


# Lot 14 on Plan 42592 - Environmentally Sensitive Areas



## LEGEND

 Clearing Regulations - Environmentally Sensitive Areas

 Cadastre for labelling

Perth Metropolitan Area  
South 15cm Orthomosaic -



0  300 m

Scale 1:10031

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Prepared by: johnr

Prepared for:

Date: 13/05/2013 3:52:22 PM

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



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Environment and Conservation

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## 1. Application details

### 1.1. Permit application details

Permit application No.: 5455/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Colin Stephen, Susan Joy and Benjamin Mark Pearce

### 1.3. Property details

Property: LOT 14 ON PLAN 42592 ( COOKERNUP 6220)  
Local Government Area: Shire of Harvey  
Colloquial name:

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Refuse  
Decision Date: 9 May 2013

## 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
<p>The vegetation under application is mapped as follows:</p> <p>Beard vegetation association 1000 - Mosaic: Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree (Melaleuca Spp.); (Shepherd et al, 2001)</p> <p>Heddie vegetation complex is Bassendean complex central and south is described as Vegetation ranges from woodland of Eucalyptus marginata (Jarrah) - Allocasuarina fraseriana (Sheoak) - Banksia species to low woodland of Melaleuca species, and sedgelands on the moister sites. This area includes the transition of Eucalyptus marginata (Jarrah) to Eucalyptus todtiana (Pricklybark) in the vicinity of Perth. (Heddie et al, 1980)</p>	<p>The vegetation within the application area is in a pristine to excellent (Kelghery, 1994) condition with the majority of the vegetation being in a pristine condition (DEC, 2013).</p>	<p>Pristine: No obvious signs of disturbance (Kelghery 1994)</p> <p>To</p> <p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Kelghery 1994)</p>	<p>Vegetation description was determined during a Department of Environment and Conservation February 2013 site inspection (DEC, 2013)</p>

## 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 is at variance to this Principle**  
The application to clear 10 hectares of native vegetation within Lot 14 on Plan 42592, Cookernup is for the purpose of constructing a dwelling, driveway access, horse stables and bridle trails.



A site inspection (DEC, 2013) identified the application area and all of the existing native vegetation within Lot 14 to be in an excellent to pristine (Keighery, 1994) condition, with the only signs of disturbance being an historical and now overgrown drain along the western boundary, some minor disturbance on the western boundary approximately 1200 metres from the northern boundary, evidence of grazing and movement impact by kangaroos, some drought stress in some areas of the wetland community and possible dieback infestation areas (100 square metres) at the northern extent of the Lot.

The site inspection mapped three plant communities within Lot 14. Two are associated with wetland vegetation (Community 1 and 2), the other upland vegetation (Community 3). The clearing is proposed to occur within Communities 1 and 3:

Community 1 - extends along the entire length of Lot 14, mostly along the western side of the Lot with a small section in the middle, eastern boundary. This community comprises a dampland wetland on grey sandy soils, with areas of poorly drained and organic-rich soil where winter pooling is possible, dominated by *Melaleuca preissiana* and low open woodland over closed low heath, over herbs and sedges. This community is an example of Floristic Community Type (FCT) 04 (*Melaleuca preissiana* damplands) (DEC, 2013). A flora species, *Anarthria laevis*, within this community is not represented in nearby conservation estate and has not been documented in any floristic information for the local area.

Community 2 - occurs along the upper western boundary of Lot 14 and comprises a wetland of poorly drained organic-rich grey sand that would have surface water in winter months. This community is similar to those areas of the poorly drained dampland within Community 1 but differs in the increased density of *M. preissiana*. Community 2 is generally dominated by a *M. preissiana* low open forest, over open heath to tall open scrub, over open low heath, over sedges. (DEC, 2013)

