



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9193/1
File Number: DWERVT7391
Duration of Permit: From 21 July 2021 to 21 July 2023

PERMIT HOLDER

Mr Richard Noakes and Ms Anne Noakes

LAND ON WHICH CLEARING IS TO BE DONE

Lot 3936 on Deposited Plan 165857, Rosa Glen

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.027 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;
- (d) only move soils in dry conditions.

3. Watercourse Management

The Permit Holder is authorized to clear *native vegetation in dry conditions*.

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	<ul style="list-style-type: none"> (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 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the date of dam construction commencing; (e) the size of the area cleared (in hectares); (f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 1; and (g) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with condition 2.
2.	In relation to watercourse management pursuant to condition 3.	<ul style="list-style-type: none"> (h) Water level at the clearing area at the time of clearing; and (i) Any other actions in accordance with condition 3.

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 **Error! Reference source not found.** 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 <i>Environmental Protection Act 1986</i> .
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 <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
dry condition	A condition when soils (not dust) do not freely adhere to rubber tires, tracks, vehicle chassis or wheel arches
EP Act	<i>Environmental Protection Act 1986</i> (WA)
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 <i>Biosecurity and Agriculture Management Act 2007</i> ; 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



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

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

27 June 2021

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



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9193/1
Permit type:	Area permit
Applicant name:	Richard and Ann Noakes
Application received:	22 January 2021
Application area:	0.027 hectare
Purpose of clearing:	Dam construction
Method of clearing:	Mechanical Removal
Property:	Lot 3936 on Deposited Plan 165857
Location (LGA area/s):	Shire of Augusta – Margaret River
Localities (suburb/s):	Rosa Glen

1.2. Description of clearing activities

The vegetation proposed to be cleared consists of two young Karri trees within a tributary to the Upper Blackwood River (see Figure 1, Section 1.5) for the purpose of building a domestic dam. The riparian vegetation is infested with weeds and adjoining agricultural land use and historical disturbance.

1.3. Decision on application

Decision:	Granted
Decision date:	23 June 2021
Decision area:	0.027 hectare 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 14 days and no submissions were received.

In undertaking the assessment, and in accordance with section 51O of the EP Act, the Delegated Officer has considered the site characteristics (see Appendix A), the Clearing Principles set out in Schedule 5 of the EP Act (Appendix B), relevant datasets (See Appendix G), relevant planning instruments, and any other pertinent matters they deemed relevant to the assessment (see Section 3 and 4).

In particular, the Delegated Officer has determined that:

- The application area may provide suitable foraging habitat for black cockatoos (*Calyptorhynchus* sp.). However, it is unlikely to comprise significant habitat within the context of the local area;
- Clearing activity may lead to degradation of surface water quality. The risk of water quality degradation is likely to be temporary and short term; and could be mitigated by conducting clearing in dry conditions;

- Clearing could introduce and spread weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values. The likelihood of introduction and spread of weed and dieback could be reduced by applying weed and dieback management measures.

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 nor have long-term adverse impacts on the downstream surface water quality and adjacent native vegetation and its habitat 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
- undertake clearing in dry conditions.

