



Defence Housing Australia: Randwick Barracks
Biodiversity Impact Assessment - Bundock Street Housing Development

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Executive summary

The Bundock Street Housing Development (the Project) is proposed to supply 62 low density houses to Defence families on Bundock Street. The site is within Randwick Barracks and enclosed by Joongah Road, Bunjan Street, Munda Street, Gumara Street and Bundock Street.

Defence's key environmental obligations fall under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the EPBC Act as matters of Matters of National Environmental Significance (MNES).

This biodiversity impact assessment report addresses the recommendations in the previous biodiversity constraints assessment and provides an assessment of potential impacts of the housing development project to biodiversity values, including threatened species, populations ecological communities and their habitat listed under the EPBC Act. Threatened biodiversity listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) are also discussed and described.

The Project site provides suitable opportunistic foraging habitat for several threatened MNES species including the Grey-headed Flying-fox (*Pteropus poliocephalus*) (listed as vulnerable under the EPBC Act and BC Act) and Swift Parrot (*Lathamus discolor*) (listed as critically endangered under the EPBC Act and BC Act). However, individuals of these species have not been recorded on site. No other biodiversity MNES are likely present on site given the lack of suitable habitat and the highly degraded nature of the site.

The Project would result in:

- Minor impacts on threatened species marginal habitat for MNES and other NSW listed threatened species.
- Removal of about 2.7 ha of native and non-native vegetation including:
 - 0.08 ha of PCT 4028 Estuarine Swamp Oak Twig-rush Forest in low condition
 - 2.62 ha of other native and exotic vegetation.
- Minor indirect impacts associated with fragmentation, edge effects, and the spread of weed and pathogens.

Assessments of Significance have identified that the Project would not have a significant impact on any MNES including the Grey-headed Flying-fox and Swift Parrot. Additionally, the Project is unlikely to have a significant impact on other NSW listed threatened biodiversity.

1. Introduction

1.1 Background

The Department of Defence is considering redevelopment of the vacant on Randwick Barracks that fronts onto Bundock Street. Known as the Bundock Street Housing Redevelopment (the Project), it would be delivered by the Directorate of Relocations and Housing (DRH), within the Department of Defence, in partnership with Defence Housing Australia (DHA) to supply 62 low density houses to Defence families on Bundock Street. This Project which would provide Defence members and their families with suitably-located, quality homes and enable them to become part of the local community.

This biodiversity impact assessment report relates solely to the parcel of land proposed for the Bundock Street Housing Redevelopment Project.

1.2 The site

The Bundock Street project is located within Randwick Barracks and comprises about 2.6 ha (the site). It is generally enclosed by Joongah Road, Bunjan Street, Munda Street, Gumara Street and Bundock Street. The location of the site is shown in **Figure 1-1**

1.3 Report scope and purpose

This report focuses on the Bundock Street Housing Redevelopment. Jacobs previously undertook a preliminary biodiversity assessment to identify any potential ecological constraints on the site as part of a due diligence process (Jacobs 2021). This biodiversity impact assessment report addresses the recommendations in the biodiversity constraints assessment and provides an assessment of potential impacts of the Bundock Street project to biodiversity values, including threatened species, populations ecological communities and their habitat (**Figure 1-1**).

This report provides the following information:

- Outcomes of the desktop assessment
- Results of the field survey, potential impacts and provides suitable avoidance and mitigation measures
- Fine scale vegetation mapping within the site
- Results of a targeted flora survey
- Assessment of significance of Matters of National Environmental Significance (MNES) for Swift Parrot (critically endangered), Grey-Headed Flying-Fox (vulnerable) and listed migratory species.

Bundock Street Housing Redevelopment



- Legend**
- ▭ The Site
 - ▭ Proposed LIA Development Area - subject to separate assessment
 - Lot Boundary
 - ▭ Randwick Environment Park
 - ▭ Water body



Figure 1-1 | The Bundock Street Housing Redevelopment Site

DATA SOURCES
 Jacobs 2022
 © Department Finance, Services and Innovation 2022
 Metromap 2022

2. Legislative context

Defence's key environmental obligations fall under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the EPBC Act as matters of National Environmental Significance (MNES). The MNES listed under the Act are:

- World heritage properties
- National heritage places
- Wetlands of international importance (often called 'Ramsar' wetlands after the
- International treaty under which such wetlands are listed)
- Nationally threatened species and ecological communities
- Migratory species.
- Commonwealth marine areas
- The Great Barrier Reef Marine Park
- Nuclear actions (including uranium mining)
- A water resource, in relation to coal seam gas development and large coal mining development national environmental significance (MNES).

Of particular relevance to Defence, the EPBC Act also outlines specific requirements for actions (activities, developments) undertaken on Commonwealth land, or by Commonwealth agencies on or off of Commonwealth land. Under these requirements, Commonwealth agencies are also required to assess the environmental context of the action as a whole and to consider all direct and indirect potential impacts to the environment as a whole (i.e. not just MNES), and where impacts are considered to potentially be significant, a referral under the EPBC Act is required. These requirements are outlined in the DSEWPAC (2013) guidance note: *Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies - Significant Impact Guidelines 1.2*.

Although the site is part of the Randwick Barracks Defence estate on Commonwealth land, in NSW, the NSW *Biodiversity Conservation Act 2016* (BC Act) and *Fisheries Management Act 1994* (FM Act) provide for the protection of threatened species, populations, or threatened ecological communities and establishes a method for the assessment and approval of activities that are likely to significantly impact these threatened species and ecological communities or their habitats. As the current proposal is on Commonwealth land, Defence is required to comply with Commonwealth legislation. It aims to comply with the intent of relevant State environment related legislation and related standards.

3. Methods

3.1 Literature and database review

A background review of existing information was undertaken to identify the existing environment of the Project within a 5-km radius centred on the site, referred to herein as the 'locality'. The review focussed on database searches, relevant reports pertaining to the site, property boundaries, and relevant GIS layers. The review was used to prepare a list of threatened species and communities, which may potentially be present at the site, and to undertake a likelihood of occurrence assessment of these matters. Database searches were originally undertaken in February 2021, then updated in December 2023. The following information and database searches were reviewed as part of this study:

- Department of Climate Change, Energy, the Environment and Water (DCCEEW 2023a) Protected Matters database, accessed via the Protected Matters Search Tool (PMST) 5-km radius search (accessed on 01 December 2023)
- BioNet – the website for the Atlas of NSW Wildlife and Threatened Biodiversity Data Collection (DPE 2023b) (accessed 01 December 2023)
- BioNet Vegetation Classification database and Threatened Biodiversity Data Collection (DPE 2023c) (accessed on accessed 01 December 2023)
- BAM- Important Areas viewer (DPE 2023d)
- Register of Declared Areas of Outstanding Biodiversity Value (DPE 2023e)
- Regional vegetation mapping of the Native Vegetation of the Sydney Metropolitan Area - Version 3.1 (VIS_ID 4489) (State Government of NSW and Office of Environment and Heritage 2016).
- NSW Department of Primary Industries (DPI) WeedWise (accessed on 01/12/2023)
- eSPADE v2.1 soil mapping (NSW DPIE 2021)
- Groundwater Dependent Ecosystems Atlas (Bureau of Meteorology 2023).

Preliminary determinations from NSW Threatened Species Scientific Committee (NSW DPE 2023f) and the Commonwealth annual final priority assessment list (FPAL) (DCCEEW 2023b) of nominated species and ecological communities were also reviewed. At the time of writing, there were no preliminary determinations from the NSW Threatened Species Scientific Committee or provisional listings of relevance to the Project.

3.2 Habitat assessment

A habitat assessment was undertaken within the site and locality to list the threatened flora and fauna species known or predicted to occur from species records within a 5-km radius of the Project (based on results from the PMST search (DCCEEW 2023a) and NSW Bionet Atlas (NSW DPE 2023b). This list was identified from databases and literature. The habitat assessment compared the preferred habitat features for these species with the type and quality of the habitats identified in the site. This habitat assessment was completed to assess the likelihood of the species being present on the site (i.e., subject species). Marine, pelagic and wetland species were excluded from this assessment as they have no suitable terrestrial habitat within the site. The habitat assessment identified if additional targeted surveys were required within the site.

The criteria used in the habitat assessment are detailed in **Table 3-1**. The results of the habitat assessment are provided in **Appendix A**.

Table 3-1 Likelihood of occurrence for conservation significant species and communities (entities): classification and criteria

Likelihood	Criteria
Low	Entity not recorded during field surveys and fit one or more of the following criteria: <ul style="list-style-type: none"> Have not been recorded previously in the Site/locality and for which the Site is beyond the current distribution range. Use specific habitats or resources that are not present in the Site. Are a non-cryptic perennial flora species that were specifically targeted by surveys and not recorded.
Moderate	Entity not recorded during the field survey that fit one or more of the following criteria: <ul style="list-style-type: none"> Have infrequently been recorded previously in the Site/surrounds. Use specific habitats or resources present on the Site but they are in a poor or modified condition. Are unlikely to maintain sedentary populations, however, may seasonally use resources within the Site opportunistically or during migration. Are cryptic flowering flora species that were not seasonally targeted by survey and that have not been recorded.
High	Entity recorded during the field surveys or entity not recorded that fit one or more of the following criteria: <ul style="list-style-type: none"> Have frequently been recorded previously in the Site/locality. Use habitat types or resources that are present on the Site that are in abundance and/or are in good condition within the Site. Are known to or are likely to maintain resident populations surrounding the Site. Are known to or are likely to visit the site during regular seasonal movements or migration.
Present	Any threatened species recorded on the Site during the field survey.

3.3 Site investigation

A site assessment was undertaken on 16 February 2021 to ground truth the results of the background research and habitat assessment. The field team was escorted around the site by a Defence representative.

An additional field survey was conducted on 7-8th December 2022 across the entire Randwick Barracks site to investigate the presence of non-threatened fauna and their habitat (herein referred to as the 'general fauna surveys').

3.3.1 Vegetation surveys

Vegetation surveys were completed using field survey methods guided by the Biodiversity Assessment Method (BAM) and associated guidelines (NSW DPIE 2020a; 2020b), where suitable. Random meander surveys were undertaken throughout the site to survey vegetation and map ecotones between different plant communities and condition classes. However, no plot-based vegetation integrity surveys were conducted within the site due to the minimal extent of native vegetation.

Where possible, vegetation was assigned to Plant Community Types (PCTs) according to the BioNet Vegetation Classification Database (DPE 2023g). All native vegetation was assessed against possible Commonwealth and NSW Threatened Ecological Communities (TECs) and assigned (if consistent) with the listings. The remaining vegetation that was not associated with a PCT generally involved identification of planted native and exotic trees and shrubs throughout the site.

The criteria used to assign the broad condition class is detailed below in Table 3-2.

Table 3-2 Vegetation condition classes and descriptions

Condition Class	Definition
Moderate	Vegetation has retained a native overstorey, but the understorey and groundcover layers are generally co-dominated by exotic species that generally exhibit between 10–49% foliage cover. The mid and low stratum may have been structurally modified as a result of previous clearing.
Low	Vegetation has retained a native overstorey or the cover is showing occasional signs of regeneration. The understorey and groundcover layers of this condition are absent and/or the understorey is generally dominated by exotic species (foliage cover >50%). Native species diversity is generally relatively low, and the mid and low stratum have been structurally modified.

Note: there is no 'moderate' condition native vegetation within the Project site (only low condition, refer to Section 4.3.1).

3.3.2 Threatened species surveys

The outcomes of the habitat assessment identified that the site has limited suitable habitat for threatened species (refer to Section 3.2, 4.2.3 and 0). As such, no targeted species surveys were undertaken within the site.

3.3.3 General fauna surveys

Field surveys were undertaken by two Jacobs ecologists on 7-8th December 2022. Weather on both days was clear with temperatures between 16-24°C, light winds with no rainfall.

The fauna surveys generally comprised:

- Point-based bird surveys: 4 x 20-minute point based aural/ visual bird surveys conducted following dawn and before dusk. Counts were taken of species recorded.
- Hollow bearing tree and nest mapping: Hollow bearing tree and nests were identified and mapped based on a random meander survey across the site. Hollows were categorised as small (< 10 cm), medium (10 – 20 cm), and large (> 20 cm). Nests were categorised as small (1-19cm), medium (20-49cm), large (50-100cm) and very large (>100cm).
- Nocturnal spotlighting and call playback: Spotlighting and call playback was undertaken for nocturnal bird, mammal and amphibian species across the site.

All incidentally observed fauna species were recorded.

3.4 Limitations

The conclusions of this report are based upon available data and limited field survey and are indicative of the environmental condition of the site at the time of the survey. It should be recognised that site conditions, including the presence of threatened species, can change with time. To address this limitation, the assessment has aimed to identify the presence and suitability of the habitat for threatened species.

As the Project is on Commonwealth land, the site surveys and assessment targeted MNES, to confirm and map the extent of the known TECs and threatened plants known from the site or considered to potentially occur. These surveys were not intended to focus on all flora and fauna that may utilise the site and as such, seasonal surveys for general flora and fauna, such as common birds, were not part of the scope of work.

4. Existing Environment

4.1 Landscape context

The site is located within the Pittwater sub-region of the Sydney Basin Bioregion as defined by (DoEE 2018) and within the Sydney - Newcastle Barriers and Beaches Mitchell Landscape (NSW National Parks and Wildlife Service 2002) and described by the (DECC 2008). Only 50 per cent of the original native vegetation remains in this landscape.

