



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

### PERMIT DETAILS

Area Permit Number: 6354/1  
File Number: 2011/006781-1  
Duration of Permit: From 21 February 2015 to 21 February 2017

### PERMIT HOLDER

City of Albany

### LAND ON WHICH CLEARING IS TO BE DONE

Millbrook Road reserve (PIN 11486639, PIN 11723707 and PIN 11748050) (Millbrook 6330).

### AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 2.11 hectares of native vegetation within the area shaded yellow on attached Plan 6354/1.

### CONDITIONS

#### 1. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared;

### DEFINITIONS

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

*dieback* means the effect of *Phytophthora* species on native vegetation;

*dry conditions* means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

*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;

*soil disease status* means soil types either infested, not infested, uninterpretable or not interpreted with a pathogen.

*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.

A handwritten signature in black ink, appearing to read "M Warnock".

M Warnock  
SENIOR MANAGER  
CLEARING REGULATION

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

22 January 2015

# Plan 6354/1

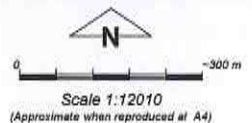


## LEGEND

— Road Centrelines  
 □ Local Government Authorities

□ Cadastre for labelling  
 Albany Townsite 20cm  
 Orthomosaic - Landgate  
 2007

Clearing Instruments  
 ■ 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* Date 22/1/15  
 M Warnock

Officer with delegated authority under Section 20 of the Environmental Protection Act 1988

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



Government of Western Australia  
 Department of Environment Regulation

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## 1. Application details

### 1.1. Permit application details

Permit application No.: 6354/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: City of Albany

### 1.3. Property details

Property: ROAD RESERVE (MILLBROOK 6330)  
Local Government Area: City of Albany  
Colloquial name: Millbrook Road reserve

### 1.4. Application

|                    |           |                    |                                  |
|--------------------|-----------|--------------------|----------------------------------|
| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of:              |
| 2.11               |           | Mechanical Removal | Road construction or maintenance |

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 22 January 2015

## 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 978 is described as low forest; jarrah, Eucalyptus staeri & Allocasuarina fraseriana. | The clearing of 2.11 hectares of native vegetation within Millbrook Road reserve, Millbrook is for the purpose of road widening. | Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) | The description and condition of the vegetation under application was determined from aerial imagery and a Targeted Flora and Fauna Survey undertaken within the application area (Bio Diverse Solutions 2014).  |
| Mapped Beard vegetation association 51 is described as sedgeland; reed swamps, occasionally with heath.                   |  | To   | The southern portion of the application area is described as Jarrah (Eucalyptus marginata subsp. marginata) Marri (Corymbia calophylla) woodland on grey sands in low lying areas to brown clay-loam soils over laterite in mid-upper slopes (Bio Diverse Solutions 2014). |
| Mapped Beard vegetation association 3 is described as medium forest; jarrah-marri.  |  | Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)                                | The northern portion of survey area is described as open Jarrah (Eucalyptus marginata subsp. marginata) and Sheoak (Allocasuarina fraseriana) woodland on grey sands with a sedge dominated understorey (Bio Diverse Solutions 2014).                                      |

(Shepherd et al 2001).

## 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 not likely to be at variance to this Principle**  
The clearing of 2.11 hectares of native vegetation within Millbrook Road reserve, Millbrook is for the purpose of road widening.

The vegetation under application is in a degraded to very good (Keighery 1994) condition.

The southern portion of the application area is described as Jarrah (Eucalyptus marginata subsp. marginata), Marri (Corymbia calophylla) woodland on grey sands in low lying areas to brown clay-loam soils over laterite in mid-upper slopes (Bio Diverse Solutions 2014).

The northern portion of survey area is described as open Jarrah (*Eucalyptus marginata* subsp. *marginata*) and Sheoak (*Allocasuarina fraseriana*) woodland on grey sands with a sedge dominated understorey (Bio Diverse Solutions 2014).

Numerous priority and rare flora species have been recorded within the local area (10 kilometre radius). A threatened flora and fauna survey undertaken in October 2014 identified 15 individuals of a Priority 4 flora species located within the area under application (Bio Diverse Solutions 2014). Priority 4 flora species are taxa considered to have been adequately surveyed and not in need of special protection, but could be if circumstances change. The flora survey undertaken identified approximately 200 individuals of this species within a reserve adjacent to the area under application (Bio Diverse Solutions 2014). Given the above the clearing as proposed is not likely to impact upon the conservation status of this species.

No rare flora were identified within the application area (Bio Diverse Solutions 2014).

