Clearing Desktop Report – CPS 818

We're working for Western Australia.

Great Northern Highway (H006)/ Wegner Road Intersection Sightline Clearing SLK 247.55 – 247.39

March 2022

2626

D22#123314

Contents

Amendments

Report Compilation & Review	Name and Position	Document Revision	Date
Author:	Senior Environment Officer	Draft v1	09/02/2022
Reviewer:	Senior Environment Officer	Rev 0	05/05/2022
Reviewer:	Senior Environment Officer	Rev 1	09/05/2022

1 PURPOSE

This Clearing Desktop Report (CDR) is a desktop assessment of native vegetation clearing that is proposed to be cleared using the Statewide Clearing Permit CPS 818 issued to Main Roads Western Australia (Main Roads).

2 SCOPE

2.1 Project Scope

Proposal Name: GNH (H006) Wegner Road Sightline Clearing SLK 247.55 – 247.39

Proposal Purpose / Components: Remove/prune vegetation affecting sightlines to the North and South of Wegner Rd and Collins Rd to allow safe access onto Great Northern Highway

The proposed clearing under CPS 818 is: Up to 0.30 ha

The proposed temporary clearing under CPS 818 is: None.

Proposal Location(s): The Proposal is located on Great Northern Highway (GNH) (H006) and Wegner Road intersection between Straight Line Kilometre (SLK) 247.55 – 247.39 located approximately 5.6 km southwest from the town of Wubin in the Shire of Dalwallinu.

The location of the proposed works is at Figure 1 and at the central location -30.15, 116.65 (decimal degrees).

The following term has been used in this Clearing Desktop Report (CDR):

- **Proposal Area:** This area represents the area of disturbance for the proposed sightline clearing works. The Proposal area comprises 0.30 ha and will involve clearing all vegetation within this area.

2.2 Desktop Assessment Scope

The assessment area is confined to a local area of a 10 km radius, as shown in Figure 2.