The landscape is predominantly composed of Quaternary coastal sediments on long recurved quartz sand beaches between rocky headlands backed by sand dunes and intermittently closed and open lagoons. It includes areas of more extensive high dunes often located on top of the headlands. General elevation is between 0m to 30m, with local relief of 10m. Cliff top dunes may be found as high as 90m above sea level (NSW National Parks and Wildlife Service 2002).

The site occurs on Tuggerah and Newport Aeolian Soil Landscapes according to the "Soil landscapes" layer from eSpade (NSW DPIE 2021).

There are no waterways, wetlands, or key fish habitat within the site. The closest waterway is the artificial wetland within Randwick Environmental Park located about 220m to the south-east of the site.

4.2 Matters of National Environmental Significance

The desktop assessments identified that the site had potential for several MNES to utilise the site, nearby areas or have suitable habitat. MNES with moderate to high likelihood of occurring on site are outlined in Table 4-1. Further details are provided in the following sections and the full likelihood of occurrence assessment is provided in **Appendix A**. The EPBC Act Protected Matters Report is provided in **Appendix B**.

Table 4-1 Summary of MNES with moderate to high likelihood of occurring on site

Type	Threatened entity	EPBC Act	BC Act	Likelihood of occurrence in the Site	Description
TEC	Eastern Suburbs Banksia Scrub of the Sydney Region	CE	CE	Moderate (however, confirmed absent)	This TEC is known to occur in other areas of Randwick Barracks and Randwick Environmental Park. The site has some suitable habitat (i.e. soil type, location), however during site surveys, it was not identified within the site.
	Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community	E	E	High (however, confirmed absent)	One small patch of PCT 4028 Estuarine Swamp Oak Twig-rush Forest is present within the site which is associated with this TEC. However, due to the poor condition and size of the patch, it is not consistent with the EPBC Act listing criteria. Further justification is provided in Section 4.2.1.1.
Flora	<i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i> (Sunshine Wattle)	E	E	Moderate (however, confirmed absent)	This species is known to occur in other areas of Randwick Barracks and Randwick Environmental Park. However, due to the disturbance to the soil and lack of suitable native vegetation communities, it does not have suitable habitat within the site. It is an easily recognisable species and was not recorded during the site surveys.
Fauna	Eastern Osprey (<i>Pandion haliaetus</i>)	M	V	Moderate (flyover only)	No records within the locality, however there is suitable aquatic foraging habitat within nearby coastal areas. It is possible the species may flyover

Type	Threatened entity	EPBC Act	BC Act	Likelihood of occurrence in the Site	Description
					the site in travel, however unlikely to utilise habitat within the site.
	Cattle Egret (<i>Bubulcus ibis</i>)	Ma	-	Moderate (flyover only)	No records within the locality, however there is suitable habitat in nearby areas. It is possible the species may flyover the site in travel, however unlikely to utilise habitat within the site.
	Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>)	V	V	High	There are 588 records of the species in the locality in the past decade. The nearest camp is at Centennial Park about 4km to the north-west of the site. There is suitable foraging habitat present on site from flowering native species.
	Swift Parrot (<i>Lathamus discolor</i>)	CE, Ma	CE	Moderate	This species has been recorded in the locality twice in the past decade. There is opportunistic foraging habitat present on site from flowering native species. There is no suitable breeding habitat as the species is migratory and breeds in Tasmania.
	White-bellied Sea-Eagle (<i>Haliaeetus leucogaster</i>)	Ma	V	Moderate (flyover only)	No records within the locality, however there is suitable aquatic foraging habitat within nearby coastal areas. It is possible the species may flyover the site in travel, however unlikely to utilise habitat within the site.
	Fork-tailed Swift (<i>Apus pacificus</i>)	M, Ma	-	Moderate (flyover only)	No records within the locality, however there is suitable habitat in nearby areas. It is possible the species may flyover the site in travel, however unlikely to utilise habitat within the site.
	Rainbow Bee-eater (<i>Merops ornatus</i>)	Ma	-	Moderate (flyover only)	No records within the locality, however there is suitable habitat in nearby areas. It is possible the species may flyover the site in travel, however unlikely to utilise habitat within the site.
	Rufous Fantail (<i>Rhipidura rufifrons</i>)	M, Ma	-	Moderate (flyover only)	No records within the locality, however there is suitable habitat in nearby areas. It is possible the species may flyover the site in travel, however unlikely to utilise habitat within the site.
	White Throated Needletail (<i>Hirundapus caudacutus</i>)	M, Ma	-	Moderate (flyover only)	One record in the locality, however as the species is almost exclusively aerial, it is possible the species may flyover the site in travel, however unlikely to utilise terrestrial habitat within the site.

CE: Critically Endangered, E: Endangered, V: Vulnerable, TEC, Ma: Marine, TEC: Threatened Ecological Community.

4.2.1 Threatened Ecological Communities

The Eastern Suburbs Banksia Scrub of the Sydney Region TEC was not identified on site following suitable survey effort, as such, it is confirmed that it is not present within the site.

4.2.1.1 Coastal Swamp Oak (*Casuarina glauca*) Forest of NSW and South East Queensland ecological community

A small patch (0.08 ha) of PCT 4028 Estuarine Swamp Oak Twig-rush Forest is present within the site (refer to Section 4.3). Depending on its size and condition, this vegetation type is associated with the endangered Coastal

Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community, which is listed as Endangered under the EPBC Act. However, on the site, this patch is in very poor condition and has a patch size less than what is required to meet the key diagnostics for this TEC. Therefore, this TEC is not present on site.

The comparison of the vegetation against the key diagnostic criteria and Category C condition thresholds are presented in **Table 4-2**. In order to be considered a MNES, areas of the ecological community must meet both:

- the key diagnostic characteristics AND
- at least the minimum condition thresholds for 'Category C', as provided in the listing (Threatened Species Scientific Committee 2018).

Table 4-2: Key diagnostic criteria and Category C thresholds for Coastal Swamp Oak Forest TEC

Diagnostic criteria and condition thresholds	Site vegetation status, justification against the criteria
Key diagnostic criteria	
Occurs from south-east Queensland to southern NSW within the South Eastern Queensland, NSW North Coast, Sydney Basin, or South East Corner bioregions.	Yes. The site is within the Sydney Basin.
Occurs in coastal catchments at elevations up to 50 m ASL, typically less than 20 m ASL, on coastal flats, floodplains, drainage lines, lake margins, wetlands and estuarine fringes where soils are at least occasionally saturated, water-logged or inundated. There are also minor occurrences on coastal dune swales or flats, particularly deflated dunes and dune soaks.	No. The ecological community occurs in coastal catchments, mostly at elevations of less than 20m asl. PCT 4028 Estuarine Swamp Oak Twig-rush Forest on site occurs at 33m asl.
Occurs on soils derived from unconsolidated sediments (including alluvium), typically hydrosols (grey-black clay-loam and/or sandy loam soils) and sometimes organosols (peaty soils). It may occur in transitional soils (or catenas) where shallow unconsolidated sediments border lithic substrates.	No. Not on a suitable soil profile. Soils are mapped as aeolian sands. Some areas of non-natural soils profiles, including fill is evident.
Has an open woodland, woodland, forest, or closed forest structure, with a tree canopy that has a total crown cover of at least 10 per cent.	Yes. There is a sparse canopy of <i>Casuarina glauca</i> at about 10% cover.
Has a canopy of trees dominated by <i>Casuarina glauca</i> (swamp-oak, swamp she-oak).	Yes. <i>Casuarina glauca</i> is the dominant species.
Category C condition thresholds	
The patch is at least 0.5 ha and less than 2 ha.	No. The small, regrowth Swamp Oak patches within the site is 0.07 ha in size.
Predominately native understorey	No. The patch has minimal native species richness and cover in the understorey or ground layer
Additional requirements	

Diagnostic criteria and condition thresholds	Site vegetation status, justification against the criteria
Very small or degraded patches that do not meet the minimum condition thresholds will be excluded from national protection	The small, regrowth Swamp Oak patches within the site is 0.08 ha in size and have minimal native species richness and cover in the understorey or ground layer.

4.2.2 Threatened flora species

Nineteen flora species were identified in the EPBC Act Protected Matters Search Tool as potentially occurring in the locality based on the distributional range of the species and modelled habitat. These species, along with their preferred habitat requirements and an assessment of their likely presence in the study area are listed in **Appendix A**.

Acacia terminalis subsp. *Eastern Sydney* (Sunshine Wattle) was not identified on site following suitable survey effort, as such, it is confirmed that it is not present within the site.

4.2.3 Threatened fauna species

Twenty-three terrestrial fauna species were identified in the EPBC Act Protected Matters Search Tool as potentially occurring in the locality based on the distributional range of the species and modelled habitat. These species, along with their preferred habitat requirements and an assessment of their likely presence in the locality are listed in **Appendix A**. As comprehensive fauna surveys were not conducted during this assessment, it is assumed that the fauna listed in Table 4-1 may be present, and therefore are further assessed.

The Grey-headed Flying-fox (*Pteropus poliocephalus*) (listed as vulnerable under the EPBC Act) and Swift Parrot (*Lathamus discolor*) (listed as critically endangered under the EPBC Act) are considered highly and moderately likely to forage on nectar and pollen from mature Eucalypt trees within the site, respectively. As the nearest known flying-fox camp is in Centennial Park about 4km to the north-west and the native vegetation within the site provides critical foraging habitat for this species (DAWE 2021), about 0.8 ha of the vegetation on site (PCT 4028 (0.08ha) and Planted trees – indigenous (0.72ha)) is considered 'critical habitat' to the species (nevertheless, up to 0.98 ha could be suitable foraging habitat).

The nearest mapped important habitat area for the Swift Parrot is at Bradleys Head about 9km to the north. As such, the mature Eucalypt trees within the site provide opportunistic foraging habitat for both species, however are not considered critical habitat.

The habitat in the site is not considered optimal for any of the remaining EPBC Act-listed threatened fauna species identified as potentially present (those listed in **Appendix A**) due to the degraded nature of the vegetation.

4.2.4 Migratory species

Twelve migratory bird species were identified in the EPBC Act Protected Matters Search Tool as potentially occurring in the locality based on the distributional range of the species and modelled habitat. These migratory species, along with their preferred habitat requirements and an assessment of their likely presence in the site are listed in **Appendix A**.

Some of these migratory species have potential fly over the site (refer to **Table 4-6**) on occasion but are unlikely to utilise habitat at the site, except for Swift Parrot which may infrequently feed on nectar producing trees and shrubs.

While some migratory species of bird are likely use the site and locality on occasion, the site would not be classed as an 'important habitat'. A nationally significant proportion of a population would not be supported by habitat in the site, as the habitats are not suitable. The Project would not substantially modify, destroy or isolate an area of important habitat for the migratory species and it would not seriously disrupt the lifecycle of an ecologically significant proportion of a population of migratory birds. Full details of the assessment of significance under the EPBC Act are presented in **Appendix D**.

4.3 Other biodiversity values

4.3.1 NSW vegetation communities

Only one native vegetation community is present on site comprising one small patch (0.08ha) of 4028 Estuarine Swamp Oak Twig-rush Forest. All other vegetation comprises native and exotic plantings and regrowth. No vegetation is identified as being a groundwater dependent ecosystem. A summary of the vegetation within the site is provided in **Table 4-3** and shown in **Figure 4-1**.

Table 4-3 Vegetation types and associated area in the site

PCT / vegetation	Condition class	Site (ha)
PCT 4028 Estuarine Swamp Oak Twig-rush Forest	Low	0.08
Exotic grassland	-	0.57
Exotic grassland/ scattered native regrowth	-	0.85
Planted trees - indigenous	-	0.72
Planted trees – non-indigenous	-	0.18
Total		2.40

Bundock Street Housing Redevelopment



Legend

- The Site
- Proposed LIA Development Area - subject to separate assessment

- High Retention Trees**
- Allocasuarina torulosa
 - Araucaria bidwillii

- Vegetation Zones**
- Exotic grassland
 - Exotic grassland/ scattered native regrowth
 - Planted trees - indigenous
 - Planted trees - non-indigenous
 - PCT 4028 Estuarine Swamp Oak Twig-rush Forest,



Figure 4-1 | Vegetation mapping

J:\CCBS NSW SPATIAL - GIS MAP file - IRI107200_F001_PCTandBioiversityValues_v2 | 11/05/2022

4.3.1.1 PCT 4028 Estuarine Swamp Oak Twig-rush Forest

A small patch (0.08 ha) of PCT 4028 Estuarine Swamp Oak Twig-rush Forest is present within the site (**Photo 1; Figure 4-1**). This is based on matching the following components of this community (NSW DPE 2023g):

- Dominated by a stand of Swamp oak (*Casuarina glauca*) forming an open to dense canopy
- Found across the coastal plain and hinterland of the Sydney metropolitan area
- Locality receives a mean annual rainfall range of 850 to 1250mm.

This community is in low condition, with the previously cleared canopy showing occasional recovery throughout the patch, low species diversity and the ground-layer being dominated by high weed cover (primarily *Bidens pilosa* or *Megathyrus maximus*).

The PCT does not meet the key diagnostics for the EPBC listed endangered ecological community: Coastal Swamp Oak (*Casuarina glauca*) Forest of NSW and South East Queensland ecological community, for justification refer to Section 4.2.1.1.

This PCT also does not meet the key diagnostics of the final determinations for NSW listed threatened ecological communities: Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (listed endangered under the BC Act), due to the community being:

- Not on a suitable soil profile of grey-black clay-loams and sandy loams.
- The site does not have suitable hydrology including waterlogged soils associated with coastal floodplains.



