



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 7815/1
Permit Holder:	Wheatbelt Natural Resource Management Incorporated
Duration of Permit:	3 March 2018 – 3 March 2023

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

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of constructing a flushing channel and flow control structures.

2. Land on which clearing is to be done

Lot 6296 on Deposited Plan 141728, Ewlyamartup.

Lot 31 on Deposited Plan 227448, Ewlyamartup.

Lot 33 on Deposited Plan 227448, Ewlyamartup.

Lot 199 on Deposited Plan 227448, Ewlyamartup.

Lot 234 on Deposited Plan 227448 (Crown Reserve 16358), Ewlyamartup.

Un-named road reserve (PIN 11258633), Ewlyamartup.

3. Area of Clearing

The Permit Holder must not clear more than 7.89 hectares of native vegetation within the areas cross-hatched yellow on attached Plan 7815/1.

4. 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.

PART II – MANAGEMENT CONDITIONS

5. 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:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

6. Dieback and weed control

When undertaking any clearing or other activity 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*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III - RECORD KEEPING AND REPORTING

7. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the species composition, structure and density of the cleared area;
 - (ii) 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;
 - (iii) the date that the area was cleared;
 - (iv) the size of the area cleared (in hectares);
 - (v) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 5 of this Permit; and
 - (vi) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 6 of this Permit.

8. Reporting

The Permit Holder must provide to the CEO the records required under condition 7 of this Permit, when requested by the *CEO* or *Delegated Officer*.

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*;

Delegated Officer: means the person appointed by the CEO to administer 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;

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;

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 Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