Figure 1. Project Area

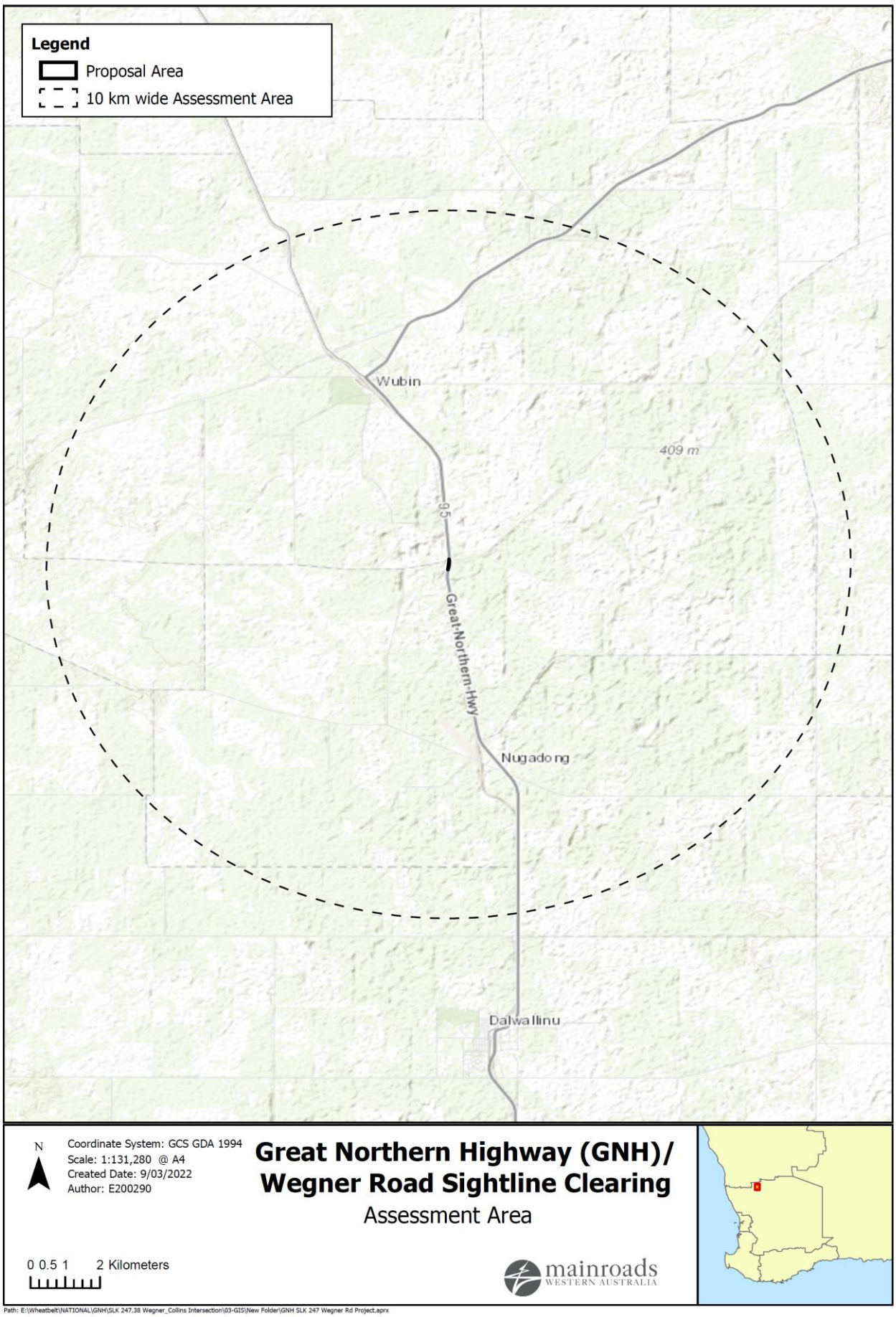

Figure 2. Project Location and Study Area

2.3 Alternatives to Clearing

There are no alternatives to the proposed clearing.

2.4 Measures to Avoid, Minimise, Mitigate and Manage Project Clearing Impacts

The design and management measures implemented to avoid and minimise the project clearing impacts are provided in Table 1.

Table 1. Justification of Avoiding, Minimising, Mitigating and Managing Project Clearing Impacts

Design or Management Measure	Discussion and Justification
Steepen batter slopes	Not applicable - project only entails removal of small portion of vegetation to improve line of sight at an existing road.
Installation of safety barriers	
Alignment to one side of existing road	
Alternative alignment to follow existing road (or) to preferentially locate within pasture or a degraded areas	
Installation of kerbing	
Simplification of design to reduce number of lanes and/or complexity of intersections	
Preferential use of existing cleared areas for access tracks, construction storage and stockpiling	
Drainage modification	

2.5 Approved Policies and Planning Instruments

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 51O of the EP Act (see Section 1.3), Main Roads has also had regard to

EPPs

- Environmental Protection (Peel Inlet - Harvey Estuary) Policy 1992;
- Environmental Protection (Western Swamp Tortoise Habitat) Policy 2011

Relevant other policies and guidance documents:

- The Western Australian Environmental Offsets Policy (Government of Western Australia, 2011)
- A guide to the assessment of applications to clear native vegetation (DWER, December 2014)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- Environmental Offsets Guidelines (Government of Western Australia, August 2014)
- Technical guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016)
- Technical guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA, 2020)
- Approved conservation advice under section 266B of the EPBC Act for threatened flora/fauna/vegetation communities
- Approved Recovery Plans for threatened species
- EPBC Act Referral guidelines for the three threatened black cockatoo species
- Strategic advice - EPA

Other Legislation of relevance for assessment of clearing and planning/other matters

- Biodiversity Conservation Act 2016 (WA) (BC Act)
- Conservation and Land Management Act 1984 (WA) (CALM Act)
- Country Areas Water Supply Act 1947 (WA) (CAWS Act)
- Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)
- Planning and Development Act 2005 (WA) (P&D Act)
- Soil and Land Conservation Act 1945 (WA)
- Rights in Water and Irrigation Act 1914
- Aboriginal Heritage Act 1972 (WA)
- Town Planning and Development Act 1928

3 Methodology

3.1 Desktop Study

A desktop assessment of the Proposal Area and an assessment of native vegetation clearing were undertaken by reviewing a number of government agency managed databases, viewing GIS shapefiles and consulting with relevant stakeholders where necessary. Results from searches can be found in the relevant Appendix.

