GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9580/1

File Number: DWERVT9502

Duration of Permit: From 24 October 2022 to 24 October 2024

PERMIT HOLDER

Mr Ben Reynolds and Ms Flavia Nascimento

LAND ON WHICH CLEARING IS TO BE DONE

Lot 641 on Deposited Plan 301800, Middlesex

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.36 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. 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.

2. 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.

3. Fauna management - directional clearing

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

4. 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); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 1; (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 2; and (g) actions taken in accordance with condition 3 of this Permit.

5. Reporting

The permit holder must provide to the *CEO* the records required under condition 4 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
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of *Phytophthora* species on native vegetation.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (WA)
fill	means material used to increase the ground level, or to fill a depression
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

30 September 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

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 9580/1
Permit type:	Area permit
Applicant name:	Mr Ben Reynolds and Ms Flavia Nascimento
Application received:	1 February 2022
Application area:	0.36 hectares of native vegetation
Purpose of clearing:	Dam construction
Method of clearing:	Mechanical clearing
Property:	Lot 641 on Deposited Plan 301800
Location (LGA area/s):	Shire of Manjimup
Localities (suburb/s):	Middlesex

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5). The area proposed to be cleared is an 0.36 hectare triangle for the purpose of constructing a dam for domestic water use on the property.

1.3. Decision on application

Decision:	Granted
Decision date:	30 September 2022
Decision area:	0.36 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 H.1), photographs of the vegetation proposed to be cleared and surrounding vegetation provided by the applicant (see Appendix F), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), 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 introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values,
- clearing activity may lead to degradation of surface water quality, however the risk of water quality degradation is likely to be temporary and short-term, and

- the loss of native vegetation which may provide marginal habitat for western ringtail possum and south-western brush-tailed phascogale.

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 is unlikely to lead to appreciable land degradation or have long-term adverse impacts on the environment. Potential impacts 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 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 and dieback, and
- directional clearing to provide fauna an opportunity to move to adjacent native vegetation ahead of the clearing activity.

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 polluter pays principle, and
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Rights in Water and Irrigation Act 1914* (WA) (RiWI 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)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant has demonstrated that the location for the stream was chosen considering the most reliable water source on the property, the 30-meter setback from the property border required and environmentally least sensitive area, i.e. least native vegetation removal and smallest karri trees on the site. The proposed location has been chosen such that all large karri trees surrounding the proposed dam will be maintained.

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.

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 D) identified that the impacts of the proposed clearing present a risk to biological values (fauna), 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 - Clearing Principles (b)

Assessment

According to available databases, 21 conservation significant fauna species have been recorded within the local area. The closest record to the application area is a forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*). This species has been recorded 31 times within the local area.

Four species was considered to have a medium likelihood to be found within the application area: *Phascogale tapoatafa wambenger* (south-western brush-tailed phascogale), Baudin's cockatoo (*Zanda baudinii*) (previously *Calyptorhynchus baudinii*)), Carnaby's cockatoo (*Zanda latirostris*) (previously *Calyptorhynchus latirostris*), forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*). One species was considered highly likely to occur within the application area based on the habitat available and their known habitat preferences, namely western ringtail possum (*Pseudocheirus occidentalis*). Considering the location within the landscape, two ground-dwelling species are also considered to have a small likelihood to occur within the application area, the water-rat (*Hydromys chrysogaster*) and quenda (*Isoodon fusciventer*). Other fauna of conservation significance may use the site

infrequently or as part of a larger patch, such as birds that rely on the freshwater habitat. Impacts to these species are considered negligible due to the small area of vegetation to be removed.

Photographs provided by the applicant (Appendix F) show some trees present within the application area and comments provided by the applicant note that only small karri trees will be removed to construct the proposed dam.

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, 2022). 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 two mapped black cockatoo roosting sites. The local area does not contain any mapped black cockatoo breeding sites but does contain 175 previous records of black cockatoo species, the closest located 720 metres away.

The application area is within the range distribution for threatened species of black cockatoo, however, the trees proposed for clearing do not appear to be suitable for black cockatoo breeding due to their size, a lack of observable suitable breeding hollows and a lack of broken branches of suitable diameter to form breeding hollows. The nearest confirmed breeding location for black cockatoos is located 23 kilometres south of the application area. The area of native vegetation that is protected within conservation areas within the local 10 km area is approximately 11,500 hectares, therefore the removal of the vegetation proposed to be cleared will not have a significant impact on the availability of suitable habitat within the local area.

