



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6049/1
Permit Holder:	Shire of Dardanup and Shire of Harvey
Duration of Permit:	18 October 2014 to 18 October 2019

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 bridge.

2. Land on which clearing is to be done

Lot 647 on Deposited Plan 51067, Millbridge
Lot 5727 on Plan 19868, Millbridge
Eaton Drive road reserve (PIN 1370905), Millbridge
Lot 3001 on Deposited Plan 38067, Eaton
Lot 9200 on Deposited Plan 54132, Australind

3. Area of Clearing

The Permit Holder must not clear more than 0.48 hectares of native vegetation within the area shaded yellow on attached Plan 6049/1.

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.

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. 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*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- ensure that no *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.

7. Fauna management

- (a) The Permit Holder shall construct one possum rope bridge at each abutment of the Collie River foreshore as a component of bridge construction.
- (b) Possum rope bridges shall be constructed so as to facilitate arboreal fauna movement that would otherwise be interrupted by the construction of Bridge 5370.
- (c) Within one month of installing the possum rope bridges the Permit Holder shall notify the CEO in writing that the possum rope bridges have been completed.

DEFINITIONS

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

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



M Warnock
SENIOR MANAGER
CLEARING REGULATION

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

18 September 2014



Clearing Permit Decision Report

Government of Western Australia
Department of Environment Regulation

1. Application details

1.1. Permit application details

Permit application No.: 6049/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Dardanup and Shire of Harvey

1.3. Property details

Property: ROAD RESERVE (MILLBRIDGE 6232)
LOT 647 ON PLAN 51067 (MILLBRIDGE 6232)
LOT 3001 ON PLAN 38067 (EATON 6232)
LOT 5727 ON PLAN 19868 (MILLBRIDGE 6232)
LOT 9200 ON PLAN 54132 (AUSTRALIND 6233)

Local Government Area: Shire of Harvey and Shire of Dardanup
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.48		Mechanical Removal	Building or Structure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 18 September 2014

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Mapped Beard Vegetation Association 1182 is described as Medium woodland; Eucalyptus rudis and Melaleuca raphiophylla (Shepherd et al, 2001).	The clearing of 0.48 hectares of native vegetation is for the purpose of constructing a bridge.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994) To Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994)	The vegetation condition was determined by photographs within a targeted flora survey provided by the applicant (Shire of Harvey, 2014).

3. Assessment of application against clearing principles

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

Comments **Proposal may be at variance to this Principle**
The application is to clear 0.48 hectares of native vegetation within Lot 647 on Deposited Plan 51067, Lot 5727 on Deposited Plan 19868, Eaton Drive road reserve and Collie River Millbridge, Lot 3001 on Deposited Plan 38067, Eaton, Lot 9200 on Deposited Plan 54132, Australind, for the purpose of bridge construction.

The application area falls within Beard vegetation association 1182 which retains 12 per cent native vegetation within the Swan Coastal Plain IBRA bioregion (Government of Western Australia, 2013). The local area (10 kilometre radius) retains 20 per cent native vegetation.

Several priority flora species have been recorded within the local area (10 kilometre radius). The closest being a Priority 4 flora species located approximately 300 metres south of the application area. This species is found on white, grey or black sand (Western Australian Herbarium 1998-). Given the soil type identified in the application area consists of hard acidic red soils on river levees, it is unlikely that this species occurs within the application area.

The closest priority ecological community (PEC) is located approximately 8.4 kilometres south west of the application area and is described as 'Relictual White Mangrove Community' (Priority 1). Given the different vegetation type of the application area, the vegetation is not likely to be a representative of this PEC.

A number of fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within a 10 kilometre radius including: Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii* subsp. *naso*), Baudin's Cockatoo (*Calyptorhynchus baudinii*), Carnaby's Cockatoo (*Calyptorhynchus latirostris*), Chuditch (*Dasyurus geoffroi*), Southern Brush-tailed Phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*) and Western Ringtail Possum (*Pseudocheirus occidentalis*). It is likely that the vegetation under application may provide suitable habitat for ground dwelling fauna including the state and federally listed Western Ringtail Possum (WRP) (*Pseudocheirus occidentalis*) and Chuditch (*Dasyurus geoffroi*).

