of clearing:	Mechanical Removal
Property:	Lot 9014 in Deposited Plan 413998
Location (LGA area/s):	Shire of Augusta-Margaret River
Localities (suburb/s):	Margaret River

1.2. Description of clearing activities

The vegetation proposed to be cleared is 0.1 ha within a 0.19 ha footprint required to facilitate the installation of drainage infrastructure along the Darch Brook tributary for the Rapids Landing's approved subdivision area in Margaret River (see Figure 1, Section 1.5). Four individual sections of native vegetation occur along the proposed drainage infrastructure that will require clearing.

1.3. Decision on application

Decision:	Granted
Decision date:	3 November 2022
Decision area:	0.1 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 for the site characteristics (see Appendix A), relevant datasets (see Appendix E.1), the findings of a flora and fauna significance survey (see Appendix D), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the sewer extension is required to connect sewer services from the neighbouring Rapids Landing's development to the Brookfield Estate future subdivision and development area. This sewer alignment is shown on the Water Corporation's scheme planning and is critical for regional development (RPS, 2021).

The assessment identified that the proposed clearing would result in:

- the loss of 0.1 ha of native vegetation which is suitable habitat for *Pseudocheirus occidentalis* (western ringtail possum)
- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values; and
- short term impacts to the water quality within the watercourse.

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

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

- avoid and minimise clearing to reduce the impacts and extent of clearing.
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback.
- directional clearing to provide fauna an opportunity to move to adjacent native vegetation ahead of the clearing activity.
- fauna management to ensure that the proposed clearing will not adversely impact on any individuals of western ringtail possum present at the time of clearing; and
- revegetation in accordance with the Foreshore Management Plan, Rapids Landing Estate Margaret River, Western Australia (2011).

1.5. Site map

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

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

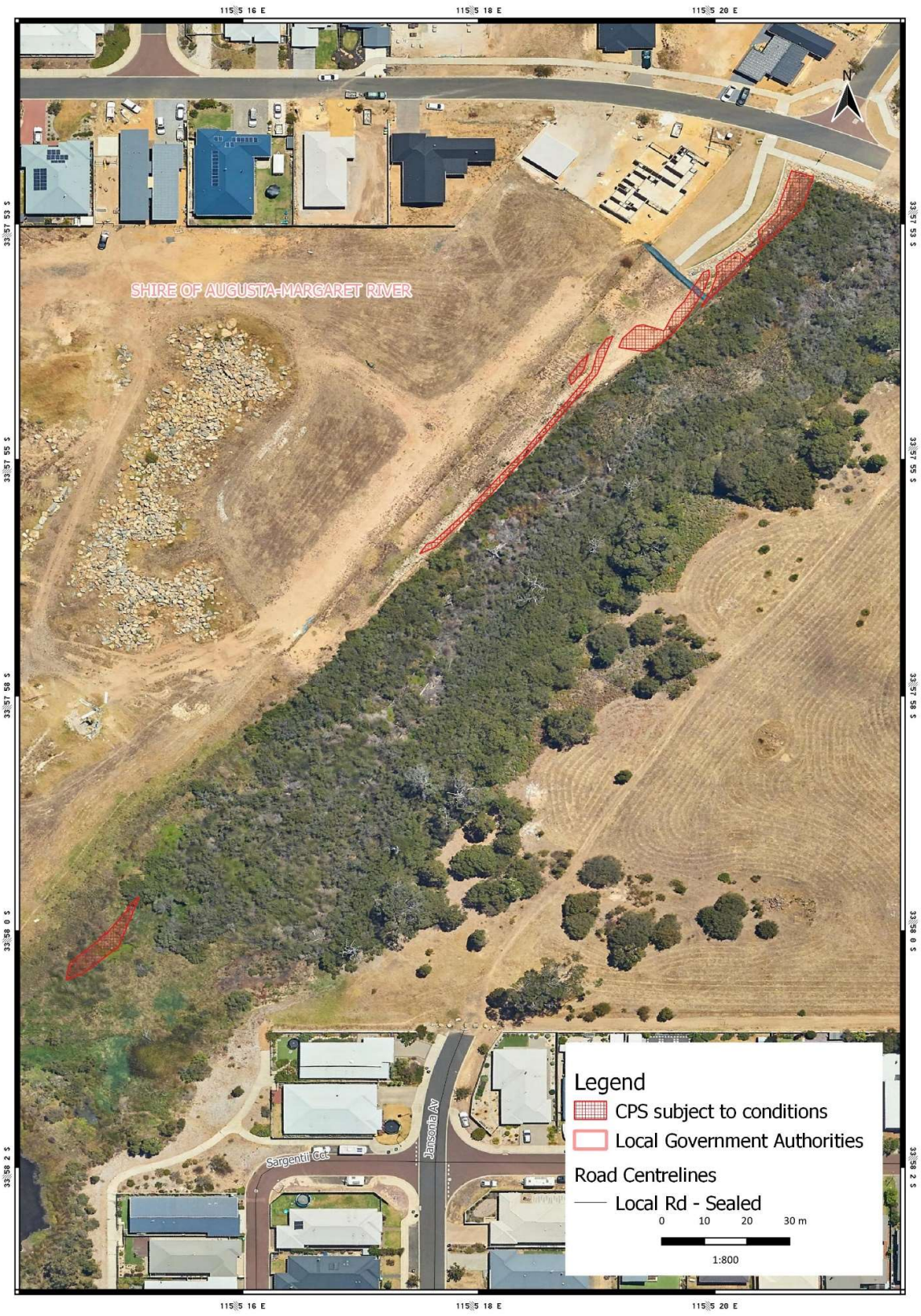


Figure 2 Map of the boundary of the area within which revegetation conditions apply.

