



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8338/1
Permit Holder:	Forest Products Commission
Duration of Permit:	From 9 April 2020 to 9 April 2025

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

1. Purpose for which clearing may be done

Clearing for the purpose of commercially thinning a pine plantation.

2. Land on which clearing is to be done

Lot 4470 on Deposited Plan 29854, Karridale

3. Area of clearing

The Permit Holder must not clear more than 17.373 hectares of native vegetation within the area hatched yellow and 0.1587 hectares within the area hatched red on attached Plan 8338/1a, Plan 8338/1b and Plan 8338/1c.

4. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation from 1 September to 30 November of each calendar year.

5. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

6. Clearing not authorised

Clearing authorised under Condition 3 within the area hatched red on Plan 8338/1a, Plan 8338/1b and Plan 8338/1c.:

- is to be conducted by *hand-felling* or by machinery reaching into the area hatched red with no felled material to fall within the area hatched green on Plan 8338/1a, Plan 8338/1b and Plan 8338/1c.
- when undertaking clearing authorised under Condition 6(a) of this Permit, the Permit Holder shall not traverse the area hatched red on Plan 8338/1a, Plan 8338/1b and Plan 8338/1c with any machinery.
- condition 6(b) of this Permit does not apply to firebreaks within the area hatched red on Plan 8338/1a, Plan 8338/1b and Plan 8338/1c during *fire management activities* outside of *Geocrinia alba* breeding periods from 1 September to 30 November.

7. Restriction of access to conduct clearing

While conducting clearing authorised under condition 3 and 6 of this Permit, the Permit Holder must ensure no disturbance of any kind occurs as a result within the area hatched green on Plan 8338/1a, Plan 8338/1b and Plan 8338/1c.

8. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in 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.

9. Dieback and weed management

When undertaking any clearing authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the 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.

10. Fauna habitat management- pre-rainfall sediment control

The Permit Holder must inspect *sediment and runoff control measures* when a *significant rainfall event* is predicated to occur and implement *mitigation measures* to immobilise sediment within runoff from the pine thinning activities from flowing into the area hatched green on Plan 8338/1a, Plan 8338/1b and Plan 8338/1c.

11. Fauna habitat management- post-rainfall sediment control

The Permit Holder must inspect *sediment and runoff control measures* after every *significant rainfall event* for the first winter after thinning commences and apply further *mitigation measures* as required to immobilise sediment within runoff from the pine thinning activities from flowing into the area hatched green on Plan 8338/1a, Plan 8338/1b and Plan 8338/1c.

12. Record keeping

The Permit Holder must maintain the following records:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the boundaries of clearing undertaken on each date, recorded using a Global Positioning System GPS unit set to GDA94, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) the size of the area cleared (in hectares); and
 - (iii) method of clearing.
- (b) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 8 of this Permit.
- (c) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 9 of this Permit.
- (d) actions taken to manage pre-rainfall sediment in accordance condition 10 of this Permit.
- (e) actions taken to manage post-rainfall sediment in accordance condition 11 of this Permit.

13.. Reporting

- (a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:
 - (i) of records required under condition 12 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 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 year.
- (c) Prior to 9 January 2025, the Permit Holder must provide to the *CEO* a written report of records required under condition 12 of this Permit where these records have not already been provided under condition 12 (a) of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

dieback means the effect of Phytophthora species on native vegetation;

fill means material used to increase the ground level, or fill a hollow;

fire management activities means actions taken to reduce bushfire risk;

hand-felling means the cutting of a tree by axe, chainsaw or chainsaw;

mitigation measures means methods to prevent, reduce or control adverse environmental effects of sediment arising from the proposed clearing;

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;

sediment and runoff control measures means the installation of earth bunds, hay bales or similar, to act as sediment traps to prevent the movement of sediments in waterways.

significant rainfall event means 40 millimetres of rainfall, or greater is predicted by the Bureau of Meteorology, within a 24 hour period.

weed/s 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.

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Mathew Gannaway
SENIOR MANAGER
NATIVE VEGETATION REGULATION

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

11 March 2020

Plan 8338/1a

115°5'42.000"E

115°6'0.000"E

115°6'18.000"E

34°7'30.000"S

34°7'30.000"S

34°7'48.000"S

34°7'48.000"S







115°5'42.000"E

115°6'0.000"E

115°6'18.000"E

Legend

-  Area of no disturbance
-  Area subject to conditions
-  Area subject to conditions
-  Cadastre - LGATE 218



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Officer delegated under section 20 of the
Environmental Protection Act 1986