1.5. Site map

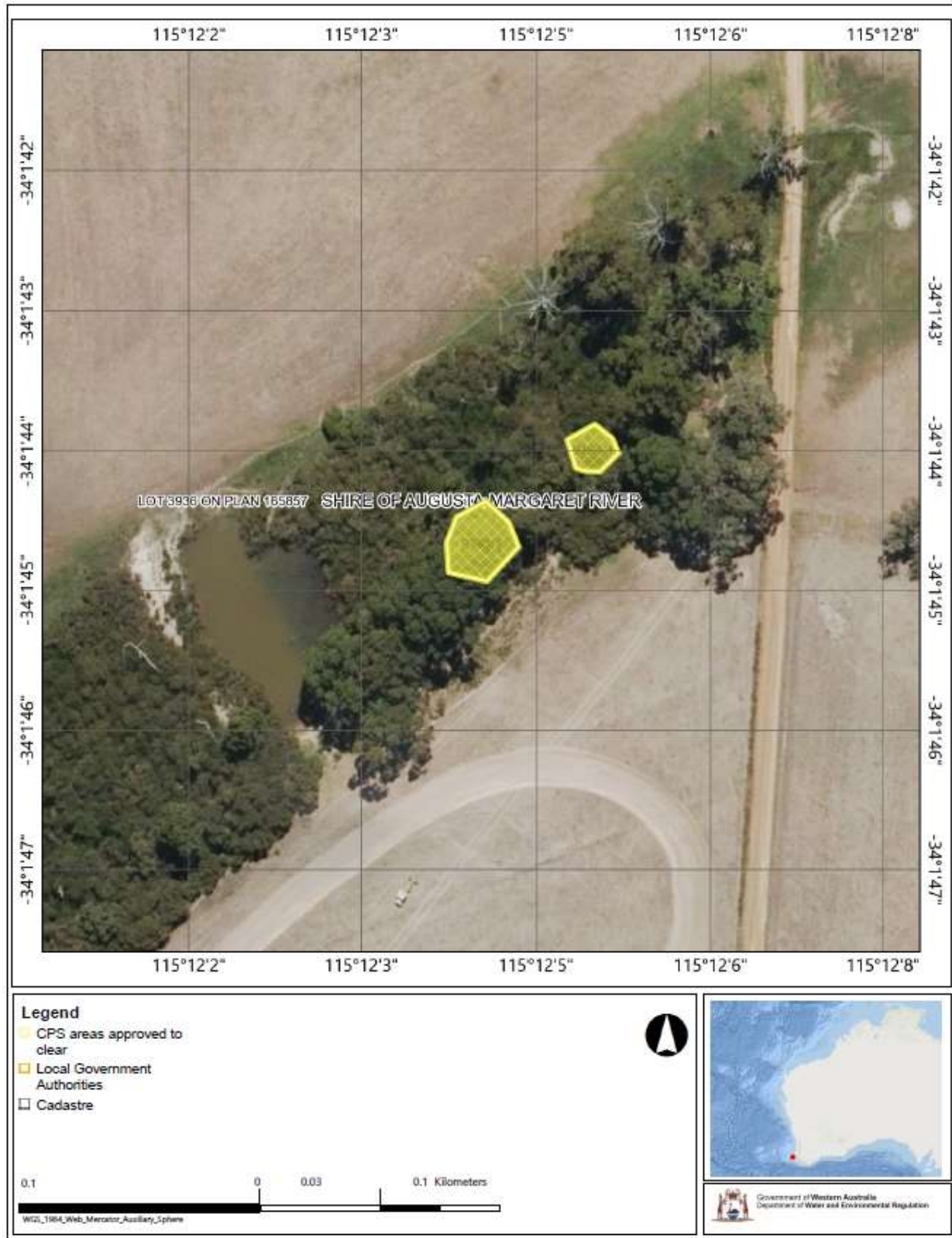


Figure 1. Map of the application area

The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)
- *Soil and Land Conservation Act 1945* (WA)

Relevant policies considered during the assessment include:

- *Dam construction and operation in rural areas, Water Quality Protection Note 53* (Department of Water, November 2006)
- *Whicher Area Surface Water Allocation Plan* (Department of Water, September 2009)

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 trees to be cleared were selected to minimise the amount of clearing required. The Delegated Officer was satisfied that the applicant has considered efforts 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, in accordance with section 51O of the EP Act, the Delegated Officer has examined the site characteristics (see Appendix A) and considered whether the clearing poses a risk to environmental values. The assessment against the Clearing Principles is contained in Appendix B.

The assessment against the clearing principles (see Appendix B) identified that the clearing may pose a risk to the environmental values of biological values (fauna), and land and water resources. The detailed consideration and assessment of the clearing impacts against the specific environmental values is provided below in Section 3.2.1. and 3.2.2. respectively. Where the assessment found that the clearing presents a risk to environmental values, conditions aimed at controlling and or ameliorating the impacts have been imposed under sections 51H and 51I of the EP Act. These are also identified below.

3.2.1. Fauna – Clearing principle (b)

Assessment

The proposed clearing area is not mapped as containing significant foraging, roosting or breeding habitat for conservation significant fauna. Within 10 km radius from the application area, eight conservation significant fauna species, including Black cockatoo species and freshwater aquatic fauna, have been recorded. Of the species recorded, the proposed clearing will impact black cockatoo (*Calyptorhynchus* sp.) foraging habitat and may degrade downstream areas where Mud minnow (*Galaxiella munda*) have been recorded.

The Karri trees proposed to be cleared are relatively small in size with a Diameter at Breast Height of less than 500 mm and do not contain any hollows suitable for black cockatoos breeding. The trees are unlikely to be used by black cockatoos for roosting. Food resources within the range of breeding sites and roost sites of black cockatoos are important to sustain populations, and foraging resources are therefore viewed in the context of known breeding and night roosting sites within 12 kilometres of an impact area (DSEWPaC 2012). A confirmed roosting site for black cockatoos has been recorded approximately three kilometres from the application area. Whilst the application area is recorded within close range of a roosting site, given the size of the proposed clearing in relation to the availability of more mature trees and vegetation of better condition in the nearby timber reserve forest (approximately 450 meters from the proposed clearing area), it is unlikely that the two trees proposed to be cleared would comprise significant foraging habitat for black cockatoos.