Mathew Gannaway

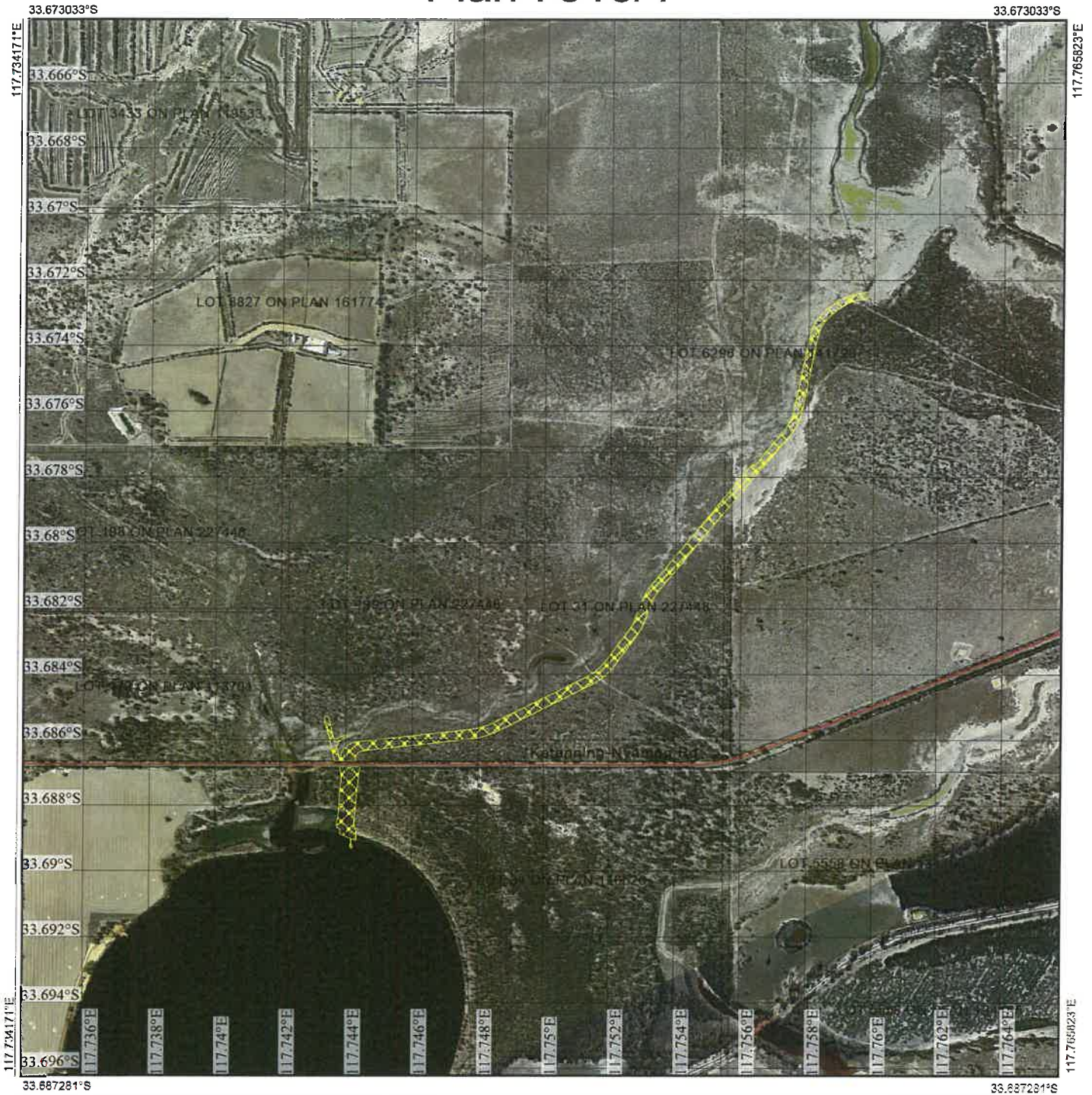
MANAGER

CLEARING REGULATION



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

2 February 2018

Plan 7815/1



Legend

-  Imagery (Legacy Virtual Mosaic)
-  Clearing Instruments Activities



1:15,546

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

Matthew Gannaway Date 02/02/2018

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986



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1. Application details

1.1. Permit application details

Permit application No.: 7815/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Wheatbelt Natural Resource Management Inc
Application received date: 15 October 2017

1.3. Property details

Property: Lot 6296 on Deposited Plan 141728
Lot 33 on Deposited Plan 227448
Lot 31 on Deposited Plan 227448
Lot 199 on Deposited Plan 227448
Lot 234 on Deposited Plan 227448 (Crown Reserve 16358)
Un-named Road reserve - 11258633
Local Government Authority: Shire of Katanning
Localities: Ewlyamartup

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
7.89		Mechanical Removal	Infrastructure maintenance

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 2 February 2018

Reasons for Decision: The clearing permit application 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 is at variance to principle (f), may be at variance to principles (i) and (h), and is not likely to be at variance to the remaining clearing principles.

Based on the assessment of the application area, the Delegated Officer determined that the proposed clearing:

- will impact on vegetation growing in association with watercourses and a wetland;
- may impact on the short term water quality of watercourses and a wetland; and
- may result in the spread of weeds and dieback into a nearby conservation area.

The applicant has minimised impacts to riparian habitat through minimising the clearing footprint to include vegetation that is largely in a degraded (Keighery, 1994) condition, and include only a small portion of fringing riparian vegetation associated with Ewlyamartup Lake. The applicant has also limited the extent of the application area north, as to not encroach on the Cobline Nature Reserve, thereby reducing direct impacts to this conservation area.

After consideration of the above, the Delegated Officer determined that while the proposed clearing will impact on some riparian vegetation, and may result in the short term sedimentation of watercourses and a wetland, given the linear shape of the application area and minimal extent of riparian vegetation proposed for clearing, within a larger remnant of 711 hectares, the proposed clearing is unlikely to significantly impact on riparian habitats within the broader area.

The Delegated Officer also took into consideration the overall purpose of the proposed clearing, which is to facilitate a flushing channel from Ewlyamartup Lake to Cobline River to achieve improved water quality in Ewlyamartup Lake, which may in turn lead to improvements in the health of fringing riparian vegetation as a result of lower salt concentrations.

A weed management condition has been placed on the clearing permit to minimise the risk of weeds and dieback spreading into adjacent areas of remnant vegetation, including into the abovementioned Cobline Nature Reserve.

In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description: The applicant proposes to clear up to 7.89 hectares of native vegetation (within a larger footprint area of 36.71 hectares) to facilitate a 2.8 kilometre flushing channel and diversion bund area from Ewlyamartup Lake to Cobline River (Figure 1).

The proposed clearing is part of a larger project known as the Living Lakes Project, which has the objective of improving the water quality of Ewlyamartup Lake.

Vegetation Description

The application area is mapped as the following Beard vegetation associations:

- 2093: Described as succulent steppe with open woodland and scrub; yate over teatree and samphire;
- 1023: Described as medium woodland; York gum, wandoo and salmon gum (*Eucalyptus salmonophloia*); and
- 125: Described as bare areas; salt lakes.

Strategen Environmental Consultants Pty Ltd (Strategen) conducted a flora and vegetation assessment (including a survey conducted in July 2017) over a larger footprint area (36.71 hectares) encompassing the application area. The flora and vegetation assessment identified four vegetation types within the application area (Strategen, 2017):

- *Acacia saligna* and *Jacksonia furcellata* shrubland over grassland of *Ehrharta calycina* (comprises approximately 0.31 hectares of the application area);
- *Casuarina obesa* and *Eucalyptus loxophleba* woodland over *Tecticomia lepidosperma* samphire shrubland (comprises approximately 0.84 hectares of the application area);
- *Tecticomia pergranulata* open samphire shrubland (comprises approximately 4.52 hectares of the application area); and
- *Eucalyptus loxophleba* and *Eucalyptus spathulata* open mallee woodland over *Tecticomia pergranulata* open samphire shrubland (comprises approximately 2.11 hectares of the application area).

Vegetation Condition

Good; Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

To

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

The flora and vegetation assessment indicates that the vegetation within the application area ranges from a degraded (Keighery, 1994) to good (Keighery, 1994) condition, with the majority of the vegetation in a degraded (Keighery, 1994) condition (Strategen, 2017).