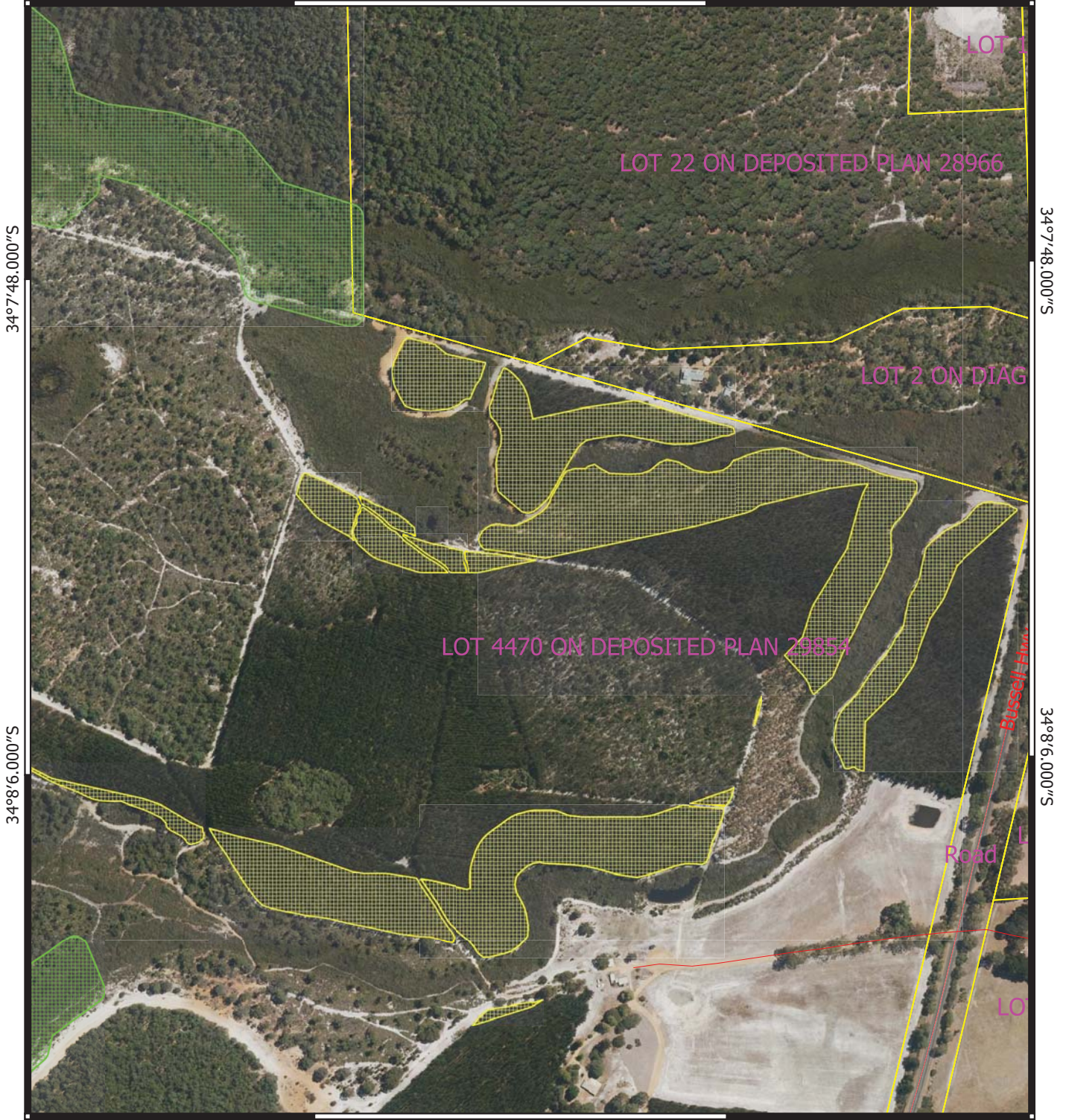


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WESTERN AUSTRALIA





Plan 8338/1b

115°6'18.000"E

115°6'36.000"E



Legend

-  Area of no disturbance
-  Area subject to conditions
-  Road Centrelines
-  Cadastre - LGATE 218



