



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 5517/1
File Number: 2013/001180-1
Duration of Permit: From 25 October 2014 to 30 June 2015

PERMIT HOLDER

SAWA Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 590 on Deposited Plan 69368, Lagrange

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 450 hectares of native vegetation within the area hatched yellow on attached Plan 5517/1.

CONDITIONS

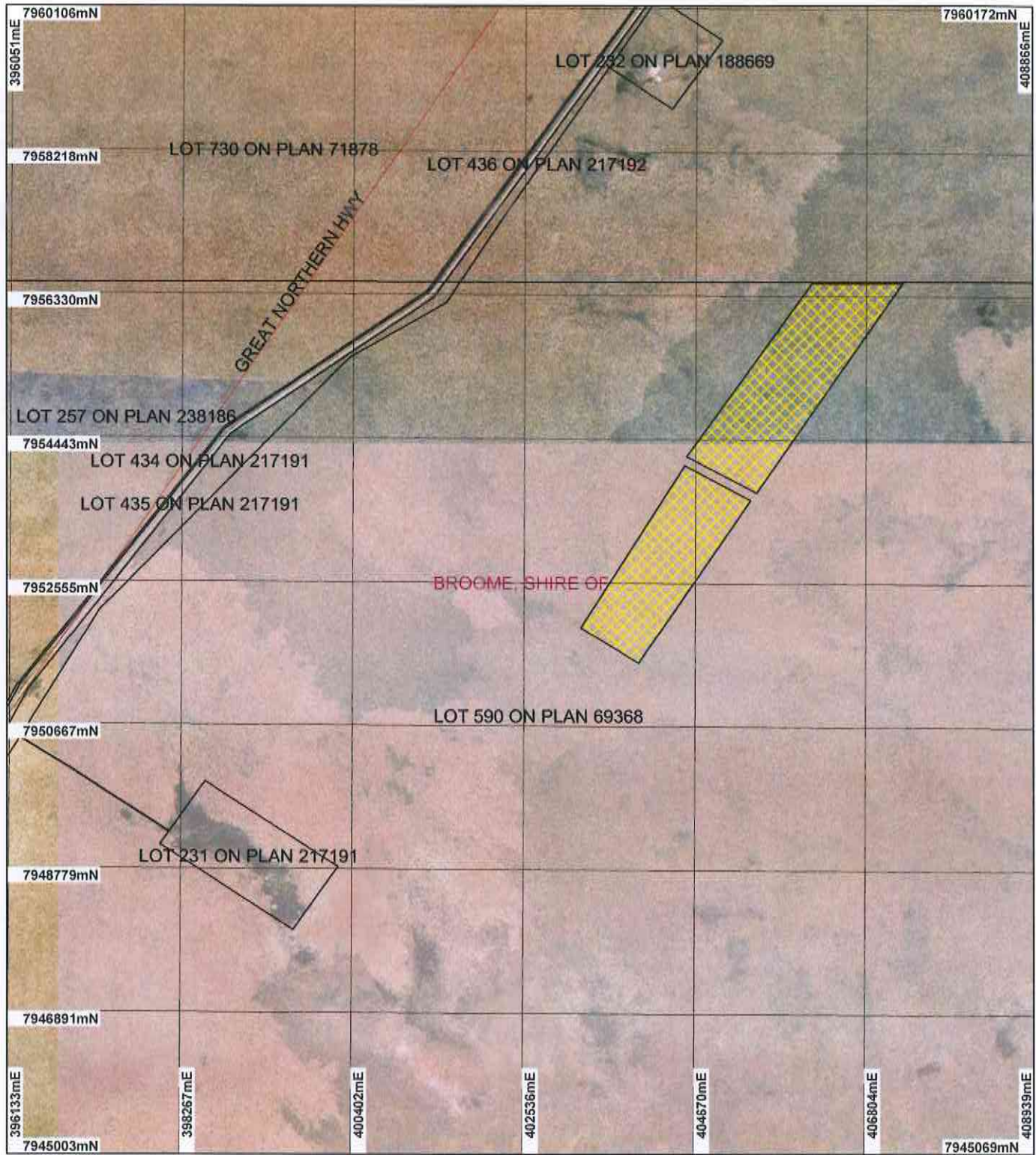
Nil.

