



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8712/1
Permit Holder:	Shire of Dardanup
Duration of Permit:	28 February 2020 to 28 February 2025

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 managing *Typha orientalis*.

2. Land on which clearing is to be done

Lot 6203 on Deposited Plan 32060, Burekup

Lot 5536 on Plan 15906, Eaton

Lot 5679 on Plan 19531, Eaton

Lot 874 on Deposited Plan 48838, Eaton

Lot 510 on Deposited Plan 70346, Eaton

Lot 511 on Deposited Plan 70346, Eaton

Lot 4880 on Deposited Plan 180771, Eaton

Lot 5159 on Deposited Plan 180771, Eaton

Hands Street and Cudliss Street Road Reserve (PIN 1304648), Eaton

Watson Street Road Reserve (PIN 1304653), Eaton

Pratt Road Reserve (PIN 1304654), Eaton

Hands Avenue and Eaton Drive Road Reserves (PINs 495893 and 1174868), Eaton

3. Area of Clearing

The Permit Holder must not clear more than 23.59 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8712/1.

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*:

- (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.

PART III – RECORD KEEPING AND REPORTING

7. Record keeping

The Permit Holder must maintain the following records in relation to the clearing of native vegetation authorised under this Permit:

- (a) 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 or decimal degrees;
- (b) the date(s) that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 6 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread of *dieback* and *weeds* in accordance with condition 7 of this Permit.

8. Reporting

The Permit Holder must produce the records required under condition 7 of this Permit when required by the *CEO*.

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;

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 species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



Samara Rogers
MANAGER
NATIVE VEGETATION REGULATION

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

31 January 2020

Plan 8712/1a

115°42'14.400"E

115°42'25.200"E

115°42'36.000"E

33°18'43.200"S

33°18'50.400"S

33°18'57.600"S

33°19'4.800"S

33°19'12.000"S

33°18'43.200"S

33°18'50.400"S

33°18'57.600"S

33°19'4.800"S

33°19'12.000"S




115°42'14.400"E

115°42'25.200"E

115°42'36.000"E

Legend

 CPS areas approved to clear

Local Government Authority (LGA) Boundaries (LGATE-233)

 Road Centrelines



0 50 100 150 200 m



Samara Rogers

2020.01.31 14:10:14 +08'00'

Officer delegated under section 20 of the
Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA

Plan 8712/1b

115°42'48.600"E

115°43'1.200"E

115°43'13.800"E

33°18'34.200"S

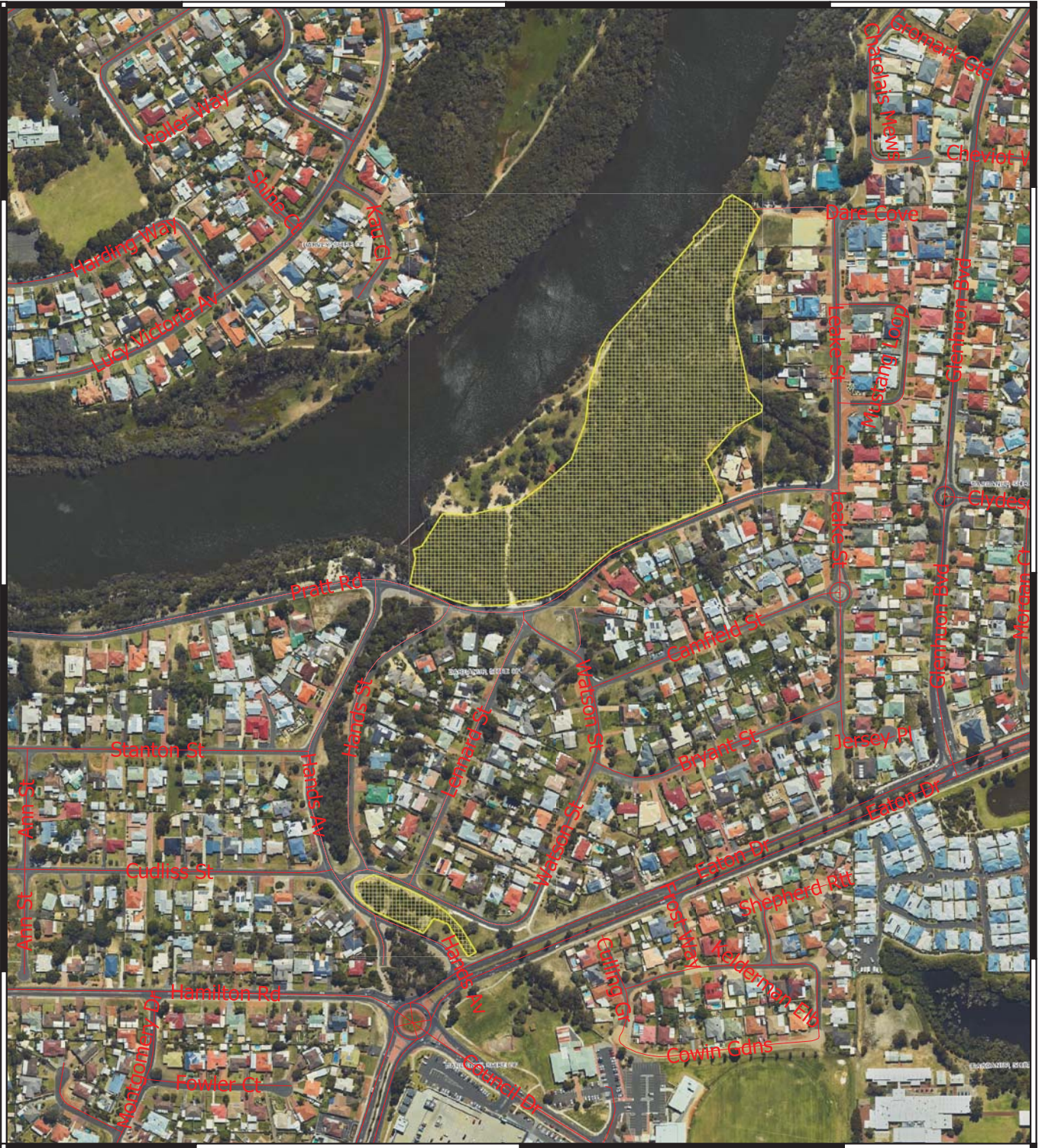
33°18'46.800"S

33°18'59.400"S

33°18'34.200"S

33°18'46.800"S

33°18'59.400"S



115°42'48.600"E

115°43'1.200"E

115°43'13.800"E

Legend

 CPS areas approved to clear

 Local Government Authority (LGA) Boundaries (LGATE-233)

 Road Centrelines



0 50 100 150 200 m



Samara Rogers

Samara Rogers

2020.01.31 14:07:58 +08'00'

Officer delegated under section 20 of the
Environmental Protection Act 1986




GOVERNMENT OF
WESTERN AUSTRALIA

Plan 8712/1c



Legend

 CPS areas approved to clear

 Local Government Authority (LGA) Boundaries (LGATE-233)

 Road Centrelines



0 50 100 150 200 m



J. Rogers

Samara Rogers
2020.01.31 14:06:45 +08'00'

Officer delegated under section 20 of the
Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA

Plan 8712/1d

115°48'57.600"E


115°49'12.000"E

115°49'26.400"E



Legend

 CPS areas approved to clear

 Local Government Authority (LGA) Boundaries (LGATE-233)

 Road Centrelines



0 75 150 225 300 m



Officer delegated under section 20 of the
Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8712/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Shire of Dardanup
Application received date: 25 October 2019