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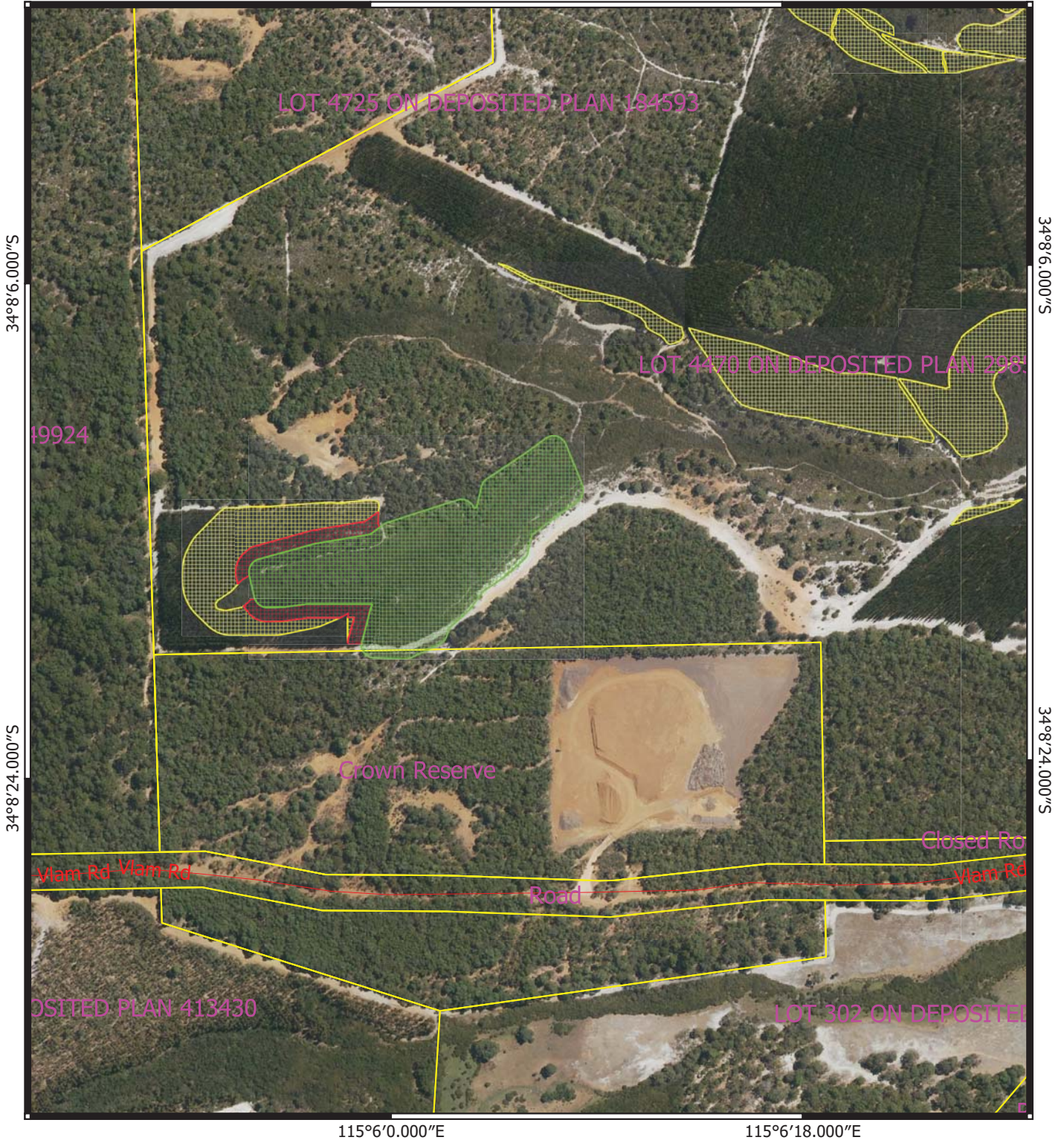


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



Plan 8338/1c

115°6'0.000"E

115°6'18.000"E




Legend

-  Area of no disturbance
-  Area subject to conditions
-  Area subject to conditions
-  Road Centrelines
-  Cadastre - LGATE 218



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Officer delegated under section 20 of the
Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA



1. Application details

1.1. Permit application details

Permit application No.: 8338/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Forest Products Commission
Application date: 22 January 2019

1.3. Property details

Property: Lot 4470 on Deposited Plan 29854
Local Government Authority: Shire of Augusta-Margaret River
Locality: Karridale

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category
18.5 (Revised to 17.373)		Mechanical Removal	Timber Harvesting

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 11 March 2020

Reasons for Decision: The clearing permit application was received on 22 January 2019 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing may be at variance with Principles (b), (h), and (i), and is not likely to be at variance with the remaining clearing principles.

The Delegated Officer determined that the proposed clearing may increase the risk of weeds and dieback spreading into the adjacent native vegetation. Weed and dieback management measures will mitigate this risk.

The Delegated Officer determined that the proposed clearing may impact on the habitat of *Geocrinia alba* (White-bellied Frog). To minimise impacts to the species, the clearing permit contains conditions including:

- The restriction of clearing to avoid the breeding season for the species.
- The exclusion of any activities within a 15 meter buffer of known habitat for the species.
- The exclusion of machinery within a buffer of 15 to 30 meters of known habitat for the species.
- Management measures to inspect sediment controls prior to significant rainfall events.

In determining to grant a clearing permit subject to conditions, the Delegated Officer determined that the proposed clearing is not likely to lead to any unacceptable impacts on the environment.

2. Site Information

Clearing Description: The application is for the proposed clearing of 18.5 hectares of native vegetation within Lot 4470 on Deposited Plan 29854, Karridale, for the purpose of commercially thinning a pine plantation.

Vegetation Description: The application area is mapped as the following vegetation complexes:

- 'H: Glenarty Hills - Uplands Open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Banksia grandis* with some *Eucalyptus diversicolor* on upland and slopes in hyperhumid and perhumid zones (Matiske and Havel, 1998).
- 'Hw: Glenarty Hills - Valleys Mixture of open forest of *Eucalyptus diversicolor*-*Callistachys lanceolata*, woodland of *Eucalyptus patens*-*Corymbia calophylla* and woodland of *Eucalyptus rudis*-*Melaleuca raphiophylla* on depressions in hyperhumid and perhumid zones (Matiske and Havel, 1998).

