



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8394/1
Permit Holder:	City of Cockburn
Duration of Permit:	7 September 2019 – 7 September 2029

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

Cockburn Sound Location 536, Bibra Lake
Lot 25 on Deposited Plan 69675, Bibra Lake
Lot 40 on Deposited Plan 2073, Bibra Lake
Lot 65 on Deposited Plan 406261, Bibra Lake
Lot 3000 on Plan 61503, Hammond Park
Lot 2 on Diagram 655, Yangebup
Lot 10 on Plan 40759, Yangebup
Lot 810 on Deposited Plan 31233, Yangebup

3. Area of Clearing

The Permit Holder must not clear more than 10.68 hectares of native vegetation within the areas hatched yellow on attached Plans 8394/1A, 8394/1B and 8394/1C.

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.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

PART II – MANAGEMENT CONDITIONS

6. 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.

7. 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 and any other machinery used to undertake the clearing 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 area to be cleared.

PART III - RECORD KEEPING AND REPORTING

8. Records to be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, 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 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 the extent of clearing in accordance with condition 6 of this Permit; and
- (e) actions taken to minimise the introduction and spread of *weeds* and *dieback* in accordance with condition 7 of this Permit.

9. Reporting

The Permit Holder must provide to the *CEO* the records required under Condition 8 of this Permit, when requested 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.



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

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

8 August 2019

Plan 8394/1A



Legend

- CPS areas approved to clear
- Local Government Authorities
- Roads - Major Roads
- Cadastre (LGATE_218) - SLIP

0.5 0.23 0.5 Kilometers



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Officer Date

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

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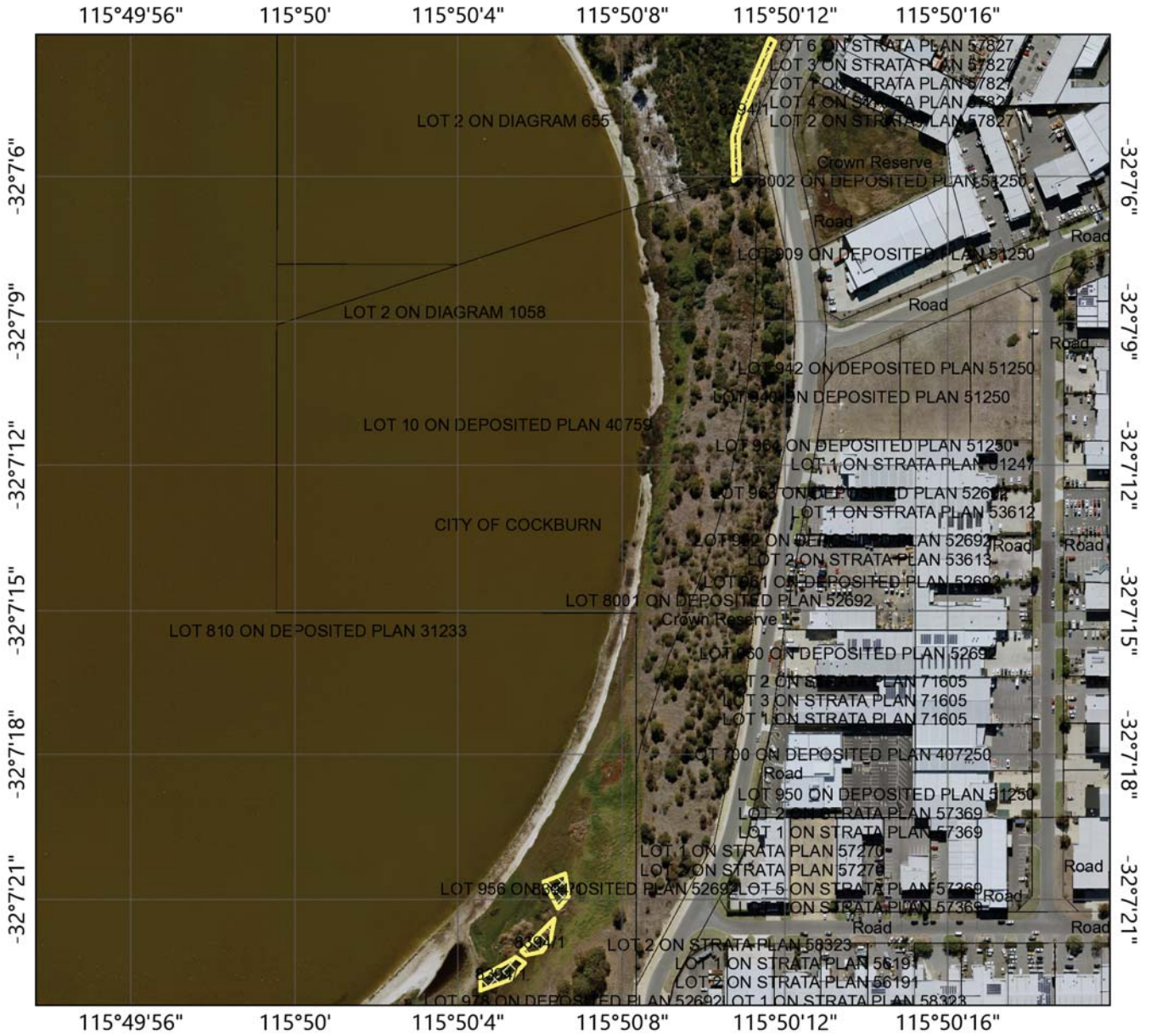
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Locality Map