Numerous fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius) including forest red-tailed black-cockatoo (*Calyptorhynchus banksii* subsp. *naso*), Baudin's cockatoo (*Calyptorhynchus baudinii*), Carnaby's cockatoo (*Calyptorhynchus latirostris*), southern brush-tailed phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*), western ringtail possum (*Pseudocheirus occidentalis*) and quokka (*Setonix brachyurus*) (DEC 2007-). A targeted threatened flora and fauna survey identified three potential habitat trees within the application area that contained small hollows. The hollows identified were too small for breeding by forest red-tailed black-cockatoo, Carnaby's cockatoo or Baudin's cockatoo (Bio Diverse Solutions 2014). The hollows identified are likely to be suitable for the brush tailed phascogale and western ringtail possum, however no evidence of these species utilising the hollows was identified (Bio Diverse Solutions 2014). Given the long linear shape of the area under application the clearing as proposed is not likely to have an impact on significant habitat for the abovementioned fauna species. Vegetation in better condition located within close proximity of the area under application is likely to provide suitable habitat for these species.

The area under application may contribute to a biological corridor facilitating fauna movement across the landscape. However remnant vegetation located adjacent to and within close vicinity of the application area will maintain a linkage for fauna moving between larger remnants and no significant impact to fauna movement across the landscape is expected.

The clearing proposed may indirectly impact adjacent vegetation through the spread of weeds and dieback. Weed and dieback management practices will help mitigate this risk.

The vegetation under application contains a Priority 4 flora species and contains vegetation in a very good (Keighery 1994) condition. However, the area under application in a linear shape, which spans over approximately 2.7 kilometres of Millbrook Road reserve is not considered to contain high biological diversity.

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

#### Methodology

References:

- Bio Diverse Solutions (2014)
- DEC (2007-)
- Keighery (1994)

GIS Database:

- SAC Bio Datasets - accessed December 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 is not likely to be at variance to this Principle**

Numerous fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius) including: Australasian bittern (*Botaurus poiciloptilus*), curlew sandpiper (*Calidris ferruginea*), great knot (*Calidris tenuirostris*), lesser sand plover (*Charadrius mongolus*), western bristlebird (*Dasyornis longirostris*), Indian yellow-nosed albatross (*Diomedea chlororhynchus* subsp. *carteri*), eastern curlew (*Numenius madagascariensis*), forest red-tailed black-cockatoo (*Calyptorhynchus banksii* subsp. *naso*), Baudin's cockatoo (*Calyptorhynchus baudinii*), Carnaby's cockatoo (*Calyptorhynchus latirostris*), southern brush-tailed phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*), western ringtail possum (*Pseudocheirus occidentalis*) and quokka (*Setonix brachyurus*) (DEC 2007-).

The Australasian bittern, curlew sandpiper, great knot, lesser sand plover, Indian Yellow-nosed albatross and eastern curlew are waterbirds and inhabit areas including wetlands, mudflats, estuaries, bays, lagoons and swamps. Suitable habitat for these species is not located within the area under application.

Western bristlebird occurs in low heathland comprising a diverse variety of shrubs such as banksias, paperbarks and hakeas. Their habitat usually has abundant sedges and sometimes thickets of stunted eucalypts. This species is restricted to a coastal strip of southern Western Australia from Two Peoples Bay to the eastern end of Fitzgerald River National Park (Department of the Environment 2015a). Suitable habitat for this species is not likely to be located within the area under application.

Carnaby's cockatoo is listed as endangered under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and rare or likely to become extinct under the WC Act. Carnaby's cockatoo nest in large hollows of eucalyptus trees and forages on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (Banksia, Hakea, Grevillea), as well as Allocasuarina and Eucalyptus species, Corymbia calophylla and a range of introduced species, especially seeds from cones of Pinus species (Shah, 2006). Baudin's cockatoo and forest red-tailed black- cockatoo are listed as vulnerable under the EPBC Act and are also known to breed large hollows in tall eucalypts (Department of the Environment 2015b and 2015c).

A fauna survey undertaken within the area under application identified three potential habitat trees (Jarrah) suitable for breeding by black cockatoo species, based on a girth measurement larger than 50 cm diameter at breast height. The survey did not identify any nesting hollows large enough for breeding by the black cockatoo species (Bio Diverse Solutions 2014). Therefore the vegetation under application is not considered to contain significant breeding habitat for the black cockatoo species.

The area under application contains suitable foraging habitat for the black cockatoo species, in addition potential foraging evidence was identified during the fauna survey undertaken within the application area (Bio Diverse Solutions 2014). However, large areas of remnant vegetation in better condition are located within close proximity to the area under application and within the local area (10 kilometre radius) which will provide suitable foraging habitat for these species. The clearing of 2.11 hectares of native vegetation along a 2.7 kilometre stretch of road reserve is not likely to have a significant impact on foraging habitat for these species.