Officers from the Department of Water and Environmental Regulation (DWER) undertook a site inspection of the application area on 9 April 2019. It was determined that the vegetation within the application area is not consistent with the mapped vegetation complexes due to its current land use as a pine plantation. The application area contains mostly planted pine trees with an understory of sparse native vegetation regrowth (Figures 2-3 below) (DWER, 2019).

Vegetation Condition:

The condition of the vegetation within the application area is considered to be in degraded (Keighery, 1994) condition, which is described as containing a structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Soil Type:

The application area is mapped within the following soil complexes:

- Glenarty wet valley phase subsystem - Loamy gravels, duplex sandy gravels, sandy duplexes and wet and semi-wet soils (Schoknecht et al., 2004);
- Glenarty deep sandy slope phase subsystem - pale deep sands with some pale shallow sands and gravelly pale deep sands soil (Schoknecht et al., 2004); and
- Glenarty gentle slope phase - loamy gravels, duplex sandy gravels, semi wet soils and grey and yellow/brown deep sandy duplexes (Schoknecht et al., 2004).

Comment:

The local area considered in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area. According to available aerial imagery, the local area retains approximately 50 per cent native vegetation cover.

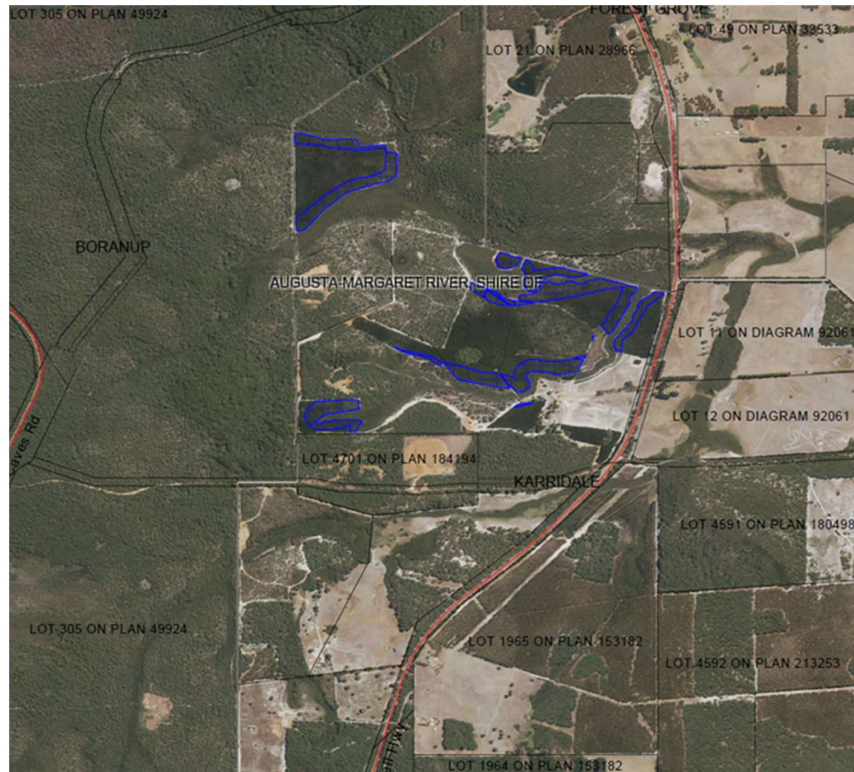


Figure 1. Map of application area (hatched blue)



Figure 2: Representative photograph of vegetation within the application area (DWER, 2019)



Figure 3: Representative photograph of vegetation within the application area (DWER, 2019)

3. Minimisation and mitigation measures

Consideration was given to hand falling plantation, however stocking level is too high to support this approach safely. Extraction of forest products will still require heavy machinery (Forest Products Commission, 2019).

4. Assessment of application against clearing principles, planning instruments and other relevant matters

(a) Native vegetation should not be cleared if it comprises a high level of biodiversity.

Proposed clearing is not likely to be at variance with this Principle

The condition of the vegetation within the application area is considered to be in degraded (Keighery, 1994) condition. The application is for the thinning of a pine plantation which has native vegetation regrowth within it. The native vegetation within the application area has been impacted by the historical land use as a pine plantation (DWER, 2019).

According to available datasets, four threatened flora species, 19 Priority flora species (listed by Department of Biodiversity, Conservation and Attractions (DBCA)) have been recorded within the local area (DBCA, 2007-). Based on the mapped soil and vegetation types within the application area, the application area may provide suitable habitat for the following three priority flora species:

- *Acacia inops* (Priority 3);
- *Actinotus repens* (Priority 3); and
- *Stylidium gloeophyllum* (Priority 4).

As discussed under Principle (c), four threatened flora species have been recorded within the local area (DBCA, 2007-). The application area may support suitable habitat for two threatened flora species known to occur within the local area, namely:

- *Drakaea micrantha* (Endangered under the *Biodiversity Conservation Act 2016* (BC Act), Vulnerable under the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act)); and
- *Reedia spathacea* (Endangered under the BC Act and Critically Endangered under the EPBC Act).