Community 3 - occurs through the centre of Lot 14, with small pockets on the lower, western boundary, and at the northern end of Lot 14 and comprises upland vegetation on grey sand generally dominated by *Eucalyptus marginata*, *Banksia attenuata* low open forest with emergent *B. illicifolia*, over mixed closed low heath, over *Dasyopogon bromellifolius*, *Phlebocarya ciliata*, *Patersonia occidentalis* herbs and *Lyginea* spp, *Hypolaena exsulca*, *Lepidosperma squamata* sedges. It is considered that this plant community represents occurrences of both FCT21a (Central *Banksia attenuata*, *Eucalyptus marginata* woodlands) and FCT21b (Southern *Banksia attenuata* woodlands). FCT21b is listed as a priority 3 ecological community (PEC). (DEC, 2013). The proposed clearing for bridle trails within this community will degrade the upland vegetation as the tracks will facilitate the spread of weeds and dieback along those trails and throughout the upland vegetation of Lot 14.

Lot 14 is located close to the junction of the McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup (North-South) ecological linkage and the Yalgorup/Riverdale Road/Yarloop (Riverdale Road Transect) ecological linkage of the Greater Bunbury Region Scheme (EPA, 2003). These linkages are also recognised within the South West Regional Ecological Linkages technical report (Molley et al 2009). These linkages provide an important corridor for the dispersal of native fauna as well as consisting of significant breeding and foraging habitat for local fauna. The vegetation of Lot 14 plays a role in maintaining the continuity of the ecological linkages. The proposed clearing may degrade the quality of the linkage.

The vegetation types under application retain less than the recommended threshold level (30 per cent), below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). It is considered that the vegetation under application is significant as part of a regional ecological linkage in an extensively cleared landscape.

Priority listed flora species *Acacia* sp. (Priority 3) and *Boronia* ssp. (Priority 3) are known to occur on Lot 14. The site inspection noted large populations of priority listed flora species *Acacia semitrullata* (Priority 4), the *Boronia* species and *Evandra pauciflora* (a regionally significant flora species) within the dampland community. The following species of significant flora (EPA, 2004 and 2006) were also noted:

- *Verticordia nitens* - is endemic to the Swan Coastal Plain
- *Evandra pauciflora* - this species is known from less than 40 collections in the Western Australian Herbarium. The species is declining in population size within the Bunbury to Capel area through what appears to be a combination of changing hydrology and heavy grazing.
- *Anarthria laevis* - populations of this species within Lot 14 are the first known records of this species in the Bunbury to Perth area.
- *Scholtzia involucreta* - populations of this species within Lot 14 are close to the species' southern range extent.

Some large trees with hollows were noted within the application area (DEC, 2013; Shire of Harvey, 2013). Whilst the area to the northwest of the application area is mapped as Carnaby's Cockatoo breeding habitat, the banksia and eucalyptus tree species present on Lot 14 would provide foraging habitat for black cockatoo species. Numerous southern brown bandicoot diggings were observed on the western side of Lot 14 within Plant Community 2 (not part of the application area), and numerous kangaroos were also observed.

Given the above, it is considered the application area contains high biodiversity and is at variance to this Principle.

- Methodology**    **References**
- Commonwealth of Australia (2001)
  - DEC (2013)
  - EPA (2003)
  - EPA (2004)
  - EPA (2006)
  - Keighery (1994)
  - Molley et al (2009)
  - Shire of Harvey (2013)
- GIS Database
- SAC Bio datasets (accessed March 2013)

**(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 is at variance to this Principle**

The vegetation under application is in excellent to pristine (Keighery, 1994) condition (DEC, 2013) and is identified under the Greater Bunbury Regional Scheme as being part of a regionally significant McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup (North-South) ecological linkage and the Yalgorup/Riverdale Road/Yarloop (Riverdale Road Transect) ecological linkage (EPA, 2003). These linkages are also recognised within the South West Regional Ecological Linkages technical report (Molley et al 2009). Generally, these linkages provide an important corridor for the dispersal of native fauna as well as consisting of either breeding or foraging habitat, or both, for local fauna. The proposed clearing will contribute towards the degradation of the quality of this linkage.