Government of Western Australia
Department of Water and Environmental Regulation

Plan 8394/1B



Legend

- CPS areas approved to clear
- Local Government Authorities
- Roads - Major Roads
- Cadastre (LGATE_218) - SLIP

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Locality Map



Government of Western Australia
Department of Water and Environmental Regulation

Plan 8394/1C



Legend

- CPS areas approved to clear
- Roads - Major Roads
- Roads - Minor Roads
- Cadastre (LGATE_218) - SLIP

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Locality Map



Government of Western Australia
Department of Water and Environmental Regulation



1. Application details

1.1. Permit application details

Permit application No.: 8394/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: City of Cockburn
Application received date: 1 March 2019

1.3. Property details

Property: Cockburn Sound Location 536, Bibra Lake
Lot 25 on Deposited Plan 69675, Bibra Lake
Lot 40 on Deposited Plan 2073, Bibra Lake
Lot 65 on Deposited Plan 406261, Bibra Lake
Lot 3000 on Plan 61503, Hammond Park
Lot 2 on Diagram 655, Yangebup
Lot 10 on Plan 40759, Yangebup
Lot 810 on Deposited Plan 31233, Yangebup
Local Government Authority: City of Cockburn
Localities: Bibra Lake, Hammond Park and Yangebup

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
10.68		Mechanical Removal	Weed control

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 8 August 2019
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 principle (h) and (i), and is not likely to be at variance to any of 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 This application is for the clearing of up to 10.68 hectares of native vegetation within Lot 40 on Deposited Plan 2073, Lot 65 on Deposited Plan 406261 (Crown reserve 46787), Cockburn Sound Location 536, Lot 25 on Deposited Plan 69675, Lot 2 on Diagram 655, Lot 10 on Plan 40759, Lot 810 on Deposited Plan 31233 and Lot 3000 on Plan 61503 (Crown reserve 48716), Bibra Lake, Yangebup and Hammond Park (Figures 1-3), for the purposes of managing *Typha orientalis* to prevent the species from becoming invasive and dominating sites and reducing biodiversity.

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

- Herdsman Complex system 53 sedgelands and fringing woodlands; and
- Bassendean Complex – Central and South system 44 woodland to low woodland and sedgelands.

Vegetation Condition A review of available aerial imagery determined that the vegetation condition within the application area is considered to be 'Good' condition, described as:

- Good - vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate to it (Keighery, 1994).

