

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number: CPS 8803/1

Permit Holder: Bradway Corporation Pty Ltd

Duration of Permit: 5 June 2020 to 5 June 2025

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I - CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing is for the purpose of widening Kargotich Road and provision of a crossover for access to and from Lot 7 on Diagram 56899, Oldbury.

2. Land on which clearing is to be done

Kargotich Road Reserve (PIN 11610400), Oldbury.

3. Area of Clearing

The Permit Holder must not clear more than 0.19 hectares within the area cross-hatched yellow on attached Plan 8803/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the right to access land under the *Land Administration Act 1997* or any other written law.

PART II - MANAGEMENT CONDITIONS

6. 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.

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7. 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 known *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.

PART III - RECORD KEEPING AND REPORTING

8. Record keeping

The Permit Holder must maintain the following records in relation 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(s) that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with Condition 6 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with Condition 7 of this Permit

9. Reporting

The Permit Holder must produce the records required under condition 8 of this Permit when required 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.

Mathew Gannaway

MANAGER

NATIVE VEGETATION REGULATION

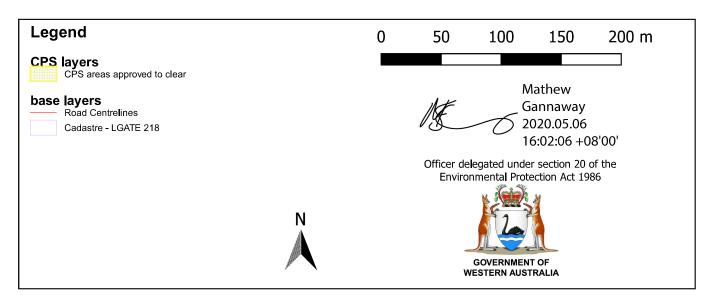
Officer delegated under Section 20 of the Environmental Protection Act 1986

6 May 2020

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Plan 8803/1







Clearing Permit Decision Report

1. Application details

Permit application details

Permit application No.: 8803/1

Permit type: Purpose Permit

Applicant details

Bradway Corporation Pty Ltd Applicant's name:

Application received date: 07 February 2020

Property details

Kargotich Road Reserve - PIN 11610400 Property:

Local Government Authority: Shire of Serpentine-Jarrahdale

Localities: Cardup and Oldbury

Application

Clearing Area (ha) No. Trees Method of Clearing For the purpose of:

Mechanical Removal Road construction or upgrades

Decision on application

Decision on Permit Application: Grant

6 May 2020

Decision Date: Reasons for Decision:

The clearing permit application has been assessed against the clearing principles, planning instruments, and other matters in accordance with section 510 of the Environmental Protection Act 1986. It has been concluded that the proposed clearing is at variance with Principle (f), and is not at variance with, or not likely to be at variance with the remaining principles.

The assessment found that the vegetation within the application area is associated with a 'Multiple Use' category Palusplain and that Casuarina obesa is considered riparian vegetation. However, there are no water courses in the vicinity, and given the small amount of clearing, and condition of the receiving environment, the proposed clearing is not likely to impact the values of any watercourses or wetlands.

The Delegated Officer determined that the proposed clearing may increase the spread of weeds and dieback into adjacent vegetation. To minimise this risk, a condition has been placed on the permit requiring the implementation of weed and dieback management measures.

The Delegated Officer determined that given the small area and location of the proposed clearing, the Completely Degraded condition of the vegetation present, and the management and mitigation measures implemented, the proposed clearing is not likely to lead to an unacceptable risk to the environment.

Given the above, the Delegated Officer decided to grant a clearing permit subject to dieback and weed management and reporting conditions.

2. Site Information

Clearing Description Bradway Corporation Pty Ltd (Bradway Corp) seeks to clear a section of the Kargotich

> Road reserve for the purposes of road widening and crossover accepted by the Shire of Serpentine-Jarrahdale (Shire of Serpentine-Jarrahdale 2018). Up to 0.19 hectares of

clearing is required within the 0.22 hectare application area.

Vegetation Description The vegetation within the application area is mapped as the Beermullah Swan Coastal Plain vegetation complex. The Beermullah Complex (System 6 ID 36) is described as mixture of low open forest of Casuarina obesa (Swamp Sheoak) and open woodland of

Corymbia calophylla (Marri) - Eucalyptus wandoo (Wandoo) - Eucalyptus marginata (Jarrah). Minor components include closed scrub of Melaleuca species and occurrence of

Actinostrobus pyramidalis (Swamp Cypress) (Heddle et al. 1980).

The vegetation proposed to be cleared consists of pure stands of Casuarina obesa over introduced grass species.