GIS layer viewing and mapping is done using ArcMap and / or Main Roads Integrated Mapping System (IMS). Referencing of the GIS layers accessed is done under the relevant methodology section of each clearing principle. Government managed databases were searched to locate additional information, these are referenced in Section 7.

4 VEGETATION DETAILS

4.1.1 Site Vegetation Description

A site inspection was completed by Main Roads in February 2022 to assess the environmental values, including vegetation description within the Proposal Area.

The Proposal Area comprises of Low mixed Eucalypt woodland (*Eucalyptus rigiidula*, *Eucalyptus leptopoda* subsp. arctata, *Eucalyptus subangusta* subsp. pusilla) over mixed Acacia sp., and Melaleuca sp. over mixed herbs. This vegetation has been mapped in Very Good condition.

Tables 2 and 3 provide details of the Pre-European Vegetation Associations within the Proposal Area and the remaining extents of these associations.

Table 2. Summary of Proposal Area Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association	Clearing Description	Vegetation Condition	Comments
Vegetation Association 435 described as Wattle, casuarina and teatree acacia-allocasuarina-melaleuca alliance	Clearing up to 0.30 ha	Very Good (Main Roads 2022)	Vegetation description and condition determined from Main Roads site visit on 15 February 2022.

Table 3. Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre–European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 435	**Statewide**	994,575.28	762,428.26	76.66	21.51
	IBRA Bioregion Avon Wheatbelt	255,983.96	29,580.84	11.56	2.01
	IBRA Sub-region Merredin	255,983.96	29,580.84	11.56	2.01
	Local Government Authority Shire of Dalwallinu	144,488.45	16,083.66	11.13	2.07

5 Assessment Against the Ten Clearing Principles

In assessing whether the project's proposed clearing is likely to have a significant impact on the environment, the project was assessed against the ten Clearing Principles (*Environmental Protection Act 1986* (EP Act), Schedule 5).

Each principle has been assessed in accordance with DWER's 'A Guide to the Assessment of Applications to Clear Native Vegetation'.

The proposed clearing is not likely to be at variance with one or more of the 10 Clearing Principles.

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Proposed clearing is not at variance to this Principle
Comments The Proposal involves clearing up to 0.30 ha of native vegetation (predominately in Very Good condition) at the GNH/ Wegner Road intersection. Vegetation comprises of Low mixed Eucalypt woodland (*Eucalyptus rigiidu*la, *Eucalyptus leptopoda* subsp. arctata, *Eucalyptus subangusta* subsp. pusilla) over mixed Acacia sp., and Melaleuca sp. over mixed herbs and does not represent any Threatened Ecological Communities (Main Roads 2022). There are no State-listed or EPBC Act-listed Threatened Ecological Communities to be cleared in the Proposal Area (GIS Database). No Threatened flora species listed under the EPBC Act or BC Act were recorded within the Proposal Area and none are considered likely or possible to occur. Three individuals of Priority 3 flora species, *Acacia scalena* were identified within the Proposal Area and will be cleared as part of the proposal. Nine further individuals were identified within 20m of the Proposal Area and control measures will be implemented to avoid direct and indirect impacts to these individuals. At a local scale (within 10 km) there are approximately 12 records of A. scalena which account for at least 60 individuals (GIS Database). As of February 2021, there are 38 records of this species identified by DBCA in the WA Herbarium and these records account for at least 355 individuals. The removal of three individuals of *A. scalena* associated by the Proposal will result in <1% of the total individuals known in the State. Given the minor amount of clearing and less than <1% of A. scalena regional population being removed, no significant impacts are expected. No formal ecological linkages intersect the Proposal Area and the removal of up to 0.30 ha immediately adjacent to the existing road formation (between SLK 247.55–247.39) will not result in a gap in the canopy that could result in fragmentation of any existing linkage. The desktop assessment identified seven conservation fauna significant species as likely or have the potential to occur within 10 km of the Proposal Area, however these species were not recorded within the proposal area (Main Roads, 2022 & Phoenix 2015). Furthermore, the potential for these species to occur in the proposal area is unlikely due to lack of known records of the species within the area or due to the proposal does not contain suitable habitat for the species (see Clearing Principle B). Subsequently the Proposal does not contain suitable habitat or habitat critical to the survival of the conservation fauna significant species. The proposed removal of 0.30 ha of vegetation is unlikely to result in adverse impacts to the species. The Proposal is not at variance with this clearing principle.