Soil type The application area is mapped as occurring within the following mapped soil systems (DPIRD, 2017):

- Pinjarra wet, lake Phase: lake;
- EnvGeol Mps Phase: peaty silt – black, friable silt with abundant organic material,

- variable fine quartz sand content, soft, of lacustrine origin;
- EnvGeol S8 Phase: sand – very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted of eolian origin;
- EnvGeol S10 Phase: sand – as S8 as relatively thin veneer over sandy clay to clayey sand. Of eolian origin; and
- Bassendean B4 Phase: broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 metres by clay or less frequently a stong iron-organic hardpan.

Comments

The local area referred to in the below assessment is defined as the area within a 10 kilometre radius of the application area.

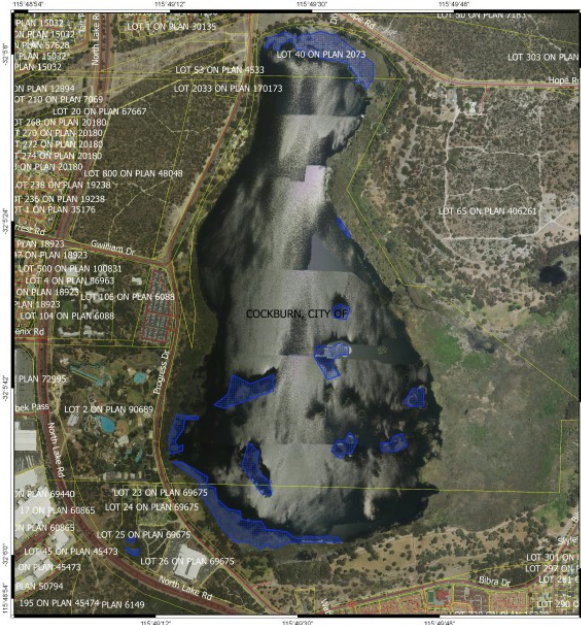


Figure 1: Application area (outlined in blue)



Figure 2: Application area (outlined in blue)

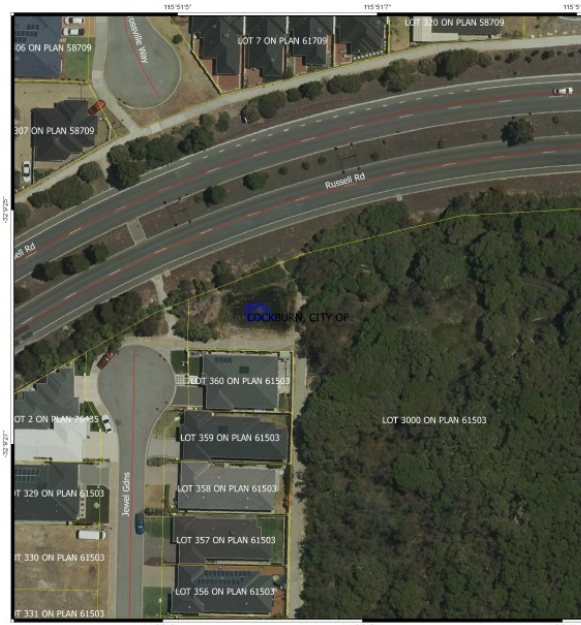


Figure 3: Application area (outlined in blue)

3. Assessment of application against clearing principles

A review of available databases determined that 53 flora species of conservation significance have been recorded in the local area, comprising three Priority 1 flora species, four Priority 2 flora species, 24 Priority 3 flora species, 12 Priority 4 flora species and 10 Threatened species (Western Australian Herbarium, 1998-). No occurrences of the above species have been recorded within the application area. While *Typha orientalis* is native to Western Australia, this species is capable of aggressive invasions that can transform wetland ecosystems unless it is actively managed (Western Australian Herbarium, 2019). When uncontrolled, *T. orientalis* can develop quickly into a monoculture and cover an entire waterbody. Given the application area

comprises of *T. orientalis* and its tendency to colonise wetland ecosystems, it is not anticipated that the application area comprises suitable habitat for any conservation significant flora species.