Photo 1: Example of PCT 4028 Estuarine Swamp Oak Twig-rush Forest in the site

4.3.2 Other vegetation

Much of the site, particularly in the east, is dominated by exotic shrubs, grasses and herbs with the occasional native tree (**Photo 2 and 3**). Exotic shrubs include: *Acacia saligna*, *Triadica sebifera*, *Chrysanthemoides monilifera*, *Nerium oleander*. Exotic herbs included *Bidens pilosa*, *Coreopsis lanceolata* and *Conyza bonariensis*, among others. The dominant grass was *Megathyrus maximus*. *Casuarina glauca* was the only native tree in this portion of the site.

Most of the of the western section of the site contains a mix of planted indigenous (**Photo 3**) and non-indigenous tree species (**Photo 4**) with an understorey dominated by exotic grasses and herbs. Planted indigenous species include:

Melaleuca quinquenervia, *Banksia integrifolia*, *Allocasuarina littoralis*, *Eucalyptus saligna*, *Eucalyptus microcorys*, *Eucalyptus robusta*, *Corymbia gummifera*, among others. Planted non-indigenous species: *Lophostemon confertus*, *Pinus sp.*, *Quercus sp.*, *Liquidambar styraciflua*, *Schefflera actinophylla*, *Agonis flexuosa* and *Araucaria bidwillii*.

Exotic grasses and herbs included: *Briza media*, *Chloris gayana*, *Paspalum dilatatum*, *Brassica sp.*, *Sonchus oleraceus*, *Verbena officinalis*, *Bidens pilosa*, *Cyperus eragrostis*, *Asparagus aethiopicus*, *Sida rhombifolia*, *Pennisetum clandestinum*, *Aster subulatus*, among others.



Photo 2: Example of exotic shrub and grass vegetation in the site



Photo 3: Example of mixed stand of planted indigenous trees and exotic grass/herb understorey vegetation in the site



Photo 4: Example of planted non-indigenous (*Pinus sp.*) trees in the site

4.3.2.1 Significant trees

An arborist report of all trees on site identified that there are two trees are of 'high' retention value (Tree Report 2021). These are both on the western side of the site. Details of the trees are provided in Table 4-4 and shown in Figure 4-1. The full arborist report is provided in Appendix C.

Table 4-4 Details of 'high' retention value trees on site

Species	Common name	Height (m)	DBH (mm)	Health*	Structure*
<i>Araucaria bidwillii</i>	Bunya Pine	16	450	Fair	Good
<i>Allocasuarina torulosa</i>	Forest oak	15	700	Good	Fair

*for the criteria refer to the full Arborist report in Appendix C.

4.3.3 Priority weeds and Weeds of National Significance (WoNS)

Many weed species were identified on the site. Of these, three are listed as priority weed species in the Randwick LGA (under the NSW *Biosecurity Act 2015*) and are also on the list of Weeds of National Significance (WoNS) (Table 4-5). Weeds threaten Defence's capability to operate efficiently at the site. Weed species have potential to spread and establish within both the Randwick Barracks and neighbouring land and may impact on biodiversity values.

Table 4-5: Priority Weeds and Weeds of National Significance (WoNS)

Common name	Scientific name	WoNS	Priority weed listing*
Bitou bush	<i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i>	Yes	State priority weed <ul style="list-style-type: none"> ▪ Biosecurity Zone applies in some partsof NSW ▪ Prohibits sale within or importinto NSW
Ground asparagus	<i>Asparagus aethiopicus</i>	Yes	State priority weed <ul style="list-style-type: none"> ▪ Prohibits sale within or import into NSW
Lantana	<i>Lantana camara</i>	Yes	State priority weed <ul style="list-style-type: none"> ▪ Prohibits sale within or import into NSW

*this relates the listing under the NSW *Biosecurity Act 2015*.

4.3.4 NSW threatened biodiversity

In addition to MNES, there are several species that have potential to utilise the site, nearby areas or have suitable habitat that were identified in the desktop assessment. Threatened biodiversity with moderate to high likelihood of occurring on site are outlined in Table 4-1, many of these are also MNES described in Section 4.2. The full likelihood of occurrence assessment is provided in **Appendix A**.

Table 4-6 Summary of NSW threatened species with moderate to high likelihood of occurring on site

Type	Threatened entity	EPBC Act	BC Act	Likelihood of occurrence in the Site	Description
Flora	<i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i> (Sunshine Wattle)	E	E	Moderate (however, confirmed absent)	This species is known to occur in other areas of Randwick Barracks and Randwick Environmental Park. However, due to the disturbance to the soil and lack of suitable native vegetation communities, it does not have suitable habitat within the site. It is an easily recognisable species and was not recorded during the site surveys.
Fauna	Eastern Osprey (<i>Pandion haliaetus</i>)	M	V	Moderate (flyover only)	No records within the locality, however there is suitable aquatic foraging habitat within nearby coastal areas. It is possible the species may flyover the site in travel, however unlikely to utilise habitat within the site.
	Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>)	V	V	High	There are 588 records of the species in the locality in the past decade. The nearest camp is at Centennial Park about 4km to the north-west of the site. There is suitable foraging habitat present on site from flowering native species.
	Little Lorikeet (<i>Glossopsitta pusilla</i>)	-	V	Moderate	There is one record of the species in the locality in the past decade. There is opportunistic foraging habitat present on site from flowering native species. There is no suitable breeding habitat

Type	Threatened entity	EPBC Act	BC Act	Likelihood of occurrence in the Site	Description
					present on site due to the lack of hollow bearing trees.
	Microbats: Little Bentwing-bat (<i>Miniopterus australis</i>) Large Bent-winged Bat (<i>Miniopterus orianae oceanensis</i>)	-	V	Moderate	There are four and 29 records for the Little Bentwing-bat and Large Bentwing-bat in the locality in the past decade, respectively. The site provides opportunistic nightly foraging for the species. There is possible roosting habitat for the species in decorticating bark of mature trees, however there are no hollows present.
	Powerful Owl (<i>Ninox strenua</i>)	-	V	Moderate	There are 68 records of the species in the locality in the past decade. The site provides opportunistic foraging habitat for the species. There is no suitable breeding habitat present on site due to the lack of hollow bearing trees.
	Swift Parrot (<i>Lathamus discolor</i>)	CE	CE	Moderate	This species has been recorded in the locality twice in the past decade. There is opportunistic foraging habitat present on site from flowering native species. There is no suitable breeding habitat as the species is migratory and breeds in Tasmania.
	White-bellied Sea-Eagle (<i>Haliaeetus leucogaster</i>)	Ma	V	Moderate (flyover only)	No records within the locality, however there is suitable aquatic foraging habitat within nearby coastal areas. It is possible the species may flyover the site in travel, however unlikely to utilise habitat within the site.

CE: Critically Endangered, E: Endangered, M: Migratory, V: Vulnerable, Ma: Marine TEC: Threatened Ecological Community

4.3.5 Species habitat

The vegetation on site provides suitable habitat for a diversity of local flora and fauna species. The native vegetation communities provide suitable habitat for numerous flora species that are associated with the communities. The site also provides habitat for several other local flora species that are present in the locality (but not recorded on site), particularly in areas of natural soil profiles. The vegetation and habitat provide nesting, roosting, shelter and foraging habitat for various fauna local species which is summarised in the following sections.

Native and exotic vegetation extends southwards beyond the boundary of the site within the Randwick Barracks. Vegetation in these areas as well as the Randwick Environmental Park to the south-east provide important connectivity and habitat for numerous mobile species.

4.3.5.1 Open woodland

The areas of planted indigenous and non-indigenous trees provide some foraging and sheltering habitat for various local birds and mammals. The canopy vegetation (including *Melaleuca quinquenervia*, *Banksia integrifolia*, *Allocasuarina littoralis*, *Eucalyptus saligna*, *Eucalyptus microcorys* and, *Eucalyptus robusta*) provides flowering and fruiting food resources for fauna. The vegetation also provides an 'island' supporting connectivity to other nearby patches in the locality. No hollow bearing trees were recorded on site.

These flowering native trees provide feeding resources for various threatened including the Grey-headed Flying-fox (*Pteropus poliocephalus*) and other and non-threatened mammals and birds. The support of insect species as well as decorticating bark may provide feeding and sheltering opportunities for microbats. The habitat for mammals (i.e. Ring-tailed possums) may also support opportunistic feeding for owls and predatory birds (i.e. Powerful Owl).

4.3.5.2 Exotic grasslands

The areas of exotic grassland provide some suitable foraging habitat for common reptiles and birds. The grasses would provide habitat for reptile species (i.e. snakes, lizards) and may provide opportunistic sheltering and foraging habitat birds.

4.3.6 General fauna survey

In total, 37 fauna species were recorded on site during the two field assessment days, comprising:

- 2 amphibians
- 29 birds, of which 3 are exotic
- 5 mammals, of which 3 are exotic
- 1 reptile.

Although this survey covered the entire Randwick Barracks site, due to the lack of fencing between the Bundock Street Housing Redevelopment site and the vacant area immediately adjacent and to the south, it is likely these species utilise the entire site.

Many bird species were incidentally observed flying overhead (traveling to and from the site) and calling from the adjacent Randwick Environmental Park, however, were not observed using habitat within the site (i.e. Ducks, Channel-billed Cuckoo, Australian White Ibis).

The full species list and details of the survey are provided in Appendix E.

5. Potential impacts

5.1 Impacts on MNES

As there are no EPBC Act listed TECs within the site, as such direct impacts on MNES via vegetation clearing are associated with minor impacts to threatened species habitat loss. The removal of about 0.98 ha of native vegetation and planted native and exotic trees (refer to Section 5.2) would permanently remove potential foraging habitat for the Grey-headed Flying-fox (*Pteropus poliocephalus*) and the Swift Parrot (*Lathamus discolor*).

Although several migratory species may flyover the site, it is unlikely that the Project would impact the species.

Assessments of significance have identified that the Project would not have a significant impact on any MNES including the Grey-headed Flying-fox and the Swift Parrot (refer to Section 6).

5.2 Vegetation clearing

The proposed works would remove up to 2.7 ha of native and non-native vegetation including:

- 0.08 ha of PCT 4028 Estuarine Swamp Oak Twig-rush Forest in low condition
- 2.62 ha of other native and exotic vegetation.

No TECs would be impacted by the Project.

Details of the vegetation extents are provided in **Table 5-1**. This comprises all vegetation within the site. However, where possible during the development of detailed design, mature trees would be retained.

Table 5-1 Direct impacts on vegetation and fauna habitat

PCT / vegetation	TEC*	Condition class	Site (ha)
PCT 4028 Estuarine Swamp Oak Twig-rush Forest	No	Low	0.08
Exotic grassland	N/A	-	0.87
Exotic grassland/ scattered native regrowth	N/A	-	0.85
Planted trees - indigenous	N/A	-	0.72
Planted trees – non-indigenous	N/A	-	0.18
Total			2.70

*Threatened ecological community under either the EPBC Act or BC Act.

5.3 Impacts on threatened species and habitat

The Project would not directly impact any EPBC Act or BC Act threatened flora species. Minor indirect impacts to threatened fauna species would occur as a result of habitat loss. Suitable foraging and/or sheltering habitat would be permanently lost during vegetation clearing. A breakdown of the direct impacts to habitat for threatened fauna species is provided in **Table 5-2**.

Species that only have potential to flyover the site and are unlikely to utilise habitat within the site are not included.

Table 5-2: Potential impacts on threatened fauna habitat in the site

Species	BC Act	EPBC Act	Habitat impacted in site (ha)	Critical habitat
Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>)	V	V	0.98ha for each species, comprising:	0.8ha,* comprising: <ul style="list-style-type: none"> ▪ 0.08ha of PCT 4028

Species	BC Act	EPBC Act	Habitat impacted in site (ha)	Critical habitat
			<ul style="list-style-type: none"> ▪ 0.08ha of PCT 4028 ▪ 0.72ha of Planted trees – indigenous, and ▪ 0.18 of Planted trees – non-indigenous. 	▪ 0.72ha of Planted trees – indigenous
Little Lorikeet (<i>Glossopsitta pusilla</i>)	-	V		Nil
Swift Parrot (<i>Lathamus discolor</i>)	E	CE		Nil**
Microbats: <ul style="list-style-type: none"> ▪ Little Bentwing-bat (<i>Miniopterus australis</i>) ▪ Large Bent-winged Bat (<i>Miniopterus orianae oceanensis</i>) 	-	V		Nil
Powerful Owl (<i>Ninox strenua</i>)	-	V		Nil

CE = Critically Endangered, E = Endangered, V = Vulnerable.

*Also refer to the assessment of significance for the Grey-headed Flying-fox in Appendix D.

**Also refer to the assessment of significance for the Swift Parrot in Appendix D.

5.4 Indirect impacts

5.4.1 Aquatic impacts

No waterways or waterbodies were identified on the site. Impacts to aquatic biodiversity values are considered to be negligible given that drainage lines are already in poor condition and are likely to remain at their current state or re-used.

No impacts to important waterways, wetlands and / or key fish habitats are expected due to the distance from the Project.

No impacts to Groundwater Dependant Ecosystems (GDEs) are expected. There is a small potential for construction works to increase sedimentation and erosion along drainage lines and stormwater that may runoff into adjacent waterbodies to the east of the site and has been considered for mitigation measures (**Section 6**).

5.4.2 Fragmentation of identified biodiversity links and habitat corridors

The site has very limited connectivity for wildlife movement. Other patches of native and exotic vegetation are present to the south of the site within Randwick Barracks, however, also are relatively disturbed. This link is also isolated to the immediate locality. Any loss of native vegetation on the site may indirectly affect the vegetation patch to the east of the site at the Randwick Environment Park.