CPS 8803/1, 6 May 2020 Page 1 of 5 Vegetation Condition The application area is parkland cleared and in a Completely Degraded condition based

on the condition scale of Keighery (1994).

Soil and Landform Type: The application area consists of Bassendean sands (B4 Phase) mapped as 212Bs_B4,

comprising broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong

iron-organic hardpan (Schoknecht et al. 2004).

Comments: The local area referred to in the assessment of this application is defined as a 10 kilometre

radius measured from the perimeter of the application area.

3. Avoidance and minimisation measures

Bradway Corp propose to widen a section of Kargotich Road (PIN 11610400), Oldbury, to provide a crossover into private property (Lot 7 on Diagram 56899) to the west of, and immediately adjacent to the Kargotich Road reserve.

The road widening is required for safe ingress and egress from Kargotich Road to the applicant's facility at Lot 7 Kargotich Road. The original application area has been reduced by the applicant to be consistent with engineering drawings accepted by the Shire of Serpentine-Jarrahdale that specify the minimum safety requirements (Shire of Serpentine-Jarrahdale 2018).

The applicant has committed to a landscape design for Lot 7 Kargotich Road that incorporates areas of replanting greater than the 0.19 hectares of clearing considered in this application (Bradway Corp 2020). Plantings will be approved by the Shire of Serpentine-Jarrahdale, and incorporate the same species as that removed; that is *Casuarina obesa* (Bradway Corp 2020; Shire of Serpentine-Jarrahdale 2020).

4. Assessment of application against clearing principles

The application area is located within the Swan Coastal Plain bioregion as described by Thackway and Cresswell (1995). Proposed clearing is not located in an Environmentally Sensitive Area (ESA), or recognised ecological linkage, with the closest ESA approximately 2.2 kilometres to the north (ID 12431).

The vegetation proposed to be cleared is in a Completely Degraded condition and consists of pure stands of *Casuarina obesa* over introduced grass species. The roadside conservation values of Kargotich Road have been assessed at Medium to Low, with weeds recorded including African Lovegrass (*Eragrostis curvula), Watsonia (*Watsonia meriana), and Cape Tulip (*Moraea flaccida) (Roadside Conservation Committee 2006).

According to available databases, no Threatened or Priority flora taxa have been recorded within the application area, or within one kilometre of the application area. The closest Priority flora taxa, the Priority 3 *Babingtonia urbana*, has been recorded approximately one kilometre to the north, and the closest Threatened flora taxa, the Vulnerable *Tetraria australiensis*, approximately 2.6 kilometres to the north. Due to the Completely Degraded nature of the vegetation, and distance to known flora species of conservation significance, Threatened and Priority flora are unlikely to occur within the application area.

No Threatened Ecological Communities (TECs) listed under the *Biodiversity Conservation Act 2016* (BC Act) or *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), or Priority Ecological Communities (PECs), have been mapped over the application area, nor is the application area within any buffer areas of any mapped TECs or PECs. The Priority 3 listed *Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region* has been mapped approximately 2.5 kilometres to the west of the application area, and the Endangered SCP20b *Banksia attenuata and/or Eucalyptus marginata woodlands of the eastern side of the Swan Coastal Plain* has been mapped approximately 3.3 kilometres to the north-east. Vegetation descriptions of these TECs and PECs do not align with the vegetation present over the application area, and no TECs or PECs are likely to occur within the application area.

Seven mammals, four reptiles, and eleven birds of conservation significance have been recorded within a ten kilometre radius of the application area. Due to the lack of native understorey, none of the reptiles or mammals of conservation significance are likely to utilise habitats of the application area. The Priority 4 Quenda (*Isoodon fusciventer*) is known locally, with a relatively recent record within one kilometre of the application area, but this species requires a dense understorey for cover (van Dyck and Strahan 2008). Six of the eleven birds identified are associated with wetland, shoreline, or estuarine habitats not present over the application area. The Vulnerable Malleefowl (*Leipoa ocellata*) is known from historical records only, and the specially protected Peregrine Falcon (*Falco peregrinus*) would overfly the application area. All three species of Threatened black cockatoo known from the Perth metropolitan area have been identified within the local area (DBCA 2007-), and may potentially utilise the tree canopy present.

