

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number:8981/1File Number:DWERVT6175Duration of Permit:14 November 2020 to 14 November 2022

PERMIT HOLDER

Mr Lloyd and Mrs Christie Bentink on behalf of Mr Przemyslam Jerzy Sawacki

LAND ON WHICH CLEARING IS TO BE DONE

Lot 154 on Deposited Plan 59787, Walpole

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than six native trees within the area cross-hatched yellow on Plan 8981/1.

CONDITIONS

1. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

2. Weed and dieback 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;
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

3. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, inrelation to the clearing of native vegetation authorised under this Permit:

- (a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (b) the date that the area was cleared;
- (c) the size of the area cleared (in trees);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 1 of this Permit;
- (e) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with condition 2 of this Permit;

4. Reporting

The Permit Holder must provide to the CEO the records required under condition 3 of this Permit, when requested by the CEO.

DEFINITIONS

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

CEO: means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

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

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

Ryan Mincham MANAGER NATIVE VEGETATION REGULATION

Officer delegated under Section 20 of the Environmental Protection Act 1986 22 October 2020

Plan 8981/1





Geocentric Datum of Australia 1994



Clearing Permit Decision Report

| 1. Application deta | ils and outcome | | | | | |
|-------------------------|--|--|--|--|--|--|
| 1.1. Permit application | 1.1. Permit application details | | | | | |
| Permit number: | CPS 8981/1 | | | | | |
| Permit type: | Area permit | | | | | |
| Applicant name: | Mr Lloyd and Mrs Bentink on behalf of Mr Przemyslaw Jerzy Sawicki | | | | | |
| Application received: | 27 July 2020 | | | | | |
| Application area: | Six native trees | | | | | |
| Purpose of clearing: | Removal of trees which may impact on the proposed dwelling adjacent on Lot 155 on Deposited Plan 59787 and to comply with the recommendations of a BAL report. | | | | | |
| Method of clearing: | Mechanical | | | | | |
| Property: | Lot 154 on Deposited Plan 59787 | | | | | |
| Location (LGA area/s): | Shire of Manjimup | | | | | |
| Localities (suburb/s): | Walpole | | | | | |

1.2. Description of clearing activities

The vegetation applied to be cleared is six native trees to accommodate a proposed dwelling on a neighbouring lot and to comply with the recommendations of a BAL report (see Figure 1, Section 1.5).

| 1.3. | Decision | on application | and key | considerations |
|------|----------|----------------|---------|----------------|
| | | | | |

| Decision: | Granted |
|----------------|--|
| Decision date: | 22 October 2020 |
| Decision area: | Six native trees, as depicted in Figure 1 of Section 1.5, below. |

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act* 1986 (EP Act) and was received by the Department of Water and Environmental Regulation (DWER) on 27 July 2020. DWER advertised the application for public comment and no submissions were received.

In undertaking their assessment, and in accordance with section 510 of the EP Act, the Delegated Officer has given consideration to the Clearing Principles in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments, and any other pertinent matters they deemed relevant to the assessment (see Sections 3 and 4).

In particular, the Delegated Officer has determined that:

- the clearing of the trees as proposed is not likely to impact significant habitat for threatened species of black cockatoo (see Section 3.2.1);
- the implementation of a suitable weed and dieback management condition is appropriate to mitigate the impact of spreading weeds and dieback into adjacent vegetation;
- the applicant has suitably demonstrated avoidance and minimisation measures (see Section 3.1)

In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is not likely to lead to an unacceptable risk to the environment.



Figure 1. Map of the application area.

The area cross-hatched yellow is authorised to be cleared under the granted clearing permit.

2. Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection* (*Clearing of Native Vegetation*) Regulations 2004 (Clearing Regulations).

In addition to the matters considered in accordance with section 510 of the EP Act (see Section 1.3), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- 1. the precautionary principle;
- 2. the principle of intergenerational equity;
- 3. the principle of the conservation of biological diversity and ecological integrity; and

Other legislation of relevance for this assessment include:

- Planning and Development Act 2005 (WA) (P&D Act);
- Biodiversity Conservation Act 2016;
- Environment Protection and Biodiversity Conservation Act 1999

The key guidance documents which inform this assessment are:

- A guide to the assessment of applications to clear native vegetation (December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant, demonstrating that the following avoidance measures were considered and implemented:

- Minimisation of the number of trees required to be cleared. The applicant removed two trees from the application during the validation process, thereby reducing the number to be cleared from eight to six;
- The applicant has committed to retain ground cover where possible to mitigate the risk of erosion impacts.