The area cross-hatched red indicates the area within which revegetation is required in accordance with condition 10 of the 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 polluter pays principle
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

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

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant, demonstrating that avoidance and mitigation measures have been considered. 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 (for further details see Appendix A).

The native vegetation within the proposed clearing area is within a Recreation / Interface Zone, as identified in the approved Foreshore Management Plan, Rapids Landing Estate, Margaret River, Western Australia (FMP) (Coffey 2011). The purpose of the Recreation / Interface Zone areas is to provide areas, dual use paths and facilities and stormwater detention treatment. The placement of drainage infrastructure within the proposed clearing area is in line with the approved FMP, which recommended that that stormwater infrastructure be located within previously cleared and degraded areas (within the Recreation / Interface Zone where possible). The proposed clearing area was partly cleared under an expired clearing permit (CPS 7067/1) and approximately one-third of the native vegetation within the proposed clearing area is degraded, and the remaining native vegetation is in good condition (Ecosystem Solutions 2022).

The proposed clearing area is situated within an Active Open Space area in the approved subdivision plan (No. 156129) and landscaping plans have been developed that show the location of drainage infrastructure. The landscape plans were approved by the Shire of Augusta-Margaret River on 14 March 2022. Areas cleared for the drainage infrastructure will be stabilised through the planned landscaping works, largely with stone batters, and planting of massed rushes and sedges (*Baumea juncea, Juncus pallidus, Juncus pauciflora and Juncus subsecundus*) to the south (Balwyn Margaret River Pty Ltd, 2022).

To address the potential that conservation significant fauna species are present within the proposed clearing area immediately prior to the proposed clearing works commencing, Balwyn Margaret River Pty Ltd has committed to undertake pre-clearing inspections for fauna species with clearing works commencing immediately after fauna species have been confirmed not to be present (RPS, 2022). This has been included as a condition on the permit to ensure the mitigation measure is undertaken and reported on.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) 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 impacts of the proposed clearing present a risk to biological values (fauna), land degradation 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 - Clearing Principles (a) and (b)

Assessment

According to available databases, there are records of 17 conservation significant flora species within the local area. Ecosystem Solutions were contracted by Balwyn Margaret River Pty Ltd to survey an area of Rapids Landing Estate, Margaret River for a proposed construction of a recreation zone. A survey was undertaken to document the presence and distribution of flora and fauna. A previous survey (Ecosystem Solutions, unpublished report, February 2016) has also been conducted across the site (Ecosystem Solutions, 2022).

The vegetation and flora survey identified no Threatened or Priority flora within the site (Ecosystem Solutions, 2022). One vegetation community was described and mapped within the site: Vegetation Community A – *Taxandria linearifolia* and *Agonis flexuosa* tall closed scrub over *Taxandria linearifolia* shrubland over **Juncus microcephalus*, *Lepidosperma tetraquetrum* and *Juncus pallidus* sedgeland. Vegetation condition of the site was classified as areas of Good (0.067 ha) and Degraded (0.03 ha) vegetation. The vegetation in Good condition was found along the eastern edge of the site, on the other edge of the riparian vegetation in the Darch Brook tributary. The vegetation in Degraded condition was found in a wetland area to the south. A constructed dam is located 30 m south of the site. The recorded vegetation communities did not have the characteristics of any Threatened Ecological Communities (TECs), as endorsed by the Western Australian Minister for Environment or listed under the EPBC Act, or DBCA listed Priority Ecological Communities (PECs) (Ecosystem Solutions, 2022).

According to available databases, 45 conservation significant fauna species have been recorded within the local area. The closest record to the application area is a Baudin's Cockatoo (*Zanda baudinii*) (previously *Calyptorhynchus baudinii*). This species has been recorded 520 times within the local area.

Of the 45 species recorded within the local area, two species were considered likely to occur within the application area based on their known habitat preferences and the habitat available within the application areas. These included Quenda *(Isoodon fusciventer)* and western ringtail possum *(Pseudocheirus occidentalis)*. Other fauna of conservation significance may use the site infrequently or as part of a larger patch, such as birds and fauna that rely on the freshwater habitat. Impacts to these species are considered negligible due to the small area of vegetation to be removed (Ecosystem Solutions, 2022). Subsequently a fauna survey was undertaken by Ecosystem Solutions in March 2022 to confirm the presence of species likely to occur.

The fauna species specifically targeted in the survey are conservation significant species with known breeding to occur within the area, western ringtail possum (*Pseudocheirus occidentale*) and black cockatoo species (Carnaby's cockatoo, Buadin's cockatoo and forest red tailed black cockatoo). Other conservation significant fauna likely to occur within the proposed area of disturbance have also been considered. The site was surveyed using the recommended methods from relevant guidelines (Ecosystem Solutions, 2022).