The vegetation under application is located on the axis line of the South West Regional Ecological Linkage and is classed as 1a under the scheme. 1a areas represent native vegetation touching or less than 100 metres from a linkage (Molloy et al, 2009). These linkages are recognised for their significance in facilitating indigenous fauna movement across the landscape (Molloy et al, 2009). The landscape function of an ecological linkage will be considered impaired where a proposed development causes the proximity value of a level 1 patch of remnant vegetation to change to level 2' (Molloy et al. 2009). Given the highly cleared landscape and low vegetation association representation values remaining in the local area, it is likely that the proposed clearing may contribute to the degradation or disruption of this linkage.

Given the above, the application may be at variance to this principle.

In order to mitigate the impacts of the proposed works and associated clearing on the ecological linkage for conservation significant fauna, the applicant has advised that a rope bridge will be constructed at each abutment along the Collie River foreshore as a component of bridge construction (Shire of Harvey, 2014). In addition, in order to assist with maintaining ecological connectivity post-clearing, the applicant has proposed to revegetate along the Collie River foreshore beneath the new bridge with remnant native understorey species. As land becomes available through the land development process, the Shire proposes to revegetate the Regional Open Space (ROS) along the Collie River with native species (Shire of Harvey, 2014). These mitigation measures will help to reduce the impacts of the proposed clearing on this ecological linkage.

Methodology

References:

- Western Australian Herbarium (1998-)
- Molloy et al (2009)
- Shire of Harvey (2014)
- Government of Western Australia (2013)

GIS Databases:

- NLWRA, Current Extent of Native Vegetation
- SAC Bio Datasets (Accessed September 2014)
- DEC Tenure
- SWREL-AL

(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.

Comments

Proposal may be at variance to this Principle

A number of fauna species listed as rare or likely to become extinct under the WA Wildlife Conservation Act 1950 (WC Act) have been recorded within a 10 kilometre radius including: Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii* subsp. *naso*), Baudin's Cockatoo (*Calyptorhynchus baudinii*), Carnaby's Cockatoo (*Calyptorhynchus latirostris*), Chuditch (*Dasyurus geoffroi*), Southern Brush-tailed Phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*) and Western Ringtail Possum (WRP) (*Pseudocheirus occidentalis*).

The vegetation under application is described as Medium woodland; *Eucalyptus rudis* and *Melaleuca raphiophylla*. The preferred foraging habitat for Forest Red-tailed Black Cockatoo, Baudin's Cockatoo and Carnaby's cockatoo species includes Jarrah and marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as *Banksia* sp. *Hakea* sp. and *Grevillea* sp (Commonwealth of Australia, 2012). Given the habitat preferences for these species, it is unlikely to provide significant habitat for the black cockatoo species.

Given the application area is located along the edge of a major watercourse, it is likely that the river fringing vegetation within the application will provide significant habitat to ground dwelling species including the Chuditch and Southern Brush-tailed Phascogale.

The WRP is listed as rare or likely to become extinct under the WC Act. The WRP is usually associated with stands of myrtaceous trees growing near swamps, water courses or floodplains (Parks and Wildlife, 2014). Given the vegetation association of the application area and the close proximity to the major water course, it is likely that suitable habitat is located within the application area.

A fauna survey undertaken by Harewood (2014) identified that the vegetation under application is being actively used as habitat by WRPs. The survey confirmed that the construction of the bridge and associated clearing will

result in the severing of the existing ecological linkage which facilitates the movement for fauna. Whilst the proposed bridge will not represent a total barrier to WRP movement, it is likely to expose them to the risk of predation and vehicle impact. Seven WRP dreys were identified during the fauna survey, however none of these were located within the application area. Fauna management practices will help to mitigate the impact of the bridge and associated clearing to this species and the ecological linkage.

The Chuditch has a preference for jarrah (*Eucalyptus marginata*) forests, woodlands, mallee shrublands and heaths. It requires adequate den resources and large natural areas and home sizes that are not fragmented in order for survival (DEC, 2012). Given the different vegetation association of the application area and the highly cleared landscape within the local area, it is unlikely to provide significant habitat for this species.