3.2. Assessment of environmental impacts

In assessing the application in accordance with section 510 of the EP Act, the Delegated Officer has examined the application and site characteristics (Appendix B) and considered whether the clearing poses a risk to environmental values. The assessment against the Clearing Principles is contained in Appendix C.

The assessment identified that the clearing may pose a risk to habitat for conservation significant fauna which required further consideration. The detailed consideration and assessment of the clearing impacts against the specific environmental values of the area is provided below.

3.2.1. Environmental value: biological values (fauna) – Clearing Principle (b)

Assessment:

The vegetation within the application area is in a Good to Degraded (Keighery, 1994) condition and photographs of trees identified for clearing have been provided by the applicant (Appendix E). These photographs indicate that some of the trees have a Diameter at Breast Height greater than 500 millimetres, however, they do not contain any observable hollows suitable for breeding by threatened species of black cockatoos. The application area is within the modelled distribution of all three black cockatoo species with the nearest confirmed breeding location approximately 18 kilometres north of the application area. According to currently available databases, there are records of all three species, within the local area with the nearest records to the application area being; Carnaby's cockatoo (1.08 kilometres), Baudin's cockatoo (1.2 kilometres) and the Forest Red-tailed cockatoo (7.2 kilometres). There is also a record of a 'white-tailed black cockatoo' (Calyptorhynchus sp.) approximately 590 metres from the application area. Suitable habitat for threatened black cockatoo species is extensive within the local area, with the following conservation areas located within close proximity; Walpole-Nornalup National Park (approximately 480 metres north). Keystone State Forest (approximately 580 metres west) and Mount Frankland South National Park (approximately 1.45 kilometres west). These conservation areas are likely to comprise extensive areas of high-quality foraging, roosting and breeding habitat, and cover an area of approximately 19,448 hectares (Walpole-Nornalup National Park), 271 hectares (Keystone State Forest) and 42,283 hectares (Mount Franklin South National Park) respectively within the local area. The removal of these trees is unlikely to impact locally significant habitat, or the conservation status of any species of black cockatoo which may utilise the application area.

Outcome:

Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable in relation to this environmental value.

Conditions:

No fauna management conditions required.

3.3. Relevant planning instruments and other matters

Other relevant authorisations required for the proposed land use include:

• Development approval under the Planning and Development Act 2005 (issued by the Shire of Manjimup).

The Shire of Manjimup advised DWER that local government approval in the form of a building licence is required, and that the clearing is consistent with the Shire's Local Planning Scheme. The Shire did not have any objections to the clearing.

It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Appendix A – Additional information provided by applicant

Applicant provided additional photos of the trees proposed to be cleared (Appendix E).

Appendix B – Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of the assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

| Site characteristic | Details |
|------------------------|--|
| Local context | The proposed clearing is to remove six native trees which may impact on the proposed dwelling on neighbouring Lot 155 on Deposited Plan 59787. Aerial imagery and current spatial data indicate the local area (10 km radius of the proposed clearing area) retains approximately 82% of the original native vegetation cover. |
| Vegetation description | Photographs supplied by the applicant indicate the vegetation proposed to be cleared consists of Mattiske (1998) vegetation complex - Wapole Wp. |
| | Representative photographs are available in Appendix E. These photographs show that the vegetation present is broadly consistent with the mapped vegetation type which is described as: |
| | • Vegetation Complex - Wapole Wp. Described as: Low woodland of <i>Allocasuarina fraseriana, Banksia attenuata, Banksia ilicifolia</i> with stunted <i>Eucalyptus marginata</i> subsp. marginata on flats in the hyperhumid zone. |
| Vegetation condition | Photographs supplied by the applicant indicate the vegetation within the application area and immediately adjacent, is in Good to Degraded (Keighery, 1994) condition, but is mostly degraded. These condition categories are described as: |
| | Good: Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing; and Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure |

1. Site characteristics

| Site characteristic | Details | | | | | |
|-----------------------|---|-------------------|--|--|--|--|
| | caused by very frequent fires, the presence clearing, dieback and/or grazing. | of very aggress | sive weeds, partial | | | |
| | The full Keighery condition rating scale is provided in Appendix D, below. | | | | | |
| Soil description | The soil is mapped as Walpole Subsystem which is described as: | | | | | |
| | Flat to gently sloping benches; some shallow dissections. Podzols and deep sands; teatree scrub, sheoak woodland and kangaroo grass sedgeland. Pale deep sands, Wet and Semi-wet soils soil notes: Humus podzols (Uc2.20; Uc2.33) are dominant and usually have dark often cemented, B horizons at 1.5 - 2 m. | | | | | |
| Land degradation risk | Wind Erosion H2, | | | | | |
| | Water Repellence Risk H2 | | | | | |
| | Sub surface acidification H1 | | | | | |
| | Phosphorus Export Risk H2 | | | | | |
| Waterbodies | The desktop assessment and aerial imagery indicated that no watercourses transect the application area, however, the application area is mapped as being located within a Palusmont (seasonally waterlogged highland). | | | | | |
| Conservation areas | Walpole-Nornalup Inlets Marine Park (280 metres away, west) | | | | | |
| | Walpole-Nornalup National Park (480 metres away, north) | | | | | |
| | Keystone State Forest (580 metres away, west) | | | | | |
| | Mount Frankland South National Park (1.45 kilometres, west) | | | | | |
| Climate and landform | Rainfall: 1300mm per year Evapotranspiration: 900mm per year Geology: Metasedimentary rocks | | | | | |
| Appendix C – Assessr | nent against the Clearing Principles | | | | | |
| Assessment against | the Clearing Principles | Variance level | Is further consideration required? | | | |

Environmental value: biological values

| <u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity." | Not likely to be at | No |
|---|---------------------|----|
| Assessment: | variance. | |
| The proposed clearing area does not contain locally or regionally significant flora, fauna, habitats, or assemblages of plants. The soil types and landform topography within the application area does not correspond with those within which any threatened flora species have been recorded in the local area. The largely Degraded condition of the vegetation within the application area is unlikely to provide significant habitat for the preservation and long-term viability of any conservation significant flora. The application area is within the range and distribution of all three conservation significant Black Cockatoo species, and the trees within the application have roosting, foraging and breeding potential for the Black Cockatoos, however, there is abundant better quality habitat for these species available within close proximity of the application. Based on the photographs provided, the trees proposed for clearing do not contain any observable breeding hollows (Appendix E). | | |

| Assessment against the Clearing Principles | Variance level | Is further consideration required? |
|--|-------------------------------------|--|
| <u>Principle (b):</u> "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." | May be at variance. | Yes see Section 3.2.1. |
| Assessment: | | |
| The trees proposed for clearing provide potential roosting, foraging and breeding trees for Black Cockatoos and are located within the range and distribution of all three Black Cockatoo species. There are records of black cockatoos within the local area, with the closest records occurring within one kilometre of the application area. The nearest confirmed black cockatoo breeding location is approximately eighteen kilometres from the application area. Photographs provided by the applicant do not indicate any potential breeding hollows despite some of the trees having a Diameter at Breast Height greater than 500 millimetres. | | |
| <u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora." | Not likely to be at | No |
| Assessment: | | |
| The soil types and landform topography do not correspond with any of the threatened flora species recorded in the local area, therefore, the proposed clearing area is unlikely to contain suitable habitat for threatened flora species listed under the BC Act. | | |
| <u>Principle (d):</u> "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." | Not likely to be at variance. | No |
| Assessment: | | |
| Two conservation significant ecological communities occur within the local area, however, one is only found within sandy mud floodplains and the other occurs within coastal marshes. Neither of these landforms are found within the application area. The proposed clearing area does not contain species indicative of a threatened ecological community. | | |
| Environmental values: significant remnant vegetation and conservation a | reas | |
| <u>Principle (e):</u> "Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared." | Not likely to be at variance. | No |
| The extent of the mapped vegetation type and native vegetation in the local area is consistent with the national objective to prevent the clearing of ecological communities with an extent below 30 per cent of that present prior to European settlement (DEH, 2001). Given the Good to Degraded condition of the vegetation, the small number of trees proposed for and that the application area is not considered to be part of a significant ecological linkage in the local area, the vegetation is not likely to represent a significant remnant of native vegetation. | | |
| <u>Principle (h):</u> "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." | Not likely to be at variance. | No |
| Assessment: | | |