M Warnock
SENIOR MANAGER
CLEARING REGULATION

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

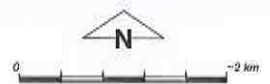
25 September 2014

Plan 5517/1



LEGEND

- | | |
|---------------------------------|--|
| Road Centrelines
Cadastral | Villaret 50cm Orthomosaic -
Landgate 2004 |
| Local Government
Authorities | Biddles 20cm Orthomosaic -
Landgate 2007 |
| Clearing Instruments | Lagrange 50cm Orthomosaic -
Landgate 2004 |
| Areas Approved to Clear | |



Geocentric Datum Australia 1994

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

M Warnock 25/9/14
Date

Officer with delegated authority under Section 20 of the Environmental Protection Act 1985

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



1. Application details

1.1. Permit application details

Permit application No.: 5517/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: SAWA Pty Ltd

1.3. Property details

Property: LOT 590 ON DEPOSITED PLAN 69368 (LAGRANGE 6725)
Local Government Area: Shire of Broome
Colloquial name: Shamrock Station

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
450		Mechanical Removal	Grazing & Pasture

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 25 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
The vegetation under application has been identified as Beard vegetation association's (Shepherd et al, 2001): 104 which has been described as hummock grasslands, shrub steppe; Grevillea refracta and hakea over soft spinifex soft spinifex.	To clear 450 hectares of native vegetation for the purpose of cropping.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994) To Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The condition of the vegetation under application was determined via a Department of Environment Regulation site inspection undertaken on 26 August 2014 (DER, 2014).
699 which has been described as shrublands, pindan; Acacia eripoda shrubland with scattered low bloodwood (E. dicromophloia) and E. setosa over soft and curly spinifex on sandplain.			

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 amended application is to clear 450 hectares of native vegetation for the purpose of cropping to produce feed for cattle. The application is situated within a pastoral lease (Shamrock Station) which has been subjected to historic and current livestock grazing.

The local area (40 kilometre radius) surrounding the application area is highly vegetated, retaining approximately 99 percent native vegetation cover.

One Priority flora species (P1) has been recorded within the local area, seven kilometres north of the application area. As this species inhabits sandy pindan country (Western Australian Herbarium, 1998-) which is present within the application area (DAFWA, 2013) and has also been recorded 100 kilometres south of the application area, it may occur within the proposed clearing area.

Macrotis lagotis (bilby), listed as rare under the state Wildlife Conservation Act (1950) and vulnerable under the federal Environment Protection and Biodiversity Conservation Act (1999) has been recorded from seven locations within the local area, four of which fall within Shamrock Station and three are located within 10 kilometres of the application area (DEC, 2007-). Clearing habitat for grazing and competition with live stock are listed as major threats to this species (Department of the Environment, 2012). As this species has a large foraging range and is known to move up to five kilometres between burrows on consecutive days, the application area may form habitat for this species.

A Department of Environment Regulation site inspection (DER, 2014) recorded the vegetation under application to be in a very good (Keighery, 1994) condition. A large portion of the application area was however, in a completely degraded condition (Keighery, 1994) with regrowth vegetation present. The vegetation under application appeared to be in a similar condition and of a similar composition to the surrounding area. Former tracks present within the property have become overgrown with native vegetation to the point that they are not traversable by vehicle, therefore cleared vegetation within the application area is likely to return to a good condition if left to regenerate.

The application may be at variance to this clearing principle.

Methodology

References:

Department of the Environment (2012)
DEC (2007-)
DER (2014)
DAFWA (2013)
Western Australian Herbarium (1998-)

GIS Databases:

- Lagrange 50cm Orthomosaic - Landgate 2004
- SAC Biodatasets - Accessed May 2014

(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

The application area falls within Shamrock Pastoral Station and has been observed to be in a very good to completely degraded (Keighery, 1994) condition (DER, 2014). Approximately 99 percent pre-European vegetation extent remains in the local area (40 kilometre radius).