Advice received from the Department of Biodiversity, Conservation and Attractions (DBCA) (2019) advises that the application area for *T. orientalis* control are located within or alongside conservation category wetlands which compliment conservation estate managed by DBCA such as Beeliar Regional Park and Thomsons Lake Nature Reserve. The wetlands within the City of Cockburn provide an important refuge for native fauna among a predominantly urban landscape. When *T. orientalis* is left uncontrolled in waterbodies, it can choke up waterways and reduce the open mud flat habitat that is vital for wader and waterbird species (DBCA, 2019). Although *T. orientalis* is problematic and invasive, it may also provide habitat for native birds and the oblong turtle. However, this species can also provide habitat for non-native and feral animals which can predate on native waterbirds (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 anticipated to result in the loss of significant habitat for fauna species.

The proposed clearing has the potential to introduce weed species into the wetlands, potentially degrading the ecological values of these wetlands. Potential impacts from the introduction of weed species may be mitigated by a weed management condition.

A review of available databases determined that the nearest State threatened ecological community (TEC), '*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands, Swan Coastal Plain', occurs approximately six kilometres west of the application area. Due to the distance of the TEC, the proposed clearing is not likely to have a significant impact to the TEC. The application area is located adjacent to the 'Banksia Dominated Woodlands of the Swan Coastal Plain' Priority 3 ecological community (PEC) and federally listed TEC. When consideration is given to the purpose and nature of the proposed clearing, no adverse impacts to this PEC are expected due to the localized clearing of *T. orientalis*.

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 Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region to be a constrained area, within which a minimum 10 per cent representation threshold for ecological communities is recommended (EPA, 2008). The application area is located within the mapped extent of the Perth Metropolitan Region Scheme and is situated within Swan Coastal Plain vegetation complexes Herdsman Complex and Bassendean Complex – Central and South. These vegetation complexes retain approximately 32 and 27 per cent of their respective pre-European clearing extents respectively (Government of Western Australia, 2018). Noting the nature of the proposed activities, and that not conservation significant flora, fauna or communities are likely to occur within the application area, the proposed clearing is not considered to be a significant remnant of native vegetation in an area that has been extensively cleared. Additionally, the applicant does not propose to clear *T. orientalis* completely within the wetlands. The applicant will only remove small areas, not exceeding 0.5 hectares, at any given time to assist in reducing the rate of its spread and allow natural recruitment of other native vegetation. Local sedges and rushes will be planted to provide habitat where deemed necessary (City of Cockburn, 2019).

The proposed clearing activities comprise the removal of *T. orientalis* growing in association with wetlands. As this vegetation comprises part of the riparian vegetation community growing in association with these wetlands, the proposed clearing is at variance to principle (f). As discussed previously in this report, the proposed clearing is for the purpose of controlling the occurrence of *T. orientalis* due to its invasive nature and adverse impacts on wetlands. Given the application area comprises monocultures of *T. orientalis*, which are anticipated to regrow and require long-term management to control, the proposed clearing is not anticipated to result in any long-term impact to the ecological values of the riparian vegetation communities associated with the wetlands.

Given the nature of the proposed clearing activities, the most likely land degradation impacts anticipated to result from the proposed clearing would be wind and surface water erosion of the exposed wetland embankments. However, the applicant is only proposing to clear small areas at a time, and native vegetation regrowth which necessitates the control of *T. orientalis* stands on a long-term basis would be expected to stabilise the cleared embankments. This regrowth is expected to ensure any erosion impacts resulting from the proposed clearing will not cause long-term impacts to the integrity of the banks of the wetland environments. Advice received from the DBCA (2019) advised that the biomass from crushed or slashed *Typha* has been found to assist in neutralising acidity on re-wetting in areas that are prone to acid sulphate soils (DBCA, 2019). The proposed clearing is not likely to be at variance to principle (g).

As discussed earlier in this report, the application area is located within Baler Reserve, Bibra Lake Reserve, Boom Reserve and Yangebup Lake Reserve, which are located within or alongside conservation category wetlands which compliment conservation estate managed by DBCA. Given the nature of the proposed clearing activities and that the proposed clearing is confined to the clearing of *T. orientalis*, no adverse impacts to the ecological values of the reserves are anticipated to result from the proposed clearing.