No flora surveys have been completed within the application area. However based on the condition and previous land use of the application area, the abovementioned threatened and priority flora are not likely to occur within the application area. Advice provided by DBCA (2019) noted that the closest recording of *Reedia spathacea* is 1.2 kilometres from the application area and the proposed timber harvesting is unlikely to impact on this species.

As discussed under Principle (b), a number of Threatened, priority and specially protected fauna species have been recorded within the local area. As the application area is almost entirely coniferous species with minimal understorey, it is not considered to provide significant habitat for indigenous fauna species. The removal of vegetation within a buffer of the known habitat of *Geocrinia alba* (White-bellied Frog) may impact the species through the increased risk of sedimentation, which is discussed further within Principles (b), (i), (g) and (f).

The nearest ecological community of conservation significance is '*Reedia spathacea - Empodisma gracillimum - Sporadanthus rivularis dominated floodplains and paluslopes of the Blackwood Plateau*' and located approximately 1.4 kilometres from the application area. This is listed as a Priority 1 Priority Ecological Community (PEC) by DBCA. The vegetation within the application area is not likely to resemble this PEC.

The vegetation within the application area is not considered to be representative of a State or Commonwealth listed Threatened Ecological Community (TEC).

As discussed under Principles (f) and (i), the application area intersects a minor perennial watercourse and a significant stream. McLeod Creek runs through Lot 4470 in close proximity to the proposed clearing areas. A site inspection identified that the native vegetation regrowth within the application area consists of riparian species (DWER, 2019). As the application area intersects a watercourse, the proposed clearing will impact on native vegetation growing in association with wetlands or watercourses and may cause degradation of surface water. Given the above, the proposed clearing may be at variance with Principle (i) and is at variance with Principle (f).

As the application area is not likely to contain significant habitat for fauna, is not representative of a TEC or PEC, is not likely to contain Priority or Threatened flora, the application area is not likely to comprise an area of high biodiversity and the proposed clearing is not likely to be at variance with this 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

Proposed clearing may be at variance with this Principle

As assessed within Principle (e), the application area is adjacent to the Leeuwin Naturaliste National Park (LNNP) and between the LNNP and the Forest Grove National Park. Although the application area falls between the two national parks, it is not considered part of the larger remnant due to the vegetation being a pine plantation and is not considered part of the ecological linkage between the two national parks.

According to available databases, 19 Threatened fauna species, seven priority fauna species, one specially protected fauna species, and two fauna species protected under international agreement have been recorded within the local area (DBCA, 2007-):

- *Austroassiminea lethra* (Cape Leeuwin Freshwater Snail) (vulnerable under the *Biodiversity Conservation Act 2016* (BC Act));
- *Bettongia penicillata* subsp. *ogilbyi* (Woylie, Brush-tailed Bettong) (endangered under Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), critically endangered under the BC Act);
- *Calyptorhynchus banksii* subsp. *naso* (forest red-tailed black cockatoo) (vulnerable under EPBC Act and the BC Act);

- *Calyptorhynchus baudinii* (Baudin's Cockatoo, white-tailed long-billed black cockatoo) (endangered under EPBC Act and the BC Act);
- *Calyptorhynchus latirostris* (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo) (endangered under EPBC Act and the BC Act);
- *Dasyurus geoffroii* (Chuditch, Western Quoll) (vulnerable under EPBC Act and the BC Act);
- *Galaxiella munda* (mud minnow, western dwarf galaxias) (vulnerable under the BC Act);
- *Geocrinia alba* (White-bellied Frog) (endangered under the EPBC Act, critically endangered under the BC Act);
- *Hydroprogne caspia* (Caspian Tern) (migratory species under the BC Act);
- *Leipoa ocellata* (Malleefowl) (listed as vulnerable under the EPBC Act and the BC Act);
- *Macronectes giganteus* (Southern Giant Petrel) (endangered under the EPBC Act, migratory species under the BC Act);
- *Nannatherina balstoni* (Balston's Pygmy Perch) (vulnerable under the EPBC Act and the BC Act);
- *Petrogale lateralis* subsp. *lateralis* (Black-flanked Rock-wallaby, Black-footed Rockwallaby) (endangered under the EPBC Act and the BC Act);
- *Phascogale tapoatafa* subsp. *wambenger* (South-western Brush-tailed Phascogale, Wambenger) (conservation dependent fauna under the BC Act);
- *Plegadis falcinellus* (Glossy Ibis) (migratory species under the BC Act);
- *Potorous gilbertii* (Gilbert's Potoroo) (critically endangered under the EPBC Act and the BC Act);
- *Pseudocheirus occidentalis* (Western Ringtail Possum) (critically endangered under the EPBC Act and the BC Act);
- *Pseudomys fieldi* (Shark Bay Mouse, Djoongari) (vulnerable under the EPBC Act and the BC Act);
- *Pseudomys shortridgei* (Heath Mouse, Heath Rat, Dayang) (listed as endangered under the EPBC Act and vulnerable under the BC Act);
- *Setonix brachyurus* (Quokka) (vulnerable under EPBC Act and the BC Act); and
- *Westralunio carteri* (Carter's Freshwater Mussel) (vulnerable under EPBC Act and the BC Act).