Amongst the priority aquatic fauna recorded within the local extent, mud minnow has the most likelihood to be found in the Blackwood River system. The last record of mud minnow was from the catchment of the Blackwood River system in 2013. The fish is known to be found in the tributaries of the Blackwood River where water is fresher, compared to the mainstream of the River where salinity is high (Threatened Species Scientific Committee, 2006). Although there has not been any record of species in the proposed clearing area, given its location within a tributary of the Blackwood River system, the presence of mud minnow within the stream cannot be ruled out. However, mud minnow typically occurs in swift flowing streams within karri forest and can be found in densely submerged vegetation (Threatened Species Scientific Committee, 2006). The proposed clearing area is occasionally void of water and only sparsely covered with vegetation. As such, it is unlikely to comprise significant habitats for the mud minnows, particularly during the low flow seasons. Since the proposed clearing area is located at the head of the catchment of the large river system, limited clearing is unlikely to have significant impacts on the quality of the surface water or impact mud minnows occurring downstream. Given the small area of clearing, the disturbance would also likely be locally and for a very short term.

The adjacent vegetation is susceptible to weed and dieback impacts which the clearing process may exacerbate, thereby reducing habitat quality for fauna.

Conclusion:

Based on the assessment above, the proposed clearing area is unlikely to comprise significant habitat for black cockatoos and mud minnows. It is considered that the impacts of the proposed clearing on adjacent remnant vegetation can be managed by taking steps to minimise the risk of the introduction and spread of weeds.

Conditions:

To address the above impacts, weed management measures to mitigate impacts to adjacent vegetation will be required as a condition on the clearing permit.

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

Assessment

The proposed clearing is located on the headwater of a watercourse. The watercourse is a minor tributary to the Upper Blackwood River, a part of the Blackwood River System. The Blackwood River catchment area is generally identified as susceptible to risks associated with salinity, weeds, dieback, and pollution from agriculture and livestock farming (Department of Primary Industries and Regional Development/ DPIRD, 2019).

Clearing activity may disturb the soils on the banks and beds of the watercourse, which may result in increased transport of sediment and nutrient and degrade the river water quality downstream. However, since the proposed clearing area is located at the head of the catchment of the large river system, limited clearing is unlikely to have significant impacts on the quality of the surface water. Given the small area of clearing, the disturbance would also likely be locally and for a very short term. The likelihood of possible detrimental impacts on water quality due to sediment and nutrient exports, if present, could be ameliorated further by conducting clearing only during dry conditions to minimise disturbance and possible transport of sediment.

The soils within the banks of the stream where clearing is proposed, fall within the Treeton Valley Phase soil system and surrounded by lands with the Treeton Hillslopes Phase soils. The mapped soils are highly susceptible to subsurface compaction, wind erosion, waterlogging and nutrient export risks (DPIRD, 2019). However, given the proposed clearing location on the banks of the watercourse and will likely be inundated by water after the dam is built, risks posed by wind erosion or subsurface compaction are likely to be low. This, coupled with the relatively small extent of the application area, suggest that the proposed clearing is not likely to have an appreciable impact on land degradation due to wind erosion.

Waterlogging within the dam is the intended result of building the dam, for which the clearing is proposed. Therefore, clearing of the two trees is unlikely to exacerbate any waterlogging present.

Conclusion

Based on the above assessment, clearing activities may have short term impact on the quality of the surface water. However, the proposed clearing is unlikely to have significant impact on the quality and quantity of water in the watercourse, particularly if clearing is conducted in dry conditions to minimise disturbances and possible transport of sediment and nutrient (phosphorus). Clearing will also unlikely increase the risks of land degradation due to wind erosion and surface compaction in the surrounding area.

Conditions

To address the above impacts, conducting clearing only in dry conditions will be required as a condition on the clearing permit.

3.3. Relevant planning instruments and other matters

The Applicant was granted development approval for the dam (Planning approval No. P 220169) under the *Planning and Development Act 2005* by the Shire of Augusta Margaret River on 11 March 2020.

The DWER Whicher Area Surface Water Allocation Policy Item 4.1 stipulates that water flowing from any spring which rises to the surface on a property until it has passed beyond the property boundary is exempt from having to obtain a permit to interfere with the beds and banks of the watercourse under *Rights in Water and Irrigation Act 1914* (RIWI Act). The Policy also stipulates that a dam for non-invasive and non-commercial purposes with a storage capacity of not more than 8000 kilolitres does not require a licence to abstract water.