On site fragmentation is considered to be minimal across the site, given that existing vegetation patches are currently isolated and disturbed.

5.4.3 Edge effects on adjacent native vegetation and habitat

During the construction and operation of the Project, effects of noise, light, dust and vibration may potentially result in indirect impacts to biodiversity values. Construction work, including increased traffic and operation of heavy machinery would increase these effects over the construction period, but would be temporary in nature. Increased operational lighting along the perimeter of the facility and access roads and car parks is unlikely to have substantial effects on nocturnal bird and mammal activity or movement, given the wide distance from any retained vegetation around the new development. Nevertheless, these impacts can be reduced to a low risk with the implementation of standard mitigation measures.

5.4.4 Injury and mortality of fauna

Clearing of native vegetation, including open grasslands could result in fauna injury and /or mortality during construction and operation. There are potential vehicle collisions with arboreal mammals such as Brush-tailed

Possums, and/or Ring-tailed Possums and birds because of increased construction and operational traffic, particularly at dawn and dusk. Birds are generally mobile and can move quickly to avoid habitat removal. Other species such as frogs, reptiles and some ground dwelling mammals are less mobile and may not be able to re-locate resulting in injury or mortality.

5.4.5 Invasion and spread of pests and weeds

There is a high potential for animal pests on the site, given its proximity to residential houses and disturbed landscapes. The domestic cat (*Felis catus*) may be present and the increase in human activity has potential to increase cat presence. Predation by feral cats on native fauna has a high potential on site and is listed a key threatening process (KTP) under both the EPBC Act and the BC Act.

Lantana (*Lantana camara*) is listed as a KTP under the BC Act for its ability to invade, establish and spread easily, particularly on disturbed sites associated with edge adjoining native habitats. Mitigation measures will be implemented to manage the spread of weeds during construction and operation.

5.5 Cumulative impacts

There are no other projects currently planned by Defence for Randwick Barracks that would result in cumulative impacts with the Bundock Street Housing Development Project.

5.6 Key threatening processes

Key threatening processes identified as being a result of the Project would comprise those associated with habitat degradation including vegetation clearing. Mitigation measures would be implemented to minimise the extent of vegetation clearing and habitat disturbance (refer **Section 6**). There is also potential for other KTPs to be further increased from their current condition (e.g. weed invasion, introduction of pests and diseases), however, mitigation measures would be implemented to minimise their effect. Further details regarding likely and/or potential key threatening processes occurring during the Project are shown in **Table 5-3**.

Table 5-3 Assessment of key threatening processes associated with the Project

Threatening process	Relevant legislation	Associated with the Project?
Habitat Degradation		
Bushrock removal	BC Act	Unlikely
Land clearance/Clearing of native vegetation	EPBC Act, BC Act	Yes
Loss of hollow-bearing trees	BC Act	Unlikely
Removal of dead wood and dead trees	BC Act	Potential
Forest Eucalypt dieback associated with over-abundant psyllids and bell miners	BC Act	Unlikely
Feral fauna		
Competition from feral honey bees (<i>Apis mellifera</i>)	BC Act	Potential
Aggressive exclusion of birds from potential woodland and forest habitat by over-abundant noisy miners (<i>Manorina melanocephala</i>)	EPBC Act	Potential
Predation by feral cats / Predation by the feral cat (<i>Felis catus</i>)	EPBC Act, BC Act	Potential
Predation, Habitat Degradation, Competition and Disease Transmission by Feral Pigs / Predation, habitat degradation, competition and disease transmission by feral pigs (<i>Sus scrofa</i>)	EPBC Act, BC Act	Unlikely
Competition and land degradation by rabbits / Competition and grazing by the feral European rabbit (<i>Oryctolagus cuniculus</i>)	EPBC Act, BC Act	Potential
Predation and hybridisation of feral dogs (<i>Canis lupus familiaris</i>)	BC Act	Unlikely
Herbivory and environmental degradation caused by feral deer	BC Act	Unlikely
Predation by European red fox / Predation by the European red fox (<i>Vulpes vulpes</i>)	EPBC Act, BC Act	Unlikely
Pathogens		
Infection of amphibians with chytrid fungus resulting in chytridiomycosis/Infection of frogs by amphibian chytrid causing the disease chytridiomycosis	EPBC Act, BC Act	Unlikely
Dieback caused by the root-rot fungus (<i>Phytophthora cinnamomi</i>)/Infection of native plants by <i>Phytophthora cinnamomi</i>	EPBC Act, BC Act	Potential
Introduction and Establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae	BC Act	Potential
Weeds		
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants	EPBC Act	Potential
Invasion of native plant communities by bitou bush & boneseed	BC Act	Potential
Invasion of native plant communities by exotic perennial grasses	BC Act	Potential
Invasion and establishment of exotic vines and scramblers	BC Act	Potential
Invasion of native plant communities by African Olive (<i>Olea europaea L. subsp. cuspidata</i>)	BC Act	Unlikely
Invasion, establishment and spread of <i>Lantana camara</i>	BC Act	Potential
Climate change		
Loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases	EPBC Act	Potential
Human-caused Climate Change	BC Act	Potential

6. Significance assessment

Details of the assessment of significance for threatened and migratory species under the EPBC Act are presented in **Appendix D**. These are in accordance with the guideline *Matters of National Environmental Significance Significant Impact Guidelines 1.1* (DoE 2013). Assessments of significance have been undertaken for all species that are moderately or highly likely to occur on site. However, those species that may only flyover the site have been excluded as the site does not provide suitable habitat, and as such, there is no risk of impact.

The conclusions of the EPBC Act assessment of significance are provided **Table 6-1** and **Table 6-2**. In summary, the Project is not considered to have a significant impact threatened or migratory species under the EBPC Act.

Table 6-1 Summary of Commonwealth EPBC Act assessments of significance for threatened fauna species

Species	*Assessment of significance questions (EPBC Act)									Likely significant impact
	1	2	3	4	5	6	7	8	9	
Critically endangered fauna										
Swift Parrot	N	N	N	N	N	N	N	N	N	No
<p>* Assessment of significance questions</p> <ol style="list-style-type: none"> 1. Lead to a long-term decrease in the size of a population; 2. Reduce the area of occupancy of the species; 3. Fragment an existing population into two or more populations; 4. Adversely affect habitat critical to the survival of a species; 5. Disrupt the breeding cycle of a population; 6. Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline; 7. Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat; 8. Introduce disease that may cause the species to decline; or 9. Interfere with the recovery of the species. 										
Vulnerable fauna										
Grey-headed Flying-fox	N	N	N	N	Y	N	N	N	N	No
<p>* Assessment of significance questions for vulnerable species</p> <ol style="list-style-type: none"> 1. lead to a long-term decrease in the size of an important population of a species 2. reduce the area of occupancy of an important population 3. fragment an existing important population into two or more populations 4. adversely affect habitat critical to the survival of a species 5. disrupt the breeding cycle of an important population 6. modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline 7. result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat 8. introduce disease that may cause the species to decline, or 9. interfere substantially with the recovery of the species. <p>+ Important Population as determined by the EPBC Act is a population of a vulnerable species that:</p> <ul style="list-style-type: none"> is likely to be key source populations either for breeding or dispersal is likely to be necessary for maintaining genetic diversity is at or near the limit of the species range 										

Species	*Assessment of significance questions (EPBC Act)									Likely significant impact
	1	2	3	4	5	6	7	8	9	
* Y= Yes (negative impact), N = No (no or positive impact), X = not applicable										

The Project would adversely affect habitat critical for the Grey-headed Flying-fox. This includes about 0.8 ha of the 0.98 ha of possible foraging habitat within the site. However, considering the small scale of this impact and the considerable availability of suitable critical habitat in surrounding areas of the nearby camp, it is not considered to be of 'notable or of consequence'. As such, the answer of 'yes' to this question has not triggered an overall likely significant impact on the species.

Table 6-2 Summary of Commonwealth significance assessment for migratory species

Migratory species	EPBC Act status	Important population* in the site	Likely significant impact
Cattle Egret (<i>Bubulcus ibis</i>)	Marine	No	No
Fork-tailed Swift (<i>Apus pacificus</i>)	Marine; Migratory (CAMBA, JAMBA, ROKAMBA)	No	No
Eastern Osprey (<i>Pandion haliaetus</i>)	Marine; Migratory (BONN)	No	No
Rainbow Bee-eater (<i>Merops ornatus</i>)	Marine; Migratory (JAMBA)	No	No
Rufous Fantail (<i>Rhipidura rufifrons</i>)	Marine; Migratory (BONN)	No	No
Swift Parrot (<i>Lathamus discolor</i>)	Marine	No	No
White-bellied Sea-Eagle (<i>Haliaeetus leucogaster</i>)	Marine; Migratory (CAMBA)	No	No
White Throated Needletail (<i>Hirundapus caudacutus</i>)	Marine; Migratory (CAMBA, JAMBA, ROKAMBA)	No	No
<p>* Important Population as determined by the <i>Environment Protection and Biodiversity Conservation Act 1999</i>, is one that for a vulnerable species:</p> <ul style="list-style-type: none"> a is likely to be key source populations either for breeding or dispersal b is likely to be necessary for maintaining genetic diversity c is at or near the limit of the species range. 			

7. Mitigation measures

7.1 Avoidance of impacts

The Project would cover most of the site and therefore avoidance of biodiversity impacts is limited. However, during detailed design, mature trees would be retained where possible. The two mature trees identified as 'high retention' discussed in Section 4.3.2.1 and showing in **Figure 4-1**. All other trees are listed in the arborist report, provided in Appendix C.

7.2 Mitigation measures

Defence's standard operating procedures and a Construction Environmental Management Plan (CEMP) would be implemented to address standard environmental management on the site during construction and operation, as relevant. However, in addition to these, specific measures to mitigate and minimise ecological impacts that should be considered in the design and construction stages are outlined in **Table 7-1**.

Table 7-1 Mitigation measures

Item	Mitigation measure
All design stages	
Mature tree avoidance	Avoid the mapped mature native trees as much as practicable (for locations of all trees, refer to the Arborist report in Appendix C). Provide justification in the relevant design reports of all measures taken to avoid mature trees in the design development. Provide specific justification for the removal of the two 'high' retention value trees, if required for removal.
Construction	
Construction biodiversity management plan	<p>Within the site specific Construction Environmental Management Plan (CEMP), specific biodiversity management measures should be implemented including, but not limited to:</p> <ul style="list-style-type: none"> ▪ Delineation of clearing to avoid trees where possible ▪ Responsibilities and timing of pre-clearance surveys ▪ Weed control measures ▪ Pathogen hygiene control measures ▪ Protocols for unexpected fauna encounters. <p>This is a working document that can be updated as required throughout construction.</p>

8. Conclusion

This biodiversity impact assessment report provides an assessment of potential impacts of the Bundock Street Housing Development Project to biodiversity values of the site, including threatened species, populations ecological communities and their habitat. The key findings of this report are outlined below.

The site provides a small area of potential, although marginal, foraging habitat for two MNES threatened species: the Grey-headed Flying-fox (*Pteropus poliocephalus*) (listed as vulnerable under the EPBC Act and BC Act) and Swift Parrot (*Lathamus discolor*) (listed as critically endangered under the EPBC Act and BC Act). Neither species were observed during field investigations and no other biodiversity MNES are likely present on the site.

The Project would result in:

- Minor impacts on potential opportunistic threatened species habitat for MNES and other NSW listed threatened species.
- Removal of about 2.7 ha of native and non-native vegetation including:
 - 0.08 ha of NSW PCT 4028 Estuarine Swamp Oak Twig-rush Forest in low condition
 - 2.62 ha of other native and exotic planted and regrowth vegetation.
- Minor indirect impacts associated with fragmentation, edge effects, and the spread of weeds.
- No significant impacts to MNES and other NSW listed threatened biodiversity are likely.

9. References

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Appendix A - Likelihood of occurrence assessment

National and NSW listed threatened species identified from the literature review and database search were considered in terms of their likelihood to occur in the habitats present within the site based on identified habitat requirements. The likelihood of occurrence was classified according to the criteria described in **Table 3-1**. With high levels of urbanisation in the locality and minimal native vegetation within the site, the likelihood of threatened terrestrial species or communities occurring in the site in its current condition is generally low. **Tables A-1, A-2 and A-3** outline the likelihood of occurrence for threatened ecological communities, flora, and fauna, respectively.