Black cockatoos

Carnaby's cockatoo, Baudin's cockatoo and forest red-tail black cockatoo (collectively known as black cockatoos) nest in hollows in live or dead trees of karri, marri, wandoo, tuart, salmon gum, jarrah, flooded gum, York gum, powder bark, bullich and blackbutt (Commonwealth of Australia, 2012). Breeding habitat or a 'habitat tree' is defined in the EPBC Act referral guidelines as 'trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow' (Commonwealth of Australia, 2012).The application area is within the known breeding range of Baudin's and Carnaby's black cockatoo and the 'core' range of forest red-tail black cockatoo, and therefore, is within the known range for all three back cockatoo species. A review of the available databases indicated the application area is within 10 kilometres of 17 mapped black cockatoo roosting sites. The local area does not contain any mapped black cockatoo breeding sites but does contain 739 previous records of black cockatoo species, the closest located 740 metres away.

Habitat within the site was not suitable for black cockatoos due to the lack of trees to provide roosting and breeding habitat and lack of flora species considered as foraging species, as such no dawn surveys were undertaken during the fauna survey (Ecosystem Solutions, 2022). No trees were present, therefore no hollows suitable for nesting or roosting were present. No evidence of black cockatoo foraging, nesting or roosting was observed by Ecosystem Solutions during the two dusk/nocturnal surveys. Noting the application area is dominated by *Agonis flexuosa* (peppermints) and *Taxandria linearifolia* (coarse teatree), the application area does not support foraging species for

black cockatoos. Noting this, the Delegated Officer determined the application is not likely to remove foraging, breeding or roosting habitat for any threatened black cockatoo species.

Western Ringtail Possum (WRP)

The '*Western Ringtail Possum (Pseudocheirus occidentalis) Recovery Plan'* 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). The application area is located within the Southern Forest Management Zone.

Within this management zone, populations are associated with a diverse range of habitats including coastal heath, jarrah/marri woodland and forest, peppermint woodlands, myrtaceous heaths and shrublands, Bullich (*Eucalyptus megacarpa*) dominated riparian zones and karri forest.

Noting the habitat preferences of this species, the mapped vegetation type within the application area, the presence of waterbodies, large conservation areas close by and local records of the species, it is considered likely that western ringtail possum occur within the application area. However, Ecosystem Solutions (2022) recorded no western ringtail possums or dreys within the clearing area over two dusk/nocturnal surveys.

The removal of vegetation within the application area is not likely to impact on the conservation status of the WRP, or persistence of WRP populations within the local area given the availability of comparable and better habitat adjacent to the application areas. Given the presence of known habitat for WRP, the applicant has committed to engaging an experienced fauna specialist to inspect the vegetation for evidence of recent use or occupation immediately prior to, and for the duration of the clearing works being undertaken. Revegetation within the application area will also recreate habitat for WRP in the future. These requirements have been imposed as a condition on the permit.

Quenda

The quenda occupies areas of dense understory such as around swamps or in banksia and jarrah woodlands and are distributed near the south coast from Guilderton north of Perth to east of Esperance. Noting the known distribution and the habitat presented within the application area, it is considered the application area may provide habitat for this species. They typically inhabit dense understory, such as those found in swamps or banksia and jarrah woodlands. Nest sites are indentations in the ground, located beneath shrubs and covered with leaves, dry grasses and other soft materials. Ecosystem Solutions (2022) observed a quenda tunnel to the south of the site's eastern boundary.

Given the larger areas of similar and better habitat adjacent to the clearing area, it is considered unlikely that the clearing activity would result in a significant impact to this species, however, there is scope for impact to individuals. A directional clearing condition has been applied to the clearing permit to facilitate the movement of fauna into adjacent vegetation ahead of the clearing.

Conclusion

Based on the above assessment, the proposed clearing may result in impacts to individual fauna if present during the clearing, however, this is not likely to impact on the conservation status of any species that may have potential to occur within the application areas.

Conditions

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

- revegetation of impacted areas in accordance with permit conditions;
- slow, directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity will minimise impact to individuals; and
- fauna management conditions requiring a pre-clearing inspection of the application area for presence of, western ringtail possum.

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

Assessment

The native vegetation within the site was broadly mapped as Cowaramup valleys (Cw1) vegetation complex. This vegetation complex has approximately 28.09 per cent of its pre-European extent remaining in the South West Forest region (Government of Western Australia 2019). The National Objectives and Targets for Biodiversity Conservation

2001- 2005 and the EPA recognise that 30 per cent or more of the pre-clearing extent of each ecological community is needed to adequately protect Australia's biodiversity (Department of Environmental Regulation, 2014). Vegetation proposed to be cleared includes one vegetation complex marginally below this 30 per cent threshold, Cowaramup valleys (Cw1) at 28.09 per cent. The local area remnant vegetation however is above 30 per cent at 44.45 per cent and considering the minimal extent of the proposed clearing, the clearing would not significantly impact the percentage of remnant vegetation in the local area. The vegetation extent table (Appendix A.2) shows vegetation extent remaining at 44.45 per cent in the local area even after removing the vegetation under application from the remnant vegetation calculation.

Given that the vegetation of the application area is subject to edge effects and that approximately one-third is in a Degraded condition, does not contain significant habitat for conservation significant flora, contains only marginal habitat for western ringtail possum, and larger areas of better-quality habitat are within the vicinity of the clearing area, the application area is not considered to be significant remanent in an area that has been extensively cleared.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on remnant can be managed by taking steps to minimise the risk of the introduction and spread of weeds and disease.