The Applicant advised that the proposed dam was for a non-invasive and non-commercial purposes with a storage capacity of not more than 8000 kilolitres. The property is located at the head of the catchment and the planned dam is located within the parcel of land belonging to the Applicant. As such, in accordance with the Policy, the proposed dam does not require a permit to interfere with the beds and banks of the watercourse nor a licence to abstract water from the watercourse.

The dam development works should be conducted in a manner consistent with the Water Quality Protection Note 53 "Dam construction in rural areas", whereby disturbance during typical high flow period is to be avoided. In the area, the high flow period runs between 1 May to 30 November.

Several Aboriginal sites of significance have been mapped within the local 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	<p>The area proposed to be cleared is part of a 0.85 hectares isolated patch of riparian native vegetation at the source of a tributary of the Upper Blackwood River system in the intensive / extensive land use zone of Western Australia. It is surrounded by cleared farmlands and other riparian vegetation, upstream of the River.</p> <p>Spatial data indicates the local area (10 kilometres radius from the centre of the area proposed to be cleared) retains approximately 65.25 per cent of the original native vegetation cover.</p>
Ecological linkage	The application area is not in a formal ecological linkage of the South West Ecological Linkage.
Conservation areas	<p>The application area is not within any conservation area.</p> <p>The nearest conservation areas are the Wooditjup National Park and the Rapids Conservation Park – approximately 7 km northwest and 11 km northeast of the proposed clearing area, respectively.</p>
Vegetation description	<p>The application area is mapped within the Blackwood Plateau and Plain Sub-bioregion of the Jarrah Forest Region. The vegetation complex mapped within the application area, as mapped by Mattiske and Havel (1998), is the Treeton valley Tw class of vegetation complex. This complex is described as “open forest of <i>Eucalyptus patens</i>, <i>Corymbia calophylla</i>, <i>Eucalyptus marginata</i> on lower slopes and on floors of minor valleys in the perhumid zone”.</p> <p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of Karri trees (<i>Eucalyptus diversicolor</i>) with an understorey of native and non-native weeds. Representative photograph is available in Error! Reference source not found. This is inconsistent with the characteristics of Treeton valley (Tw) Vegetation complex.</p>
Vegetation condition	Photograph supplied by the applicant indicates the vegetation within the proposed clearing area is in Good condition (Keighery, 1994). The full Keighery (1994) condition rating scale is provided in Error! Reference source not found. Representative photo is in Error! Reference source not found.
Climate and landform	The climate of the proposed clearing area is typical of the South West of Western Australia Mediterranean climate with wet winters and hot dry summers. Average rainfall as recorded by the Cowaramup weather station is 1110 mm with most of the rain falling between May and August (BOM, 2021). Temperature in the area ranges from 8°C (minimum) in August to 28.2°C (maximum) in February.
Soil description	The soils within the application area are mapped as the Treeton valley phase, described as “ <i>Narrow V-shaped drainage depressions</i> ”, typical of the soils within the watercourses in the area.
Land degradation risk	The Treeton valley phase lands, including that of the application area, has a high risk of land degradation by wind erosion and high susceptibility to surface acidification. Risks of land degradation due to phosphorus export and water logging are medium, whilst risks of land degradation due to water erosion, salinity and flooding are low.
Waterbodies	The desktop assessment and aerial imagery indicated that one perennial watercourse (the Upper Blackwood River) transect the area proposed to be cleared. This watercourse is a tributary to the Blackwood River.
Hydrogeography	It is located within a proclaimed RIWI Act Groundwater area (Blackwoods) as well as a proclaimed RIWI Act Surface Water (Upper Blackwood River). The Blackwood River system in general is threatened by salinity, weeds, dieback, pollution from agriculture and livestock farming.

Characteristic	Details
Flora	No known priority flora is recorded within the proposed clearing area. However, 11 priority and threatened flora are recorded in the local extent (10 km radius). The proposed clearing area does not share soil and habitat characteristics with these priority flora.
Ecological communities	The proposed clearing area is not within any threatened ecological community and associated buffer. Priority ecological communities (PEC) nearest to the application area are the Reedia swamps of the Blackwood Plateau (Priority 1) located approximately 6.5 km and 11 km to the South and Southeast of the proposed clearing area respectively. The proposed clearing area does not share vegetation and soil characteristics with the PEC.
Fauna	No fauna of conservation significance was recorded within the application area and its vicinity. Within the local extent of 10 km radius, 12 threatened and priority fauna are recorded.