Soil type

The application area occurs within two mapped landform subsystems, being:

- Coblinine 4 Subsystem (comprises approximately 90 per cent of the application area), which is described as lakes and swamps along with small areas of lunettes, swales and dunes, including saline and fresh lakes such as Lake Dumbleyung and Lake Toolibin. This subsystem contains saline wet soils and salt lake soils with grey hard cracking clays and grey duplex soils; and
- Coblinine 5 Subsystem (comprises approximately 10 per cent of the application area), which is described as Larger lunettes, dunes and swales to the east and south east of lakes and swamps along the Coblinine River.



Figure 1: Application Area

3. Minimisation and mitigation measures

The applicant has advised that extensive environmental analysis has been undertaken for this project, before, during and following the design of the engineering works, with the location and alignment of the engineering works specifically chosen to minimise disturbance to native vegetation in the locality. The applicant advised that the development of the engineering designs included consideration of limiting impacts on the following (Wheatbelt Natural Resource Management, 2018):

- A priority 3 flora species that occurs within the vicinity of the Lake, with the application area avoiding previously recorded occurrences of this species;
- The Wheatbelt Woodlands federally listed Threatened Ecological Community (TEC), with the application area avoiding previously recorded nearby occurrences of this TEC;
- Littoral trees that are currently being destabilised due to waterlogging; and
- Any areas supporting native vegetation north of the Katanning-Nyabing Road and within the Coblinine Nature Reserve.

The applicant noted that the majority of the vegetation in the immediate vicinity of the works is in a degraded condition, and is declining due to water quality and salt loads. The applicant noted that the quality of the vegetation was a consideration in the drainage alignment, with a preference for vegetation that had undergone the greatest level of historical disturbance (Wheatbelt Natural Resource Management, 2018).

4. Assessment of application against clearing principles

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

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

The application is to clear a linear area of up to 7.89 hectares of native vegetation (within a larger footprint area of 36.71 hectares) to facilitate a 2.8 kilometre flushing channel and diversion bund area from Ewlyamartup Lake to Coblinine River. The purpose of these works is to improve the water quality of Ewlyamartup Lake, via increased flushing and the lowering of salt loads.

As discussed under Section 2, Strategen conducted a flora and vegetation assessment (herein referred to as the Assessment) over a larger footprint area (36.71 hectares) encompassing the application area, which included a flora and vegetation survey. The Assessment noted that a total of 32 vascular plants from 23 genera and 14 families were recorded in the survey, with the majority of taxa recorded from the Myrtaceae (7 taxa) and Chenopodiaceae (6 taxa) families. The Assessment noted that the relatively low number of plant genera recorded reflects the disturbed nature of the survey area, with the majority of the application area in a degraded (Keighery 1994) condition due to the effects of secondary salinity (Strategen, 2017).

The application area largely occurs on a floodplain and is mapped as an area subject to inundation. As noted under Section 2, the application area contains four vegetation types (Strategen, 2017), with the two dominant vegetation types comprising:

- *Tecticornia pergranulata* open samphire shrubland (comprises approximately 4.52 hectares of the application area); and
- *Eucalyptus loxophleba* and *Eucalyptus spathulata* open mallee woodland over *Tecticornia pergranulata* open samphire shrubland (comprises approximately 2.11 hectares of the application area).

The local area considered in the assessment of this application is defined as a 10 kilometre radius surrounding the application area. The local area contains approximately 16.7 per cent (7,522 hectares) native vegetation cover.

According to available datasets there are four priority flora species recorded within the local area (Western Australian herbarium, 1998-):

- *Banksia acanthopoda* (Priority 2) is a spreading, non-lignotuberous shrub that grows within gravelly clay-sand over laterite on low ridges, with the closest recorded occurrence approximately 2.1 kilometres north of the application area;
- *Verticordia coronata* (Priority 3) is an erect or spreading shrub that grows within clay loam, and sometimes gravelly clay and sandy loam, with the closest recorded occurrence approximately 6.2 kilometres east of the application area;
- *Melaleuca pritzelii* (Priority 3) is a shrub, that grows within sandy or clayey soils and swampy areas, with the closest recorded occurrence approximately 1.25 kilometres east of the application area; and
- *Frankenia glomerata* (Priority 4) is a prostrate shrub that grows within white sand, with the closest recorded occurrence approximately 2.1 kilometres north west of the application area.

Noting the descriptions of preferred habitat for the abovementioned species, the application area may provide suitable habitat for *Verticordia coronata* and *Melaleuca pritzelii*.

The aforementioned flora and vegetation field survey which encompassed the application area was undertaken in July 2017 as part of the Assessment. The Assessment notes that the field survey was undertaken in accordance with the Environmental Protection Authorities 'Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment' and involved traversing the survey area on foot to record changes in vegetation type and structure (Strategen, 2017). Twelve relevés were surveyed to identify vegetation types and flora which were described and sampled systematically at each relevé, with additional opportunistic collections undertaken wherever previously unrecorded plants were observed (Strategen, 2017).

The flora and vegetation survey did not identify any priority flora species within the application area. While it is noted that a more ideal time of survey would have been during spring months between September and November, given the survey findings, the extent of clearing within a larger 711 hectare remnant, and that the vegetation within the application area is largely in a degraded (Keighery, 1994) condition, the proposed clearing is considered unlikely to impact on any priority flora species.