The Southern Brush-tailed Phascogale's preferred habitat is dry sclerophyll forests and open woodlands that contain hollow-bearing trees. Given the different vegetation association of the application area, it is unlikely to provide suitable habitat for this species (DEC, 2012a).

The local area retains approximately 20 per cent of native vegetation and the vegetation under application has been identified as part of the South West Regional Ecological Linkage. This linkage acts as a stepping stone between protected patches of significance for the movement of fauna within, and across a landscape and for the maintenance of ecological processes (Molloy et al, 2009). The clearing proposed is likely to contribute to the degradation or disruption of these linkages and subsequently reduce fauna movement across landscape.

The results from the fauna survey undertaken by Harewood (2014) confirm that the application area provides suitable habitat for WRP's. However, given the small size of the proposal and that no WRP dreys were identified within the application area, the vegetation proposed for clearing is not likely to provide significant habitat for this species.

Given the above, the application may be at variance to this principle.

In response to the above assessment, the applicant has advised that a possum rope bridge will be constructed at each abutment along the Collie River foreshore as a component of bridge construction in order to maintain connectivity of the ecological linkage that falls over the application area (Shire of Harvey, 2014). In addition, the applicant has proposed to revegetate the Collie River foreshore beneath the new bridge with remnant native understorey species and the ROS along the Collie River with native species as the land becomes available (Shire of Harvey, 2014). These measures will help to mitigate the degradation of the South West Regional Ecological Linkage and reduce the impacts of the proposed clearing on significant fauna with particular reference to WRP's.

Methodology

References:

- Commonwealth of Australia (2012)
- Molloy et al (2009)
- DEC (2012)
- DEC (2012a)
- Parks and Wildlife (2014)
- Shire of Harvey (2014)
- Harewood (2009)

GIS Databases:

- NLWRA, Current Extent of Native Vegetation
- SAC Bio Datasets (Accessed September 2014)
- SWREL-AL

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

Comments

Proposal is not likely to be at variance to this Principle

The closest mapped rare flora to the application area occurs approximately two kilometres south west of the application area. This species preferred habitat is in low lying depressions and swamps (Western Australian Herbarium 1998-). The application area may provide suitable habitat for this species. However, a flora survey undertaken by GHD did not identify any rare flora species within the application area (GHD, 2014). Therefore, it is not likely this rare flora species would occur within the area under application.

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

Methodology

References:

- Western Australian Herbarium (1998-)
- GHD (2014)

GIS Databases:

- SAC Bio Datasets (Accessed September 2014)

(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.

Comments **Proposal is not likely to be at variance to this Principle**
 Two threatened ecological communities (TEC) have been mapped approximately 4.3 kilometres south east and are known as 'Herb rich shrublands in clay pans' listed as vulnerable and 'Eucalyptus calophylla ' Xanthorrhoea preissii woodlands and shrublands, Swan Coastal Plain' listed as critically endangered. The vegetation type under application is not considered analogous to these threatened ecological communities and therefore it is not likely that the proposed clearing comprises the whole, or is necessary for the maintenance of these TECs.

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

Methodology GIS Databases:
 - SAC Biodatasets - accessed September 2014

(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.

Comments **Proposal may be at variance to this Principle**
 The area under application is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion retains approximately 39 per cent of its pre-European vegetation extent (Government of Western Australia, 2013).

The vegetation under application is mapped as Beard vegetation association 1182 of which there is approximately 12 per cent of its pre-European extent remaining within the Swan Coastal Plain (Government of Western Australia, 2013). Approximately 95 per cent of this vegetation falls outside of conservation reserve and is therefore susceptible to further degradation.

The area under application is located within the Shires of Harvey and Dardanup, within which there is approximately 52 per cent and 48 per cent of their pre-European extent remaining respectively (Government of Western Australia, 2013).

The local area (10 kilometre radius) surrounding the area under application is highly cleared with approximately 20 per cent vegetation remaining.

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).