Methodology
DBCA shapefiles
Main Roads GIS Shapefiles
Main Roads Site Inspection (15.02.2022)

(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.

Proposed clearing is not likely to be at variance to this Principle

Comments

No conservation significant fauna species were recorded within the Proposal Area. The following species were identified as likely or have the potential to occur within 10 km of the Proposal Area:

- Barking owl (southwest subpop.) (*Ninox connivens connivens* (southwest subpop.); Priority 3 by DBCA)
- Carnaby's cockatoo (*Calyptorhynchus latirostris*; Endanagered under the BC Act and EPBC Act)
- Chuditch (*Dasyurus geoffroii*; Vulnerable under BC Act and EPBC Act)
- Ghost bat (*Macroderma gigas*; Vulnerable under EPBC Act)
- Malleefowl (*Leipoa ocellata*; Vulnerbale under the BC Act and EPBC Act)
- Western spiny-tailed skink (*Egernia stokesii badia*, Vulnerable under the BC Act)
- Woma (southwest subpop.) (*Aspidites ramsayi* (southwest subpop.); Priority 1 by DBCA).

Barking owl (southwest subpop.) (*Ninox connivens connivens* (southwest subpop.); Priority 3 by DBCA)
Occurs across most Australian states except Tasmania and the Northern Territory. In WA, the species only occurs in the south-west. Mostly found in forested riparian vegetation where they nest in large tree hollows. The Proposal Area does not contain suitable habitat for this species and therefore, the species is unlikely to occur or be adversely impacted by the Proposal.

Western spiny-tailed skink (*Egernia stokesii badia*, Vulnerable under the BC Act)
The *Egernia stokesii* species-group has a widespread but disjunct distribution across semi-arid Australia (Phoenix 2015). In the Wheatbelt of WA *E. s. badia* occurs in woodlands of York Gum, Gimlet and Salmon Gum on clay soils, predominantly within the Avon Wheatbelt IBRA bioregion (Phoenix 2015). The smallest remnant from which the species has been found to persist is 1 ha in size; however, it appears to be absent from many areas of suitable woodland <5 ha in size. *E. s. badia* principally uses fallen logs to shelter, but tree stumps and human-created habitats (such as abandoned buildings, wood heaps, piles of corrugated iron and railway sleepers, and building rubble) are also used (Phoenix 2015).This species was not observed during the site inspection (Main Roads 2022). The Proposal Area comprises of Low mixed Eucalypt woodland (*Eucalyptus rigiidula*, *Eucalyptus leptopod*a subsp. arctata, *Eucalyptus subangusta* subsp. pusilla) over mixed Acacia sp., and Melaleuca sp. over mixed herbs.on brown gravelley sand. Larger lateritic gravel occurs along old tracks and the adjacent rail line which was not in situ (Main Roads 2022). There is unsuitable habitat for the species and therefore, adverse impacts to the species from the clearing of up to 0.30 ha at the GNH/Wegner Road intersection are not expected.

Woma (southwest subpop.) (*Aspidites ramsayi* (southwest subpop.); Priority 1 by DBCA)
This species has been previously recorded in Dalwallinu, Pithara and Damboring and may occur in woodlands, heath and shrublands in abandoned burrows and soil cracks. Nearest record is approximately 4.4 km north/north west from the Proposal Area and includes records north and south of the GNH alignment; therefore, there is a potential for the species to occur. However, this species was not observed during the site inspections (or previous survey by Phoenix (2015)). The proposed removal of 0.30 ha of vegetation is unlikely to result in adverse impacts to the species as there are records outside of the Proposal Area.