3.2.3. Land and water resources - Clearing Principles (f), (g) and (i)

Assessment

The site is adjacent to a watercourse, the Darch Brook tributary, which DBCA mapped as a floodplain (Figure 3). The Darch Brook is a tributary of Margaret River. The watercourse has not been listed as a significant watercourse or wetland (DER 2014; Landgate 2022). (Ecosystem Solutions, 2022).

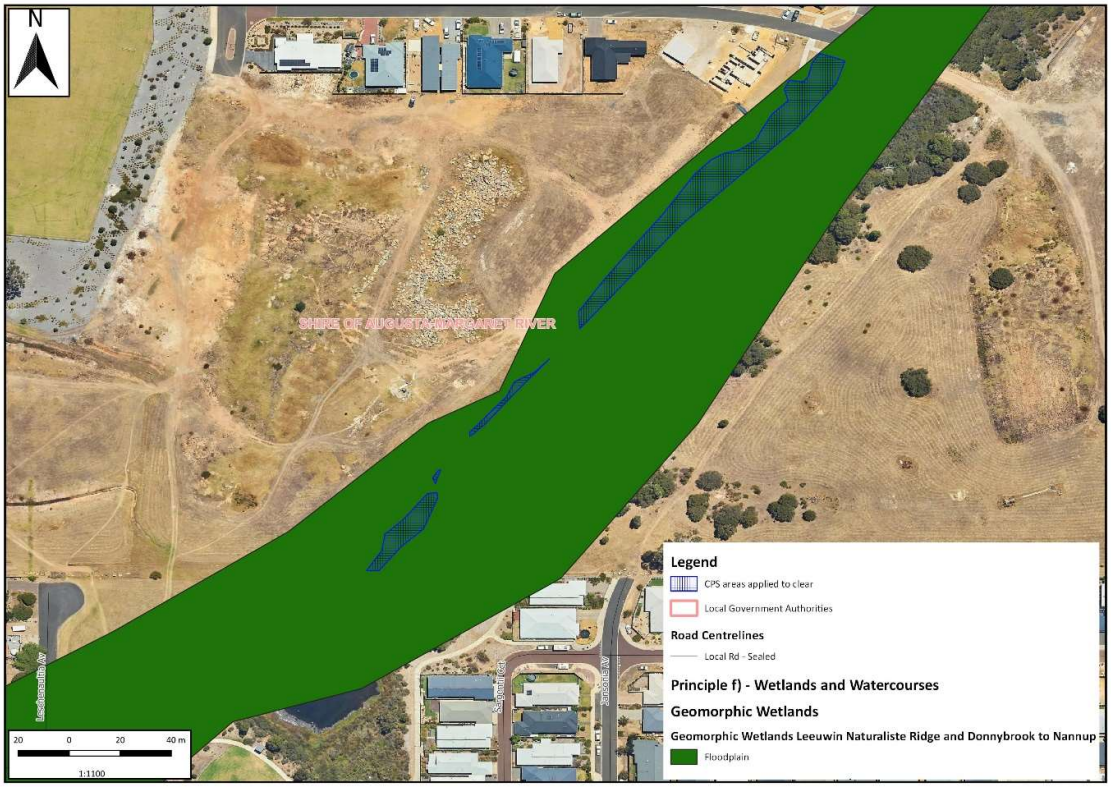


Figure 3: Hydrological mapping of the proposed clearing area.

The majority of native vegetation proposed to be cleared is growing in, or in association with the tributary watercourse (Ecosystem Solutions, 2021). Noting the relatively small extent of the proposed clearing and that the vegetation is mostly in a Degraded condition, the proposed clearing is not likely to have a significant impact on the larger extent of riparian habitat associated with the Darch Brook and its tributaries.

The mapped soil type within the application area has a medium to high risk of wind erosion and waterlogging, a medium risk of phosphorus export, a high risk of subsurface acidification and a low flood, water erosion and salinity

risk. Given the proximity of the proposed clearing to the watercourse and within the riparian zone, the clearing activities have the potential to result in sediment/silt laden discharge in stormwater runoff and poses a potential risk of short term increased turbidity in the watercourse, until the site is suitably stabilised by landscaping (DWER, 2022).

Design and standard construction methodologies, including Stormwater and Construction Management measures within the Foreshore Management Plan, Rapids Landing Estate Margaret River, Western Australia (Coffey Environments, 2011) are likely to mitigate any potential impacts such as sedimentation and altered flows. Noting the small extent of the proposed clearing, it is considered that the land degradation risk categories are low. The implementation of the Landscaping plan approved by the Shire as part of the subdivision will further mitigates any potential risks.

The proposed clearing has the potential for localised sedimentation or turbidity of the surface water due to the earthworks and removal of vegetation. Indirect impacts to the downstream Darch Brook via construction works are possible, however, design and standard construction methodologies are likely to mitigate any potential impacts such as sedimentation and altered flows.

Conclusion
It is considered that the proposed clearing may impact on local surface water quality on a temporary basis. However, as the extent of the proposed clearing is small, and given some riparian vegetation will be retained and landscaping will be done after clearing, the proposed clearing is not likely to cause long-term deterioration in the quality of surface water.

Conditions
No conditions are proposed due to the temporary and minimal impact likely from the proposed clearing.

3.3. Relevant planning instruments and other matters

Other relevant authorisations required for the proposed land use include:

- Development approval under the *Planning and Development Act 2005* (issued by the Western Australian Planning Commission).