Additional information provided by the applicant in the form of a flora survey conducted by GHD (2014), has identified that only 39 per cent (0.19 hectares) of the total clearing is representative of Beard Vegetation Association 1182 (Shire of Harvey, 2014a). In addition, this vegetation has been identified as being in a degraded (Keighery, 1994) condition given the heavily modified understorey and high density of weeds present which has most likely resulted from the area being previously cleared. Therefore, the proposed clearing will reduce the remaining Beard Vegetation Association 1182 by approximately 0.005 per cent.

Given the small and degraded portion of vegetation representative of Beard Vegetation Association 1182, the vegetation proposed to be cleared is not considered to be a significant remnant of native vegetation. The local area has, however, been extensively cleared and therefore the proposed clearing may be at variance to this principle.

	Pre-European (ha)	Current Extent Remaining (ha)	(%)	Extent in DPaW Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,222	586,975	39	36
Shire*				
Shire of Harvey	170,788	89,034	52	74
Shire of Dardanup	52, 831	25,744	48	80
Beard Vegetation Association in Bioregion*				
1182	12,309.34	1,493	12	5

Methodology References:
 - Commonwealth of Australia, 2001
 - Government of Western Australia, 2013
 - Shire of Harvey (2014a)
 - Keighery (1994)
 - GHD (2014)

GIS Databases:

- NLWRA, Current Extent of Native Vegetation
- Pre-European Vegetation

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

Comments **Proposal is at variance to this Principle**

A major perennial watercourse (Collie River) runs through the area under application. A Multiple Use wetland is mapped within the area under application. Three Conservation Category wetlands are mapped approximately 30 metres south, 135 metres north and 600 metres west from the application area. Conservation Category wetlands are highest priority wetlands, which are considered to support a high level of ecological attributes and functions (Water and Rivers Commission 2001).

The vegetation under application is mapped as Beard vegetation association 1182 and is described as Medium woodland; Eucalyptus rudis and Melaleuca raphiophylla (Government of Western Australia, 2013). Eucalyptus rudis and Melaleuca raphiophylla are common wetland plant species that typically grow in association with watercourses and wetlands (Water and Rivers Commission, 2000).

Given the close proximity to a major perennial watercourse (Collie River), the proposed clearing will impact upon vegetation growing in association with these water bodies and may cause degradation to riverine fringing vegetation and a subsequent decline in habitat values for conservation significant fauna (Parks and Wildlife, 2014a). The proposed clearing may modify the existing hydrological regime, increase runoff and deteriorate water quality within the major watercourse impact upon the conservation value of nearby wetland areas. However, these impacts are likely to be short term and constrained to the construction phase of the bridge.

The clearing of riverine fringing vegetation will fragment a significant ecological linkage.

Therefore the proposed clearing is at variance to this principle.

In order to mitigate the impacts of the proposed works and associated clearing on the ecological linkage, the applicant has advised that a rope bridge will be constructed at each abutment along the Collie River foreshore as a component of bridge construction (Shire of Harvey, 2014).

Methodology **References:**

- DPaW, 2014a
- Water and Rivers Commission, 2000
- Water and Rivers Commission, 2001
- Government of Western Australia, 2013
- Shire of Harvey (2014)

GIS Databases:

- Geomorphic Wetlands, (Mgt Categories), Swan Coastal Plain
- Hydrology, linear

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

Comments **Proposal is not likely to be at variance to this Principle**

The application area is mapped within soil type Ph2: River levees and terraces. Chief soils are hard acidic red soils on the levees. Associated are upper terraces of neutral red and yellow earths (Northcote et al. 1960 - 1968).

Wind erosion is unlikely given the small size of the application area (0.48 hectares), soil type and flat topography of the land at 5 metres above sea level.

Ground water salinity levels in the local area have been mapped as marginal (Water and River Commission, 2000) at 500 - 1000 milligrams per litre total dissolved solids.

Sedimentation to the Collie River may occur given the close proximity of the proposed clearing to the watercourse; however, this is likely to be short term and is not likely to cause appreciable land degradation.

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

Methodology **References:**

- Northcote et al. 1960 – 1968
- Water and River Commission (2000)

GIS Databases:

- Soils, statewide

(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.

Comments **Proposal is not likely to be at variance to this Principle**
The closest conservation reserve, Morangarel A Class Nature Reserve, falls 2.4 kilometres west of the application area. Given the distance to this conservation area and the golf course that lies between the application area and the reserve, it is unlikely that the proposed clearing will impact upon the environmental values of the conservation area.