Table A-1 Likelihood of occurrence for threatened ecological communities

Community name	EPBC Act	BC Act	Data source	Likelihood of occurrence in the Site
Coastal Upland Swamps in the Sydney Basin Bioregion	E	E	PMST	Absent, confirmed from site surveys
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	CE	E	PMST	Absent, confirmed from site surveys
Eastern Suburbs Banksia Scrub of the Sydney Region	CE	CE	PMST	High, however identified as absent, confirmed from site surveys. Present in nearby areas of Randwick Barracks and Randwick Environmental Park.
Western Sydney Dry Rainforest and Moist Woodland on Shale	CE	-	PMST	Absent, confirmed from site surveys
Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community	E	E	PMST	High, however identified as absent, confirmed from site surveys
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	E	-	PMST	Absent, confirmed from site surveys
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	E	E	PMST	Absent, confirmed from site surveys
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	CE	CE	PMST	Absent, confirmed from site surveys

Table A-2 Likelihood of occurrence for threatened flora species

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
<i>Acacia pubescens</i>	Downy Wattle	V	V	Concentrated around the Bankstown-Fairfield-Rookwood area and the Pitt Town area, with outliers occurring at Barden Ridge, Oakdale and Mountain Lagoon. Occurs on alluviums, shales and at the intergrade between shales and sandstones. The soils are characteristically gravelly soils, often with ironstone. Occurs in open woodland and forest, in a variety of plant communities, including Cooks River/Castlereagh Ironbark Forest, Shale/Gravel Transition Forest and Cumberland Plain Woodland.	PMST	Low- incorrect soil profile. No records in locality.
<i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i>	Sunshine Wattle	E	E	Very limited distribution, mainly in near-coastal areas from the northern shores of Sydney Harbour south to Botany Bay, with most records from the Port Jackson area and the eastern suburbs of Sydney. Recorded from North Head, Middle Head, Dover Heights, Parsely Bay, Nielsen Park, Cooper Park, Chifley, Watsons Bays, Wollstonecraft and Waverley. Occurs in coastal scrub and dry sclerophyll woodland on sandy soils.	347 – BioNet, PMST	Moderate. Absent from site, however present in nearby areas of Randwick Barracks and Randwick Environmental Park. No suitable vegetation habitat within the site.
<i>Allocasuarina glairecola</i>	-	E	E	Primarily restricted to the Richmond (NW Cumberland Plain) district, but with an outlier population found at Voyager Point, Liverpool. Grows in Castlereagh woodland on lateritic soil.	PMST	Low – Unsuitable habitat in the Site
<i>Allocasuarina portuensis</i>	Nielsen Park She-oak	E	E	The original known habitat of the Nielsen Park She-oak is at Nielsen Park, in Woollahra local government area. The original habitat is tall closed woodland. The shallow sandy soils are highly siliceous, coarsely textured and devoid of a soil profile.	PMST	Low – Only known from Nielsen Park. Not found during site visit.
<i>Asterolasia elegans</i>		E	E	Occurs north of Sydney, in the Baulkham Hills, Hawkesbury and Hornsby local government areas. Occurs on Hawkesbury sandstone. Found in sheltered forests on mid- to lower slopes and valleys, e.g. in or adjacent to gullies which support sheltered forest.	PMST	Low – Unsuitable habitat in the Site. No records in locality.
<i>Caladenia tessellata</i>	Thick Lip Spider Orchid	V	E	The Thick Lip Spider Orchid is known from the Sydney area (old records), Wyong, Ulladulla and Braidwood in NSW. Populations in Kiama and Queanbeyan are presumed extinct. It was also recorded in the Huskisson area in the 1930s. The species occurs on the coast in Victoria from east of Melbourne to almost the NSW border. Generally found in grassy sclerophyll woodland on clay loam or sandy soils, though the population near Braidwood is in low woodland with stony soil.	PMST	Low – Unsuitable habitat in the Site
<i>Calochilus pulchellus</i>	Pretty Beard Orchid	E	E	<i>Calochilus pulchellus</i> is endemic to New South Wales. It is known from the Sydney Basin Bioregion, where a total of less than 30 adult plants have been recorded in three sites over a range of 40 km on	PMST	Low – Unsuitable habitat in the Site. No records in locality.

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				the South Coast of NSW. The species has a cryptic nature, with a single leaf present above ground for only a few months and a flowering stem that lasts for a few days or a week.		
<i>Callistemon linearifolius</i>	Netted Bottlebrush	-	V	Recorded from the Georges River to Hawkesbury River in the Sydney area, and north to the Nelson Bay area of NSW. Once more widespread across its distribution in the past. Some populations are reserved in Ku-ring-gai Chase National Park, Lion Island Nature Reserve, and Spectacle Island Nature Reserve. Further north it has been recorded from Yengo National Park and Werakata National Park. Grows in dry sclerophyll forest on the coast and adjacent ranges.	1 – BioNet	Low – Unsuitable habitat in the Site
<i>Cryptostylis hunteriana</i>	Leafless Tongue-orchid	V	V	The Leafless Tongue Orchid has been recorded from as far north as Gibraltar Range National Park south into Victoria around the coast as far as Orbost. The larger populations typically occur in woodland dominated by Scribbly Gum (<i>Eucalyptus sclerophylla</i>), Silvertop Ash (<i>E. sieberi</i>), Red Bloodwood (<i>Corymbia gummifera</i>) and Black Sheoak (<i>Allocasuarina littoralis</i>); appears to prefer open areas in the understorey of this community and is often found in association with the Large Tongue Orchid (<i>C. subulata</i>) and the Tartan Tongue Orchid (<i>C. erecta</i>).	PMST	Low – Unsuitable habitat in the Site
<i>Dichanthium setosum</i>	Bluegrass	V	V	Bluegrass occurs on the New England Tablelands, North West Slopes and Plains and the Central Western Slopes of NSW, extending to northern Queensland. It occurs widely on private property, including in the Inverell, Guyra, Armidale and Glen Innes areas. Often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture.	1 – BioNet, PMST	Low – Unsuitable habitat in the Site
<i>Diuris arenaria</i>	Sand Doubletail	-	E	Sand Doubletail is known from the Tomaree Peninsula near Newcastle. This species occurs in coastal heath and dry grassy eucalypt forest on sandy flats.	1 – BioNet	Low – Not seen on site during initial walkover. More detailed survey maybe required prior to disturbance to confirm absence.
<i>Doryanthes palmeri</i>	Giant Spear Lily	-	V	Giant Spear Lily occurs in far north-east NSW and south-east Queensland. In NSW, it occurs on the coastal ranges that are part of the Mt Warning Caldera. Its southern distributional limit is Mount Billen. The species is currently known from eleven sites within NSW, five of which are conservation reserves. Giant Spear Lily occurs on exposed rocky outcrops on infertile soils or on bare rock.	2 – BioNet	Low – Unsuitable habitat in the Site
<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	V	V	Restricted distribution in a narrow band with the most northerly records in the Raymond Terrace area south to Waterfall. Poor coastal country in shallow sandy soils overlying Hawkesbury sandstone. Coastal heath mostly on exposed sandy ridges.	PMST	Low – Not seen on site during initial walkover. More detailed survey maybe required prior to

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				Occurs mostly in small, scattered stands near the boundary of tall coastal heaths and low open woodland of the slightly more fertile inland areas. Associated species frequently include stunted species of <i>E. oblonga</i> (Narrow-leaved Stringybark), <i>E. capitellata</i> (Brown Stringybark) and <i>E. haemastoma</i> (Scribbly Gum).		disturbance to confirm absence.
<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	V	V	This species is sparsely distributed but widespread on the New England Tablelands from Nundle to north of Tenterfield, being most common in central portions of its range. Found largely on private property and roadsides, and occasionally in conservation reserves. Planted as urban trees, windbreaks and corridors. Typically grows in dry grassy woodland, on shallow soils of slopes and ridges.	2 – BioNet	Low – Unsuitable habitat in the Site
<i>Eucalyptus scoparia</i>	Wallangarra White Gum	V	E	In NSW it is known from only three locations near Tenterfield, including Bald Rock National Park. Found in open eucalypt forest, woodland and heaths on well-drained granite/rhyolite hilltops, slopes and rocky outcrops, typically at high altitudes.	3 – BioNet	Low – Unsuitable habitat in the Site
<i>Genoplesium baueri</i>	Bauer's Midge Orchid	E	E	Recorded from locations between Nowra and Pittwater and may occur as far north as Port Stephens. About half the records were made before 1960 with most of the older records being from Sydney suburbs including Asquith, Cowan, Gladesville, Longueville and Wahroonga. No collections have been made from those sites in recent years. The species has been recorded at locations now likely to be within the several conservation reserves including Berowra Valley Regional Park, Royal National Park and Lane Cove National Park. May occur in the Woronora, O'Hares, Metropolitan and Warragamba Catchments. Found in sparse sclerophyll forest and moss gardens over sandstone.	1 – BioNet, PMST	Low – Unsuitable habitat in the Site
<i>Hibbertia puberula</i>	-	-	E	Distribution extends from Wollemi National Park south to Morton National Park and the south coast near Nowra. Early records of this species are from the Hawkesbury River area and Frenchs Forest in northern Sydney, South Coogee in eastern Sydney, the Hacking River area in southern Sydney, and the Blue Mountains. It favours low heath on sandy soils or rarely in clay, with or without rocks underneath.	1 – BioNet	Low – Unsuitable habitat in the Site
<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	Found only in NSW, with scattered and dispersed populations found in the Jervis Bay area in the south and the Gosford-Wyong area in the north. Generally, grows in damp places, often near streams or low-lying areas on alluvial soils of low slopes or sheltered aspects.	PMST	Low – Unsuitable habitat in the Site
<i>Melaleuca deanei</i>	Deane's Paperbark	V	V	The distribution of the species extends from St. Albans (Hawkesbury LGA) in the north, Nowra (Shoalhaven LGA) in the south, and west to Falconbridge (Blue Mountains LGA). It mostly occupies broad flat ridgetops, dry ridges and slopes between 20 and 410 metres above sea level. It is strongly associated with sandy loam soils that are low in nutrients, sometimes with ironstone present. In southern Sydney, the species most frequently occurs on deep and well developed lateritic soils, i.e. soils where an indurated iron-rich layer usually overlies a mottled clay and a pallid clay .It occurs in a	2 – BioNet	Low – Unsuitable habitat in the Site

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				wide range of vegetation communities, but is most often found in Coastal Sandstone Ridgetop Woodland and to a lesser extent, Hinterland Sandstone Gully Forest, Sydney Hinterland Transition Woodland and Coastal Sandstone Gully Forest and other communities on sandstone and transitional geology.		
<i>Persicaria elatior</i>	Tall Knotweed	V	V	Tall Knotweed has been recorded in south-eastern NSW (Mt Dromedary (an old record), Moruya State Forest near Turlinjah, the Upper Avon River catchment north of Robertson, Bermagui, and Picton Lakes. In northern NSW it is known from Raymond Terrace (near Newcastle) and the Grafton area (Cherry Tree and Gibberagee State Forests). Normally grows in damp places, especially beside streams and lakes. Occasionally in swamp forest or associated with disturbance.	PMST	Low – Unsuitable habitat in the Site
<i>Persoonia hirsuta</i>	Hairy Geebung	E	E	<i>Persoonia hirsuta</i> has a scattered distribution around Sydney. The species is distributed from Singleton in the north, along the east coast to Bargo in the south and the Blue Mountains to the west. <i>Persoonia hirsuta</i> has a large area of occurrence, but occurs in small populations, increasing the species' fragmentation in the landscape. Found in sandy soils in dry sclerophyll open forest, woodland and heath on sandstone.	1 – BioNet, PMST	Low – Unsuitable habitat in the Site
<i>Pimelea curviflora</i> <i>var. curviflora</i>	Slender Curved Rice Flowers	V	V	Confined to the coastal area of Sydney between northern Sydney in the south and Maroota in the north-west. Former range extended south to the Parramatta River and Port Jackson region including Five Dock, Bellevue Hill and Manly. Occurs on shaley/lateritic soils over sandstone and shale/sandstone transition soils on ridgetops and upper slopes amongst woodlands. Has an inconspicuous cryptic habit as it is fine and scraggly and often grows amongst dense grasses and sedges. It may not always be visible at a site as it appears to survive for some time without any foliage after fire or grazing, relying on energy reserves in its tuberous roots.	PMST	Low – Unsuitable habitat in the Site
<i>Prostanthera marifolia</i>	Seaforth Mintbush	CE	CE	<i>Prostanthera marifolia</i> is currently only known from the northern Sydney suburb of Seaforth and has a very highly restricted distribution within the Sydney Basin Bioregion. The single population is fragmented by urbanisation into three small sites. Occurs in localised patches in or in close proximity to the endangered Duffys Forest ecological community.	3 – BioNet	Low – Unsuitable habitat in the Site
<i>Rhodamnia rubescens</i>	Scrub Turpentine	-	CE	Occurs in coastal districts north from Batemans Bay in New South Wales, approximately 280 km south of Sydney, to areas inland of Bundaberg in Queensland. Populations of <i>R. rubescens</i> typically occur in coastal regions and occasionally extend inland onto escarpments up to 600 m a.s.l. in areas with rainfall of 1,000-1,600 mm. Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. This species is characterised as highly to extremely susceptible to infection by Myrtle Rust.	PMST	Low – Unsuitable habitat in the Site

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
<i>Rhodomyrtus psidioides</i>	Native Guava	-	CE	Occurs from Broken Bay, approximately 90 km north of Sydney, New South Wales, to Maryborough in Queensland. Populations are typically restricted to coastal and sub-coastal areas of low elevation however the species does occur up to c. 120 km inland in the Hunter and Clarence River catchments and along the Border Ranges in NSW. Pioneer species found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines. This species is characterised being extremely susceptible to infection by Myrtle Rust.	PMST	Low – Unsuitable habitat in the Site
<i>Senecio spathulatus</i>	Coast Groundsel	-	E	Coast Groundsel occurs in Nadgee Nature Reserve (Cape Howe) and between Kurnell in Sydney and Myall Lakes National Park (with a possible occurrence at Cudmirrah). Coast Groundsel grows on frontal dunes.	1 – BioNet	Low – Unsuitable habitat in the Site
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	V	E	The Magenta Lilly Pilly is found only in NSW, in a narrow, linear coastal strip from Upper Lansdowne to Conjola State Forest. On the south coast the Magenta Lilly Pilly occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral (coastal) rainforest. On the central coast Magenta Lilly Pilly occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities.	58 – BioNet, PMST	Low – Unsuitable habitat in the Site
<i>Thesium australe</i>	Austral Toadflax	-	V	Occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast. Often found in association with Kangaroo Grass (<i>Themeda australis</i>).	PMST	Low – Unsuitable habitat in the Site