Carnaby's Cockatoo (*Calyptorhynchus latirostris*) - Endangered
The species is found in woodlands and heathlands where it essentially feeds on banksias, eucalypts, hakeas and grevilleas but also introduced pines. The species has been known to occupy the wheatbelt area during the breeding and non-breeding season and may nest in hollows of Salmon and York gum and feed on proteaceous species within the survey area. The proposal area is located 3.4km from a confirmed breeding location buffer area and 8km from a single day sighting. There are four records of Carnaby's Cockatoo observational data supplied by DBCA, in the local area (between 20 km from the Proposal Area), consisting of three historical data (sightings in 1975, 1996, and 1998) and one observational sighting in 2003.

Carnaby's Cockatoos were not observed during the site inspection and no Suitable DBH Trees are located within the Proposal Area (Main Roads, 2022). Phoenix (2015) completed an assessment on foraging habitat for Carnaby's Cockatoo in the Dalwallinu and Wubin survey area. A total of 76.6 ha of foraging habitat was identified in this survey area, none was identified as quality habitat. The proposed removal of up to 0.30 ha of native vegetation is not expected to result in adverse impacts to the species as breeding, roosting and foraging are not comprised within the Proposal ARea.

Ghost bat (*Macroderma gigas*) - Vulnerable
The Ghost Bat occupies rocky gorges and breakaways that contain caves and crevices, which are used as nocturnal, diurnal (day) roosts, and maternity roosts. Ghost Bats are known to require a number of suitable caves, of varying shapes and sizes, throughout their home ranges to fulfil various ecological requirements. The Proposal Area contains unsuitable habitat for the species and therefore, the species is unlikely to occupy the Proposal Area. No impacts from the Proposal on the Ghost bat are expected.

Grey Falcon (*Falco hypoleucos*) - Vulnerable
Falco peregrinus (*Peregrine Falcon*) is a widespread species occurring across Australia and with a large foraging range. In WA, it can be rare or scarce to moderately common. Preferred habitat includes cliffs and wooded watercourses. Nesting occurs mainly on cliff ledges, granite outcrops, quarries and in trees with old raven or Wedge-tailed Eagle nests. This species may occur as the nearest record in Dalwallinu in 2008, however, the proposed clearing of up to 0.30 ha at the intersection of GNH/Wegner Road is not expected to adversely impact the species as the Proposal Area does not contain habitat critical to the survival of the species.

Shield-backed Trapdoor Spider (*Idiosoma nigrum*) - Vulnerable
Idiosoma nigrum is restricted to the central Avon Wheatbelt and eastern Jarrah Forest bioregions. Habitat preference is Acacia (mulga) and eucalypt woodlands on heavy clay or granitic soils, often in or near southern exposed drainage lines (Phoenix 2015). Two potential trapdoor spider locations were identified within the Proposal Area; however, the spider housing these locations was a Wolf spider, and not the Shield-backed Trapdoor Spider (Main Roads 2022).

There were no evidence of the Shield-backed Trapdoor Spider during the Phoenix (2015) survey and Main Roads 2022 site inspection. Vegetation within the Proposal Area comprises Low mixed Eucalypt woodland (*Eucalyptus rigiidula*, *Eucalyptus leptopoda* subsp. arctata, *Eucalyptus subangusta* subsp. pusilla) over mixed Acacia sp., and Melaleuca sp. over mixed herbs on brown gravelley sand. Larger lateritic gravel occurs along old tracks and the adjacent rail line which was not in situ (Main Roads 2022). No DBCA records identified this species within 10 km of the Proposal Area.

The proposed clearing of up to 0.30 ha at the intersection of GNH/Wegner Road is not expected to adversely impact the species.

Malleefowl (*Leipoa ocellatai)* – Vulnerable
Historically, this species has been recorded in West Ballidu in 1842 and 1902. There was no evidence of the species during the Phoenix (2015) survey and Main Roads (2022) site inspections. Due to the lack of large, connected remnant woodlands areas, this species is unlikely to occur in the Proposal Area.

Western Quoll (*Dasyurus geoffroii*) - Vulnerable
Mostly found in woodland, heath and mallee habitats, often in areas providing suitable denning and shelter habitat that contains large woody debris such as fallen hollowed trees. There are no DBCA records pf this species within 10 km of the Proposal Area and there is unsuitable habitat (lacks rock piles and outcrops, large hollow logs and earth burrows that the Chuditch uses to den in) within the Proposal Area.