1.3. Property details

Property:
Lot 6203 on Deposited Plan 32060, Burekup
Lot 5536 on Plan 15906, Eaton
Lot 5679 on Plan 19531, Eaton
Lot 874 on Deposited Plan 48838, Eaton
Lot 510 on Deposited Plan 70346, Eaton
Lot 511 on Deposited Plan 70346, Eaton
Lot 4880 on Deposited Plan 180771, Eaton
Lot 5159 on Deposited Plan 180771, Eaton
Hands Street and Cudliss Street Road Reserve (PIN 1304648), Eaton
Watson Street Road Reserve (PIN 1304653), Eaton
Pratt Road Reserve (PIN 1304654), Eaton
Hands Avenue and Eaton Drive Road Reserves (PIN 495893, 1174868), Eaton
Local Government Authority: Shire of Dardanup
Localities: Burekup
Eaton

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
23.59		Mechanical	Miscellaneous

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 31 January 2020
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*. It has been concluded that the proposed clearing is at variance with principles (f), may be at variance with principle (e), and is not likely to be at variance with the remaining clearing principles.

Through the assessment, it was determined that the application area may increase the risk of weeds and dieback. A weed and dieback management condition has been placed on the clearing permit to minimise the risk of weeds and dieback spreading.

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 application is for the proposed clearing of 23.59 hectares of native vegetation within Shier Rise Reserve (Lot 6203 on Deposited Plan 32060), Burekup, and Watson Reserve (Lot 5536 on Plan 15906), Leicester Ramble (Lot 5679 on Plan 19531), Peninsula Lakes Park (Lot 874 on Deposited Plan 48838), Eagle Wetland Reserve (Lots 510 and 511 on Deposited Plan 70346), Duck Pond Park (Lots 4880 and 5159 on Deposited Plan 180771), Hands Street and Cudliss Street Road Reserve (PIN 1304648), Watson Street Road Reserve (PIN 1304653), Pratt Road Reserve (PIN 1304654), and Hands Avenue and Eaton Drive Road Reserves (PIN 495893, 1174868), Eaton for the purpose of Typha (*Typha orientalis*) control.

Vegetation Description

The vegetation within the application area is mapped within the following Swan Coastal Plain vegetation complexes (Heddlé et al., 1980):

- Karakatta Complex – Central and South, described as open forest and woodland;
- Southern River Complex, described as open woodland;
- Swan Complex, described as fringing woodland with localised occurrence of low open forest; and
- Guildford Complex, described as open forest to tall open forest and woodland.

A wetland habitat assessment conducted by the applicant indicates the vegetation within the application area includes (Shire of Dardanup, 2019):

- Dense low closed forest with an overstorey of paperbark (*Melaleuca* spp.), flooded gum (*Eucalyptus rudis*), peppermint (*Agonis flexuosa*), and marri (*Corymbia calophylla*), over closed sedgeland and weeds;
- A drainage channel bordered by grassland and sparse paperbark;
- Open water bordered by sedgeland;
- Wetland modified by a narrow weir, bordered by woodland with an overstorey of marri, Sheoak (*Allocasuarina* spp.) and flooded gum; and
- Highly modified open water wetland, bordered by sedges and weeds.

Wetland assessment included mapping of the extent of Typha infestation within the application area. This mapping indicates that Typha accounts for approximately 5 per cent of the vegetation within the 23.59 hectare application area (Shire of Dardanup, 2019).

Vegetation Condition

The condition of the vegetation within the application area ranges from 'Degraded' to 'Excellent' (Keighery, 1994) condition, defined as:

- Degraded: Vegetation structure significantly altered with obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate (Keighery, 1994).
- Excellent: Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species (Keighery, 1994).

The vegetation condition was based on a review of available aerial imagery and photographs from a wetland habitat assessment supplied by the applicant (Shire of Dardanup, 2019).