Table A-3: Likelihood of occurrence for threatened and migratory fauna species

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
Birds						
<i>Anthochaera phrygia</i>	Regent Honeyeater	E	CE	Temperate woodlands and open forests of the inland slopes of south-east Australia. The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Regent Honeyeaters usually nest in horizontal branches or forks in tall mature eucalypts and Sheoaks.	PMST	Low – Unsuitable habitat in the Site
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	-	V	The Dusky Woodswallow has two separate populations. The eastern population is found from Atherton Tableland, Queensland south to Tasmania and west to Eyre Peninsula, South Australia. The other population is found in south-west	1 – BioNet, PMST	Low – Unsuitable habitat in the Site

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				Western Australia. The Dusky Woodswallow is found in open forests and woodlands, and may be seen along roadsides, urban parks and golf courses.		
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	E	Occurs from south-east Queensland to south-east South Australia, Tasmania and the south-west of Western Australia. The Australasian Bittern's preferred habitat is comprised of wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and reeds (e.g. Phragmites, Cyperus, Eleocharis, Juncus, Typha, Baumea, Bolboschoenus) or cutting grass (Gahnia) growing over a muddy or peaty substrate	1 – BioNet, PMST	Low – Unsuitable habitat in the Site
<i>Burhinus grallarius</i>	Bush Stone-curlew	-	E	Open forests and woodlands with a sparse grassy ground layer and fallen timber. Largely nocturnal, being especially active on moonlit nights. Feed on insects and small vertebrates, such as frogs, lizards and snakes. Nest on the ground in a scrape or small bare patch.	1 – BioNet	Low – Unsuitable habitat in the Site
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	E	V	The Gang-gang Cockatoo is distributed from southern Victoria through south- and central-eastern New South Wales. In New South Wales, the Gang-gang Cockatoo is distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. In spring and summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas.	PMST	Low – Not recorded in the locality. No suitable breeding habitat. Limited potential opportunistic foraging habitat.
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	-	V	The species is uncommon although widespread throughout suitable forest and woodland habitats, from the central Queensland coast to East Gippsland in Victoria, and inland to the southern tablelands and central western plains of NSW, with a small population in the Riverina. An isolated population exists on Kangaroo Island, South Australia. Inhabits open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur. Black Sheoak (<i>Allocasuarina littoralis</i>) and Forest Sheoak (<i>A. torulosa</i>) are important foods.	3 – BioNet	Low – Unsuitable habitat in the Site
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (south-eastern)	V	V	The brown treecreeper (<i>Climacteris picumnus</i>) is the largest Australasian treecreeper. The bird, endemic to eastern Australia, has a broad distribution,	1- Bionet, PMST	Low – Limited habitat in the Site, only one record in the locality.

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				occupying areas from Cape York, Queensland, throughout New South Wales and Victoria to Port Augusta and the Flinders Ranges, South Australia. Roosting nocturnally and solitarily, the brown treecreeper forages during the day on the ground and on tree surfaces in small groups or pairs, feeding mainly on ants, beetles and insect larvae. While occasionally feeding on nectar. The breeding female usually lays a clutch-size usually of three smooth (sometimes two or four), slightly glossy, fine-grained, slightly pink or rose, reddish-brown or red and purplish-red speckled eggs.		
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E	E	The distribution of the Eastern Bristlebird has contracted to three disjunct areas of south-eastern Australia. Habitat for central and southern populations is characterised by dense, low vegetation including heath and open woodland with a heathy understorey. In northern NSW the habitat occurs in open forest with dense tussocky grass understorey and sparse mid-storey near rainforest ecotone; all of these vegetation types are fire prone. Feeds on a variety of insects, particularly ants.	1- Bionet, PMST	Low – Limited habitat in the Site, only one record in the locality.
<i>Epthianura albifrons</i> and <i>Epthianura albifrons</i> (White-fronted Chat) in the Sydney Metropolitan Catchment Management Authority area	White-fronted Chat	-	V, EP	The White-fronted Chat is found across the southern half of Australia, from southernmost Queensland to southern Tasmania, and across to Western Australia as far north as Carnarvon. Found mostly in temperate to arid climates and very rarely sub-tropical areas, it occupies foothills and lowlands up to 1,000 m above sea level. In NSW, it occurs mostly in the southern half of the state, in damp open habitats along the coast, and near waterways in the western part of the state. Along the coastline, it is found predominantly in saltmarsh vegetation but also in open grasslands and sometimes in low shrubs bordering wetland areas. Two isolated sub-populations of White-fronted Chats are currently known from the Sydney Metropolitan Catchment Management Authority (CMA) area; one at Newington Nature Reserve on the Parramatta River and one at Towra Point Nature Reserve in Botany Bay. These sub-populations are separated from each other by 25 km of urbanised land, across which the Chats are unlikely to fly. The nearest extant populations outside Sydney Metropolitan CMA are at Ash Island north of Newcastle and Lake Illawarra, south of Wollongong. White-fronted Chats were previously recorded at Penrith Lakes (2001), Hawkesbury Swamps (2002), Tuggerah Lake (1997) and Lake Macquarie (1998). Regularly observed in the saltmarsh of Newington Nature Reserve (with occasional sightings from other parts of Sydney Olympic Park and in grassland on the	2 – BioNet	Low – Unsuitable habitat in the Site

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				northern bank of the Parramatta River). Current estimates suggest this population consists of 8 individuals. Regularly observed in the saltmarsh and on the sandy shoreline of a small island of Towra Point Nature Reserve. This population is estimated to comprise 19-50 individuals.		
<i>Falco hypoleucos</i>	Grey Falcon	V	E	The Grey Falcon is sparsely distributed in NSW, chiefly throughout the Murray-Darling Basin, with the occasional vagrant east of the Great Dividing Range. The breeding range has contracted since the 1950s with most breeding now confined to arid parts of the range. Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey.	PMST	Low – Unsuitable habitat in the Site
<i>Glossopsitta pusilla</i>	Little Lorikeet	-	V	Forages primarily in the canopy of open Eucalyptus forest and woodland, yet also finds food in apples (<i>Angophora</i> sp.), paperbarks (<i>Melaleuca</i> sp.) and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Isolated flowering trees in open country (e.g., paddocks, roadside remnants) and urban trees also help sustain viable populations of the species.	1 – BioNet	Moderate – suitable foraging habitat. Moderately likely to occur on the Site on occasion
<i>Grantiella picta</i>	Painted Honeyeater	-	V	The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution. Inhabits Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests. This species is a specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Prefers mistletoes of the genus <i>Amyema</i> .	PMST	Low – No significant habitat is present
<i>Hieraetus morphnoides</i>	Little Eagle	-	V	The Little Eagle is found throughout the Australian mainland excepting the most densely forested parts of the Dividing Range escarpment. It occurs as a single population throughout NSW. Occupies open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used.	2 – BioNet	Low – Unsuitable habitat in the Site

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
<i>Lathamus discolor</i>	Swift Parrot	CE	E	On the mainland they occur in areas where eucalypts are flowering profusely or where there is abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Swamp Mahogany (<i>Eucalyptus robusta</i>), Spotted Gum (<i>Corymbia maculata</i>), Red Bloodwood (<i>C. Gummifera</i>), Red Ironbark (<i>E. sideroxylon</i>), and White Box (<i>E. albens</i>).	2 – BioNet, PMST	Moderate – suitable foraging habitat. Moderately likely to occur on the Site on occasion
<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin	E		The Hooded Robin is widespread, found across Australia, except for the driest deserts and the wetter coastal areas - northern and eastern coastal Queensland and Tasmania. Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee, often in or near clearings or open areas. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses. Often perches on low dead stumps and fallen timber or on low-hanging branches, using a perch-and-pounce method of hunting insect prey. May breed any time between July and November, often rearing several broods.	PMST	Low – Unsuitable habitat in the Site
<i>Neophema chrysogaster</i>	Orange-bellied Parrot	CE	CE	The Orange-bellied Parrot breeds in the south-west of Tasmania and migrates in autumn to spend the winter on the mainland coast of south-eastern South Australia and southern Victoria. There are occasional reports from NSW, with the most recent records from Shellharbour and Maroubra in May 2003. Typical winter habitat is saltmarsh and strandline/foredune vegetation communities either on coastlines or coastal lagoons. Spits and islands are favoured but they will turn up anywhere within these coastal regions. The species can be found foraging in weedy areas associated with these coastal habitats or even in totally modified landscapes such as pastures, seed crops and golf courses.	1 – BioNet, PMST	Low – Unsuitable habitat in the Site
<i>Ninox strenua</i>	Powerful Owl	-	V	In NSW, it is widely distributed throughout the eastern forests from the coast inland to tablelands, with scattered records on the western slopes and plains suggesting occupancy prior to land clearing. Now at low densities throughout most of its eastern range, rare along the Murray River and former inland populations may never recover. The Powerful Owl inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest. The Powerful Owl requires large tracts of forest or woodland habitat but can occur in fragmented landscapes as well. The species breeds and hunts in open or closed sclerophyll forest or woodlands and occasionally hunts in open habitats. It roosts by day in dense vegetation comprising species such as Turpentine <i>Syncarpia glomulifera</i> , Black She-oak <i>Allocasuarina littoralis</i> ,	68 – BioNet	Moderate – Nearby records and suitable foraging habitat is present within the Site

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				Blackwood Acacia melanoxylon, Rough-barked Apple Angophora floribunda, Cherry Ballart Exocarpus cupressiformis and a number of eucalypt species.		
<i>Pezoporus wallicus wallicus</i>	Eastern Ground Parrot	-	V	In NSW populations have declined and contracted to islands of coastal or subcoastal heathland and sedgeland habitats. The species is found in relatively large numbers on the north coast (Broadwater, Bundjalung, Yuraygir and Limeburners Creek NPs) and in smaller numbers at Myall Lakes on the central coast. There are also large populations on the NSW south coast, particularly Barren Grounds NR, Budderoo NP, the Jervis Bay area and Nadgee NR. Small numbers are recorded at Morton and Ben Boyd NP and other areas on the south coast. The Ground Parrot occurs in high rainfall coastal and near coastal low heathlands and sedgelands, generally below one metre in height and very dense (up to 90% projected foliage cover).	2 – BioNet	Low – Unsuitable habitat in the Site
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	-	V	The Superb Fruit-dove occurs principally from north-eastern in Queensland to north-eastern NSW. Inhabits rainforest and similar closed forests where it forages high in the canopy, eating the fruits of many tree species such as figs and palms. It may also forage in eucalypt or acacia woodland where there are fruit-bearing trees.	2 – BioNet	Low – Unsuitable habitat in the Site
<i>Pycnoptilus floccosus</i>	Pilotbird	V	-	The pilotbird is found from the Wollemi National Park and Blue Mountains National Park in New South Wales through to the Dandenong Ranges, near Melbourne in Victoria. Its natural habitat is temperate wet sclerophyll forests and occasionally temperate rainforest, where there is dense undergrowth with abundant debris. The breeding season for the pilotbird is from August to December	PMST	Low – Unsuitable habitat in the Site, no records in the locality.
<i>Stagonopleura guttata</i>	Diamond Firetail	-	V	Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum (Eucalyptus pauciflora) Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. Nests are globular structures built either in the shrubby understorey, or higher up, especially under hawk's or raven's nests. Birds roost in dense shrubs or in smaller nests built especially for roosting.	3 – BioNet	Low – Unsuitable habitat in the Site
<i>Tyto novaehollandiae</i>	Masked Owl	-	V	Extends from the coast where it is most abundant to the western plains. Overall records for this species fall within approximately 90% of NSW, excluding the most arid north-western corner. There is no seasonal variation in its distribution.	2 – BioNet	Low – Unsuitable habitat in the Site

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				Occurs in dry eucalypt forests and woodland, typically prefers open forest with low shrub density. Requires old trees for roosting and nesting		
Mammals						
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	Forages over a broad range of open forest and woodland habitats, this species is a cave roosting bat which favours sandstone escarpment habitats for roosting, in the form of shallow overhangs, crevices and caves.	1 – BioNet, PMST	Low – Unsuitable habitat in the Site
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	E	V	Wet and dry sclerophyll forests and rainforests, and adjacent open agricultural areas. Generally associated with large expansive areas of habitat to sustain territory size. Requires hollow-bearing trees, fallen logs, small caves, rock crevices, boulder fields and rocky-cliff faces as den sites.	PMST	Low – Unsuitable habitat in the Site
<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot (eastern)	E	E	The Southern Brown Bandicoot has a patchy distribution. It is found in south-eastern NSW, east of the Great Dividing Range south from the Hawkesbury River, southern coastal Victoria and the Grampian Ranges, south-eastern South Australia, south-west Western Australia and the northern tip of Queensland. They are generally only found in heath or open forest with a heathy understorey on sandy or friable soils.	PMST	Low – Unsuitable habitat in the Site
<i>Miniopterus australis</i>	Little Bentwing-bat	-	V	Moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub. Generally found in well-timbered areas. Little Bentwing-bats roost in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and sometimes buildings during the day, and at night forage for small insects beneath the canopy of densely vegetated habitats.	4 – BioNet	Moderate – Nearby records and suitable foraging habitat is present within and adjacent to the Site
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	-	V	Occurs on east and north west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other manmade structures.	29 – BioNet	Moderate – Nearby records and suitable foraging habitat is present within and adjacent to the Site
<i>Myotis macropus</i>	Southern Myotis	-	V	Generally, roost in groups close to water in caves, mine shafts, hollow-bearing trees, and storm water channels, buildings, under bridges and in dense foliage. Forages over streams and pools catching insects and small fish.	9 – BioNet, PMST	Low – Unsuitable habitat in the Site