The removal of up to 0.30 ha of vegetation at the intersection of GNH/Wegner Road is unlikely to result in a significant adverse impact to this species.

Based on the above, the proposed clearing of 0.30 ha of native vegetation is not likely to be at variance to this Principle.

Methodology
Main Roads Site Inspection (15.02.2022)
DBCA Shapefiles

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

Proposal is not at variance to this Principle

Comments
No Commonwealth or State-listed Threatened flora were found during the Main Roads (2022) site inspection, or previous survey completed by Phoenix (2015).

Given the minor amount of clearing, and that no rare flora species are considered likely or possible to occur in the Proposal Area, the proposed clearing of up to 0.30 ha is not likely to be at variance to this principle.

Methodology
Main Roads Site Inspection (15.02.2022)
Phoenix (2015)

(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.

Proposed clearing is not at variance to this Principle

Comments
According to available databases, no TECs listed under the BC Act are known to occur within the Proposal Area (GIS Database). None of the vegetation types recorded in the Proposal Area represent a state listed TEC (Main Roads 2022).

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology
DBCA shapefiles
Main Roads Site Inspection (15.02.2022)

(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.

Proposed clearing is not likely to be at variance to this Principle

Comments

The proposed clearing of up to 0.30 ha is located in the Avon Wheatbelt IBRA Bioregion in which approximately 76% of pre-European vegetation extent remains in State (Government of Western Australia 2019). However, 11.5% of remnant vegetation remains at a bioregion, subregion and local government authority level (Government of Western Australia 2019).

The proposed clearing of up to 0.30 ha has been broadly mapped as:

Summary of Proposal Area Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association	Clearing Description	Vegetation Condition	Comments
Vegetation Association 435 described as Wattle, casuarina and teatree acacia-allocasuarina-melaleuca alliance	Clearing up to 0.30 ha	Very Good (Main Roads 2022)	Vegetation description and condition determined from Main Roads site visit on 15 February 2022.

Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre–European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 435	**Statewide**	994,575.28	762,428.26	76.66	21.51
	IBRA Bioregion Avon Wheatbelt	255,983.96	29,580.84	11.56	2.01
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	Local Government Authority Shire of Dalwallinu	144,488.45	16,083.66	11.13	2.07

The National Objectives and Targets for Biodiversity Conservation recognise that the retention of 30 per cent or more of the pre-clearing extent of each ecological community is necessary if Australia's biological diversity is to be protected (Commonwealth of Australia 2001). With regard to the broad vegetation association mapped at the proposed clearing locations, vegetation association 435 has more than 30% being retained at a State level.

The proposed clearing will not significantly diminish any vegetation corridors or linkages between larger patches of native vegetation across the landscape.

The Proposal Area is not considered to support significant remnant vegetation within an extensively cleared landscape. Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

Aerial photography
Government of Western Australia (2019)
Main Roads Site Inspection (15.02.2022)

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is not at variance to this Principle

Comments

There are no mapped watercourses or drainage lines that intersect the Proposal Area (GIS Database). There is no clearing of vegetation within the Proposal Area formally mapped as riparian vegetation (Mai Roads 2022).

Based on the above, the proposed clearing is not at variance to this principle.

Methodology

DWER shapefiles
Main Roads Site Inspection (15.02.2022)

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

Proposed clearing is not at variance to this Principle

Comments

The Proposal Area has been mapped (according to WA soils) as:

- 258Bd: Subsoils usually sodic - Sandy and loamy duplexes - Non-alkaline subsoils.

The site inspection completed by Main Roads (2022) identified the soils as being sandy loam yellow/orange in colour.

Topography ranges between 330AHD in the northern portion of the Proposal Area to 320AHD to the south about 530m outside the Proposal Area. As such, the Proposal Area is relatively flat.

Acid Sulfate Soils are not applicable as the Proposal does not require dewatering below the groundwater table or excavation works. As such, is not expected that ASS will be encountered as part of the sightline clearing.