Several large trees with hollows were noted within the application area (DEC, 2013; Shire of Harvey, 2013). Whilst the area to the northwest of the application area is mapped as Camaby's Cockatoo breeding habitat, the banksia and eucalyptus tree species present on Lot 14 would provide foraging habitat for black cockatoo species. Numerous southern brown bandicoot diggings were observed on the western side of Lot 14 within Plant Community 2 (not within the application area), and numerous kangaroos were also observed.

Given the above the clearing proposal is at variance to this Principle.

- Methodology**    **References**
- DEC (2013)
  - EPA (2003)
  - Molley et al (2009)
  - Shire of Harvey (2013)
- GIS Database
- SAC Bio datasets (accessed March 2013)

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

**Comments**    **Proposal may be at variance to this Principle**

Two species of rare flora (*Diuris* sp. and *Drakaea* sp.) occur within close proximity to Lot 14. These flora species have been recorded on white or grey sands in Banksia woodlands adjoining winter-wet swamps (Brown et al 1998). The application area contains suitable habitat for these species.

An appropriately timed, targeted flora survey is required to determine if these species occur within the application area.

Given this, the proposed clearing may be at variance to this Principle.

- Methodology**    **References**
- Brown et al (1998)
  - DEC (2013)
- GIS Database
- SAC Bio Datasets (accessed March 2013)

**(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**

The closest threatened ecological community (TEC) to the application area is SCP18 Shrublands on calcareous silts. The area under application is not mapped within a boundary or buffer of this TEC.

A site inspection (DEC, 2013) did not identify any known TEC within the application area.

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

- Methodology**
- References**
- DEC (2013)
- GIS Database**
- SAC Bio Datasets (accessed March 2013)

**(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 is 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 has approximately 39 per cent of its Pre European vegetation extent remaining (Government of Western Australia, 2011).

The application area is mapped as Beard Vegetation Associations 1000. Data from 2011 shows that this vegetation association has approximately 26 per cent of its pre-European extent remaining in the Swan Coastal Plain bioregion (Government of Western Australia, 2011).

The application area has also been mapped as Heddle Vegetation Complex, Bassendean Complex: Central and South, which retains 28 per cent of its pre-European extent (Heddle et al, 1980).

The local area has been extensively cleared with approximately 70 per cent of the local area (10km radius) being cleared.

The vegetation under application is in excellent to pristine (Kelghery, 1994) condition (DEC, 2013) and is identified under the Greater Bunbury Regional Scheme as being part of a regionally significant McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup (North-South) ecological linkage and the Yalgorup/Riverdale Road/Yarloop (Riverdale Road Transect) ecological linkage (EPA, 2003). These linkages are also recognised within the South West Regional Ecological Linkages technical report (Molley et al 2009). Generally, these linkages provide an important corridor for the dispersal of native fauna as well as consisting of either breeding or foraging habitat, or both, for local fauna. The proposed clearing may degrade the quality of this linkage.

The vegetation types under application retain less than the recommended threshold level (30%), below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). It is considered that the vegetation under application is significant as part of a regional ecological linkage in an extensively cleared landscape.

The ongoing removal of native vegetation in close proximity to the application area is resulting in the incremental degradation of a regionally significant ecological linkage.

Given the above the clearing proposal is at variance to this Principle.

	Pre-European (ha)	Current Extent Remaining (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
<b>IBRA Bioregion*</b>				
Swan Coastal Plain	1,501,209.20	587,832.98	39.16	33.3
<b>Shire*</b>				
Shire of Harvey	170,787.99	89,075.01	52.16	74.50
<b>Beard Vegetation Association in Bioregion*</b>				
1000	94,175.31	25,172.12	26.73	16.7
<b>Heddle Vegetation Complex **</b>				
Bassendean central and south	87,318.09	24,610.06	28.18	3.45

\* Government of Western Australia 2011

\*\* Heddle et al 1980

- Methodology**
- References**
- Commonwealth of Australia (2001)
  - DEC (2013)
  - EPA (2003)
  - Heddle et al (1980)
  - Shepherd et al (2001)
  - Molley et al (2009)



**(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 seriously at variance to this Principle**

The wetland (dampland) vegetation on Lot 14 is mapped as a Conservation Category wetland (CCW) and makes up approximately 5.5 hectares of the application area. A CCW sumpland occurs 50 metres east of the properties eastern boundary. Conservation category wetlands support a high level of ecological attributes and functions and are the highest priority for protection (Waters and Rivers Commission 2001).