Soil Type

Ten soil types are mapped within the application area (DPIRD, 2017):

- Bassendean B1 Phase (212Bs_B1) - Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands sometimes with pale yellow B horizon or a weak iron-organ hardpan at depths generally greater than 2m; banksia dominant. Approximately 4% of application area;
- Bassendean B3 Phase (212Bs_B3) - Closed depressions and poorly defined stream with moderately deep, poorly to very poorly drained bleached sands with an iron-organic pan or clay subsoil. Surfaces are dark grey sand or sandy loam. Approximately 1% of application area;
- Bassendean B6 Phase (212Bs_B6) - Sandplain and broad extremely low rises with imperfectly deep drained or very deep grey siliceous sands. Approximately 1% of application area;
- Pinjarra P1a Phase (213Pj_P1a) - Flat to gently undulating plain with deep acidic mottled yellow duplex soils. Shallow pale sand to sandy loam over clay; imperfect and poorly drained and generally not susceptible to salinity. Approximately 9% of application area;
- Pinjarra P6a Phase (213PjSWP6a) - Very gently undulating alluvial terraces and low rises contiguous with the plain, with deep moderately well to well drained soils associated with major river systems and larger streams. Acidic red and yellow duplex soils. Approximately 2% of application area;
- Pinjarra P6b Phase (213PjSWP6b) - Very gently undulating alluvial terraces and low rises contiguous with the plain, with deep moderately well to well drained soils associated with prior stream deposits. Soils are uniform brownish sands. Approximately 16% of application area;
- Pinjarra P10 Phase (213PjSWP10) - Gently undulating to flat terraces adjacent to major rivers, but below the general level of the plain, with deep well-drained uniform brown-ish sands or loams subject to periodic flooding. Approximately 2% of application area;

- Spearwood S1c Phase (211Sp_S1c) - Dune ridges with deep bleached grey sands with yellow-brown subsoils and slopes up to 15%. Approximately 16% of application area;
- Spearwood S4C Phase (211Sp_S4c) - Flat to gently undulating sandplain with deep yellow-brown or dark brown siliceous sands that are seasonally inundated. Approximately 4% of application area; and
- Sw - Samp (Bassendean) (212BsW_SWAMP) – Swamp. Approximately 45% of application area.

Local Area

The local area referred to in the assessment of this application is defined as a 10 kilometre (km) radius measured from the perimeter of the application area.



Figure 1. Application area (outlined in blue).





Figure 2. Photographs of the application area from the wetland habitat assessment undertaken by the applicant (Shire of Dardanup, 2019).

3. Assessment of application against clearing principles and planning instruments and other matters

Typha orientalis (Typha) is a type of sedge that is native to Western Australia. However, this species is capable of aggressive invasions that can transform ecosystems unless it is actively managed (Western Australian Herbarium, 2019). Without management, Typha can develop quickly into a monoculture and cover an entire waterbody. Given this application is for the purpose of managing Typha within approximately 5% of the total application area, and the tendency for Typha to colonise ecosystems, it is not anticipated that the application area comprises suitable habitat for any conservation significant flora species. While Typha is problematic and invasive, it may also provide habitat for fauna such as native frogs and waterbirds. However, previous advice from Department of Biodiversity, Conservation and Attractions (DBCA) in relation to similar applications advised that Typha can choke up waterways and reduce the open mud flat habitat that is vital for wader and waterbird species. Additionally, while Typha may provide habitat for native fauna, this species can also provide habitat for non-native and feral animals which can predate on native fauna (DBCA, 2019). Considering this, while the proposed clearing may result in the loss of suitable habitat for some fauna species, the proposed clearing is not likely to result in the loss of significant habitat for fauna species and the application area is not likely to comprise a high level of biodiversity. The application area is not adjacent to any conservation reserves and is not included in any ecological linkages between areas of conservation value, therefore it is not anticipated that the proposed clearing is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