The western ringtail possum is listed as endangered under the EPBC Act and rare or likely to become extinct under the WC Act. This species has a preference for near coastal Agonis flexuosa forest and Eucalyptus gomphocephala dominated forest with an Agonis flexuosa understorey (Department of the Environment 2014c). The western ringtail possum is usually associated with stands of myrtaceous trees growing near swamps, watercourses or floodplains (Department of the Environment 2015d). Suitable habitat for this species is not located within the area under application.

Southern brush-tailed phascogale occurs within dry sclerophyll forest and open woodlands that contain hollow-bearing trees (Department of the Environment 2015e).

The three abovementioned identified habitat trees contained small hollows likely to be suitable for the brush tailed phascogale and western ringtail possum, however no evidence of these species utilising the hollows was identified (Bio Diverse Solutions 2014). Given the long linear shape of the area under application the clearing as proposed is not likely to have an impact on significant habitat for these species. Vegetation in better condition located within close proximity of the area under application is likely to provide suitable habitat for these species.

The area under application may provide habitat for ground dwelling fauna, however given the long linear nature of the area under application the vegetation proposed to be cleared is not likely to contain significant fauna habitat.

The area under application may contribute to a biological corridor facilitating fauna movement across the landscape. However remnant vegetation located adjacent to and within close vicinity to the application area will provide a linkage for fauna moving between larger remnants and no significant impact to fauna movement across the landscape is expected.

Given the above, the area under application is not likely to contain significant habitat for fauna.

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

#### Methodology

##### References:

- Bio Diverse Solutions (2014)
- DEC (2007-)
- Department of the Environment (2015a)
- Department of the Environment (2015b)
- Department of the Environment (2015c)
- Department of the Environment (2015d)
- Department of the Environment (2015e)
- Shah (2006)

##### GIS Database:

- SAC Bio Datasets - accessed December 2014

#### **(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**

Eleven rare flora species have been recorded within the local area (10 kilometre radius). The closest record being recorded approximately 260 metres west of the area under application. This species is found on sand over laterite, gravel and loam over granite within gullies (Western Australian Herbarium 1998-).

A threatened flora and fauna survey undertaken in October 2014 did not identify any rare flora species within the area under application (Bio Diverse Solutions 2014).

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

**Methodology**    References:  
- Bio Diverse Solutions (2014)  
- Western Australian Herbarium (1998-)

GIS Database:  
- SAC Bio Datasets - accessed December 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), Proteaceae Dominated Kwongkan Shrubland, is known to occur within local area (10 kilometre radius). This community is dominated by flowering shrub species from the Proteaceae family (e.g Banksias, Grevilleas and Hakeas) (Department of the Environment 2014). This TEC has a broad distribution throughout the south coast region with large areas located within conservation estate (Department of the Environment 2014).

The area under application is not located within the mapped 'indicative current distribution' or 'indicative pre-European distribution' of this TEC (Department of the Environment 2014).

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

**Methodology**    References:  
- Department of the Environment (2014)

GIS Database:  
- SAC Bio Datasets - Accessed December 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 area under application is located within the Jarrah Forest Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 55 per cent of its Pre European vegetation extent remaining (Government of Western Australia 2013).

The vegetation under application is mapped as Beard vegetation associations 3, 51 and 978 which have approximately 68, 40 and 38 per cent of their Pre-European extent remaining respectively within the Jarrah Forest bioregion (Government of Western Australia 2013).

The National Objectives and Targets for Biodiversity Conservation include a target that prevents the clearance of ecological communities with an extent below 30 per cent of that present pre-European settlement, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Beard vegetation associations mapped within the application area retain more than the 30 per cent threshold.

Digital imagery indicates that the local area (10 kilometre radius) surrounding the area under application retains less than 20 per cent vegetation cover and therefore the vegetation proposed to be cleared may be considered to be located within an extensively cleared area.

The area under application does not contain high biological diversity, rare flora or significant fauna habitat and therefore is not likely to be considered to be a significant remnant.