Macrotis lagotis (bilby), listed as rare under the state Wildlife Conservation Act (1950) and vulnerable under the federal Environment Protection and Biodiversity Conservation Act (1999) has been recorded from seven locations within the local area, four of which fall within Shamrock Station and three are located within 10 kilometres of the application area (DEC, 2007-). Clearing habitat for grazing and competition with livestock are listed as major threats to this species (Department of the Environment, 2012). As this species has a large foraging range and is known to move up to five kilometres between burrows on consecutive days, the application area is likely to form habitat for this species.

Other conservation significant fauna recorded within the local area include *Lagorchestes conspicillatus* subsp. *leichardti* (spectacled hare-wallaby) (P3), *Lerista separanda* (dampierland plain slider, skink) (P2), *Heteromunia pectoralis* (*picturella* mannikin) (P4), *Burhinus grallarius* (bush stonecurlew) (P4), *Ardeotis australis* (Australian bustard) (P4), *Numenius madagascariensis* (eastern curlew) (P4), *Leggadina lakedownensis* (lakeland downs mouse) (P4), *Falco hypoleucos* (grey falcon) (P4), *Cacatua leadbeateri* (Major Mitchell's cockatoo) (Other Specially Protected Fauna) and *Falco peregrinus* (peregrine falcon) (Other Specially Protected Fauna) (DEC, 2007-).

Given the large size of the application area (450 hectares) in a very good (Keighery, 1994) condition the application area may represent significant indigenous fauna habitat. The proposed broad scale clearing is likely to affect the movement of fauna through the landscape and may impact on local fauna populations. The application area may form habitat for *Macrotis lagotis* which may be impacted by the proposed clearing.

The applicant has stated that he wishes to work with DER staff to negotiate a land-plan that provides sufficient wildlife corridors (Botha, 2013).

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

Methodology

References:

Botha (2013)
Department of the Environment (2012)
DEC (2007-)
DER (2014)
Keighery (1994)

GIS Databases:

- Lagrange 50cm Orthomosaic - Landgate 2004
- SAC Biodatasets - Accessed April 2013

(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 nearest record of rare flora is over 70 kilometres from the proposed clearing, on a different mapped vegetation and soil type to the application area.

Therefore, the vegetation under application is unlikely to support rare flora and the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:
- Lagrange 50cm Orthomosaic - Landgate 2004
- SAC Biodatasets - Accessed May 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

One threatened ecological community (TEC) has been recorded within 40 kilometres of the application area, the Roebuck Bay mudflats (vulnerable). This TEC falls 35.5 kilometres northeast of the area under application, on a different mapped soil and vegetation type to the application area.

As the application area does not contain any coastal communities the application is not likely to be at variance to this clearing principle.

Methodology GIS Databases:
- Lagrange 50cm Orthomosaic - Landgate 2004
- SAC Biodatasets - Accessed May 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 is not likely to be at variance to this Principle

The local area (40 kilometre radius) is approximately 99 percent vegetated. The vegetation has been mapped as Beard vegetation associations 104 and 699, of which there is approximately 99 percent pre-European extent remaining (Government of Western Australia, 2013).

The application is for broad scale clearing of 450 hectares of native vegetation that may be considered an area of high biodiversity due to its value as habitat for the rare *Macrotis lagotis* (bilby) and large size. However, as it does not fall within a highly cleared landscape, the vegetation under application is unlikely to be significant as a remnant of native vegetation and the application is not likely to be at variance to this clearing principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DPaW Managed Lands (%)
IBRA Bioregion*				
Dampierland	8,345,172	8,321,243	99	1
Shire*				
Shire of Broome	5,469,435	5,436,145	99	1
Beard Vegetation Association in Bioregion*				
104	84,781	84,708	99	0
699	1,976,298	1,974,900	99	0

Methodology References:
*Government of Western Australia (2013)

GIS Databases:
- Interim Biogeographic Regionalisation of Australia
- Lagrange 50cm Orthomosaic - Landgate 2004
- Pre-European Vegetation
- SAC Bio datasets - Accessed May 2014

(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 not likely to be at variance to this Principle

No watercourses have been mapped within 20 kilometres of the application area. The Department of Agriculture and Food Western Australia (2013) has stated that there are no established creek lines that run through the property.