A total of 54 threatened or priority fauna have been recorded within the local area, including 16 species protected under international agreement, six priority fauna, 26 threatened fauna, and four specially protected fauna (DBCA, 2007-). Based on available records, two of the above species have been recorded within the application area; the western ringtail possum (*Pseudocheirus occidentalis*) and the forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*). The western ringtail possum is an arboreal species that utilises tree hollows and constructs dreys for nesting, and forages within the tree canopy (Department of Parks and Wildlife, 2017). The forest red-tailed black cockatoo nests in the hollows of marri, jarrah (*Eucalyptus marginata*) and karri (*Eucalyptus diversicolor*) trees, and utilises a range of canopy species for foraging, including marri, jarrah and Sheoak (Chapman, 2008). Sections of the application area may provide suitable nesting and foraging habitat for both western ringtail possums and the forest red-tailed black cockatoos, where vegetation consists of dense low closed forest with an overstorey of paperbark (*Melaleuca* spp.), flooded gum (*Eucalyptus rudis*), peppermint (*Agonis flexuosa*), and marri (*Corymbia calophylla*). However, as the proposed clearing is not anticipated to impact overstorey species and is purely for the purpose of removing Typha, which does not provide suitable foraging or breeding habitat for either of the above species, the proposed clearing is not likely to impact significant habitat for either of the threatened species recorded within the application area. As mentioned above, given the application area comprises of Typha which has a tendency to colonise ecosystems and reduce suitable fauna habitat, the proposed clearing is also not anticipated to result in the loss of significant habitat for any other fauna species recorded within the local area.

A review of available databases determined that 33 threatened or priority flora have been recorded within the local area, comprising five Priority 2 flora species, 10 Priority 3 flora species, eight Priority 4 flora species and seven Threatened flora species (Western Australian Herbarium, 1998-). No occurrences of the above species have been recorded within the application area or adjacent vegetation. As discussed above, it is not anticipated that the application area comprises suitable habitat for any conservation significant flora species, as Typha develops into a monoculture when left uncontrolled.

A review of available databases determined that the nearest State listed threatened ecological community (TEC), '*Eucalyptus calophylla* - *Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain', occurs approximately 3.5 hectares from the application area. A further three TECs and two priority ecological communities (PECs) occur in the local area. Sections of the application area are mapped within the Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region PEC. From the wetland habitat assessment conducted by the applicant (Shire of Dardanup, 2019), the vegetation in the application area is not likely to be representative of this PEC or any other threatened or priority ecological community. Considering this and the distance to the TECs and PECs, the proposed clearing is not likely to have a significant impact on these communities. Further, the application area is not likely to comprise the whole or part of, or be necessary for the maintenance of, a TEC.

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). From available databases, the local area is estimated to retain approximately 22 per cent of pre-European clearing extent. The application area is also mapped within four Swan Coastal Plain vegetation complexes (Heddlie et al., 1980), each of which retain below 30 per cent of pre-European clearing extent. Therefore the application area is located within an extensively cleared area. As discussed above if left uncontrolled, Typha is likely to develop into a monoculture and reduce biodiversity. Given that vegetation is not likely to comprise of significant fauna and flora habitat the vegetation is not considered a significant remnant. Therefore, the proposed clearing may be at variance with principle (e).

The application area lies within multiple wetlands, including: the Swan River Consanguineous Wetland Suite, the Mialla Consanguineous Wetland Suite, Bennett Brook Consanguineous Wetland Suite, and Walyunga Consanguineous Wetland Suite, as well as multiple unnamed multiple-use palusplain, floodplains and conservation sumpland. Sections of the application area are also adjacent to the Collie River Estuary and non-perennial minor watercourses. Therefore, the vegetation proposed to be cleared is growing in, or in association with, an environment associated with a watercourse or wetland and the proposed clearing is at variance with principle (f). As discussed above, the proposed clearing is for the purpose of controlling Typha, due to its invasive nature and potential adverse impacts on waterways and biodiversity. Given the Typha proposed to be cleared accounts for approximately 5 per cent of the vegetation within the application area (Shire of Dardanup, 2019), which is anticipated to regrow and require long-term management to control, the proposed clearing is not anticipated to result in any long-term impact to ecological values provided by the riparian vegetation communities associated with the wetlands included in the application area.