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



|  | Pre-European<br>(ha) | Current Extent<br>(ha) | Remaining<br>(%) | Extent in Parks and Wildlife<br>Managed Land<br>(%) |
|--|----------------------|------------------------|------------------|---|
| IBRA Bioregion*<br>Jarrah Forest           | 4,506,660            | 2,457,732              | 55               | 68  |
| Shire*<br>City of Albany                   | 431,370              | 166,839                | 38               | 25  |
| Beard Vegetation Association in Bioregion* |                      |                        |                  |   |
| 3  | 2,390,591            | 1,629,894              | 68               | 80  |
| 51   | 19,962               | 7,923                  | 40               | 29  |
| 978  | 53,017               | 20,371                 | 38               | 25  |

\* Government of Western Australia (2013)

**Methodology** References:  
- Commonwealth of Australia (2001)  
- Government of Western Australia (2013)

GIS Databases:  
- Local Government Authorities - Landgate  
- 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 minor watercourse 'Millstream' intersects the area under application.

Given the above the vegetation proposed to be cleared is likely to be growing in association with a watercourse. Therefore the clearing as proposed is at variance to this principle.

However, the application area is long and linear and therefore the clearing proposed is not likely to have a significant impact on the environmental values of the watercourse.

**Methodology** GIS Databases:  
- 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**  
Two soil types have been mapped within the area under application:

Soil type Cb41 is described as: Undulating to moderately undulating lands with occasional granite tor outcrop: dominant soils are deep bleached sands. Near granite outcrops shallow to moderately deep bleached sands are common. On some higher broad ridge crests deep sandy red earths or bleached earths occur. In shallow drainage depressions are sandy or loamy duplex soils or occasionally bleached grey earths (Northcote et al 1960 - 1968).

Soil type Ca23 is described as: Undulating plain or plateau at low elevation, having a pronounced ridge and depression sequence, some flats, swamps, and lakes: chief soils seem to be leached sands, which occur on upland areas where they have developed in the A horizons of soils where these are deep, or on sand deposits overlying boulder laterite, and on slopes and in depressions, some of which have peaty surfaces, dominate (Northcote et al 1960 - 1968).

The proposed clearing of 2.11 hectares over approximately 2.7 kilometres within Millbrook Road reserve is not likely to cause appreciable land degradation.

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

**Methodology** References:  
- Northcote et al (1960-1968)

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**  
Numerous conservation areas are located within the local area (10 kilometre radius), the closest being, Bakers Junction Nature Reserve located approximately 2.6 kilometres east of the application area.

An unnamed nature reserve is located approximately 2.6 kilometres north of the area under application.

'Bon Accord Road Nature Reserve' is located approximately 3.2 kilometres east of the area under application.

The area under application may contribute to a biological corridor facilitating fauna movement across the landscape. However remnant vegetation located adjacent to and within close proximity to the application area will provide a linkage for fauna between larger remnants and no significant impact to fauna movement across the landscape is expected to result from the proposed clearing.

Given the distance to the closest nature reserve the clearing as proposed is not likely to have an impact on the environmental values of any conservation areas.

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

**Methodology**      GIS Database:  
- DPaW, 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**  
A minor watercourse 'Millstream' intersects the area under application.

Given the above, the clearing as proposed may increase sedimentation into the watercourse located within the area under application. However sedimentation will be minor and short term, and given the proposed clearing is for road widening and construction there are likely to be culverts in place to manage surface water flow. Therefore the clearing proposed is not likely to cause deterioration in the quality of surface water.

Groundwater Salinity is mapped between 500 - 1000 milligrams per litre total dissolved solids which is considered to be marginal. The proposed clearing of 2.11 hectares over approximately 2.7 kilometres within Millbrook Road reserve is not expected to cause a measurable deterioration in the quality of underground water.

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

**Methodology**      GIS Databases:  
- Groundwater salinity  
- Hydrology, 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 proposed clearing of 2.11 hectares of native vegetation over approximately 2.7 kilometres of Millbrook Road reserve is not likely to cause or exacerbate the incidence or intensity of flooding.

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

**Methodology**

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

**Comments**  
No submissions have been received in relation to this application.

No Aboriginal Sites of Significance are located within the area under application.

**Methodology**



#### 4. References

- Bio Diverse Solutions (2014) Targeted Threatened Flora and Fauna Survey Millbrook Road Albany. Western Australia. DER Ref:A855128
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2007 - ) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed December 2014
- Department of the Environment (2014) Proteaceae Dominated Kwongkan Shrubland: a nationally-protected ecological community. Western Australia.
- Department of the Environment (2015a). *Dasyornis longirostris* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>.
- Department of the Environment (2015b). *Calyptorhynchus banksii naso* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>.
- Department of the Environment (2015c). *Calyptorhynchus baudinii* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>.
- Department of the Environment (2015d). *Pseudocheirus occidentalis* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>.
- Department of the Environment (2015e) Action Plan for Australian Marsupials and Monotremes. <http://www.environment.gov.au/node/14789>
- 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.
- Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, 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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au/> (Accessed December 2014).