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*					
Jarrah Forest	4,508,857	2,514,550	56	1,689,684	67
Blackwood Plateau and Plain Sub-region	3,541,469	2,326,636	66	1,837,686	95
Vegetation complex					
Vegetation Complex Class: Treeton Tw (valleys)	8,676	2,926	33.73	1,747	20.14
Local area					
10 km radius	7,8777.99	5,140.25	65.25%	-	-

*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 within 10 km radius (total)
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo)	VU	N	Y	4.15	14
<i>Calyptorhynchus baudinii</i> (Baudin's cockatoo)	EN	N	Y	4.15	20
<i>Calyptorhynchus</i> sp. 'white-tailed black cockatoo'	EN	N	Y	2.82	122
<i>Engaewa reducta</i> (Dunsborough burrowing crayfish)	EN	N (need swampy headwaters of streams)	N	5.97	11
<i>Galaxiella munda</i> (Mud minnow, western dwarf galaxias)	VU	N (needs densely vegetated wetted area)	Y	1.33	44
<i>Geocrinia alba</i> (white-bellied frog)	CR	N (needs dense swamp)	Y	2.82	28
<i>Geocrinia vitellina</i> (orange-bellied frog)	VU	N	N	8.71	2
<i>Isodon fusciventer</i> (quenda, southwestern brown bandicoot)	P4	N	Y	5.76	2

A.4. Ecological community analysis table

Community name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil 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]
Reedia swamps - Blackwood Plateau	P 1	N	N	Y	6.5	8	N/A

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

A.5. Land degradation risk table

Risk categories	Land Unit 1 : Treeton Valley Phase
Wind erosion	H1: 53% of the map unit has a high to extreme hazard
Water erosion	L1: 1% of the map unit has a very high to extreme hazard
Salinity	L1: 0% of the map unit has a moderate or high hazard or is presently saline
Subsurface Acidification	H2: 100% of the map unit has a high susceptibility
Flood risk	L2: 0% of the map unit has a moderate to high hazard
Water logging	M1: 30 % of the map unit has a moderate to very high to risk
Phosphorus export risk	M1: 21 % of the map unit has a high to extreme hazard

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is not mapped within any threatened or priority ecological community (TEC/PEC) nor resemble any TEC/PEC within the local area. The application area is surrounded by cleared land and contains a dense weedy understorey. The proposed clearing area does not contain a significant assemblage of plants or fauna.</p>	Not likely to be at variance	No
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing area does not contain foraging, roosting, breeding, or significant habitat for conservation significant fauna. However, the proposed clearing area is within the 6 km buffer of confirmed roosting and breeding sites for black cockatoos.</p>	May be at variance	Yes (Section 3.2.1)
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>Photographs of the vegetation provided with the application do not indicate the presence of threatened flora. Threatened flora recorded in the local extent are distanced from the proposed clearing area. The area proposed to be cleared is unlikely to contain suitable habitat.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain species that resemble a TEC within the local area. The proposed clearing is unlikely to significantly impact a TEC.</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia. It is within the Jarrah Forest region which retains approximately 56% vegetation of its pre-European extent and the Blackwood Plateau and Plain Sub-region which retains 66% of its pre-European extent. The Treeton Vegetation Complex Valley (Tw) representative of the proposed clearing area retains 33.73% of its pre-European extent. The area within 10 km radius has a vegetation cover of 65.25%.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
The vegetation proposed to be cleared is not considered a significant ecological linkage in the local area.		
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>The nearest conservation area are the Wooditjup National Park and the Rapids Conservation Park – approximately 7 km northwest and 11 km northeast of the proposed clearing area, respectively. Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of these conservation areas.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing and the dam intercept a watercourse, which is a tributary to the Blackwood River. The native vegetation proposed to be cleared is growing in an environment associated with a watercourse.</p>	At variance	Yes (Section 3.2.2)
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils within the application area and the surrounding area are highly susceptible to subsurface compaction, wind erosion, waterlogging and phosphorus export risks. Clearing in the application area may pose risks to land degradation.</p>	May be at variance	Yes (Section 3.2.2)
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>Given the proposed clearing area is on the bank of a watercourse, clearing activities may result in sediment transport and affect the water quality within the watercourse and downstream. This potential impact, however, is temporary and short term.</p>	May be at variance	Yes (Section 3.2.2)
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>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.</p>	Not 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.



Figure 2. Photograph of trees proposed to be cleared (circled in the photo) and the vegetation adjacent to the application area (Noakes, 2021).

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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