The subdivision area adjacent to the clearing permit CPS 7067/1 was approved by the Western Australian Planning Commission on 22 March 2018 (No. 156129). The proposed clearing area is situated within an Active Open Space area in the subdivision plan and landscaping plans have been developed that show the location of drainage infrastructure. The landscape plans were approved by the Shire of Augusta-Margaret River on 14 March 2022. The placement of drainage infrastructure is in line with the approved Foreshore Management Plan, which recommended that that stormwater infrastructure be located within previously cleared and degraded areas (within the Recreation / Interface Zone where possible) (RPS, 2022).

Acid sulfate soils (ASS) risk mapping indicates that the site is located within an area identified as representing a risk of ASS occurring within 3 m of the natural soil surface. Please refer to DWER's ASS guidelines for information to assist with the management of ground and/or groundwater disturbing works.

The subdivisional approved by the Western Australian Planning Commission on 22 March 2018 (No. 156129) condition 27 requires that an acid sulphate soils self-assessment be completed and if required as a result of the self-assessment, an acid sulphate soils report and acid soils management plan must be submitted to and approved by DWER.

An Aboriginal site of significance, "Margaret River" has 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. Site characteristics

A.1. Site characteristics

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td>Local context</td><td>The area proposed to be cleared is part of a small strip of native vegetation in the intensive land use zone of Western Australia. It is adjacent to a tributary of the Darch Brook and surrounded with residential development. A constructed dam is located 30 m south of the site.

Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 44.45 per cent of the original native vegetation cover.</td></tr>
<tr><td>Ecological linkage</td><td>The application areas form a small part of an informal ecological linkage along the Darch Brook and its tributary, which link to larger remnants of vegetation.</td></tr>
<tr><td>Conservation areas</td><td>The closest conservation area to the application area is Wooditjup National Park located approximately 1.4 kilometres southeast of the application area.</td></tr>
<tr><td>Vegetation description</td><td>A vegetation survey (Ecosystem Solutions, 2022) indicates the vegetation within the proposed clearing area consists of one vegetation community:
• Vegetation Community A – Taxandria linearifolia and Agonis flexuosa tall closed scrub over Taxandria linearifolia shrubland over *Juncus microcephalus, Lepidosperma tetraquetrum and Juncus pallidus sedgeland. The full survey descriptions and maps are available in Appendix D

This is inconsistent with the mapped vegetation type(s):
• Cowaramup, Cw1, which is described as a Mixture of open forest to woodland of Eucalyptus diversicolor-Corymbia calophylla and woodland of Eucalyptus marginata subsp. marginata -Corymbia calophylla on slopes and low woodland of Melaleuca preissiana-Banksia littoralis on depressions in the hyperhumid zone (Mattiske and Havel, 1998)

The mapped vegetation type retains approximately 28.09 per cent of the original extent (Government of Western Australia, 2019).</td></tr>
<tr><td>Vegetation condition</td><td>The vegetation survey (Ecosystem Solutions, 2022) classified the vegetation condition of the site as areas of Good (0.067 ha) and Degraded (0.03 ha) vegetation (Keighery, 1994), with weeds being the biggest disturbance within these areas. The full Keighery (1994) condition rating scale is provided in Appendix C. The full survey descriptions and mapping are available in Appendix C.</td></tr>
<tr><td>Climate and landform</td><td>The site sits at approximately 80m AHD and slopes gently down to the tributary of the Darch Brook, which runs along the eastern boundary of the site. The annual average rainfall is estimated to be 951 millimetres as taken from Witchcliffe.</td></tr>
<tr><td>Soil description</td><td>The soil is mapped as Cowaramup Uplands System (216Co) - Lateritic plateau, in the Leeuwin Zone. Sandy gravel, loamy gravel and grey sandy duplex. Jarrah-marri forest.
Soil systems are further divided into mapping units. The soils within the Site are identified as:
• Cowaramup wet vales Phase - 216CoCOvw - Small, broad U-shaped drainage depressions with swampy floors. Gravelly duplex (Forest Grove) soils on sideslopes and poorly drained alluvial soils on valley floor.</td></tr>
<tr><td>Land degradation risk</td><td>
<table>
<tr><th>RISK</th><th>LIKELIHOOD</th><th>DESCRIPTION</th><th>RISK LEVEL</th></tr>
<tr><td>Water Erosion</td><td>M1</td><td>10-30% of map unit has a high to extreme water erosion risk</td><td>Low</td></tr>
<tr><td>Wind Erosion</td><td>H1</td><td>50-70% of map unit has a moderate to very high waterlogging risk</td><td>High</td></tr>
</table>
</td></tr>
</table>