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
<i>Petauroides volans</i>	Greater Glider	V	-	Wide range of habitats including tall open woodland, eucalypt forests and low woodlands. They prefer habitats that are in older forests and have large number of hollows.	PMST	Low – Unsuitable habitat in the Site
<i>Phascolarctos cinereus</i>	Koala	V	V	In NSW it mainly occurs on the central and north coasts with some populations in the west of the Great Dividing Range. Inhabit eucalypt woodlands and forests. Feed on the foliage of more than 70 eucalypt species and 30 non-eucalypt species, but in any one area will select preferred browse species.	PMST	Low – Unsuitable habitat in the Site
<i>Pseudomys novaehollandiae</i>	New Holland mouse	V	-	Distribution is fragmented across all eastern states of Australia, where it inhabits open heath lands, open woodlands with heath understorey and vegetated sand dunes.	PMST	Low – the heath habitat on site is too degraded and isolated to support this species.
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	Generally found within 200 km of the eastern coast of Australia, from Rockhampton in Queensland to Adelaide in South Australia. In times of natural resource shortages, they may be found in unusual locations. Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy. Individual camps may have tens of thousands of animals and are used for mating, and for giving birth and rearing young.	588 – BioNet, PMST	High – Nearby records and suitable habitat is present within and adjacent to the Site
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	-	V	Wide-ranging species found across northern and eastern Australia. Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows.	1 – BioNet	Low – Unsuitable habitat in the Site
Reptiles						
<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	V	V	Shelters in rock crevices and under flat sandstone rocks on exposed cliff edges during autumn, winter and spring. Moves from the sandstone rocks to shelters in hollows in large trees within 200 m of escarpments in summer.	PMST	Low – Unsuitable habitat in the Site
Amphibians						
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V	V	The Giant Burrowing Frog is distributed in south eastern NSW and Victoria and appears to exist as two distinct populations: a northern population largely confined to the sandstone geology of the Sydney Basin and extending as far south as Ulladulla, and a southern population occurring from north of Narooma through to Walhalla, Victoria. Found in heath, woodland and open dry	PMST	Low – Unsuitable habitat in the Site

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				sclerophyll forest on a variety of soil types except those that are clay based. Spends more than 95% of its time in non-breeding habitat in areas up to 300 m from breeding sites. Whilst in non-breeding habitat it burrows below the soil surface or in the leaf litter. Individual frogs occupy a series of burrow sites, some of which are used repeatedly. The home ranges of both sexes appear to be non-overlapping suggesting exclusivity of non-breeding habitat. Home ranges are approximately 0.04 ha in size.		
<i>Litoria aurea</i>	Green and Golden Bell Frog	V	E	Since 1990 there have been approximately 50 recorded locations in NSW, most of which are small, coastal, or near coastal populations. These locations occur over the species' former range; however, they are widely separated and isolated. Large populations in NSW are located around the metropolitan areas of Sydney, Shoalhaven and mid north coast (one an island population). There is only one known population on the NSW Southern Tablelands. Ephemeral and permanent freshwater wetlands, ponds, dams with an open aspect and fringed by Typha and other aquatics, free from predatory fish.	8 – BioNet, PMST	Low – Unsuitable habitat in the Site
Migratory species						
<i>Ardea ibis</i>	Cattle Egret	M	-	The Cattle Egret is widespread and common according to migration movements and breeding localities surveys. Two major distributions have been located; from north-east Western Australia to the Top End of the Northern Territory and around south-east Australia. The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands.	PMST	Moderate (flyover only) – likely to use the locality, however no suitable habitat in the site.
<i>Apus pacificus</i>	Fork-tailed Swift	M	-	The Fork-tailed Swift is a non-breeding visitor to all states and territories of Australia. The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher.	PMST	Moderate (flyover only) – likely to use the locality, however no suitable habitat in the site.
<i>Cuculus optatus</i>	Oriental Cuckoo	M	-	Migrates from Eurasia as far south as Indonesia, New Guinea and North Australia. Some remain through Australia in the winter. Inhabits rainforest margins, monsoon forest, vine scrub and mangroves.	PMST	Low – Unsuitable habitat in the Site
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	M	V	Distributed along the coastline (including offshore islands) of mainland Australia and Tasmania. Found in coastal habitats (especially those close to the sea-shore) and around terrestrial wetlands in tropical and temperate regions of mainland Australia and its offshore islands. The habitats occupied by the sea-	4 – BioNet, PMST	Moderate (flyover only) – likely to use the locality, however no suitable habitat in the site.

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
				eagle are characterised by the presence of large areas of open water (larger rivers, swamps, lakes, and the sea).		
<i>Hirundapus caudacutus</i>	White-throated Needletail	V, M	-	Widespread in eastern and south-eastern Australia. Almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground. They also commonly occur over heathland but less often over treeless areas, such as grassland or swamps.	1 – BioNet, PMST	Moderate (flyover only) – A migrant that does not breed in the locality. Only likely to forage in the aerial spaces above the site. There is no suitable habitat in the site.
<i>Monarcha melanopsis</i>	Black-faced Monarch	M	-	Widespread in eastern Australia. Mainly occurs in rainforest ecosystems, including semi-deciduous vine-thickets, complex notophyll vine-forest, tropical (mesophyll) rainforest, subtropical (notophyll) rainforest, mesophyll (broadleaf) thicket/shrubland, warm temperate rainforest, dry (monsoon) rainforest and (occasionally) cool temperate rainforest.	PMST	Low – Unsuitable habitat in the Site
<i>Monarcha trivirgatus</i>	Spectacled Monarch	M	-	Occurs along the entire east coast of Australia. Breeds in dense scrub in gullies of coastal ranges.	PMST	Low – Unsuitable habitat in the Site
<i>Merops ornatus</i>	Rainbow Bee-eater	M	-	The Rainbow Bee-eater is distributed across much of mainland Australia, and occurs on several near-shore islands. It is not found in Tasmania, and is thinly distributed in the most arid regions of central and Western Australia.	PMST	Moderate (flyover only) – likely to use the locality, however no suitable habitat in the site.
<i>Motacilla flava</i>	Yellow Wagtail	M	-	Rare but regular visitor around Australian coast, especially in the NW coast Broome to Darwin. Found in open country near swamps, salt marshes, sewage ponds, grassed surrounds to airfields, bare ground; occasionally on drier inland plains.	PMST	Low – Unsuitable habitat in the Site
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	M	-	Widespread in eastern Australia and vagrant to New Zealand. Inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands, and on migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests.	PMST	Low – Unsuitable habitat in the Site
<i>Pandion haliaetus</i>	Eastern Osprey	M	V	The Osprey has a global distribution with four subspecies previously recognised throughout its range. However, recent studies have identified that there are two species of Osprey - the Western Osprey (<i>P. haliaetus</i>) with three subspecies occurring in Europe, Asia and the Americas and the Eastern Osprey (<i>P. cristatus</i>) occurring between Sulawesi (in Indonesia), Australia and New Caledonia. Eastern Ospreys are found right around the Australian coast line, except for Victoria and Tasmania.	PMST	Moderate (flyover only) – likely to use the locality, however no suitable habitat in the site.

Species	Common Name	EPBC Act	BC Act	Distribution and habitat	Data source	Likelihood of occurrence in the Site
<i>Rhipidura rufifrons</i>	Rufous Fantail	M	-	Occurs in coastal and near coastal districts of northern and eastern Australia. In east and south-east Australia, the Rufous Fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts such as Tallow-wood (<i>Eucalyptus microcorys</i>), Mountain Grey Gum (<i>E. cypellocarpa</i>), Narrow-leaved Peppermint (<i>E. radiata</i>), Mountain Ash (<i>E. regnans</i>), Alpine Ash (<i>E. delegatensis</i>), Blackbutt (<i>E. pilularis</i>) or Red Mahogany (<i>E. resinifera</i>); usually with a dense shrubby understorey often including ferns.	PMST	Moderate (flyover only) – likely to use the locality, however no suitable habitat in the site.
<p>Distribution and habitat information adapted from: Australian Government Department of Agriculture, Water and the Environment http://www.environment.gov.au/biodiversity/threatened and NSW Government Department of Planning, Industry and Environment http://www.environment.nsw.gov.au/threatenedspecies/</p> <p><u>Key:</u></p> <ul style="list-style-type: none"> • EP = endangered population • CE = critically endangered • E = endangered • V = vulnerable <p>Some species such as whales, sharks, fish, turtles, wader birds, wetland birds and marine birds were omitted from this assessment as no marine or wetland habitat for these species is present in the development site.</p>						

Appendix B - EPBC Act Protected Matters Report



Australian Government

Department of Climate Change, Energy,
the Environment and Water

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: 01-Dec-2023

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[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

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:	3
Wetlands of International Importance (Ramsar)	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	8
Listed Threatened Species:	98
Listed Migratory Species:	82

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 environment anywhere.

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 <https://www.dcceew.gov.au/parks-heritage/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:	180
Commonwealth Heritage Places:	17
Listed Marine Species:	106
Whales and Other Cetaceans:	15
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:	2
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	42
Key Ecological Features (Marine):	None
Biologically Important Areas:	3
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places [[Resource Information](#)]

Name	State	Legal Status	Buffer Status
Historic			
Bondi Beach	NSW	Listed place	In buffer area only
Bondi Surf Pavilion	NSW	Within listed place	In buffer area only
Centennial Park	NSW	Listed place	In buffer area only

Wetlands of International Importance (Ramsar Wetlands) [[Resource Information](#)]

Ramsar Site Name	Proximity	Buffer Status
Towra point nature reserve	Within 10km of Ramsar site	In feature area

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
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	Community may occur within area	In buffer area only
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community may occur within area	In feature area
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community likely to occur within area	In feature area
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community may occur within area	In buffer area only
Eastern Suburbs Banksia Scrub of the Sydney Region	Critically Endangered	Community likely to occur within area	In feature area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community may occur within area	In feature area

Community Name	Threatened Category	Presence Text	Buffer Status
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	Community may occur	In buffer area only within 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			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat likely to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat may occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Erythrotriorchis radiatus Red Goshawk [942]	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
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area	In feature area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area	In buffer area only
Pterodroma neglecta neglecta Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In buffer area only
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
FISH			
Epinephelus daemeli Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat known to occur within area	In buffer area only
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area	In feature area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Seriolella brama Blue Warehou [69374]	Conservation Dependent	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
FROG			
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area	In feature area
MAMMAL			
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat known to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south- eastern) [68050]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Notamacropus parma Parma Wallaby [89289]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Acacia pubescens Downy Wattle, Hairy Stemmed Wattle [18800]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Acacia terminalis subsp. Eastern Sydney (G.P.Phillips 126) listed as Acacia terminalis subsp. terminalis MS Sunshine Wattle (Sydney region) [91564]	Endangered	Species or species habitat known to occur within area	In feature area
Allocasuarina glareicola [21932]	Endangered	Species or species habitat may occur within area	In buffer area only
Allocasuarina portuensis Nielsen Park She-oak [21937]	Endangered	Species or species habitat may occur within area	In buffer area only
Asterolasia elegans [56780]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calochilus pulchellus Pretty Beard Orchid, Pretty Beard-orchid [84677]	Endangered	Species or species habitat may occur within area	In buffer area only
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat likely to occur within area	In feature area
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat may occur within area	In feature area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may occur within area	In feature area
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat may occur within area	In buffer area only
Pimelea curviflora var. curviflora [4182]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Pimelea spicata Spiked Rice-flower [20834]	Endangered	Species or species habitat may occur within area	In buffer area only
Prostanthera densa Villous Mintbush [12233]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
SHARK			
Carcharias taurus (east coast population) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Congregation or aggregation known to occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Galeorhinus galeus School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453]	Conservation Dependent	Species or species habitat may occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only

SNAIL

Meridolum maryae Maroubra Woodland Snail, Maroubra Land Snail [89884]	Endangered	Species or species habitat known to occur within area	In feature area
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Listed Migratory Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area	In buffer area only
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Ardenna grisea Sooty Shearwater [82651]		Species or species habitat likely to occur within area	In buffer area only
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In buffer area only
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area	In buffer area only
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sternula albifrons Little Tern [82849]		Breeding likely to occur within area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Migratory Marine Species			
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area	In buffer area only
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
Dugong dugon Dugong [28]		Species or species habitat may occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area	In buffer area only
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat likely to occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]		Foraging, feeding or related behaviour known to occur within area	In feature area
Calidris alba Sanderling [875]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ruficollis Red-necked Stint [860]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris tenuirostris Great Knot [862]	Critically Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area	In feature area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limicola falcinellus Broad-billed Sandpiper [842]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Limosa limosa Black-tailed Godwit [845]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Numenius phaeopus Whimbrel [849]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa brevipes Grey-tailed Tattler [851]		Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa incana Wandering Tattler [831]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area	In feature area
Xenus cinereus Terek Sandpiper [59300]		Foraging, feeding or related behaviour known to occur within area	In buffer area only