The following fauna species listed as Priority by DBCA have been recorded within the local area (DBCA, 2007-):

- *Falsistrellus mackenziei* (Western False Pipistrelle, Western Falsistrelle) P4;
- *Hydromys chrysogaster* (Water-rat, Rakali) P4;
- *Isoodon fusciventer* (Quenda, southwestern brown bandicoot) P4;
- *Notamacropus eugenii* subsp. *derbianus* (Tammam Wallaby, Tammam) P4;
- *Notamacropus irma* (Western Brush Wallaby) P4;
- *Thinornis rubricollis* (Hooded Plover, Hooded Dotterel) P4; and
- *Tyto novaehollandiae* subsp. *novaehollandiae* (Masked Owl (southwest)) P3.

The site inspection confirmed the application area does not contain suitable breeding habitat for the threatened cockatoo species, however may provide foraging habitat for black cockatoos (DWER, 2019). DWER notes that the black cockatoos are more likely to forage on the non-native Pinus species over the small native understorey shrubs within the application area.

As the application area contains mostly planted coniferous species with very sparse understorey, it is not considered to provide significant habitat for majority of the ground dwelling species within the local area as suitable habitat for these species can be found in the adjacent Leeuwin-Naturaliste National Park.

The proposed clearing may impact the species *Geocrinia alba* (White-bellied Frog). The species has a limited distribution, a specific habitat requirement and is considered to be a very sedentary species (DBCA, 2019). DBCA have noted that disturbances to the habitat of this species can lead to localised extinction of sub-populations or be very damaging. It is considered that the vegetation within the 30m buffer of the habitat for this species is critical for the species as it contributes to soil stability and maintenance of the *Geocrinia alba* (White-bellied Frog) habitat.

Noting that the vegetation within the application area contributes to maintenance of a significant habitat for indigenous fauna species, the proposed clearing may result in the loss of significant fauna habitat.

Given the above, the proposed clearing may be at variance with this Principle. Avoiding clearing activity when soil moisture content is at its lowest to avoid sedimentation and avoid clearing during the breeding season (September- November) will assist in mitigating impacts to *Geocrinia alba* (White-bellied Frog).

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.

Proposed clearing is not likely to be at variance with this Principle

According to available datasets, four threatened flora species have been recorded within the local area, namely;

- *Lambertia orbifolia* subsp. Scott River Plains (L.W. Sage 684) (Endangered under the EPBC Act and the BC Act);
- *Caladenia excelsa* (Endangered under the EPBC Act and the BC Act);
- *Drakaea micrantha* (Threatened under the BC Act, Vulnerable under the EPBC Act); and
- *Reedia spathacea* (Threatened under the BC Act and Critically Endangered under the EPBC Act).

The species *Lambertia orbifolia* subsp. Scott River Plains (L.W. Sage 684) has been recorded in yellow-brown sand and clay sand and is recorded growing in wet areas and normally within Jarrah woodland or forest. Given the application area is a pine plantation and has historical disturbance, it is unlikely that this species would occur within the application area.

The species *Caladenia excelsa* is known from 18 records and has been recorded in sand and loam soils in Eucalyptus woodland. Given the application area does not contain the vegetation preferences of this species, it is not likely that the species would occur within the application area.

Drakaea micrantha is known from 49 records across a range of soil and vegetation types. A recording of this species is located approximately 3200 meters from the application area within the same mapped soil and vegetation types as the application area. Given the application area does not represent the vegetation type mapped for the area and contains little native vegetation, it is considered unlikely that the species *Drakaea micrantha* would be present within the application area.

The closest recording of a threatened flora species to the application area is the species *Reedia spathacea* located approximately 1200 meters from the application area. While this recording was from the same mapped soil and vegetation type as the application area, it is considered as the vegetation within the application area is almost exclusively pine plantation, it is not likely that the species *Reedia spathacea* would be in the application area. DBCA indicated the species is not likely to be impacted by the proposed pine plantation thinning (DBCA, 2019).

The proposed clearing is not likely to be at variance with this 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.

Proposed clearing is not likely to be at variance with this Principle

According to available datasets, no state listed TECs are mapped within the application area. The application area is not considered to comprise the whole or a part of, or be necessary for the maintenance of a state listed TEC.

The proposed clearing is not likely to be at variance with this 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.

Proposed clearing is not likely to be at variance with this Principle

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

As indicated in Table 1, the Warren Interim Biogeographic Regionalisation of Australia bioregion and the two mapped South-West Vegetation complexes all retain greater than 30 per cent of their pre-European extents.

The local area retains approximately 50 per cent native vegetation cover.

Given the above, the application area is not likely to be significant as a remnant of native vegetation in an area that has been extensively cleared. The proposed clearing is not likely to be at variance with this Principle.