Black cockatoo habitat can be considered in terms of breeding habitat, night roosting habitat, and foraging habitat. No roosting habitat or breeding habitat suitable for black cockatoos occurs over the application area. No black cockatoo breeding sites are known from within ten kilometres of the application area, however, the application area is situated within a mapped buffer of an unconfirmed breeding area for the Endangered Carnaby's Cockatoo (*Calyptorhynchus latirostris*). A Carnaby's Cockatoo roost site has also been recorded approximately 5.4 kilometres to the north-west, and due to the proximity of this roost site foraging resources to maintain this species are important (Commonwealth of Australia 2017; DPAW 2013; EPA 2019). The application area is not located within a mapped area of Carnaby's Cockatoo 'areas requiring investigation as feeding habitat in the Swan Coastal Plain' (nor does it qualify as mapped remnant vegetation), however, such a mapped area is located immediately to the east of the application area. The Casuarina obesa vegetation occurring over the application area is not a preferred foraging CPS 8803/1, 6 May 2020

resource (nor preferred for roosting or breeding), for either Carnaby's Cockatoo, the Endangered Baudin's Cockatoo (*Calyptorhynchus baudinii*), or the Vulnerable Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) (Bamford 2013; Groom 2011; Johnstone *et. al.* 2013; Le Roux 2017).

Given the Completely Degraded condition of the vegetation over the application area; the small scale of clearing required; and the lack of conservation significant flora and fauna taxa recorded in the vicinity, or likely to be supported by the habitat present, it is unlikely that the application area comprises a high level of biodiversity. Vegetation is also not consistent with any key diagnostic criteria for any TECs or PEC's and proposed clearing is not likely to be at variance with Principles (a), (c) or (d). Similarly, considering the small scale of clearing, and the lack of breeding and roosting habitat, and low-quality foraging habitat for black cockatoos, as well as other conservation significant fauna, the proposed clearing is not likely to be at variance with Principle (b).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre the year 1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The Swan Coastal Plain (IBRA) bioregion retains approximately 38.6 per cent of its pre-European vegetation extent (Government of Western Australia 2019). The Beermullah Complex mapped over the application area (Heddle et al. 1980) has just 6.7 percent of its pre European extent remaining (Government of Western Australia 2019). Vegetation within the application area is Completely Degraded and consists of one dominant native species (*Casuarina obesa*) over introduced grasses, and is not representative of the mapped regional Beermullah Complex. At the local scale of a ten kilometre radius approximately 7,403 hectares of native vegetation remains, representing approximately 23 per cent of native vegetation cover. Noting the application area does not contain conservation significant flora, fauna or communities, the proposed clearing is not likely to be considered a significant remnant within an extensively cleared area and is not likely to be at variance with Principle (e).

The application area is located within the Murray River Basin of the Peel Estuary-Serpentine River Catchment. The application area is located within a mapped Geomorphic Wetland of Swan Coastal Plain. That is, a 'Multiple Use' category Palusplain (or seasonally water-logged flat) (ID 16021). Multiple Use Wetlands are considered wetlands with few remaining important attributes and functions (EPA 2004; EPA 2008; Water and Rivers Commission 2001). The management objective should be to take all reasonable measures to retain the wetland's hydrological function (EPA 2008), but is not incompatible with clearing.

Casuarina obesa (Swamp Sheoak) present over the application area is a widespread and common species that occurs in a wide variety of habitats including sands and clays, often in brackish or even saline situations (WAH 1998-). It occurs predominantly in outwash plains, creeks, and salt lakes (WAH 1998-), and could therefore be considered riparian vegetation. Considering the location of the proposed clearing within a mapped Palusplain, and the presence of Casuarina obesa, the proposed clearing is at variance with Principle (f). Noting the completely degraded condition of the vegetation, the prospeod cleared clearing is not likely to significantly impact the attributes of the mapped Palusplain.

Given the small scale of clearing required, and the lack of any watercourses and 'Resource Enhancement' or 'Conservation' category wetlands in the vicinity, the proposed clearing is unlikely to impact any watercourses or wetlands.

The application area is located on the Swan Coastal Plain consisting of an alluvial, shoreline, and aeolian deposits. The area is situated within the Bassendean (B4 Phase) soil unit of broad, poorly drained, sandplain (Schoknecht *et al.*, 2004). Water erosion risk is rated low and acid sulfate soil risk rated at low to moderate (DPIRD (2017). Construction depth will not likely exceed 0.5 metres so any Potential Acid Sulfate Soils are unlikely to be disturbed. Given the location, small scale of clearing, surrounding landscape, construction methodologies employed, it is unlikely that the proposed clearing would contribute to, or cause, appreciable land degradation and proposed clearing is not at variance with Principle (g).

Rural lands surround the application area with the closest Department of Biodiversity, Conservation and Attractions (DBCA) managed land being Cardup Nature Reserve located approximately 3.2 kilometres to the east. Furthermore, there are no Regional Parks within 5.5 kilometres of the application area. The closest lands managed for conservation is Bush Forever Site 68 (Jackson Road Bushland) located approximately 2.5 kilometres to the west. Due to the small scale of clearing required, the lack of adjacent or nearby conservation areas, and the distances to known conservation areas, proposed clearing is not likely to have any impact on any associated environmental values, and is not at variance with Principle (h).