Characteristic	Details			
	Salinity	L1	<3% of map unit has a moderate to high salinity risk or is presently saline	Low
	Flood	M1	10-30% of the map unit has a moderate to high flood risk	Low
	Waterlogging	H1	50-70% of map unit has a moderate to very high waterlogging risk	High
	Subsurface Acidification	H2	>70% of map unit has a high subsurface acidification risk or is presently acid	High
	Phosphorus Export	M2	30-50% of map unit has a high to extreme phosphorus export risk	Moderate
Waterbodies	The desktop assessment and aerial imagery indicated that one minor, non-perennial watercourse, tributary of Darch Brook in the Margaret River catchment, borders the area proposed to be cleared. A man-made dam is located 30m upstream of the application area.			
Hydrogeography	The application area is within the Busselton-Capel Groundwater Area as proclaimed under the *RIWI Act 1914.*			
Flora	According to available databases, there are records of 17 conservation significant flora species within the local area. Of these, three species are Priority 1 (P1), two are P2, six are P3, three are P4 and three are threatened species. The vegetation and flora survey identified no Threatened or Priority flora within the site (Ecosystem Solutions, 2022).			
Ecological communities	The closest ecological community of conservation significance to the application area is the State listed Priority 2 *Melaleuca lanceolata* forests, Leeuwin Naturaliste Ridge PEC, located approximately 8.6 kilometres west of the application area.			
Fauna	According to available databases, 45 conservation significant fauna species have been recorded within the local area. The closest record to the application area is a Baudin's Cockatoo (*Calyptorhynchus baudinii)* (previously *Calyptorhynchus baudinii).* This species has been recorded 520 times within the local area.			

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*					
Warren*	833,985.56	659,432.21	79.07	558,485.38	84.69
Vegetation complex					
Cowaramup, Cw1**	6,144.37	1,726.07	28.09	637.40	9.65
Local area					
10km radius	31,327.70	13,926.47	44.45	-	-

*Government of Western Australia (2019a)
**Government of Western Australia (2019b)

A.3. 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]
a ground beetle (Margaret River) (*Trichosternus relictus*)	P3	N	Y	8.86	3	Y
Baudin's cockatoo (*Zanda baudinii*)	EN	N	Y	0.53	520	Y
Carnaby's cockatoo *(Zanda latirostris*)	EN	N	Y	0.73	120	Y
Chuditch, western quoll (*Dasyurus geoffroii*)	VU	N	Y	2.02	6	Y
Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*)	VU	N	Y	0.82	12	Y
Quenda, southwestern brown bandicoot (*Isoodon fusciventer*)	P4	Y	Y	0.86	94	Y
Quokka (*Setonix brachyurus*)	VU	N	Y	2.63	5	Y
south-western brush-tailed phascogale, wambenger (*Phascogale tapoatafa wambenger*)	CD	N	Y	0.37	91	Y
western ringtail possum, ngwayir (*Pseudocheirus occidentalis*)	CR	Y	Y	0.57	429	Y
White-tailed black cockatoo (*Zanda* sp. 'white-tailed black cockatoo')	EN	N	Y	1.80	87	Y

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

Appendix B. 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 proposed clearing area is not likely to contain locally or regionally significant flora or assemblages of plants. The application area: • contains one vegetation communities, ranging in condition from Degraded to Good (Keighery, 1994) • provides habitat for conservation significant fauna, however, this habitat is not assessed as being significant in the local context • does not comprise of threatened or priority flora; and • does not contain native vegetation which represents a TEC or PEC. Consequently, the native vegetation proposed to be cleared is not considered to have high biodiversity values.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The proposed clearing area provides habitat for conservation significant fauna. Noting the extent and comparative condition of native vegetation within the local area relative to the extent of vegetation proposed to be cleared, these species are not considered to be solely reliant on the proposed clearing area for food resources or habitat. Habitat within the site was not suitable for black cockatoos due to the lack of trees to provide roosting and breeding habitat and lack of flora species considered as foraging species (Ecosystem Solutions, 2022).	May be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: No threatened flora species listed under the BC Act were recorded within the proposed clearing area (Ecosystem Solutions, 2022).	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: No Threatened Ecological Communities (TECs) listed under the BC Act or the EPBC Act have been mapped within eight kilometres of the application area. The vegetation over the application area does not align with any known TECs.	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The national objectives and targets for biodiversity conservation in Australia has a target to prevent the clearance of ecological communities with an extent below 30 per cent of that present prior to the year 1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001). The extent of native vegetation in the local area is inconsistent with the national objectives and targets for biodiversity conservation in Australia. The	May be at variance	Yes *Refer to Section 3.2.2, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.		
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of any nearby conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Given watercourses are adjacent the application area, the proposed clearing may impact on- or off-site hydrology and water quality. The site's northern vegetation is located along the outer edge of the riparian vegetation within the Darch Brook tributary and the site's southern vegetation is located in a wetland area (Ecosystem Solutions 2022). Noting the relatively small extent of the proposed clearing and that approximately one-third of the native vegetation is in a Degraded condition, the proposed clearing is not likely to have a significant impact on the larger extent of riparian habitat associated with the Darch Brook tributary.	At variance	Yes *Refer to Section 3.2.3, 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 highly susceptible to subsurface acidification, moderately susceptible to wind erosion, waterlogging and phosphorus export risk. Noting the extent of the application area and the planned landscaping works, the proposed clearing is not likely to have an appreciable impact on land degradation but may have temporary impacts.	Not likely to be at variance	Yes *Refer to Section 3.2.3, 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 site does not intersect a watercourse. Given there is approximately 12– 20 m of dense vegetation between the area proposed for clearing and Darch Brook tributary watercourse, it is unlikely that the proposed clearing would significantly alter the quality of surface or ground waters within the project area. Design and standard construction methodologies, including Stormwater and Construction Management measures within the Foreshore Management Plan, Rapids Landing Estate Margaret River, Western Australia (Coffey Environments, 2011) are likely to mitigate any potential impacts such as sedimentation and altered flows.	Not likely to be at variance	Yes *Refer to Section 3.2.3, above.*
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. The application area is located outside of any recognised floodplain areas.	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, 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

Ecosystem Solutions were contracted by RPS AAP Pty Ltd to survey an area of Rapids Landing Estate, Margaret River for a proposed construction of a recreation zone (hereafter called the "Site") within the Shire of Augusta-Margaret River. A survey was undertaken to document the presence and distribution of flora and fauna on the Site to facilitate clearing of vegetation on the Site. A previous survey (Ecosystem Solutions, unpublished report, February 2016) has also been conducted across the Site.