The risk mapping for the Proposal Area has been provided below:

- <3% of the Proposal Area has a moderate to high flood risk
- <3% of the Proposal Area has a high to extreme phosperous risk
- <3% of the Proposal Area has a moderate to high salinity risk or is presently saline
- <3% of the Proposal Area has ahgih to extreme erosion risk
- <3% of the Porposal Area has a moderate to very high waterlogging risk
- 10-30% of the Proposal Area has a hgih to extreme wind erosion risk.

Given the removal of such a small area of vegetation (up to 0.30 ha). The linear nature of the clearing and its location adjacent to an existing road, the proposed clearing is not expected to cause appreciable land degradation.

Methodology

Contours – WB North 25k-100k
CSIRO Acid Sulphate Soils risk mapping
Nature Resource Management SLIP soil systems

(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.

Proposed clearing is not at variance to this Principle

Comments

There are no formal ecological linkages intersecting the Proposal Area. The removal of up to 0.30 ha will not result in a gap in the canopy that would result in fragmentation of any existing linkage.

No DBCA managed land or waters are located within or immediately adjacent to the Proposal Area. Nearest conservation reserve is Nugadong Nature Reserve (Class A; R 29326) is approximately 5 km south from the Proposal Area.

There are no Environmentally Sensitive Areas within the Proposal Area.

Based on the above, the proposed clearing is not at variance to this principle.

Methodology
DBCA shapefiles

(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.

Proposed clearing is not at variance to this Principle

Comments

There are no mapped watercourses or drainage lines that intersect the Proposal Area (GIS Database). The Proposal Area is not located within a Public Drinking Water Source Area (GIS Database). The proposed clearing of 0.30 ha is not expected to alter groundwater quality in the area.

Based on the above, the proposed clearing is not at variance to this principle.

Methodology
DWER and DBCA shapefiles
EPA (2016)
Main Roads Site Inspection (15.02.2022)

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not at variance to this Principle

Comments

The Proposal Area is located within an area with average annual rainfall less than 400 mm based on the monthly statistics at Dallwallinu weather stations (Dalwallinu [Station 008297] which demonstrates an average rainfall of 297.8 mm (BoM 2022) (BOM 2022) since 1997. The Proposal Area contains sandy loam soils and is relatively flat. There are no watercourses that intersect the Proposal Area.

The removal of such a small area of vegetation (up to 0.30 ha) makes it unlikely that the incidence or intensity of flooding will increase. NRM SLIP identifies that the majority of the proposal area has less 3% risk of flooding at the Proposal Area.

The minor and linear nature of the clearing is not expected to result in excessive levels of surface runoff that would increase the intensity or incidence of flooding.

Based on the above, the proposed clearing is not at variance to this principle.

Methodology

Main Roads Site Inspection (15.02.2022)
Natural Resource Management SLIP Soil Systems (Accessed 10.03.2022)

6 ADDITIONAL ACTIONS REQUIRED

The clearing associated with the Proposal is unlikely or not at variance with the Clearing Principles.

Additional management actions under CPS 818 are detailed in Table 6.

Table 6. Summary of Additional Management Actions Required by Permit CPS 818

Impact of Clearing	Yes/No or NA	*Further Action Required*
1. The Proposal involves clearing for temporary works (as defined by CPS 818).	**No**	No further action required.
2 a. Project is within Region that: - Has rainfall greater than 400mm and - Is South of the 26th parallel and - Works are in 'Other than dry conditions' and - Works have potential for **uninfested** areas to be impacted	**No**	Standard Vehicle and Plant management actions from PEMR's and Vehicle and Plant Hygiene Checklists will be implemented during construction.
3. Main Roads has been notified by DWER or an environmental specialist that the area to be cleared is susceptible to a pathogen other than dieback	**No**	No further action required.
4. The vegetation within the area to be cleared and/or the surrounding vegetation in a good or better condition and weeds likely to spread to and result in environmental harm to adjacent areas of native vegetation that are in good or better condition	**No**	No further action required.

7 VEGETATION MANAGEMENT

Main Roads will avoid clearing native vegetation where possible. Where clearing cannot be avoided then this clearing is kept to a minimum. Vegetation will be managed in accordance with the Principal Environmental Management Requirements (PEMR's).

8 REFERENCES

Australian Government. EPBC Act referral guidelines for three threatened black cockatoo species (2012). Department of Sustainability, Environment, Water, Population and Communities.