As discussed under Principle (c), one rare flora species has been recorded within the local area. The application area does not provide suitable habitat for this species and noting that the flora and vegetation survey did not identify any rare flora within the application area (Strategen, 2017), the proposed clearing is unlikely to impact on any rare flora.

The closest mapped priority ecological community (PEC) to the application area is the Priority 3 'Eucalypt Woodlands of the Western Australian Wheatbelt', which has been recorded approximately 50 metres from the northern portion of the application area. As discussed under Principle (d), this PEC is also listed as a 'Critically Endangered' TEC under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Noting the largely degraded (Keighery, 1994) condition of the application area, it is unlikely to be truly representative of this community. The applicant also advised that they avoided all previously recorded nearby occurrences of this TEC during the design of the project (Wheatbelt Natural Resource Management, 2018).

As discussed under Principle (b), noting the linear shape of the application area, its degraded (Keighery, 1994) condition within a larger remnant of 711 hectares, the absence of large habitat trees (Strategen, 2018), and that it is unlikely to provide significant fauna linkage values, the application area is unlikely to provide significant fauna habitat.

Given that the application area is unlikely to contain any rare or priority flora species, is not representative of any TEC's or PEC's and does not contain significant fauna habitat, the proposed clearing is not likely to comprise a high level of biological diversity and is not likely to be at variance to 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 indigenous to Western Australia.

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

According to available databases, there are 12 species of conservation significant fauna recorded within the local area (Department of Biodiversity, Conservation and Attractions (DBCA), 2007-) and the Assessment identified that the application area has the potential to provide suitable habitat for eight of these species, being; common sandpiper (*Actitis hypoleucos*), sharp-tailed sandpiper (*Calidris acuminata*), red-necked stint (*Calidris ruficollis*), long-toed stint (*Calidris subminuta*), Carnaby's cockatoo (*Calyptorhynchus latirostris*), peregrine falcon (*Falco peregrinus*), rainbow bee-eater (*Merops ornatus*) and common greenshank (*Tringa nebularia*) (Strategen, 2017).

The common sandpiper, sharp-tailed sandpiper, red-necked stint, long-toed stint, peregrine falcon, rainbow bee-eater and common greenshank are all highly mobile avian species which occupy large home ranges, and noting the extent of proposed clearing, its linearity, the degraded (Keighery, 1994) condition of the application area and lack of large habitat trees (Strategen, 2018), the proposed clearing is unlikely to impact on significant habitat for these species.

Carnaby's cockatoo is classified as rare or likely to become extinct as Endangered fauna under the *Wildlife Conservation Act 1950*, and Endangered under the EPBC Act. Carnaby's cockatoo forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea*, *Grevillea*), Eucalypts, *Corymbia* species and a range of introduced species (Valentine and Stock, 2008).

As discussed under Section 2, the application area includes two recorded vegetation types with mixed *Eucalyptus loxophleba* woodland (totalling 2.95 hectares) (Strategen, 2017), which is considered suitable foraging habitat for Carnaby's cockatoo. While the presence of suitable foraging habitat in the form of *Eucalyptus loxophleba* is acknowledged, the understory communities described for the recorded vegetation types are not the preferred foraging habitat for Carnaby's cockatoo.

The application area occurs within a larger 711 hectare remnant (application area comprises 1.1 per cent of the total remnant) which contains several mapped occurrences of the aforementioned Eucalypt Woodlands of the Western Australian Wheatbelt TEC, which is likely to provide higher quality foraging habitat than the application area. The northern portion of the application area is also adjacent to the southern extent of the Coblinine Nature Reserve which comprises approximately 2393 hectares of native vegetation. Noting this, and the largely degraded (Keighery, 1994) condition of the application area, it is not likely to provide significant foraging habitat for Carnaby's cockatoo.

'Breeding habitat' for Carnaby's cockatoo is defined 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. For most tree species, a suitable DBH is 500 millimetres (Commonwealth of Australia, 2012). Follow up advice from Strategen on the findings of the Assessment noted that no trees with a DBH of greater than 500 millimetres were recorded within the application area and no hollows greater than 120 millimetres in diameter were recorded from trees within the application area (Strategen, 2018). Given this, the application area is unlikely to provide suitable breeding habitat for Carnaby's cockatoo.

The application area forms part of a larger 711 hectare remnant of native vegetation that provides important ecological linkage values within a highly cleared landscape, and is likely to facilitate landscape connectivity and contribute to fauna dispersal between larger isolated bushland fragments. The applicant has advised that the proposed drain will remain unfenced, be largely less than one meter deep, and have traffic crossover areas that terrestrial fauna could traverse. Noting this information, the proposed clearing of a linear 7.89 hectare area (at a maximum width of 30 metres) within the larger remnant is not expected to impact on the ecological linkage values provided by the larger remnant.

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

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

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

According to available datasets, there is one species of rare flora recorded within the local area, which occurs approximately 4.8 kilometres south east of the southernmost portion of the application area. This species is a tuberous, perennial, herb that grows within lateritic sand (Western Australian Herbarium, 1998-).