Based on the mapped land degradation risk, the application area has a relatively low likelihood of water erosion, flooding and salinity. The application area is mapped at upwards of 50 per cent, moderate to very high risk, for wind erosion, waterlogging and subsurface acidification that may lead to land degradation. However, as discussed above, the proposed clearing is for the purpose of controlling Typha, which accounts for approximately 5 per cent of the vegetation within the application area (Shire of Dardanup, 2019), and all other riparian vegetation will be retained. Considering this, the retained vegetation would be expected provide a buffer against wind erosion and aid in reducing waterlogging, in conjunction with expected Typha regrowth. Advice received from DBCA (2019) advised that the biomass from crushed or slashed Typha has also been found to assist in neutralising acidity on re-wetting in areas that are prone to acid sulphate soils (DBCA, 2019). Given the above, that sections of the application area are in 'Degraded' (Keighery, 1994) condition, and that the extent of Typha proposed to be cleared is small, the proposed clearing is not likely to cause appreciable land degradation or to cause, or exacerbate, the incidence or intensity of flooding.

The removal of Typha has the potential to increase sedimentation and turbidity in wetlands within the application area, thereby possibly impacting surface water quality. However, noting that the proposed clearing is for the purpose of controlling Typha due to its invasive nature and potential adverse impacts on waterways and biodiversity, that the extent of Typha proposed to be cleared is small, and that all other riparian vegetation will be retained, it is not likely that the proposed clearing will cause long-term deterioration in the quality of surface or underground water.

Given the above, the proposed clearing is at variance with principle (f), may be at variance with principle (e) and is not likely to be at variance to the remaining clearing principles.

Planning instruments and other relevant matters.

The clearing permit application was advertised on the Department of Water and Environmental Regulation's website on 3 December 2019, with a 14 day submission period. No submissions were received in relation to this application.

The application area is within the Bunbury Groundwater Area and the Collie River Irrigation District, both proclaimed under the *Rights in Water and Irrigation Act 1914* (the RIWI Act).

4. References

- Chapman, T. (2008). Forest Black Cockatoo (Baudin's Cockatoo, *Calyptorhynchus baudinii* and Forest Red-tailed Black Cockatoo, *Calyptorhynchus banksii naso*) Recovery Plan. Department of Environment and Conservation, Western Australia.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Department of Biodiversity, Conservation and Attractions (2007-). NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. Available from: <http://naturemap.dpaw.wa.gov.au/> (accessed January 2020).
- Department of Biodiversity, Conservation and Attractions (2019) DBCA Wetlands advice in relation to CPS 8394/1. DWER ref: A1808046.
- Department of Parks and Wildlife (2017). Western Ringtail Possum (*Pseudocheirus occidentalis*) Recovery Plan. Wildlife Management Program No. 58. Department of Parks and Wildlife, Perth, WA.
- Department of Primary Industries and Regional Development (DPIRD) (2017). NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Available from: <https://maps.agric.wa.gov.au/nrm-info/> (accessed January 2020). Government of Western Australia.

Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Shire of Dardanup (2019) Wetland Assessment – October 2019. DWER ref: A1840551.

Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. Available from: <http://florabase.dpaw.wa.gov.au/> (accessed January 2020).

Western Australian Herbarium (2019) Florabase – The Western Australian Flora. *Typha orientalis*, Bulrush. Available from: <https://florabase.dpaw.wa.gov.au/browse/profile/99> (accessed January 2020).

GIS Databases:

- Aboriginal Sites of Significance
- DBCA Managed Estate
- Directory of Important Wetlands
- Geomorphic Wetlands Swan Coastal Plain
- Hydrography, hierarchy
- Hydrography, linear
- Land Degradation datasets
- NatureMap
- Perth Groundwater Mapping (DWER)
- SAC Bio Datasets
- Soils, Statewide
- TPFL Data
- Vegetation Complexes Swan Coastal Plain
- WA Herbarium Data
- WA TEC/PEC Boundaries