Casuarina obesa is not considered susceptible to dieback disease (*Phytophthora* sp.) (Groves et. al., no date). However, native vegetation occurs adjacent to the application area in the northern section, and the proposed clearing may indirectly impact on the values of this vegetation by the spread of weeds and/or dieback. The implementation of standard hygiene conditions for weed and dieback management would mitigate this risk.

The application area is located within the Serpentine Groundwater Area proclaimed under the *Rights in Water and Irrigation Act* 1914 (RIWI Act). The application area is not located within any RIWI Act surface water areas or irrigation districts, nor any *Country Areas Water Supply Act* 1947 (CAWS Act) clearing control catchments or Public Drinking Water Source Areas. Regional groundwater is mapped as 'fresh' at 500 to 1,000 total dissolved salts (TDS) milligrams per litre (mg/L). Salinity risk is rated low (DPIRD 2017), and the closest drainage feature is Cardup Brook, a man-made drain located approximately 95 metres to the west.

The application area experiences an annual average rainfall of approximately 733 millimetres, with the majority received during the winter months, with the wettest being June to August (BOM 2020). Proposed clearing is located within a 1 in 100 annual exceedance probability (AEP) floodplain (DoW 2015), and considering the location and soil type water-logging is rated high (DPIRD 2017) with *Casuarina obesa* highly tolerant of water-logged (and saline) conditions (Van der Moezel 1989). The application area, however, has been mapped at a low risk of flooding, with less than three per cent of the mapped unit over the area having a moderate to high flood risk (DPIRD 2017).

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There are no defined drainage paths over the application area or in the vicinity. Surface flow may occur over short distances for short periods during, and immediately after, very intense rainfall, however proposed clearing is unlikely to cause any deterioration in the quality of any surface waters or groundwater.

The hydrology of the area is significantly altered due to existing roadside infrastructure and any potential for flooding can be managed through appropriate drainage design verified by engineering drawings agreed by the Shire of Serpentine-Jarrahdale (Shire of Serpentine-Jarrahdale 2018). Given the small scale of the proposed clearing and standard construction methodologies employed, proposed clearing is unlikely to cause any deterioration in the quality of surface or underground water, nor is it likely to cause, or exacerbate, the incidence or intensity of flooding, and is not at variance with Principles (i) or (j).

The assessment has determined that proposed clearing of 0.19 hectares along the Kargotich Road reserve is at variance with Principle (f), and is not at variance with, or not likely to be at variance with, the remaining principles.

Planning instruments and other relevant matters.

The clearing permit application was advertised on the Department of Water and Environmental Regulation's (DWER) website on 13 March 2020, inviting submissions from the public within a 14 day period. No submissions were received in relation to this application.

Clearing had commenced along the Kargotich Road reserve and reported to the Shire of Serpentine-Jarrahdale prior to the authorisation of a Clearing Permit (ICMS incident ID 56184). All works were ceased with any re-commencement contingent upon the issuing of a valid permit.

The Shire of Serpentine-Jarrahdale has accepted associated engineering drawings (submission 145801) relevant to the widening of Kargotich Road that are consistent with Shire standards and specifications (Shire of Serpentine-Jarrahdale 2018). The original clearing application area provided by Bradway Corporation Pty Ltd exceeded the parameters of the accepted engineering drawings. The application area has subsequently been reduced by the applicant, consistent with the agreed drawings.

The applicant has committed to a landscape design for Lot 7 Kargotich Road that incorporates areas of planting substantially greater that the 0.19 hectares of clearing considered in this application (Bradway Corp 2020). Plantings will be approved by the Shire of Serpentine-Jarrahdale, and will incorporate the same species as that removed; that is *Casuarina obesa* (Bradway Corp WA 2020) (Shire of Serpentine-Jarrahdale 2020).

The application area is located within the Serpentine Groundwater Area proclaimed under the RIWI Act. Abstraction of groundwater or surface water will not be undertaken and additional permitting by DWER under the RIWI Act is not required.