As discussed under Principle (a), a flora and vegetation field survey which encompassed the application area was undertaken in July 2017 as part of the Assessment. The Assessment determined that the preferred soil and habitat type for this species does not occur within the application area and as such this species is unlikely to occur within the application area (Stratagen, 2017).

The flora and vegetation survey did not identify any rare flora species within the application area. While it is noted that a more ideal time of survey would have been during spring months between September and November, given the survey findings, lack of recorded rare flora species within the local area that prefer the habitat type of the application area, and that the vegetation within the application area is largely in a degraded (Keighery, 1994) condition, the proposed clearing is considered unlikely to impact on any rare flora species.

Given the above, the proposed clearing is not likely to be at variance to 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 to this Principle

According to available datasets, the application area is approximately 50 metres from a mapped occurrence of the Eucalypt Woodlands of the Western Australian Wheatbelt TEC (herein referred to as the Wheatbelt Woodlands). As discussed under Principle (a), this community is listed federally as a TEC (Critically Endangered) under the EPBC Act.

The Wheatbelt Woodlands typically contain a relatively open tree canopy dominated by eucalypt species, which commonly include species such as *Eucalyptus salmonophloia*, *Eucalyptus loxophleba*, *Eucalyptus salubris*, *Eucalyptus wandoo* and the mallet group of species (Department of the Environment, 2015). The native understorey is diverse and highly variable in structure and composition, ranging from largely bare grassy areas to herbs and wildflowers to areas dominated by denser shrubs (Department of the Environment, 2015).

The conservation advice for the Wheatbelt Woodlands notes that to be considered an occurrence of this TEC, a potential patch needs to be reasonably intact and contain native understorey vegetation or important habitat features, such as large trees with hollows (Department of the Environment, 2015). Therefore to be considered an occurrence of the TEC a patch must be in either pristine, excellent, very good, or good (Keighery, 1994) condition (noting that there are very few occurrences in either a pristine or excellent condition). The exception to this condition threshold would be a potential patch in a good to degraded (Keighery, 1994) condition that contained large habitat trees (Department of the Environment, 2015).

Two of the four recorded vegetation types within the application area (see Section 2) contain mixed *Eucalyptus loxophleba* woodland (totalling 2.95 hectares), which is one of the typically characteristic woodland species described for the Wheatbelt Woodlands. However, noting the largely degraded (Keighery, 1994) condition of the application area and lack of large habitat trees, it is not considered to be truly representative of the Wheatbelt Woodlands TEC.

The application area has been strategically located to avoid nearby mapped occurrences of the TEC, and noting the linearity of the application area and that vegetative buffers of approximately 50 metres or more are maintained to these mapped occurrences, the proposed clearing is not likely to be necessary for the maintenance of these TEC's.

Given the above, the proposed clearing is not likely to be at variance to 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 to 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).

The application area is located within the Avon Wheatbelt Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion and Shire of Katanning, which retain 18.53 and 15.01 per cent of their pre-European vegetation extents respectively (Government of Western Australia, 2016). The three Beard vegetation associations mapped over the application area (2093, 1023 and 125) retain 47.97, 10.84 and 90.27 per cent of their pre-European vegetation extents within the Avon Wheatbelt Bioregion respectively (Government of Western Australia, 2016). Noting the vegetation types identified within the application area (see Section 2), the application area is considered to be representative of Beard vegetation association 2093 and 125 and is not considered to be representative of Beard vegetation association 1023.

The local area retains approximately 16.69 per cent native vegetation cover, with the application area representing approximately 0.1 per cent of the remaining vegetation within the local area. The proposed clearing would reduce the extent of native vegetation within the local area to 16.68 per cent (7,514.11 hectares). While the local area has been extensively cleared, it is noted that the application area occurs within a larger 711 hectare remnant (comprising 1.1 per cent of this total remnant).

While the two representative mapped Beard vegetation associations retain greater than the 30 per cent threshold, the current vegetation extents for the bioregion, Shire of Katanning and local area are all below the 30 per cent threshold, therefore, the application area is considered to be within an extensively cleared area.

However, noting that the application area is largely in a degraded (Keighery, 1994) condition, is unlikely to contain rare or priority flora, is not considered to be representative of any TEC's or PEC's, is unlikely to contain significant habitat for fauna, and is unlikely to impact on the linkage values of the larger 711 hectare remnant that it forms part of, the application area is not considered to be a significant remnant.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Avon Wheatbelt	9,517,109.90	1,763,070.75	18.53	9.86
Shire*				
Shire of Katanning	151,805.56	22,784.37	15.01	15.36
Beard Vegetation Association in Bioregion*				
2,093	9,416.50	4,517.19	47.97	41.04
1,023	1,601,601.60	173,641.41	10.84	10.88
125	3,485,786.61	3,146,492.24	90.27	8.44

(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 to this Principle

The majority of the application area is located on a floodplain in an area recognised within the Wheatbelt Wetlands dataset as being subject to inundation. The larger area mapped as being subject to inundation comprises approximately 718.7 hectares. The application area is largely within 100 metres of Ewlyamartup Creek (described as a minor non-perennial watercourse), with the majority of the application area running parallel with this creek, and crossing it near the southern extent of the application area. The southern extent of the application area also abuts Ewlyamartup Lake and the northern extent of the application area crosses an area subject to flooding associated with the Coblinine River.