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
Commonwealth Trading Bank of Australia		
Commonwealth Land - Commonwealth Trading Bank of Australia [14325]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [14323]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [14322]	NSW	In buffer area only
Communications, Information Technology and the Arts - Australian Broadcasting Corporation		
Commonwealth Land - Australian Broadcasting Corporation [15511]	NSW	In buffer area only
Communications, Information Technology and the Arts - Australian Postal Corporation		
Commonwealth Land - Australian Postal Commission [13290]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14355]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13291]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14366]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14348]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14324]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14326]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Australian Postal Commission [14284]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14280]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14328]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14329]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14350]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [14342]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [14343]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [15898]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [16009]	NSW	In buffer area only
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian Telecommunications Commission [14279]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14327]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14281]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14356]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13293]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14285]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14351]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Corporation [13292]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Corporation [14286]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14368]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14349]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [15407]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14333]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14282]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Telstra Corporation Limited [14283]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14287]	NSW	In buffer area only
Defence		
Commonwealth Land - Defence Service Homes Corporation [14352]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14363]	NSW	In buffer area only
Defence - BANKSMEDOW DEPOT (Sydney Workshop Company) [11116]	NSW	In buffer area only
Defence - BANKSMEDOW DEPOT (Sydney Workshop Company) [11117]	NSW	In buffer area only
Defence - ENDEAVOUR HOUSE - COOGEE [11172]	NSW	In buffer area only
Defence - KENSINGTON DEPOT [11110]	NSW	In buffer area only
Defence - LADY GOWRIE HOUSE [10047]	NSW	In buffer area only
Defence - LADY GOWRIE HOUSE [10046]	NSW	In buffer area only
Defence - LADY GOWRIE HOUSE [10045]	NSW	In buffer area only
Defence - MATERIAL RESEARCH LAB [10013]	NSW	In buffer area only
Defence - RANDWICK (CARRINGTON RD) [11134]	NSW	In buffer area only
Defence - RANDWICK (CARRINGTON RD) [11132]	NSW	In buffer area only
Defence - RANDWICK (CARRINGTON RD) [11133]	NSW	In buffer area only
Defence - RANDWICK (CARRINGTON RD) [11135]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11128]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11130]	NSW	In feature area
Defence - RANDWICK BARRACKS [11126]	NSW	In feature area
Defence - RANDWICK BARRACKS [11125]	NSW	In feature area
Defence - RANDWICK BARRACKS [11129]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11131]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11124]	NSW	In feature area
Defence - RANDWICK BARRACKS [11127]	NSW	In feature area
Defence - RANDWICK FRENCHMANS TRG [11163]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - RANDWICK FRENCHMANS TRG [11162]	NSW	In buffer area only
Defence - SYDNEY UNIVERSITY REGIMENT - DARLINGTON [11094]	NSW	In buffer area only
Defence - TRESKO [10044]	NSW	In buffer area only
Defence - VICTORIA BARRACKS - PADDINGTON [11119]	NSW	In buffer area only
Defence - VICTORIA BARRACKS - PADDINGTON [11120]	NSW	In buffer area only
Defence - VICTORIA BARRACKS - PADDINGTON [11121]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11083]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11080]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11089]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11081]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11082]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11077]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11092]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11075]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11076]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11078]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11079]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11084]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11087]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11086]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11090]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11091]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11085]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11088]	NSW	In buffer area only
Defence - Defence Housing Authority		
Commonwealth Land - Defence Housing Authority [16028]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14302]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14303]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13288]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14305]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14300]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14311]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14313]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14316]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16466]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15441]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15749]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14362]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16461]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14330]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16470]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14346]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14309]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14347]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14306]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14344]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14307]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14345]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13286]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14308]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15885]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15757]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15756]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15755]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15754]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15753]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15752]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15751]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15750]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14321]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14320]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16122]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15881]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15886]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15884]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14298]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14299]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14318]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16458]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16459]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14539]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14297]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14296]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14295]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14294]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14293]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14292]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14291]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14290]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14314]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16454]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [16453]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13289]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16456]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16455]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16457]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14304]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16463]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14312]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14288]	NSW	In feature area
Commonwealth Land - Defence Housing Authority [14289]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16469]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16468]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16465]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14317]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16189]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14319]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14315]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16460]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16462]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16467]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16464]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14361]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14367]	NSW	In buffer area only
Unknown		
Commonwealth Land - [14399]	NSW	In buffer area only
Commonwealth Land - [14301]	NSW	In buffer area only
Commonwealth Land - [14354]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [14310]	NSW	In buffer area only
Commonwealth Land - [15459]	NSW	In buffer area only
Commonwealth Land - [14365]	NSW	In buffer area only
Commonwealth Land - [13285]	NSW	In buffer area only
Commonwealth Land - [13287]	NSW	In buffer area only
Commonwealth Land - [15436]	NSW	In buffer area only
Commonwealth Land - [15406]	NSW	In buffer area only
Commonwealth Land - [16562]	NSW	In buffer area only
Commonwealth Land - [15883]	NSW	In buffer area only
Commonwealth Land - [15882]	NSW	In buffer area only
Commonwealth Land - [16452]	NSW	In buffer area only
Commonwealth Land - [15503]	NSW	In buffer area only
Commonwealth Land - [11160]	NSW	In buffer area only
Commonwealth Land - [16116]	NSW	In buffer area only
Commonwealth Land - [14353]	NSW	In buffer area only

Commonwealth Heritage Places [Resource Information]

Name	State	Status	Buffer Status
Historic			
Bondi Beach Post Office	NSW	Listed place	In buffer area only
Botany Post Office	NSW	Listed place	In buffer area only
Buildings MQVB16 and VB56	NSW	Listed place	In buffer area only
Buildings VB13, 15, 16 & 17	NSW	Listed place	In buffer area only
Buildings VB41, 45 & 53	NSW	Listed place	In buffer area only
Buildings VB60 and VB62	NSW	Listed place	In buffer area only
Buildings VB69, 75 & 76 including Garden	NSW	Listed place	In buffer area only
Buildings VB83, 84, 85, 87 & 89	NSW	Listed place	In buffer area only
Buildings VB90, 91, 91A & 92	NSW	Listed place	In buffer area only
Building VB1 and Parade Ground	NSW	Listed place	In buffer area only

Name	State	Status	Buffer Status
Building VB2 Guard House	NSW	Listed place	In buffer area only
Paddington Post Office	NSW	Listed place	In buffer area only
School of Musketry and Officers Mess, Randwick Army Barracks	NSW	Listed place	In feature area
Victoria Barracks Perimeter Wall and Gates	NSW	Listed place	In buffer area only
Victoria Barracks Precinct	NSW	Listed place	In buffer area only
Victoria Barracks Squash Courts	NSW	Listed place	In buffer area only

Natural

Malabar Headland	NSW	Listed place	In buffer area only
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Listed Marine Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
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Bird

[Actitis hypoleucos](#)

Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
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[Anous stolidus](#)

Common Noddy [825]		Species or species habitat likely to occur within area	In buffer area only
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[Apus pacificus](#)

Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
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[Ardenna carneipes as Puffinus carneipes](#)

Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
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[Ardenna grisea as Puffinus griseus](#)

Sooty Shearwater [82651]		Species or species habitat likely to occur within area	In buffer area only
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[Arenaria interpres](#)

Ruddy Turnstone [872]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
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Scientific Name	Threatened Category	Presence Text	Buffer Status
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]		Foraging, feeding or related behaviour known to occur within area	In feature area
Calidris alba Sanderling [875]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ruficollis Red-necked Stint [860]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Calidris tenuirostris Great Knot [862]	Critically Endangered	Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Charadrius ruficapillus Red-capped Plover [881]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In buffer area only
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area	In feature area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Limicola falcinellus Broad-billed Sandpiper [842]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Limosa limosa Black-tailed Godwit [845]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
Numenius phaeopus Whimbrel [849]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to 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 likely to occur within area overfly marine area	In feature area
Stercorarius antarcticus as Catharacta skua Brown Skua [85039]		Species or species habitat may occur within area	In buffer area only
Sterna striata White-fronted Tern [799]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Breeding likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri platei as Thalassarche sp. nov. Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa incana as Heteroscelus incanus Wandering Tattler [831]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area overfly marine area	In feature area
Xenus cinereus Terek Sandpiper [59300]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Fish			
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area	In buffer area only
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area	In buffer area only
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area	In buffer area only
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area	In buffer area only
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	In buffer area only
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat known to occur within area	In buffer area only
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area	In buffer area only
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area	In buffer area only
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area	In buffer area only
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area	In buffer area only
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area	In buffer area only
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area	In buffer area only
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In buffer area only
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area	In buffer area only
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area	In buffer area only
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In buffer area only
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In buffer area only
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area	In buffer area only
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area	In buffer area only
Mammal			
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area	In buffer area only
Arctocephalus pusillus Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area	In buffer area only
Dugong dugon Dugong [28]		Species or species habitat may occur within area	In buffer area only
Reptile			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hydrophis platurus as Pelamis platurus Yellow-bellied Sea Snake [93517]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Whales and Other Cetaceans [Resource Information]

Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area	In buffer area only
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area	In buffer area only
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In buffer area only
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	In buffer area only
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat likely to occur within area	In buffer area only
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In buffer area only
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In buffer area only
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]	
Protected Area Name	Reserve Type	State	Buffer Status	
Bronte-Coogee	Aquatic Reserve	NSW	In buffer area only	
Malabar Headland	National Park	NSW	In buffer area only	
Nationally Important Wetlands			[Resource Information]	
Wetland Name		State	Buffer Status	
Botany Wetlands		NSW	In buffer area only	
EPBC Act Referrals			[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Construction and operation of the Westconnex New M5, Sydney, NSW	2015/7520	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Expansion of Port Botany facilities	2002/543	Controlled Action	Post-Approval	In buffer area only
Moriah War Memorial College expansion	2002/575	Controlled Action	Post-Approval	In buffer area only
Sand Reclamation to Towra Beach	2003/1085	Controlled Action	Post-Approval	In buffer area only
Southern section of the Bonnie Doon Golf Course, Pagewood, NSW	2015/7479	Controlled Action	Completed	In buffer area only
Not controlled action				
APX-East sub-sea telecommunications & data cable system	2014/7139	Not Controlled Action	Completed	In buffer area only
Australia-USA Southern Cross NEXT fibre optic cable installation	2019/8405	Not Controlled Action	Completed	In buffer area only
Botany Bay Cable Project	2007/3552	Not Controlled Action	Completed	In buffer area only
Botany Rail Duplication	2019/8566	Not Controlled Action	Completed	In buffer area only
BP/Mobil Pipeline to Kingsford Smith Airport	2000/104	Not Controlled Action	Completed	In buffer area only
Construction of a temporary film set, Malabar Headlands	2007/3939	Not Controlled Action	Completed	In buffer area only
Construction Of Two New Fuel Processing Plants On Existing Site	2003/1243	Not Controlled Action	Completed	In buffer area only
Demolition of the existing club house and construction of a new club house	2009/4932	Not Controlled Action	Completed	In buffer area only
Extension of Hale Street to Foreshore Road and Associated Works	2008/4035	Not Controlled Action	Completed	In buffer area only
Georges River Program 2	2003/999	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Industrial Subdivision	2004/1859	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Installation of Sydney-Guam Submarine Cable	2007/3848	Not Controlled Action	Completed	In buffer area only
Little Bay Residential Subdivision	2002/873	Not Controlled Action	Completed	In buffer area only
Noxious weed removal, Anzac Rifle Range	2002/761	Not Controlled Action	Completed	In buffer area only
Noxious weed removal and controlled burn	2003/1272	Not Controlled Action	Completed	In feature area
Noxious Weed Removal at Anzac Rifle Range	2004/1336	Not Controlled Action	Completed	In buffer area only
Rabbit Control Anzac Rifle Range	2005/1940	Not Controlled Action	Completed	In feature area
Rehabilitation works of the Coogee Sewer Diversion Submain - Maxwell Avenue, Mar	2004/1683	Not Controlled Action	Completed	In feature area
Rubbish removal, Anzac Rifle Range	2002/760	Not Controlled Action	Completed	In buffer area only
sewage treatment plant process and reliability renewals project	2005/2186	Not Controlled Action	Completed	In buffer area only
Shipment of Spent Nuclear Fuel to USA	2007/3672	Not Controlled Action	Completed	In feature area
Sydney Desalination Plant	2005/2331	Not Controlled Action	Completed	In feature area
Sydney Metro Network Stage 2	2010/5307	Not Controlled Action	Completed	In buffer area only
Undertake a controlled burn of the Eastern Suburbs Banksia Scrub at Byrne Cresce	2004/1728	Not Controlled Action	Completed	In feature area
Undertaking of fire protection measures for the bushland regeneration of the Ranwick Environmental P	2003/959	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
Bushland Path Through Malabar Headland West	2007/3790	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Hawaiki Fibre-Optic Submarine Cable installation	2016/7765	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
International fibre optic submarine cable installation, between Sydney and Honiara, Solomon Islands	2015/7502	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Kingsford Defence Land Subdivision and Redevelopment	2002/852	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Moriah Primary School, Centennial Park, Sydney	2004/1676	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Southern Cross Australia-New Zealand-America marine acoustic survey of the seabed	2017/7863	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Transport of OPAL Spent Fuel to France in 2018 and 2025	2016/7841	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Breeding program for Grey Nurse Sharks	2007/3245	Referral Decision	Completed	In buffer area only
Renovation and Landscape Rehabilitation of the Championship Course at Royal Sydney Golf Club	2022/9167	Referral Decision	Referral Publication	In buffer area only
Biologically Important Areas				
Scientific Name		Behaviour	Presence	Buffer Status
Dolphins				
Tursiops aduncus				
Indo-Pacific/Spotted Bottlenose Dolphin [68418]		Breeding	Likely to occur	In buffer area only
Sharks				
Carcharias taurus				
Grey Nurse Shark [64469]		Foraging	Known to occur	In buffer area only
Whales				
Megaptera novaeangliae				
Humpback Whale [38]		Foraging	Known to occur	In buffer area only

Bioregional Assessments

SubRegion	BioRegion	Website	Buffer Status
Sydney	Sydney Basin	BA website	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.

Please feel free to provide feedback via the [Contact us](#) page.

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Appendix C - Arborist report