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

Methodology References:
DAFWA (2013)

GIS Databases:
- Lagrange 50cm Orthomosaic - Landgate 2004
- Hydrography, linear

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

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

The soil within the application area has been mapped as unit AB21, which is described as pindan country, gently undulating sand plain with a few small rocky sandstone residuals, no external drainage, and chief soils of red earthy sands (Northcote et al 1960 - 1968).

The area under application lies within a region receiving a mean annual rainfall of 450 millimetres, falling mainly between December and April.

The application is to clear 450 hectares of native vegetation for cropping. The applicant has advised that the revised area will be cultivated under dry land irrigation methods (Botha, 2013).

A Department of Agriculture and Food Western Australia (DAFWA) site inspection described the site as being located on gently undulating country which generally has a slope of less than 0.5 percent (DAFWA, 2013). There is very little overland flow of water due to the porous nature of the soils and the flat topography (DAFWA, 2013). Given this the application is not likely to result in significant water erosion.

DAFWA (2013) has reported the sandy soils to have good drainage and that there will be no salinity issues with the proposed clearing.

DAFWA has advised that if the area is cleared shortly before planting and at the onset of the wet season, there is likely to be little risk of wind erosion before the crop emerges and provides protection to the soil surface (DAFWA, 2013). However, the potential exists for significant wind erosion causing land degradation if a crop fails to establish in dry land areas in the event of inadequate rainfall (DAFWA, 2013).

The application may be at variance to this clearing principle.

DAFWA has advised that minimum tillage cultivation techniques, retention of stubble of at least 150 millimetres high and shelter belts of trees and tall shrubs should be retained to minimise the risk of wind erosion causing land degradation (DAFWA, 2013).

In relation to the potential risk of wind erosion, the applicant has stated that (Botha, 2013):

- Clearing will be undertaken in discreet blocks with vegetation retained in-between.
- Minimum tillage techniques will be employed.
- The applicant has experience in employing minimum tillage techniques.
- The applicant has the machinery in order to employ minimum tillage techniques.

The management techniques proposed by the applicant should be sufficient to manage wind erosion.

Methodology References:
Botha (2013)
DAFWA (2013)
Northcote et al (1960 - 1968)

GIS Databases:
- Average Annual Rainfall Isohyets
- Soils, Statewide
- Topographic Contours, 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**

There are no mapped conservation areas within the local area (40 kilometre radius).

Therefore, this application is not likely to be at variance to this principle.

Methodology GIS Databases:
- Lagrange 50cm Orthomosaic - landgate 2004
- DEC Tenure

(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**
The area under application is located above the extensive Broome Sandstone aquifer. The groundwater salinity is mapped as fresh with less than 500 mg/L TDS (Water and Rivers Commission, 2001).

Due to the naturally high infiltration rates of the sandy pindan soils and as no water courses are present, the application is not likely to cause deterioration in the quality of surface water as it is unlikely to be transported off site (DAFWA, 2013).

As the mapped and observed vegetation type is shallow rooted and the groundwater is not saline the application is not likely to alter the functioning of the groundwater catchment (DAFWA, 2013).

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

Methodology **References:**
DAFWA (2013)
Water and Rivers Commission (2001)

GIS Databases:
- Groundwater Salinity, Statewide
- Hydrogeology, Statewide
- Hydrography, linear

(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 chief soils covering the area under application have been mapped as red earthy sands (Northcote et al. 1960-68).

The regional rainfall is mapped as 450 millimetres per annum.

The sandy soils within the application area have good drainage. Seasonal heavy downpours can cause localised flooding however it is likely to drain away quickly (DAFWA, 2013). No watercourses have been recorded within the application area.