Table 1: Bioregion and local government vegetation extent statistics (Government of Western Australia, 2019)

	Pre-European extent (ha)	Current extent (ha)	(%) remaining	Current extent in all DBCA managed land (ha)	% Current Extent in all DBCA managed land (proportion of Pre-European extent)
IBRA bioregion					
Warren	833,986	659,438.59	79	557,880	84.6
Mattiske vegetation complex					
Glenarty Hills, H	7,709.53	2,444.64	31.71	643.64	8.35
Glenarty Hills, Hw	2,735.95	967.84	35.37	203.26	7.43

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is at variance with this Principle

According to available datasets, the application area intersects a mapped floodplain in a number of areas, intersects a minor perennial watercourse and is in close proximity to McLeod creek.

The site inspection observed the regrowth within the application area was predominantly riparian species of sedges and tea-tree with the regrowth being limited mostly to the areas closest to the creeks (DWER, 2019). The regrowth within this portion of the application area is considered to be growing in, or in association with, an environment associated with a watercourse.

Given the above, the proposed clearing is at variance with this Principle.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing is not likely to be at variance with this Principle

As discussed within Section 2, the chief soils mapped within the application area are the Glenarty wet valley phase subsystem, Glenarty deep sandy slope phase subsystem and Glenarty gentle slope phase (Schoknecht et al., 2004). Each of the chief soils has a low to medium risk for majority of the land degradation risks, with the Glenarty wet valley phase having a slightly higher risk of water logging and phosphorus export risk. The proposed clearing is to enable the thinning of a pine plantation within a footprint of 18.5 hectares. Given that a significant amount of vegetation will be retained, it is not likely that the proposed clearing will cause appreciable land degradation.

Advice from DBCA has noted that the white sandy soils within the application area may be disturbed by the use of machinery for clearing particularly if the proposed clearing is not appropriately timed (DBCA, 2019). While such disturbance may not be considered appreciable land degradation, the potential increased runoff from clearing activities may result in sedimentation and increased runoff which may impact the species *Geocrinia alba* (White-bellied Frog). Avoiding clearing activity when soil moisture content is at its lowest to avoid sedimentation and avoid clearing the breeding season (September- November) will assist in mitigating impacts to *Geocrinia alba* (White-bellied Frog).

Table 2: Soil types and land degradation risk within the application area

Land Degradation Risk Category	Glenarty wet valley Phase	Glenarty deep sandy slope Phase	Glenarty gentle slope Phase
Wind erosion	<3% of map unit has a high to extreme wind erosion risk	30-50% of map unit has a high to extreme wind erosion risk	10-30% of map unit has a high to extreme wind erosion risk
Water erosion	30-50% of map unit has a high to extreme water erosion risk	30-50% of map unit has a high to extreme water erosion risk	3-10% of map unit has a high to extreme water erosion risk
Salinity	30-50% of map unit has a moderate to high salinity risk or is presently saline	30-50% of map unit has a moderate to high salinity risk or is presently saline	30-50% of map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	30-50% of map unit has a high subsurface acidification risk or is presently acid	30-50% of map unit has a high subsurface acidification risk or is presently acid	3-10% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	30-50% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk
Water logging	50-70% of map unit has a moderate to very high waterlogging risk	10-30% of map unit has a moderate to very high waterlogging risk	10-30% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	50-70% of map unit has a moderate to very high phosphorus export risk	10-30% of map unit has a moderate to very high phosphorus export risk	10-30% of map unit has a moderate to very high phosphorus export risk

Given the above the proposed clearing is not likely to be at variance with this 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.

Proposed clearing may be at variance with this Principle

According to available databases, the nearest conservation area is the Leeuwin-Naturaliste National Park (LNNP) located approximately 10 meters from the application area at its closest point. Noting the distance, the proposed clearing may impact on the environmental values of this conservation area by the introduction of weeds and dieback. Weed and dieback management conditions will assist in mitigating impacts to the conservation reserve.

The proposed clearing may be at variance with this 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.

Proposed clearing may be at variance with this Principle

As discussed under Principle (f), the application area intersects a mapped floodplain in a number of areas, intersects a minor perennial watercourse and is in close proximity to McLeod creek.

As detailed under Principle (g), the soil units within the application area have a moderate risk in the land degradation categories. Given the distance to the perennial watercourses and the medium risk level of water erosion, it is considered that the proposed clearing may cause some deterioration of the surface water quality in the perennial watercourse. While potential impacts to surface water quality would be minimal and short term, any change to surface water quality may impact on the species *Geocrinia alba* (DBCA, 2019). Avoiding clearing activity when soil moisture content is at its lowest to avoid sedimentation and avoid clearing during the breeding season (September- November) will assist in mitigating impacts to *Geocrinia alba* (White-bellied Frog).

In relation to groundwater quality, the proposed clearing is not expected to result in changes to groundwater levels or quality given the size of the application area in relation to the extent of vegetation cover in the local area.