Noting the above and the riparian vegetation types recorded within the Assessment, which include *Casuarina obesa* woodland, *Tecticomia lepidosperma* samphire shrubland and *Tecticomia pergranulata* open samphire shrubland (Strategen, 2017), the application area does contain vegetation that is growing in association with an environment associated with a watercourse or wetland. Therefore, the proposed clearing is at variance to this Principle.

However, given the extent and linearity of the application area within the much larger area mapped wetland, degraded (Keighery, 1994) condition of the application area, and that the proposed clearing will have minimal impact (approximately 0.4 hectares) on the fringing riparian vegetation of Ewlyamartup Lake, the proposed clearing is considered unlikely to significantly impact on riparian habitat within the broader area.

The Delegated Officer also took into consideration the overall purpose of the proposed clearing, which is to facilitate a flushing channel from Ewlyamartup Lake to Coblinine River to achieve improved water quality within Ewlyamartup Lake. It is considered that this may in turn lead to improvements in the health of fringing riparian vegetation as a result of lower salt concentrations via increased flushing.

(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 to this Principle

The application area occurs within two mapped landform subsystems, being:

- Coblinine 4 Subsystem (comprises approximately 90 per cent of the application area), which is described as lakes and swamps along with small areas of lunettes, swales and dunes, including saline and fresh lakes such as Lake Dumbleyung and Lake Toolibin. This subsystem contains saline wet soils and salt lake soils with grey hard cracking clays and grey duplex soils; and
- Coblinine 5 Subsystem (comprises approximately 90 per cent of the application area), which is described as Larger lunettes, dunes and swales to the east and south east of lakes and swamps along the Coblinine River.

As discussed under Principle (f), the majority of the application area is located on a floodplain in an area recognised within the Wheatbelt Wetlands dataset as being subject to inundation.

The soils of the Coblinine 4 Subsystem are not typically associated with wind erosion, with land degradation risk mapping indicating that only three to ten per cent of this subsystem has a very high risk of wind erosion. The Coblinine 5 Subsystem is considered to have a greater risk of wind erosion, however noting the minimal extent of the application area (approximately 0.9 hectares) within this subsystem, the proposed clearing is considered unlikely to result in appreciable wind erosion.

Noting that the application area is located on a floodplain within an area subject to inundation, the greatest risk of land degradation is likely to be via waterlogging and water erosion. Land degradation risk mapping indicates that greater than 70 per cent of the Coblinine 4 Subsystem is considered to have a moderate to very high risk of waterlogging and 10 to 30 per cent is considered to have high to extreme risk of water erosion. This subsystem is also mapped as having a high risk of salinity.

While there appears to be some risk of water erosion, waterlogging and salinity, noting the linearity of the application area, extent of clearing within a larger 711 hectare remnant, already degraded (Keighery, 1994) condition of the application area, and the purpose of the proposed clearing, the proposed clearing is unlikely to result in appreciable land degradation via water erosion, waterlogging or salinity.

Given the above, the proposed clearing is not likely to be at variance to 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 to this Principle

The closest conservation area to the application area is the Coblinine Nature Reserve, which is adjacent to its north eastern extent (end of the proposed drainage channel). The drainage channel has been strategically placed as to not encroach and impact on native vegetation associated with Coblinine Nature Reserve, and as such direct impacts to the reserve are expected to be minimal.

As discussed under Principle (b), the proposed clearing is unlikely to impact on the ecological linkage values provided by the larger 711 hectare it forms part of, and is therefore not likely to limit the dispersal of fauna through conservation areas within the local area.

DBCA commented on the proposed clearing and advised that "there [are] no foreseen indirect impacts to downstream lands managed under the CALM Act [being] Coblinine Nature Reserve and Dumbleyung Lake..." (DBCA, 2017).

Noting the close proximity of the application area to Coblinine Nature Reserve, the proposed clearing may however result in the incidental spread of weeds and dieback into the reserve during clearing activities, and the proposed clearing may be at variance to this Principle.

The applicant will be required to undertake dieback and weed management control actions, which will assist in mitigating the risk of weeds and dieback spreading into adjacent vegetation within this conservation area.

(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 to this Principle

As discussed under Principle (f), the majority of the application area is located on a floodplain in an area recognised within the Wheatbelt Wetlands dataset as being subject to inundation. The application area is largely within 100 metres of Ewlyamartup Creek, with the majority of the application area running parallel with this creek, and crossing it near the southern extent of the application area. The southern extent of the application area also abuts Ewlyamartup Lake and the northern extent of the application area crosses an area subject to flooding associated with the Coblinine River.

DBCA commented on the proposed clearing and advised that "there [are] no foreseen indirect impacts to downstream lands managed under the CALM Act [being] Coblinine Nature Reserve and Dumbleyung Lake (considered to be the receiving environment for all surface water within the surrounding large catchment)" (DBCA, 2017).