A site inspection mapped three plant communities within Lot 14, two are associated with wetland vegetation (Community 1 and 2), the other upland vegetation (Community 3). The clearing is proposed to occur within Communities 1 and 3 (DEC, 2013):

Community 1 - extends along the entire length of Lot 14, mostly along western side of the Lot with a small section on the middle, eastern boundary and comprises a dampland on grey sandy soils, with areas of poorly drained and organic-rich soil where winter pooling is possible, dominated by *Melaleuca preissiana* and low open woodland over closed low heath, over herbs and sedges. This community is an example of Floristic Community Type (FCT) 04 (*Melaleuca preissiana* damplands).

Community 2 - occurs along the upper western boundary of Lot 14, immediately adjacent to the application area. It comprises a wetland of poorly drained organic-rich grey sand that would have surface water in winter months; this community is similar to those areas of the poorly drained dampland within Community 1 but differs in the increased density of *M. preissiana*. Community 2 is generally dominated by a *M. preissiana* low open forest, over open heath to tall open scrub, over open low heath, over sedges. The proposed clearing adjacent to this wetland has potential to cause short term sedimentation of its surface water through runoff and increase the wetland's surface water nutrient loading, alter the wetland's hydrological regime and increase flooding within the wetland itself.

The application area consists of wetland dependant vegetation that is of the highest priority for protection and therefore is seriously at variance to this Principle.

**Methodology References**

- DEC (2013)
- Waters and Rivers Commission (2001)

**GIS Databases**

- Hydrography, linear
- Geomorphic Wetlands (Mgt categories), Swan Coastal Plain
- EPP, Lakes

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

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

The chief soils of the application area are leached sands with low dune-swale terrain (Northcote et al 1968). Soils are further classified under the Department of Agriculture and Food soil mapping as Bassendean sands 'B1' and '212 Bs\_B3' soils (DAFWA, 2013).

A site inspection (DEC, 2013) mapped three plant communities within Lot 14, two are associated with wetland vegetation (Community 1 and 2), the other upland vegetation (Community 3). The clearing is proposed to occur within Communities 1 and 3:

Community 1 - extends along the entire length of Lot 14, mostly along western side of the Lot with a small section on the middle, eastern boundary and comprises a dampland on grey sandy soils, with areas of poorly drained and organic-rich soil where winter pooling is possible, dominated by *Melaleuca preissiana* and low open woodland over closed low heath, over herbs and sedges.

Community 2 - occurs along the upper western boundary of Lot 14 and comprises a wetland of poorly drained organic-rich grey sand that would have surface water in winter months; Community 2 is generally dominated by a *M. preissiana* low open forest, over open heath to tall open scrub, over open low heath, over sedges.

Community 3 - occurs mostly through the centre of Lot 14, with small pockets on the lower, western boundary, and at the northern end of Lot 14 and comprises upland vegetation on grey sand generally dominated by *Eucalyptus marginata*, *Banksia attenuata* low open forest with mixed closed low heath, over herbs and sedges.

Given that a large portion of the application area exists within a wetland, the proposed clearing may increase

waterlogging.

In addition, the proposed clearing may lead to land degradation in the form of wind erosion where Bassendean sand 'B1' is present, whilst those areas comprised of Bassendean sand '212 Bs\_B3' has an extreme risk of nutrient export occurring through surface drainage (DAFWA, 2013). As the application area occurs within the Peel-Harvey Catchment Area and drains towards the Peel Inlet and Harvey Estuary, such additional nutrient export is not considered sustainable (Shire of Harvey, 2013; DAFWA, 2013).