Given the proximity to water sources such as the watercourses and other tributaries, the trees within the application area may offer potential roosting habitat. However, the proposed clearing will not remove any large trees suitable for roosting, ensuring black cockatoos still have roosting opportunities in the immediate vicinity of the application area.

The referral guidelines indicate while breeding, black cockatoos will generally forage within a 6–12-kilometre radius of their nesting site. Following breeding, black cockatoos assemble into flocks and move through the landscape searching for food, usually foraging within 6 kilometre of a night roost (Commonwealth of Australia, 2012). This variable range indicates large areas of foraging habitat are required to support black cockatoo populations. Cumulative impacts of the loss of remnant vegetation restrict the availability of food sources for black cockatoos (Commonwealth of Australia, 2012). The application area proposes to remove a total of 0.36 hectares which is not expected to contain foraging habitat, as only small karri trees are to be directly impacted by the construction of the dam. Black cockatoos are not known to use karri trees for foraging and the proposed clearing will thus not have an impact on foraging habitat within the local area.

The Delegated Officer determined the application is not likely to remove significant foraging, roosting or breeding habitat for any of the black cockatoo species in Western Australia.

Western ringtail possum

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, a large conservation area close by and local records of the species, it is considered that western ringtail possum may occur within the application area.

Noting the quantity of vegetation within the local area and that the proposed clearing is at the edge of a larger intact patch of native vegetation, the Delegated Officer determined that the application area does not represent significant habitat for the species, and the removal of the vegetation would not significantly impact on the conservation status of the species although it may impact on individuals should they be present at the time of clearing. However, likelihood of individuals being present at the time of clearing are very low noting the disturbed nature of the vegetation within the application area and the open canopy structure (refer photographs in Appendix F). Noting this, the Delegated Officer determined that a slow, directional clearing condition on the permit will appropriately mitigate impacts to individuals.

South-western brush-tailed phascogale

In south-west WA, this species is known to occur in open woodlands that contain hollow-bearing trees. This species is reported to occur in highest densities Perup/Kingston area, Collie River valley, and near Margaret River and Busselton (DBCA, 2012). The trees within the application area appear too small to contain hollows suitable for nesting by the south-western brush-tailed phascogale. It is considered the removal of the vegetation to construct the dam would not result in the removal of significant habitat for the species but may impact individuals, however the likelihood of individuals utilising the application area are very low. A slow, directional clearing condition on the permit will mitigate impacts to individuals.

Water rat

The Rakali, or water rat, occupies a unique niche within south-west systems, being the only amphibious or semiaquatic species in the region (feeding largely underwater, but living on land). While a distribution map for the species is not available, the species is broadly expected to occur throughout much of the south-west, living in burrows on low banks of rivers, lakes, wetlands, estuaries and even along the coast. It is noted that intact riparian vegetation and associated bank stability is critical to their survival. Noting the absence of riparian vegetation, the application area is unlikely to provide habitat for the species.

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 absence of dense understorey, the application area is unlikely to provide habitat for the species.

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 significance of the species.

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

- slow, directional clearing to ensure that the proposed clearing will not adversely impact on conservation significant species, should any individuals be present at the time of clearing.

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

A minor nonperennial watercourse intersects the application area, which is a small tributary of the Warren River known as Smith Brook. Photographs of the application area does not indicate the presence of riparian vegetation within the application area.

The clearing of vegetation within the watercourse may result in increased surface water turbidity due to sedimentation as a result of soil erosion. Considering the purpose of clearing is to construct a dam, sedimentation is likely to be short-term and confined to the construction period.

Considering the proposed clearing is for a dam construction it is unlikely the application will cause or exacerbate the incidence or intensity of flooding beyond the extent of the enlarged dam.

The mapped soil type within the application area has a medium to high risk of water erosion and phosphorus export, a medium risk of water erosion, and a high risk of subsurface acidification. Noting that vegetation is going to be retained around the construction and the purpose of construction, it is considered that the land degradation risk categories are low, and any long-term potential impacts are mitigated by the retention of vegetation around the

structure and the structure itself. This, coupled with the relatively small extent of the application area, suggest that the proposed clearing is not likely to cause appreciable land degradation.