The removal of *T. orientalis* has the potential to increase sedimentation and turbidity within the wetlands, which may impact surface water quality. Therefore the proposed clearing may be at variance to principle (i). As discussed previously in this report, the regrowth of *T. orientalis* in the cleared areas is anticipated to stabilise the cleared areas and consequently any impacts to surface quality through sedimentation are expected to be short term in nature. According to available databases, the groundwater within the application area is <500 milligrams per litre of Total Dissolved Solids (TDS). It would not be expected that the proposed clearing would cause salinity levels within the application area or surroundings to alter. Noting the extent of the proposed clearing, it is unlikely to deteriorate the quality of groundwater. No adverse impacts to the flooding regime of the local area are anticipated to result from the proposed clearing.

Given the above, the proposed clearing is at variance to principle (f), may be at variance to principles (h) and (i), and is not likely to be at variance to any of the remaining clearing principles.

Planning instruments and other relevant matters.

The clearing permit application was advertised on the DWER website on 1 April 2019 with a seven day submission period. One submission was received during this period, raising concerns about the use of glyphosate as a control herbicide for the removal of *T. orientalis*. Within Australia, the regulation of herbicides/pesticides is undertaken by the Australian Pesticides and Veterinary Medicine Authority. There are legal penalties in place for using pesticides outside of label directions. The applicant is advised to ensure their use of glyphosate and any other pesticides during the clearing campaign complies with all legal requirements, as stipulated on the labelled instructions.

The advice received from DBCA (2019) included recommending a simple monitoring and evaluation program to be conducted prior to the proposed activities commencing. Monitoring programs could include photo points, weed mapping and water quality and fauna monitoring. These would allow future detection of trends in condition parameters and allow for reporting of effectiveness of weed control methods and provide contingency actions to be undertaken if required (DBCA, 2019).

A review of available databases determined the application area is situated within the following registered Aboriginal Heritage Sites:

- Bibra Lake North, known for its value as an artefacts/scatter site;
- North Lake and Bibra Lake, known for its value as a mythological and camp site and hunting place; and
- Yangebup Lake Aboriginal Heritage Site, known for its value as a ceremonial, historical, mythological, plant resource and water source site.

The applicant is advised to consult with the Department of Planning, Lands and Heritage to ensure their obligations under the *Aboriginal Heritage Act 1972* are met prior to undertaking the proposed clearing. It is the applicant's responsibility to obtain any other licences or approvals that may be required for the proposed works.

4. References

- City of Cockburn (2019) Clearing permit application and supporting documents for CPS 8394/1. DWER ref: A1769174.
- 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. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed May 2019.
- Department of Biodiversity, Conservation and Attractions (2019) DBCA Wetlands advice in relation to CPS 8394/1. DWER ref: A1808046.
- Department of Primary Industries and Regional Development (DPIRD) (2017). NRInfo Digital Mapping. Accessed at <https://maps.agric.wa.gov.au/nrm-info/> Accessed July 2019. Department of Primary Industries and Regional Development. Government of Western Australia.
- Environmental Protection Authority (EPA) (2008) Environmental Guidance for Planning and Development. Guidance Statement No. 33. Environmental Protection Authority. Western Australia.
- Government of Western Australia (2018) 2017 Statewide Vegetation Statistics (formerly the CAR Reserve Analysis) – Full Report. Current as of December 2017 (based on most recent date of input datasets). Remote Sensing and Spatial Analysis Section. Geographic Information Services and Corporate Records Branch. Department of Biodiversity, Conservation and Attractions. February 2018.
- Heddle, 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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <http://florabase.dpaw.wa.gov.au/> (accessed March 2019).
- Western Australian Herbarium (2019) Florabase – The Western Australian Flora. *Typha orientalis*, Bulrush. Available from: <https://florabase.dpaw.wa.gov.au/browse/profile/99>.

GIS Databases:

- Aboriginal Sites of Significance
- Department of Biodiversity, Conservation and Attractions, Managed Tenure
- Geomorphic Wetlands Management Category
- Hydrography Linear – Linear
- Hydrography WA 250K – Surface Water Lines
- SAC bio datasets
- TPFL March 2019
- Vegetation Complexes; pre – European Vegetation
- WA Herb Data March 2019
- WA TEC PEC Boundaries