Therefore the proposed clearing is seriously at variance to this Principle.

**Methodology**    **References**  
- DEC (2013)  
- DAFWA (2013)  
- Northcote et al (1968)  
- Shire of Harvey (2103)

**GIS Databases**  
- Soils, statewide  
- Geomorphic Wetlands (Mgt categories), Swan Coastal Plain  
- EPP, Lakes

**(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 at variance to this Principle**

Two nature reserves occur along the western boundary and three others occur within five kilometres of application area. State Forest occurs 3.5km west and 12.5km east of the application area. The vegetation associated with these reserves and the remnants within the application area and surrounding freehold tenure form part of the regionally significant McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup (North-South) ecological linkage and the Yalgorup/Riverdale Road/Yarloop (Riverdale Road Transect) ecological linkage (EPA, 2003).

These areas also contain either conservation category or multiple use category wetlands, or both. Conservation category wetlands support a high level of ecological attributes and functions and are the highest priority for protection (Waters and Rivers Commission 2001).

The vegetation under application is in an excellent to pristine (Keighery, 1994) condition (DEC, 2013) and would contribute to the functionality of this linkage and would provide a direct buffer to the nature reserves to the west.

Phytophthora cinnamomi (dieback) was recorded in the application area (DEC, 2013). The proposed clearing may contribute towards the spread of dieback into the adjacent reserves. The introduction and spread of weeds may also be exacerbated by the proposed clearing.

Given the conservation significance of the vegetation under application, and the potential for clearing to impact on nearby DEC managed lands and other conservation areas, the clearing as proposed is at variance to this Principle.

**Methodology**    **References**  
- DEC (2013)  
- EPA (2003)  
- Keighery (1994)  
- Waters and Rivers Commission (2001)

**GIS Databases**  
- DEC Tenure  
- Geomorphic Wetlands (Mgt categories), Swan Coastal Plain  
- EPP, Lakes

**(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 at variance to this Principle**

The chief soils of the application area are leached sands with low dune-swale terrain (Northcote et al 1968). Soils are further classified under the Department of Agriculture and Food soil mapping as Bassendean sands 'B1' and '212 Bs\_B3' soils (DAFWA, 2013).

The application area comprises a conservation category wetland. This wetland type contains a high level of ecological attributes and functions and is the highest priority for protection (Waters and Rivers Commission 2001). The immediate and surrounding properties (within 3.5 kilometres) also contain conservation category

wetlands and/or multiple use category wetlands.

The proposed clearing is likely to cause short term sedimentation of the surface water of the wetland through runoff and has the potential to increase nutrient loading of the surface water (on and off-site). Those areas comprised of Bassendean sand '212 Bs\_B3' has an extreme risk of nutrient export occurring through surface drainage (DAFWA, 2013). As the application area occurs within the Peel-Harvey Catchment Area and drains towards the Peel Inlet and Harvey Estuary, such additional nutrient export is not considered sustainable (Shire of Harvey, 2013; DAFWA, 2013).

Other impacts may include alteration of the wetland's hydrological regime and increase flooding within the wetland itself.

Therefore, the proposed clearing is at variance to this Principle.

**Methodology**

References

- DAFWA (2013)
- Shire of Harvey (2013)
- Waters and Rivers Commission (2001)

GIS Databases

- Geomorphic Wetlands (Mgt categories), Swan Coastal Plain
- EPP, Lakes

**(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 at variance to this Principle**

The application area comprises a conservation category wetland with poorly drained and organic-rich soil where winter pooling is possible. The immediate and surrounding properties (within 3.5 kilometres) also contain conservation category wetlands and/or multiple use category wetlands.

The proposed clearing is likely to increase waterlogging of the wetland area and increase the incidence or intensity of flooding.

The proposed clearing is at variance to this Principle.