| Assessment against the Clearing Principles | Variance level | Is further consideration required? |
|---|-------------------------------------|--|
| The nearest conservation areas are Walpole-Nornalup Inlets Marine Park (approximately 280 metres west), Walpole-Nornalup National Park (approximately 480 metres north) and Keystone State Forest (580 metres west). | | |
| Given the lack of direct topographical connectivity between the application area and the nearby conservation areas, the proposed clearing is not likely to have an impact on the environmental values of these conservation areas. | | |
| Environmental values: land and water resources | | |
| <u>Principle (f):</u> "Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland." | At variance. | No |
| Assessment: | | |
| The application area is located within a mapped wetland categorised as Palusmont (seasonally waterlogged highland). However, this wetland is covered by a local subdivision which is predominantly already cleared. Given the condition of the vegetation and the small number of trees proposed for clearing which are not riparian species, it is considered the clearing is unlikely to significantly increase impacts to this mapped wetland. The next nearest surface water feature is the nearby estuary which is approximately 150 metres south-east of the application area. There is no significant topographical connectivity between the application area and the estuary. | | |
| <u>Principle (g):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation." | Not likely to be at | No |
| Assessment: | variance. | |
| The mapped soils are highly susceptible to wind and water erosion, sub- surface acidification and phosphorus export risk. The applicant has committed to retaining ground cover, thereby reducing the risk of erosion. The delegated officer took into consideration that the purpose of the clearing will not result in excavation or agricultural activities and it is therefore unlikely that sub-surface acidification and phosphorus export will represent a significant impact. Noting the small number of trees proposed for clearing, the proposed clearing is not likely to have any appreciable land degradation impacts. | | |
| <u>Principle (i):</u> "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." | Not likely to be at variance. | No |
| Assessment: | | |
| No watercourses or Public Drinking Water Source Areas are recorded within the proposed clearing area and the clearing is unlikely to impact surface or ground water quality. The application area is located within a mapped wetland categorised as Palusmont (seasonally waterlogged highland), however, this wetland is almost completely within the local subdivision which is predominantly cleared and the proposed clearing of six individual native trees without the removal of ground cover vegetation is not considered likely to result in the deterioration in the quality of surface or underground water. | | |
| <u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding." | Not likely to be at variance. | No |
| <u>Assessment:</u> | | |

| Assessment against the Clearing Principles | Variance level | Is further consideration required? |
|--|-------------------|--|
| The application area is located within a mapped wetland categorised as Palusmont (seasonally waterlogged highland). The proposed clearing is not considered likely to cause, or exacerbate the incidence or intensity of flooding. | | |

Appendix D – Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

| Moasuring | Vocatation | Condition | for the | South Was | t and Interzone | Botanical | Province | (Koighory) | 1994) |
|-----------|------------|------------|---------|------------|-----------------|------------------|----------|------------|-------|
| weasuring | vegetation | Contaition | ior the | Soulli wes | i anu mierzone | Dulanicai | FIOVINCE | (Reignery, | 1334) |

| Condition | Description |
|------------------------|---|
| Pristine | Pristine or nearly so, no obvious signs of disturbance. |
| Excellent | Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species. |
| Very Good | Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing. |
| Good | Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing. |
| Degraded | Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing. |
| Completely Degraded | The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs. |

Appendix E – photographs of the native trees to be cleared



Figure 1: Tree 1 showing Good to Degraded surrounding vegetation condition. No apparent tree hollows were observed.



Figure 2: Tree 2 showing Good to Degraded surrounding vegetation condition. No apparent tree hollows were observed.



Figure 3: Tree 3 showing Degraded surrounding vegetation condition. No apparent tree hollows were observed.



Figure 4: Tree 4 showing Degraded surrounding vegetation condition. No apparent tree hollows were observed.



Figure 5: Tree 5 showing Degraded surrounding vegetation condition. No apparent tree hollows were observed.



Figure 6: Tree 6 showing Good to Degraded surrounding vegetation condition and no apparent tree hollows.



Figure 7: Showing all trees proposed for clearing with Completely Degraded vegetation in the foreground.

Appendix F – References and databases

1. GIS datasets

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- Aboriginal Heritage Places (DPLH-001)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- Local Planning Scheme Zones and Reserves (DPLH-071)
- Regional Parks (DBCA-026)
- Soil and Landscape Mapping Best Available

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

2. References

Department of Primary Industries and Regional Development (DPIRD) (2017). NRInfo Digital Mapping. Accessed at https://maps.agric.wa.gov.au/nrm-info/ Accessed September 2020.

Department of Biodiversity, Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dpaw.wa.gov.au/. Accessed September 2020.

Department of the Environment and Heritage (2001), National Objectives and Targets for Biodiversity Conservation 2001–2005, Canberra.

Government of Western Australia (2019) 2018 South West Vegetation Complex Statistics. Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth, https://catalogue.data.wa.gov.au/dataset/dbca.

Government of Western Australia. (2019). 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest

Western Australian Herbarium (1998–) FloraBase—the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. https://florabase.dpaw.wa.gov.au/ Accessed September 2020.

Western Australian Museum (2017), Black Cockatoo Research Project, progress report for Housing Authority 2017.