Conclusion
It is considered that the proposed clearing may impact on local surface water quality be minimal, short lived and localised as the clearing falls within the immediate footprint of the proposed dam. However, as the extent of the proposed clearing is small, and large trees are proposed to be retained around the dam, 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 impacts that are likely from the proposed clearing.

3.3. Relevant planning instruments and other matters

The watercourse identified to be dammed is a small tributary of the Warren River known as Smith Brook. DWER's south west region advised that area is currently over allocated and that the Warren – Donnelly Surface Water Allocation Plan allows for the construction of a single 8ML capacity dam to be constructed on a property, wholly for stock and domestic purposes, in over allocated areas. The dam will not require a Licence to abstract water under the *Rights in Water and Irrigation Act 1914* (RIWI Act) (DWER, 2022b).

DWER's south west region issued a bed and banks permit on 26 August 2022 under the RIWI Act for the proposed dam construction.

The proposed clearing is within the *Country Areas Water Supply Act 1947* (CAWS Act) gazetted Warren River Water Reserve. The Lot is not currently located in a Public Drinking Water Source Area hence no priority source protection area has been assigned nor is it proposed. The Warren River catchment has however been subject to CAWS Act native vegetation clearing controls since December 1978 to prevent salinisation of water resources. Advice was sought from DWER Water Source Protection - Salinity and Land Use Impacts branch. The DWER records show no CAWS Act licence or compensation history for the subject land. DWER records show that CAWS Act clearing licence applications have been approved for Lot 641 when the property was a part of a larger 235.1 ha land holding and that a compensation payment for injurious affection was settled in March 1987. The compensation payment resulted from the refusal of a CAWS Act Licence to Clear application made a by the owner of the original 235.1 ha land holding. The payment was made to retain all of the remaining native vegetation on the holding at the time (76.6 ha). CAWS Act Memorial D430650 on Certificate of Title 946/123 serves as notification of the compensation payment and that the land is encumbered (DWER, 2022a).

It appears that the Licence to Clear was not acted upon. However, the subject vegetation was not accounted for in the compensation settlement as it was assumed that the vegetation would eventually be cleared under this licence. As such, the 25 ha of uncompensated vegetation on the original land holding was apportioned across the various lots. DWER records indicate that 3.5 ha of uncompensated native vegetation was apportioned to Lot 641. Analysis of 2017 aerial imagery indicates that all of the native vegetation that was on the property at the time of the compensation payment (approximately 21.7 ha) is intact and none of the uncompensated vegetation has yet been cleared (DWER, 2022a).

Lot 641 is located in Zone C, a medium salinity risk part of the catchment, where DWER CAWS Act Policy and Guidelines for the "Granting of Licences to Clear Indigenous Vegetation" provide for the grant of a licence for essential property management purposes if the native vegetation has not been subject to a compensation payment and greater than 10 per cent of the property owners land holding remains under native vegetation. The applicant has applied and obtained Licence to Clear LPR1126 under the CAWS Act (DWER, 2022a).

The Shire of Manjimup have advised that land is zoned by Local Planning Scheme No. 4 as "Priority Agriculture" and planning approval for clearing of vegetation is not required in this zone. Further the edge of the dam and/or dam wall is more than 20m from any lot boundary, therefore Shire planning approval for the dam works will not be required (Shire of Manjimup, 2022).