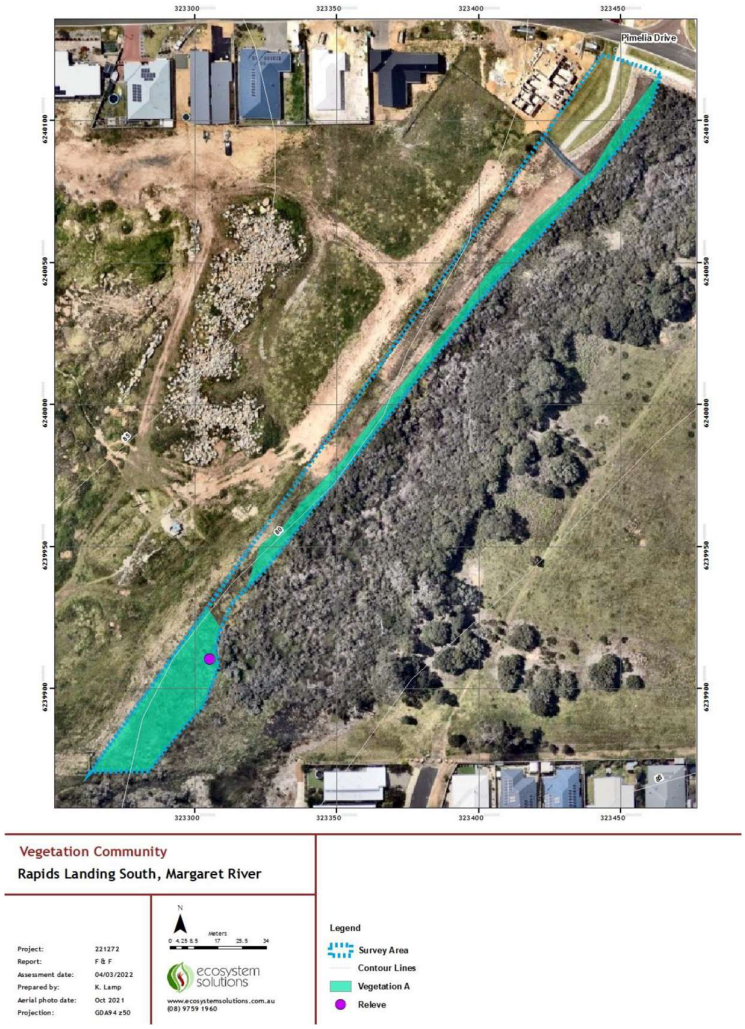
The purpose of this report is to identify flora, fauna and assess vegetation values within the Site.

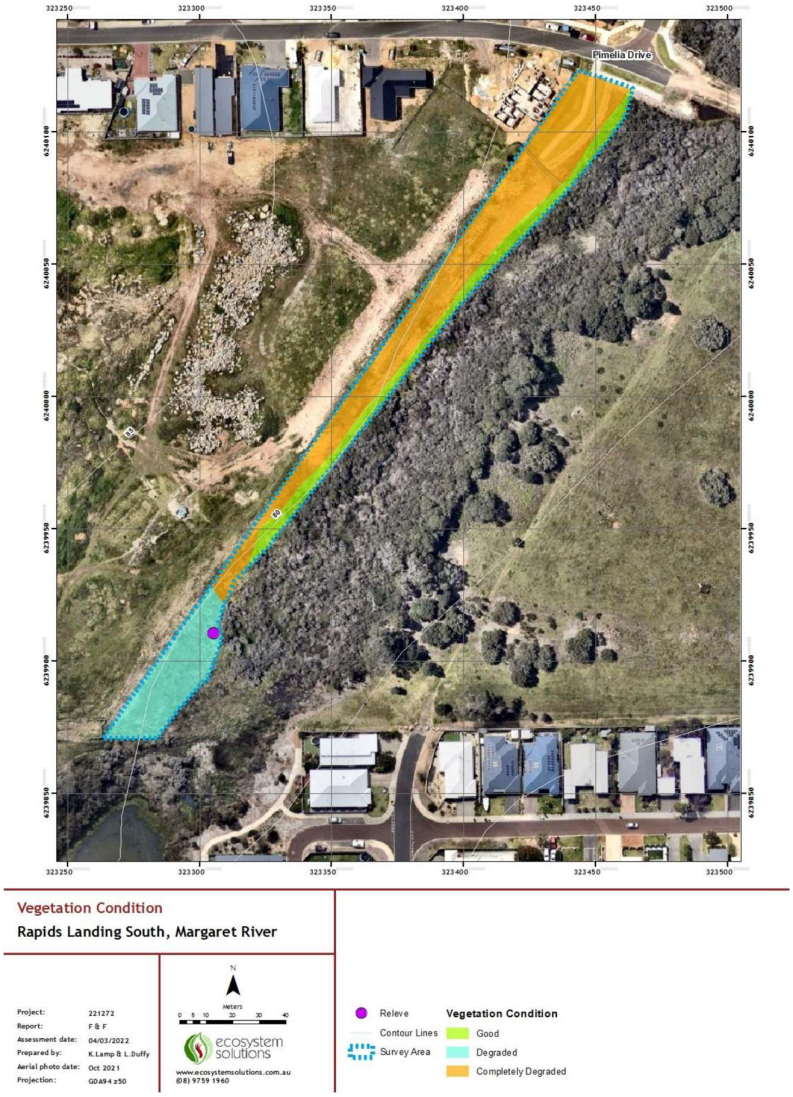
The fauna species specifically targeted are conservation significant species with known breeding to occur within the area, Western Ringtail Possum (*Pseudocheirus occidentale*) and Black Cockatoo Species (*Calyptorhynchus baudinii, C. latirostris and C. banksii subsp. naso*). Other conservation significant fauna likely to occur within the proposed area of disturbance have also been considered. The flora elements specifically targeted include Threatened and Priority species and Threatened or Priority Ecological Communities. This flora and fauna assessment was limited to observing species identifiable and present during the time of the surveys.