DBCA provided further comment and advised that "DBCA and its predecessor has provided previous advice directly to the Department of Regional Development and its consultants during the feasibility stage regarding potential impacts downstream. This advice has been a no objection for works proceeding, based upon impacts under the CALM Act subject to all the legislative requirements and approvals being in place" (DBCA, 2017).

Groundwater salinity within the application area is mapped at greater than 35000 milligrams per litre total dissolved solids (saline) and the Assessment noted that the largely degraded (Keighery, 1994) condition of the application area could be attributed to the effects of secondary salinity (Strategen, 2017). While the high salinity levels of the application are acknowledged, the proposed clearing of a linear 7.89 hectare area, over approx. 2.8 kilometres, within a larger remnant of vegetation comprising approximately 711 hectares, is unlikely to result in the deterioration of water quality through increased salinity.

Noting that the majority of the application area is located within an area subject to inundation, portions of the application area cross mapped watercourses, and the northern and southern extents of the application area abut the Coblinine River and Ewlyamartup Lake respectively, it is expected that the proposed clearing will result in some minor short term increased sedimentation of surface water. Therefore, the proposed clearing may be at variance to this Principle.

However, given the degraded (Keighery, 1994) condition of the application area, the minimal extent of clearing proposed adjacent to Ewlyamartup Lake and Coblinine River, and noting that the linear application area is mapped within a much larger wetland area of 718.7 hectares, the marginal sedimentation expected is unlikely to significantly impact on the quality of surface water, and will be largely confined to the pre-construction phase of the drain.

As discussed under Principle (f), the Delegated Officer also took into consideration the overall purpose of the proposed clearing, which is to facilitate a flushing channel from Ewlyamartup Lake to Coblinine River to achieve improved water quality within Ewlyamartup Lake.

(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 to this Principle

The average annual rainfall recorded at Katanning since 1999 is 457.2 millimetres (Bureau of Meteorology, 2018), with the majority of rainfall occurring during winter months. Topographically the application area is relatively flat, and largely occurs on a mapped floodplain and area subject to inundation (see Principle (f)). The mapped soils comprise largely of saline wet soils and salt lake soils with grey hard cracking clays and grey duplex soils.

While the application area is situated on a floodplain and contains mapped soils that are prone to waterlogging and flooding (see Principle (g)), noting the moderate typical annual rainfall of Katanning, extent of clearing proposed within a larger 711 hectare remnant, linearity of the application area, and already largely degraded (Keighery, 1994) condition of the application area, the proposed clearing is considered unlikely to cause or exacerbate the incidence or intensity of flooding.

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

Planning instruments and other relevant matters.

The application is to clear a linear area of up to 7.89 hectares of native vegetation (within a larger footprint area of 36.71 hectares) to facilitate a 2.8 kilometre flushing channel and diversion bund area from Ewlyamartup Lake to Coblinine River. Ewlyamartup Lake is a hypersaline lake with poor water quality which suffers from a lack of flushing due to a combined inflow and outflow creek (JDA Consultant Hydrologists, 2011). The application is part of a project which has the objective of implementing engineering solutions to improve the water quality and periods of inundation of Ewlyamartup Lake, including the following measures:

- Constructing a flushing channel to facilitate draining of the lake for removal of poorer quality water;
- Installing control structures along the new bypass channel to manage the passage of flow;
- Develop a Maintenance and Management Plan for each lake in collaboration with the local government and community ensuring the ongoing management of the engineering infrastructure; and
- Engage with the local communities to design and implement an Activation Plan and Calendar of Events that promotes the lakes, enhances amenity and increases visitation.

The application relates to the Living Lakes Project, led by the former Department of Regional Development and Lands, to enhance one or more existing land systems to create permanent and accessible water bodies in the Wheatbelt and adjoining regions (JDA Consultant Hydrologists, 2011). Following assessment of 20 nominated lakes against 12 criteria, Ewlyamartup Lake received the second highest ranking and hence was included within the project (JDA Consultant Hydrologists, 2011).

The clearing permit application was advertised on the Department of Water and Environmental Regulation (DWER) website on 14 November 2017 with a 21 day submission period. No public submissions have been received in relation to this application.

The Shire of Katanning provided a direct interest response for the application and advised that “the Shire of Katanning is fully supportive of the Living Lakes project and has no objection to the clearing of 7.89 hectares of native vegetation for the purposes of facilitating a 2.8 kilometre flushing channel and diversion bund area from Ewlyamartup Lake to Coblinine River” (Shire of Katanning, 2018).

The Katanning Land Conservation District Committee (LCDC) provided a direct interest response for the application and advised that it “has no objections to the proposed clearing permit CPS 7815/1... The Katanning Land Conservation District Committee are fully supportive of the applicant’s project and look forward to seeing work progress” (Katanning LCDC, 2017).

DBCA commented on the proposed clearing and advised that “there [are] no foreseen indirect impacts to downstream lands managed under the CALM Act [being] Coblinine Nature Reserve and Dumbleyung Lake (considered to be the receiving environment for all surface water within the surrounding large catchment)” (DBCA, 2017). DBCA provided further comment and advised that “DBCA and its predecessor has provided previous advice directly to the Department of Regional Development and its consultants during the feasibility stage regarding potential impacts downstream. This advice has been a no objection for works proceeding, based upon impacts under the CALM Act subject to all the legislative requirements and approvals being in place” (DBCA, 2017).