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

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of a 26-hectare isolated patch of native vegetation in the extensive land use zone of Western Australia. It is surrounded by farmland, predominately horticulture, although there are other patches of remnant vegetation within the associated Lots. A tributary of the Warren River transects the application area. Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 33.42 per cent of the original native vegetation cover.
Ecological linkage	The application area is approximately 230m north of a west to east running South West Ecological Regional Linkage but does not sever the linkage.
Conservation areas	The closest conservation area to the proposed clearing is a Timber Reserve located approximately 1.5 km west of the proposed clearing separated by cleared areas and the South Western Highway. Donnelly State Forest is located 1.8 km south from the application area
Vegetation description	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of open forest of young *Eucalyptus diversicolor* (karri) over scattered native shrubs. Representative photos are available in Appendix F. This is consistent with the mapped vegetation types: • Pemberton (221), PM1 South West Vegetation Complex which is described as tall open forest of *Eucalyptus diversicolor* with mixtures of *Corymbia calophylla* on valley slopes and low forest of *Agonis juniperina-Banksia seminuda-Callistachys lanceolata* on valley floors in the perhumid zone. The mapped vegetation type retains approximately 33.42 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in Good (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos are available in Appendix F.
Climate and landform	Minor valleys Mean annual rainfall 1100 m
Soil description	The soil is mapped as Pemberton subsystem (Pimelia) (254PvPM): 20 to 40 m deep. Flat to gently sloping floors. Few channels. 3 to 10 deg. Smooth slopes. Red or yellow gradational soils, not calcareous with some red duplex soils.
Land degradation risk	The mapped soils are at high risk for subsurface acidification, medium risk to wind and water erosion and nutrient export, and low risk of flood risk and waterlogging risk.
Waterbodies	The desktop assessment and aerial imagery indicated that minor, non-perennial watercourse, a small tributary of the Warren River known as Smith Brook transect a portion of the area proposed to be cleared.
Hydrogeography	The application area is within the Warren River and Tributaries Groundwater Area as proclaimed under the RIWI Act. The application area falls within the Warren River Water Reserve CAWS Act, Zone D area and a public drinking water source area.

Characteristic	Details
Flora	According to available datasets, no known priority or threatened flora has been recorded within the application area. One threatened flora species have been recorded within the local area of the proposed clearing. There are records of 6 priority flora within the local area, with none occurring on similar soil and habitat as that present within the application area.
Ecological communities	No priority or threatened ecological communities have been recorded within a 10 km radius of the proposed clearing area.
Fauna	According to the available datasets, 21 conservation significant fauna species have been recorded within the local area. No records occur within the application area. The application area comprises suitable habitat features for potential use by threatened species of western ringtail possum and south-western brush-tailed phascogale, however, the clearing is not assessed as significantly impacting the availability of suitable habitat 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					
Pemberton (221)	25,801.16	16,661.53	64.58	15021.45	58.22
Local area					
10km radius	31,699.45	10,594.44	33.42	-	-

*Government of Western Australia (2019)

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, habitats or assemblages of plants.	Not likely to be at variance	No
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: While the vegetation within the application area may provide marginal habitat for western ringtail possum and south-western brush-trailed phascogale, it does not provide significant habitat for fauna. The vegetation proposed to be cleared is well represented elsewhere within the local and regional area and suitable habitat in a similar or better condition is located adjacent to the application area. Habitat suitable for foraging, roosting or breeding for threatened black cockatoo species is not present within the application area.	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: The area proposed to be cleared is unlikely to contain suitable habitat for flora species listed under the BC Act, as very minimal understorey remains.	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: According to available datasets, no state listed TECs are mapped within the local area. The vegetation proposed to be cleared is not likely to comprise the whole or a part of, or be necessary for the maintenance of a TEC.	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 extent of the mapped vegetation type and the native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is a part of an informal ecological linkage, however, given the small extent (0.36 ha) of the proposed clearing, it is not expected to impact the connectivity of this ecological linkage.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
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 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: A portion of the application area is located within the Smith Brook tributary of the Warren River and the proposed clearing will impact on vegetation growing in association with a waterbody.	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 subsurface acidification. Noting the small extent of the application area, 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: Given that the proposed clearing is within the banks of the Smith Brook, the proposed clearing may impact surface water quality, however impacts are likely to be temporary.	May be at variance	Yes *Refer to Section 3.2.2, 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 do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. Considering the proposed clearing is for a dam construction, it is unlikely the application will cause or exacerbate the incidence or intensity of flooding beyond the extent of the enlarged dam.	Not likely to be at variance	Yes *Refer to Section 3.2.2, above.*

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.

Appendix F. Photographs of the vegetation

Figure 2: Representative photographs of the application area provided by the applicant during the assessment (only a few karri trees in the centre are within the application area and will be cleared)

Appendix H. Sources of information

H.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)

H.2. References

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Commonwealth of Australia (2022) *Referral guidelines for three WA threatened black cockatoo species. Carnaby's Cockatoo (Zanda latirostris), Baudin's Cockatoo (Zanda baudinii) and the Forest Red-tailed Black-cockatoo (Calyptorhynchus banksii naso).* Available from: https://www.dcceew.gov.au/sites/default/files/documents/referral-guideline-3-wa-threatened-black-cockatoo-species-2022.pdf

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