The vegetation under application is located on the axis line of the South West Regional Ecological Linkage and is classed as 1a under the scheme. 1a areas represent native vegetation touching or less than 100 metres from a linkage (Molloy et al, 2009). These linkages are recognised for their significance in facilitating indigenous fauna movement across the landscape (Molloy et al, 2009). The clearing proposed is likely to contribute to the fragmentation of this linkage.

Given the ecological linkage is in association to the Collie River watercourse, it is unlikely the proposed clearing will impact the conservation values of the Morangarel Nature Reserve as it is not connected to his reserve.

Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology **References:**
- Shire of Harvey (2014)
- Molloy et al (2009)

GIS Databases:
- Parks and Wildlife, Tenure
- SWREL-AL

(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.

Comments **Proposal is not likely to be at variance to this Principle**
A major watercourse, Collie River, runs through the application area. Three Conservation Category wetlands are mapped approximately 30 metres south, 135 metres north and 600 metres west from the application area.

Groundwater salinity mapped within the application area is between 500 and 1000 milligrams per litre (marginal). Given this low salinity level it is not likely that the proposed clearing will lead to a perceptible rise in the water table and thus an increase in groundwater salinity levels.

Given the close proximity of the proposed clearing to the major watercourse, short term sedimentation may occur. However, impacts to this watercourse are expected to be minimal and no significant impacts to the environmental values of the major watercourse are expected.

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

Methodology **GIS Databases:**
- Hydrology, linear
- Salinity Statewide
- Geomorphic Wetlands, (Mgt Categories), Swan Coastal Plain

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

Comments **Proposal is not likely to be at variance to this Principle**
The removal of remnant vegetation is not expected to contribute to flooding given the small size of the proposed clearing.

Therefore the clearing as proposed is not likely to be at variance to this principle.

Methodology **GIS Datasets:**
- Hydrography linear

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

The application is to clear 0.48 hectares of native vegetation for the purpose of constructing a bridge.

The application area is mapped within the Aboriginal Site of Significance, 'Collie River Waugal'. The applicant will be notified of their obligations under the Aboriginal Heritage Act 1972.

The application area falls within a Native Title Claimant area. The claimants, the Gnaala Karla Booja and Single Noongar Claim (Area 1) people, and their representing body, the South West Aboriginal Land and Sea Council, have been notified and do not wish to make comment.

The western portion of the application area is zoned 'Residential development' under the town planning scheme.

Methodology

GIS Databases:

- Aboriginal Sites of Significance

4. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.
- Department of Environment and Conservation (2012) Chuditch (*Dasyurus geoffroii*) National Recovery Plan. Department of Environment and Conservation, Perth, Western Australia.
- Department of Environment and Conservation (2012a) Brush-tailed Phascogale (*Phascogale tapoatafa*) (Meyer, 1793). Department of Parks and Wildlife, Perth, Western Australia.
- Department of Parks and Wildlife (2014) Western Ringtail Possum (*Pseudocheirus occidentalis*) Recovery Plan. Department of Parks and Wildlife, Perth, Western Australia.
- Department of Parks and Wildlife (2014a) Regional advice for clearing permit CPS 6049/1. Department of Parks and Wildlife, Perth, Western Australia.
- GHD (2014) Main Roads South West Region Collie River Bridge, Eaton. Level 1 flora and fauna assessment. GHD, Perth, Western Australia.
- Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc), Nedlands, Western Australia.
- Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) South West Regional Ecological Linkages Technical Report. DEC, WALGA and Planning South West.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Shire of Harvey (2014) Additional information for Clearing Permit CPS 6049/1. Western Australia. (DER Ref: A777855).
- Shire of Harvey (2014a) Additional information for Clearing Permit CPS 6049/1. Western Australia. (DER Ref: A782994).
- Water and Rivers Commission (2001) Position Statement: Wetlands, Water and Rivers Commission, Perth.
- Water and Rivers Commission (2000). Wetland vegetation. Water and Rivers Commission, Perth.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au/> (Accessed 16/09/2014).