During the Site assessment the remnant vegetation within the Site was observed to comprise of one community (described according to Keighery, 1994, adapted Muir (1977) and Aplin (1979), Appendix D – Table 7) of:

- Vegetation Community A – *Taxandria linearifolia* and *Agonis flexuosa* tall closed scrub over *Taxandria linearifolia* shrubland over **Juncus microcephalus, Lepidosperma tetraquetrum* and *Juncus pallidus* sedgeland.

The vegetation within the Site does not have the characteristics of any TEC or PECs.

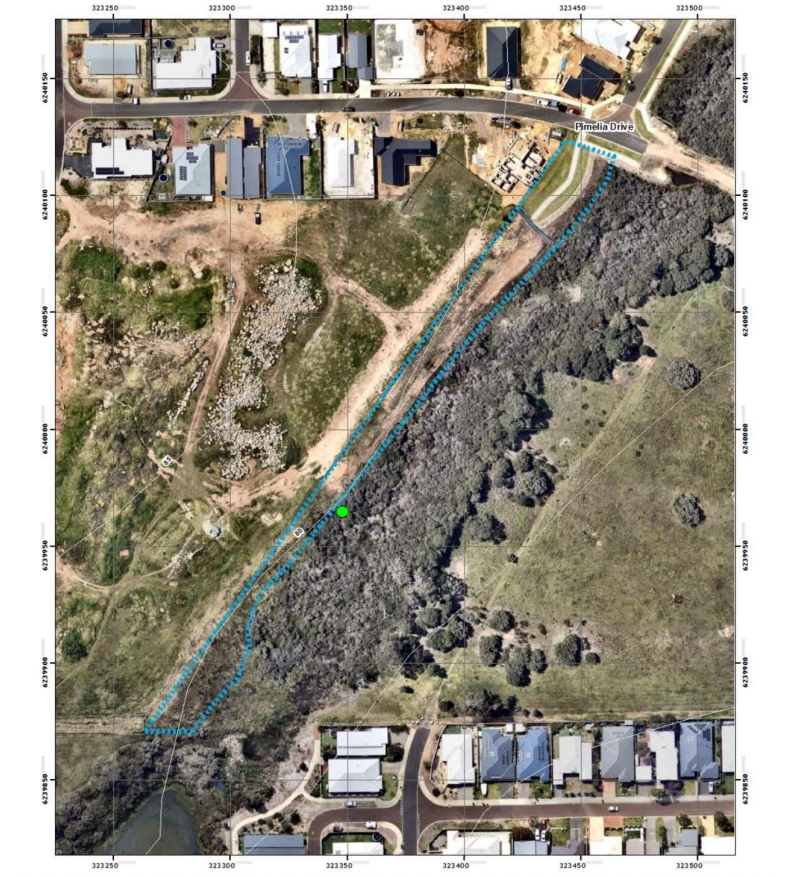




Field surveys were confined to one day flora/fauna survey and two dusk / nocturnal fauna spotlight survey. Dusk/Nocturnal surveys were conducted for any sign of Western Ringtail Possums, Quenda and any other conservation listed species. Surveys were conducted by Gary McMahon (B.Sc. M. Env Mgmt, PG Dip Bushfire CEnvP) from Ecosystem Solutions.

Dawn surveys were not conducted as habitat on the Site was not suitable for Black Cockatoo Species. No trees were present within the Site and therefore there no suitable hollows or any Black Cockatoo roosts or nesting sites present. During the day survey on 8th March 2022, the canopy of the vegetation within the Site was thoroughly inspected. No dreys were observed. A Quenda runnel was noted to the south of the Site.

While no other animals of significance were observed, either directly or through signs, the lack of this data should not be taken directly as an indication that those species are absent from the Site. No trapping or seasonal sampling was conducted.



Conservation Significant Fauna

Rapids Landing South, Margaret River

N

Meters
0 5 10 20 30 40

Project:	221272
Report:	F & F
Assessment date:	04/03/2022
Prepared by:	K.Lamp & L.Duffy
Aerial photo date:	Oct 2021
Projection:	GDA94 z50

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(08) 9759 1960

- Quenda_Tunnel
- Contour Lines
- Survey Area

Appendix E. Sources of information

E.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- 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)

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