Bureau of Meteorology Australia. (2022) Climate Averages for Australian Sites – Dallwallinu weather stations (Dalwallinu [Station 008297] – Available online from http://www.bom.gov.au/climate/data/index.shtml Accessed April 2022

CSIRO. (2014). Australian Soil Resource Information System (ASRIS) Database. Available online from http://www.asris.csiro.au Accessed April 2022

Environmental Protection Authority (2016). *Technical Guide – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment* (eds. K Freeman, G Stack, S Thomas and N Woolfrey). Perth, Western Australia.

Government of Western Australia. (2019). 2019 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions, Perth. Available online from: https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

Government of Western Australia (2019). Native Vegetation Clearing Permits. Application, assessment, and management requirements under Part V Division 2 of the Environmental Protection Act 1986. Department of Water and Environmental Regulation.

Government of Western Australia (2014). A guide to the assessment of applications to clear native vegetation Under Part V Division 2 of the Environmental Protection Act 1986. Department of Environmental Regulation.

Government of Western Australia (2014). WA Environmental Offset Guidelines. Perth, Western Australia.

Government of Western Australia (2011). WA Environmental Offset Policy. Perth Western Australia.

Main Roads WA. 2022 Site Inspection Report 2022. Great Northern Highway (GNH) / Wegner Road Intersection SLK 247.3– 247.55. 15 February 2022.

Natural Resource Management in WA. (2022). SLIP portal, Soil-Landscape Mapping. Available online from: http://maps.agric.wa.gov.au/nrminfo/framesetup.asp. Accessed April 2022

9 APPENDICES

Appendix	Title
Appendix 1	Environmental Site Inspection Report (refer to D22#203802)
Appendix 2	DBCA Threatened Flora and Fauna Database Searches

Appendix 1: Environmental Site Inspection Report

Refer to D22#203802

Appendix 2: DBCA Threatened Flora and Fauna Database Searches

Australian Government
Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 09-Feb-2022

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	23
Listed Migratory Species:	6

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	10
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	1
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Eucalypt Woodlands of the Western Australian Wheatbelt	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area
Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding likely to occur within area	In feature area
MAMMAL			
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
PLANT			
Acacia cochlocarpa subsp. velutinosa Velvety Spiral Pod Wattle [65112]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Caladenia drakeoides Hinged Dragon Orchid [68687]	Endangered	Species or species habitat may occur within area	In feature area
Chorizema humile Prostrate Flame Pea [32573]	Endangered	Species or species habitat may occur within area	In feature area
Dasymalla axillaris Native Foxglove [38829]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Eremophila pinnatifida Pinnate-leaf Eremophila [64894]	Endangered	Species or species habitat known to occur within area	In feature area
Eremophila resinosa Resinous Eremophila [11735]	Endangered	Species or species habitat likely to occur within area	In feature area
Eremophila viscida Varnish Bush [2394]	Endangered	Species or species habitat likely to occur within area	In feature area
Frankenia conferta Silky Frankenia [6074]	Endangered	Species or species habitat may occur within area	In buffer area only
Grevillea pythara Pythara Grevillea [64525]	Endangered	Species or species habitat likely to occur within area	In feature area
Gyrostemon reticulatus Net-veined Gyrostemon [8491]	Critically Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Haloragis platycarpa Broad-fruited Haloragis [15371]	Critically Endangered	Species or species habitat likely to occur within area	In buffer area only
Hemiandra gardneri Red Snakebush [7945]	Endangered	Species or species habitat known to occur within area	In feature area
Roycea pycnophylloides Saltmat [21161]	Endangered	Species or species habitat may occur within area	In buffer area only
Verticordia staminosa subsp. staminosa Wongan Featherflower [55825]	Endangered	Species or species habitat may occur within area	In buffer area only
REPTILE			
Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat known to occur within area	In feature area
SPIDER			
Idiosoma nigrum Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos			
Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Unknown		
Commonwealth Land - [51540]	WA	In buffer area only

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata			
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Nugadong	Nature Reserve	WA	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Great Northern Highway, Muchea to Wubin Upgrade Stage 2-Walebing to Wubin	2016/7761	Controlled Action	Post-Approval	In feature area
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.