DWER’s Land Use Planning, South West Region provided comment on the proposed clearing and noted that (DWER, 2017):

- The clearing is expected to have a moderate risk to water resources within the area;
- The taking and use of water within the application area is not subject to licensing under the *Rights in Water and Irrigation Act 1914*; and
- The clearing proposal should be referred to the Commissioner of Soil and Land Conservation (CSLC) if the proposed drain is greater than one meter in depth, as it would likely require risk assessment for acid drainage discharge and may require a Notice of Intent to Drain from the CSLC.

The applicant has advised that the depth of the channel varies between 0.1 metres and 2.3 metres, with the majority of the channel between 0.1 metres and one metre, with the deepest parts close to the Katanning-Nyabing Road (Wheatbelt Natural Resource Management, 2018). The applicant further advised that whilst the deepest part of the channel is 2.3 metres, the gradient of the banks are one to two, with a maximum angle of 45 degrees (Wheatbelt Natural Resource Management, 2018).

With regards to the potential requirement for a Notice of Intent to Drain, the applicant advised that the Wheatbelt NRM consulted the Commissioner of Soil and Land Conservation regarding the project, and it was determined that a Notice of Intent to Drain was not required for the project, as it involves only surface drainage works (Wheatbelt Natural Resource Management, 2018).

The applicant advised that an Acid Sulphate Soils (ASS) Management Plan is in place for the project and will be followed during the construction period, with verification and validation of all ASS test results also included in the project (Wheatbelt Natural Resource Management, 2018).

Approximately 0.75 hectares of the application area is within a mapped aboriginal site of significance. It is the responsibility of the applicant to ensure that no Aboriginal Sites of Significance are damaged as a result of the proposed clearing. The applicant is encouraged to liaise with the Department of Planning, Lands and Heritage regarding any obligations under the *Aboriginal Heritage Act 1972*.

As part of the Living Lakes Project, the former Department of Regional Development and Lands undertook consultation with the Wagyl Kaip and Southern Noongar Future Acts Sub Committee (FASC) representing the area covering Ewlyamartup Lake (JDA Consultant Hydrologists, 2012). Feedback received from the South West Aboriginal Land and Sea Council on behalf of FASC confirmed that FASC would like to receive regular project updates and confirmed the committees request for interpretative signage to be considered as part of the project (JDA Consultant Hydrologists, 2012). Follow up communication between the former DRDL and FASC raised key points such as (JDA Consultant Hydrologists, 2012):

- The significance of the lakes importance to the community;
- Restrictions on power boating to be considered; and
- FASC's strong interest in being involved in the project moving forward.

In accordance with the requirements of the *Native Title Act 1993*, DWER has notified the Wagyl Kaip and Southern Noongar Claimant and the South West Aboriginal Land and Sea Council of the proposed clearing.

5. References

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- Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.
- Department of Biodiversity Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/> (accessed January 2018).
- Department of Biodiversity Conservation and Attractions (DBCA) (2017) Advice provided in relation to clearing permit application CPS 7815/1 (regional) (DWER Ref: A1600543).
- Department of the Environment (2015) Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt. Canberra: Department of the Environment and Energy. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/128-conservation-advice.pdf>.
- Department of Water and Environmental Regulation (DWER) (2017) Land Use Planning, South West Region. Additional Information for Clearing Permit Application CPS 7815/1. DWER Ref A1571717.
- Government of Western Australia (2016). 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, Perth.
- JDA Consultant Hydrologists (2011) Living Lakes Project Stage 1: Part 1 Report – Feasibility Study in the Wheatbelt and Adjoining Regions. Report dated 21 December 2011.
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- Katanning Land Conservation District Committee (2017) Direct Interest Submission for Clearing Permit Application CPS 7815/1. DWER Ref A1570732.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Shire of Katanning (2018) Direct Interest Response for Clearing Permit Application CPS 7815/1. DWER Ref A1604262.
- Strategen Environmental Consultants Pty Ltd (Strategen) (2017) Living Lakes - Lake Yealering – NVCP Supporting Document – FINAL. Prepared for Wheatbelt NRM by Strategen, August 2017.
- Strategen Environmental Consultants Pty Ltd (2018) Additional Information to support Clearing Permit Application CPS 7815/1. DWER Ref A1603699.
- Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gngangara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <http://florabase.dpaw.wa.gov.au/> (accessed January 2018).
- Wheatbelt Natural Resource Management Incorporated website: <https://www.wheatbeltnrm.org.au/what-we-do/sustainable-industries/living-lakes> (accessed January 2018).
- Wheatbelt Natural Resource Management (2018) Additional Information for Clearing Permit Application CPS 7815/1. DWER Ref A1603693.

GIS Databases:

- Aboriginal Sites of Significance
- Department of Biodiversity Conservation and Attractions, Tenure
- Groundwater Salinity
- Hydrography, Linear
- Hydrography, Hierarchy
- Remnant Vegetation
- SAC Bio Datasets
- Soils, Statewide
- Topographic Contours

CPS 7815/1