The application area is located within the boundaries of the Gnaala Karla Booja Native Title Registered Claim (WAD6274/1998) and Indigenous Land Use Agreement. No Aboriginal sites of significance have been recorded within the application area, nor within 1.5 kilometres of the application area. It is the applicant's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

4. References

- Bamford Consulting Ecologists (Bamford) (2013). Plants known to be used for foraging, roosting and nesting by black-cockatoos in south-western Western Australia. Data compiled from the literature (Davies, 1966; Saunders, 1974, 1979a, b, 1980; Saunders et al. 1982; Saunders, 1986; Johnstone and Storr, 1998; Higgins 1999; Johnstone and Kirkby, 1999, 2008; Groom, 2011; Johnstone et al. 2011; DSEWPaC, 2012a, b; c, R. Johnstone pers. comm.) in Bamford (2013) Wedgetail Circle, Parkerville Fauna Assessment. Prepared for Coterra Environment. Bamford Consulting Ecologists. Prepared by Jeff Turpin, Simon Cherriman and Mike Bamford. 14th August 2013.
- Bradway Corporation Pty Ltd (Bradway Corp) (2020) Supporting information for CPS 8803-1 provided to DWER on 1 May 2020. Landscape Layout for proposed community centre at Lot 7 Kargotich Road Olbury. Date 28-04-2020. Revision IK. Sheet AR-01 (. (DWER Ref A1889841).
- Bureau of Meteorology (BOM) (2020) Climate Data Online. Available online at: www.bom.gov.au./climate/data/index.shtml. Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra. Commonwealth of Australia (2017) Revised draft referral guideline for three threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and the Forest Red-tailed Black Cockatoo.
- 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 February 2020.
- Department of Parks and Wildlife (DPAW) (2013) Carnaby's Cockatoo (Calyptorhynchus latirostris) Recovery Plan. Western Australian Department of Parks and Wildlife (Now the Department of Biodiversity, Conservation and Attractions). Perth. Western Australia.
- Department of Primary Industries and Regional Development (DPIRD) (2017). NRInfo Digital Mapping. Accessed at https://maps.agric.wa.gov.au/nrm-info/ Accessed September 2018. Department of Primary Industries and Regional Development. Government of Western Australia.
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 Armadale to Dunsborough LiDAR Survey (25/08/2008)
- Environmental Protection Authority (EPA) (2004). Revised Draft Environmental Protection (Swan Coastal Plain Wetlands) Policy and Regulations 2004. Environmental Protection Authority (EPA). November 2004.
- Environmental Protection Authority (EPA) (2008) Environmental Guidance for Planning and Development Guidance Statement No 33. Environmental Protection Authority, Western Australia.

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- Environmental Protection Authority (EPA) (2019) EPA Technical Report: Carnaby's Cockatoo in Environmental Impact Assessment in the Perth and Peel Region. Advice of the Environmental Protection Authority under Section 16(j) of the Environmental Protection Act 1986. Environmental Protection Authority. Perth WA.
- 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
- Groom (2011) Plants Used by Carnaby's Black Cockatoo. List prepared by Christine Groom. Western Australian Department of Parks and Wildlife (now the Department of Biodiversity, Conservation and Attractions). Perth. Western Australia.
- Groves, E., Hardy G., and McComb, J. (No Date) Western Australian Native Plants Resistant to *Phytophthora cinnamomi*. Compiled by E. Groves, G. Hardy & J. McComb, Murdoch University, Western Australia.
- Heddle, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Johnstone, R.E, Kirkby, T., and Sarti, K. (2013) The breeding biology of the Forest Red-tailed Black Cockatoo Calyptorhynchus banksii naso Gould in south-western Australia. I. Characteristics of nest trees and nest hollows.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
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- Roadside Conservation Committee (2006) Roadside Vegetation and Conservation Values in the Shire of Serpentine-Jarrahdale. Roadside Conservation Committee. December 2006.
- Schoknecht, N., Tille, P. and Purdie, B. (2004) Soil-landscape mapping in South-Western Australia Overview of Methodology and outputs' Resource Management Technical Report No. 280. Department of Agriculture.
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- Shire of Serpentine Jarrahdale (2020) Response to clearing permit application CPS 8803/1. Shire of Serpentine Jarrahdale. Received by DWER on 2 April 2020 (DWER Ref A1881995).
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5. GIS Datasets

- Aboriginal Sites of Significance
- Clearing Regulations Environmentally Sensitive Areas
- Carnaby's cockatoo: breeding, roosting, feeding
- Department of Biodiversity Conservation and Attractions, Tenure
- Geomorphic Wetlands, Swan Coastal Plain
- Groundwater salinity, statewide
- South west forest vegetation complexes
- Hydrology, linear
- IBRA Australia
- Land for Wildlife
- PDWSA, CAWSA, RIWI Act Areas
- Remnant vegetation
- SAC Biodatasets (accessed January 2019)
- Soils, statewide
- South coast significant wetlands
- Town Planning Scheme Zones

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