Given the above, the proposed clearing is unlikely to increase the risk of flooding and the application is not likely to be at variance to this clearing Principle.

Methodology **References:**
DAFWA (2013)
Northcote et al. (1960-68)

GIS Databases:
- Average Annual Rainfall Isohyets
- Soils, Statewide

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

Comments The application area was originally for 4608 hectares. On 23 May 2013 a letter was sent to the applicant requesting flora and fauna surveys be undertaken and information on how identified impacts would be avoided.

On 27 August 2013 the applicant sent a letter to the Department of Environment Regulation (DER) revising the application area and providing further information on the proposed clearing. On 26 September 2013 the applicant was sent a letter requesting a flora survey be undertaken in order to define the potential impacts to priority flora. Further advice was sought on the effects the revised application may have on threatened fauna. On 14 November 2013, the applicant was sent a letter requesting a fauna survey over the application area.

On 16 December 2013 the application was amended to 450 hectares.

A site inspection of the application area was undertaken on 26 August 2014 (DER, 2014). Access to the application area was limited due to tracks within the property being overgrown with native vegetation. Approximately 186 hectares of the application area has been cleared of native vegetation and contains regrowth vegetation.

The Department of Regional Development and Lands has advised that a Diversification Permit under the Land Administration Act 1997 is required in order to undertake the proposed cropping within the property (Department of Regional Development and Lands, 2013).

The Department of Water has advised that the proponent has applied for a 5C licence in order to take groundwater for the irrigation of 500 hectares of horticulture and fodder crops, as well as licenses to construct/alter 25 production bores. The 450 hectares of land under application will be non-irrigated therefore, a water licence for these areas is not required (Botha, 2013).

A public submission has been received in relation to this application, concerning the large amount of clearing proposed, the absence of flora and fauna surveys over the area and the cumulative impact of other areas that have been cleared nearby (Submission, 2013). These concerns have been considered and addressed where appropriate in the clearing principles above.

There are no Aboriginal Sites of Significance mapped within the application area.

There has been a Native Title Determination over the area for the Karajarri Traditional Owners and therefore the proponent must ensure relevant approvals are sought from the Prescribed Body Corporate. Native title notification of this application was sent to the Kimberley Land Council and Karajarri People. To date no reply has been received.

Methodology References:
Botha (2013)
Department of Regional Development and Lands (2013)
Department of Water (2013)
DER (2014)

GIS database:
- Native Title Claims
- Aboriginal Sites of Significance

4. References

- Botha (2013); Responses to requests for further advice for CPS 5517/1. Received 22 August 2013 and 16 December 2013. Mr Nico Botha (DER Ref: A667109 and A707778).
- DAFWA (2013); Land Degradation Advice and Assessment Report for clearing permit application CPS 5517/1 received 8 May 2013; Department of Agriculture and Food Western Australia (DEC Ref: 628615).
- DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed 22/3/2012
- Department of Regional Development and Lands (2013), Advice for clearing permit application CPS 5517/1 received 10 April 2013; Department of Regional Development and Lands Western Australia (DEC Ref: 618577).
- Department of Water (2013), Advice for clearing permit application CPS 5517/1 received 19 April 2013; Department of Water Western Australia (DEC Ref: 622100).
- Department of the Environment (2012) Species Profile and Threats Database, *Macrotis lagotis*. <http://www.environment.gov.au/cgi-bin/sprat>. Accessed 13 May 2013. Department of Sustainability, Environment, Water, Population and Community, Canberra, ACT.
- DER (2014) Site Inspection Report for CPS 5517/1. Site inspection undertaken 26 August 2014. (DER ref: A803440)
- 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.
- 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.
- Submission (2013) Public Submission in Relation to Clearing Permit Application CPS 5517/1. Received 19/03/2013. DEC Ref: A611650.
- Water and Rivers Commission (2001) Position Statement: Wetlands, Water and Rivers Commission, Perth.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 13/May/2013).