**Methodology**

GIS Databases

- Geomorphic Wetlands (Mgt categories), Swan Coastal Plain
- EPP, Lakes

**Planning Instrument, Native Title, Previous EPA decision or other matter.**

**Comments**

DEC wrote to the applicants on 9 April 2013 outlining the environmental issues advising them that it was unlikely a permit would be granted, and providing them an opportunity to comment on the issues identified, or withdraw or modify their clearing application. A response was received from the applicants on 23 April 2013 acknowledging the pristine condition of the vegetation, reiterating that they wished to develop 10 per cent of the property for horse training. The applicant suggested that if clearing was not permissible, then DEC or the Shire of Harvey should purchase the property.

The proposed clearing is in an area zoned General Farming under the Town Planning Scheme, Rural under the Greater Bunbury Regional Area and occurs within an area subject to the Environmental Protection (Peel Harvey Inlet-Harvey Estuary) Policy 1992. The purpose of this policy is to set out the environmental quality objectives for the Peel Inlet and Harvey Estuary, and outline the means by which these objectives are to be achieved and maintained. The Office of Environmental Protection Authority has advised that managing issues such as phosphorous flow into the estuary is best managed via the Local Government under the Statement Planning Policy 2.1 through relevant planning schemes (EPA, 2013).

The Shire of Harvey has advised that it would not support the proposed clearing based on the high conservation values the property contains (including wetlands, pristine vegetation condition and potential habitat for conservation significant flora and fauna) and potential offsite impacts should clearing occur and the end land use was to occur (horse training) (Shire of Harvey, 2013). The Shire also advised it has not received a planning application for this property.

The Department of Water (DoW) has advised that it does not support any clearing within conservation category wetlands or their buffers. The application area is located within the South West Coastal Groundwater Area as proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater abstraction in this proclaimed area is subject to licensing by the DoW (DoW, 2013).

**Methodology**

References

- DoW (2013)



- Shire of Harvey (2013)
- EPA (2013)

#### 4. References

- Brown A., Thomson-Dans C. and Marchant N. (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- DAFWA (2013) Department of Agriculture and Food - advice concerning proposed clearing on Lot 14 on DP 42592, Cookernup (DEC Ref: A612898).
- DEC (2013) Site Inspection Report for Clearing Permit Application CPS 5455/1, Lot 14 on Plan 42592, Cookernup. Site inspection undertaken 15/2/13. Department of Environment and Conservation, Western Australia (DEC Ref: A607151).
- DoW (2013) Department of Water - advice concerning proposed clearing on Lot 14 on DP 42592, Cookernup (DEC Ref: A601476).
- EPA (2003) Greater Bunbury Region Scheme. Bulletin 1108 September 2003. Environmental Protection Authority, Perth, Western Australia.
- EPA (2004) Guidance for the assessment of environmental factors ' Guidance No 51. Terrestrial Flora and Vegetation Surveys for Environmental Impact in Western Australia. Environmental Protection Authority, Perth, Western Australia.
- EPA (2006) Guidance for the assessment of environmental factors ' Guidance No 10. Level of assessment for proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Environmental Protection Authority, Perth, Western Australia.
- EPA (2009) Environmental Protection Bulletin No.8 ' South West Regional Ecological Linkages. Environmental Protection Authority, Perth, Western Australia.
- EPA (2013) Office of the Environmental Protection Authority - advice concerning proposed clearing on Lot 14 on DP 42592, Cookernup (DEC Ref: A605748).
- 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, Wallrod S and Whisson G (2009) South West Regional Ecological Linkages Technical Report. A report for the Western Australian Local Government Authority and Department of Environment and Conservation, Perth Western Australia
- 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 (2013) Site Inspection Report for Clearing Permit Application CPS 5455/1, Lot 14 on Plan 42592, Cookernup. Site inspection undertaken 20/3/13. (DEC Ref: A612024).
- Water and Rivers Commission (2001) Position Statement: Wetlands, Water and Rivers Commission, Perth.

#### 5. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)