The proposed clearing may be at variance with this Principle.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance with this Principle

Noting the size of the application area and the extent of native vegetation cover in the local area, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding.

The proposed clearing is not likely to be at variance with this Principle.

Planning instruments and other relevant matters.

The application was advertised on DWER's website on 12 February 2019 for a period of 21 days, inviting submissions from members of the public. No public submissions were received.

The application area is located within the Lower Blackwood River Surface Water Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Undertaking works that obstruct, interfere or destroy the bed or banks of a watercourse or wetland within a proclaimed surface water area may require approval under the RIWI Act. Noting all riparian vegetation would be excluded from clearing due to the 15 meter no disturbance buffer directly around the watercourse, approvals under the RIWI Act is not required.

5. Reconsideration of clearing principles following applicants submissions

On 29 July 2019, DWER wrote to the applicant, outlining the impacts identified during the assessment of the application, and inviting the applicant to provide additional advice addressing these matters. The applicant was provided with the option to avoid clearing along the watercourse within the application area and providing a 30 meter buffer surrounding the known habitat for *Geocrinia alba* (White-bellied Frog). The applicant was also requested to provide detail of management measures to mitigate risk of water erosion that may impact on surface water quality in *Geocrinia alba* (White-bellied Frog) habitat.

The applicant provided a response to the above matters on 2 September 2019 that included the following management measures:

- Avoid any activities during the breeding season (September through to November);
- No harvest activity on plantation firebreak;
- 10m no machine movements buffer within the plantation (reach in and thin 2 outside rows stand from within);
- Avoid disturbance of native vegetation within the ESA where practicable and promote its release and dominance where possible;
- Retain harvesting debris on extractions rows to act as filter strips and protect the soil from machine disturbance;
- Inspect extraction rows post thinning and place hay bales(or similar) to act as silt traps if deemed necessary; and
- Inspect the site after every significant rainfall event for the first winter post thinning and apply further mitigation measures if deemed necessary.

DWER sought further advice from DBCA on the proposed measures to ensure the management measures were adequate to minimise impacts to the habitat of *Geocrinia alba* (White-bellied Frog).

DWER responded to the applicant on 9 December 2019 requesting clarification of the proposed management measures, incorporating advice received from DBCA. The response from DWER requested a 15 meter buffer around the *Geocrinia alba* (White-bellied Frog) habitat which is to be an exclusion area from any disturbance. A second buffer that covers an area from 15 to 30 meters around *Geocrinia alba* (White-bellied Frog) habitat within which no machinery would be permitted. The exception to the 'no machinery' exclusion area would be that the fire breaks may be traversed for fire management activities outside of *Geocrinia alba* (White-bellied Frog) breeding season (September to November). DWER also requested that management measures for sediment included assessment for sediment risk to occur before significant rainfall events.

The applicant replied to the request on 24 January 2020 accepting the additional management measures proposed by DWER.

It is considered that with incorporating the buffer zones around the watercourses, the proposed clearing is not likely to be at variance with Principle (f) as it is likely that all riparian vegetation would be excluded from clearing due to the 15 meter no disturbance buffer directly around the watercourse. It is considered that the variance levels to the remaining clearing principles remain unchanged as management measures are required to be applied to mitigate risk. The management measures are considered sufficient to mitigate the risk to the habitat and individuals of *Geocrinia alba* (White-bellied Frog) and a permit to clear has been conditioned accordingly.

6. References

- Commonwealth of Australia (2001). National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Department of Biodiversity, Conservation and Attractions (DBCA)(2017) Fauna Profile-White-bellied and Orange-bellied Frogs Geocrinia species. Government of Western Australia. URL: https://www.dpaw.wa.gov.au/images/documents/plants-animals/animals/animal_profiles/geocrinia_fauna_profile_2017.pdf
- Department of Biodiversity, Conservation and Attractions (DBCA) (2019) Regional Advice regarding Clearing Permit Application CPS 8338/1. DWER ref.: A1845512, A1782929
- Department of Primary Industries and Regional Development (DPIRD) (2018) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (Accessed February 2019).
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- Forest Products Commission (2019) Clearing Permit Application CPS 8338/1. DWER Ref:A1757949
- Forest Products Commission (2019) Response to request for information. DWER ref:A1821099
- Forest Products Commission (2019) Response to request for information. DWER ref:A1867008
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- Government of Western Australia (2019). 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
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- Mattiske, E.M. and Havel, J.J. (1998). Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.
- Schoknecht, N., Tille, P. and Purdie, B. (2004) Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs' Resource Management Technical Report No. 280. Department of Agriculture.
- Western Australian Herbarium (1998-) FloraBase-the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> (accessed February 2019).

GIS Databases:

- Aboriginal Sites of Significance
- DBCA Managed Estate
- Directory of Important Wetlands
- Geomorphic Wetlands Augusta to Walpole
- Groundwater salinity
- Hydrography, hierarchy
- Hydrography, linear
- Land Degradation datasets
- SAC Bio Datasets
- Soils, Statewide
- Topographic contours
- Vegetation Complexes south west forest