

TECHNICAL MEMORANDUM

Likelihood of Occurrence Assessment

EPBC Act Referral

Ocean Hill Residential Development

PROJECT NUMBER	EP15-019(63)	DOC. NO.	EP15-019(63)–119 EKB
PROJECT NAME	Ocean Hill Residential Development	CLIENT	Satterley Property Group
AUTHOR	EKB	REVIEWER	RAW
VERSION	1	DATE	3/04/2025

1. INTRODUCTION

Satterley Property Group (the Proponent) proposes to progress residential development within Ocean Hill (referred to herein as the Proposed Action). The proponent is referring the Proposed Action to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

This technical memorandum provides a summary of the Matters of National Environmental Significance (MNES) relevant to the Proposed Action through a likelihood of occurrence assessment.

2. METHODS

2.1. Database searches

A search was conducted for MNES that may occur within a 10 km radius using the Protected Matters Search Tool (PMST) on 14 October 2024 (**Attachment A**).

The information contained within the following terrestrial flora and vegetation and fauna assessments completed within the project area have informed this likelihood of occurrence:

- *Spring Flora and Vegetation Assessment – Lot 101 Mandurah Road Lakelands (Emerge Associates 2014)*
- *Fauna Assessment – Lot 101 Mandurah Road (Harewood 2014)*
- *Tuart Woodland Assessment – Ocean Hill NE Precinct (Emerge Associates 2024c)*
- *Black Cockatoo Habitat Assessment – Ocean Hill NE Precinct (Emerge Associates 2024a)*.

Additionally, a site visit was undertaken by Emurge Associates on 22 April 2025 inspect the *MhTrMsS* plant community recorded by Emurge Associates (2014) and inform the likelihood of occurrence of ecological communities.

2.2. Relevant MNES

The relevant MNES has been determined based on a search of the Commonwealth’s EPBC PMST which identified MNES that could occur within a 10 km radius of the project area. A summary of the MNES relevant to the project area based on the likelihood of occurrence outcomes are summarised in **Table 1** below.

A total of 7 mammals (whales and sea lion), four reptiles (turtles), one invertebrate (Carter's Freshwater Mussel) and 11 marine species (sharks, rays and swordfish) were removed from the likelihood of occurrence assessment as there is no suitable habitat (marine habitat) present within the project area.

Table 1: Summary of MNES relevant to the project area

Matters of National Environmental Significance	MNES identified within 20 km of the Project Area based on PMST	Relevance to the Project Area
World Heritage Properties	There are no World Heritage Properties in the vicinity of the project area.	Not relevant.
National Heritage Places	Lesueur National Park occurs approximately 25 km south-east of the project area.	Not relevant.
Wetlands of International Importance (listed under the Ramsar convention)	There are two Wetlands of International Importance in the vicinity of the project area.	The wetlands identified are located approximately 10 km and 6 km, respectively from the project area and therefore the MNES is not considered relevant to the project area.
Listed Threatened Species	Sixty-eight (68) Listed Threatened Species are identified within a 10 km buffer surrounding the project area.	<ul style="list-style-type: none"> No threatened flora species pertinent to the EPBC Act were considered 'possible' or 'likely' to occur based on the habitat suitability and results recorded during the ecological surveys. 3 threatened bird species (Carnaby's Black Cockatoo, Baudin's black cockatoo and forest red-tailed black cockatoo) were considered 'likely' to occur within the project area. The remaining threatened fauna species are considered 'unlikely' to occur within the project area. The assessment of likelihood of occurrence for all species identified in the PMST search is included below in Error! Reference source not found..
Listed Threatened Ecological Communities (TEC)	Seven (7) Listed TEC are suggested to occur within a 10 km buffer to the project area.	<ul style="list-style-type: none"> One TEC ('tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain') was identified during the ecological survey to occur within the project area. The project area is otherwise not located in an area and/or does not contain suitable habitat for the remaining six TECs and therefore they were considered 'unlikely' to occur. Likelihood of occurrence for TECs are detailed in Table 3.

Table 1: Summary of MNES relevant to the

Matters of National Environmental Significance	MNES identified within 10 km of the Project Area based on PMST	Relevance to the Project Area
Listed Migratory Species (protected under international agreements)	Sixty-eight (68) Listed Migratory Species are identified within a 10 km radius of the project area.	<ul style="list-style-type: none"> One (1) migratory bird species (<i>Apus pacificus</i>) was considered 'possible' to occur in the vicinity of the project area, significant impacts are unlikely. No other migratory species pertinent to the EPBC Act were considered 'possible' or 'likely' to occur based on the habitat suitability and results recorded during the ecological surveys. The assessment of likelihood of occurrence for all species identified in the PMST search is included below in Error! Reference source not found..
Commonwealth Marine Area	The project area is not located in a Commonwealth Marine Area.	Not relevant.
Great Barrier Reef Marine Park	The project area is not located in the Great Barrier Reef Marine Park.	Not relevant.
Nuclear actions (including uranium mines)	The project area is not likely to represent a significant impact to the environment resulting from a Nuclear Action.	Not relevant.
Water resources (that relate to coal seam gas development and large coal mining development)	The project area is not a coal seam gas or coal mining development.	Not relevant.

2.3. Likelihood of occurrence

To determine likelihood of occurrence, information relating to the MNES identified using the PMST was reviewed. This has included consideration of the species profiles, characteristics/habitat preferences, management plans, recovery plans as well as historic and the recent biological surveys indicated above. Species information was compared to existing environmental data available for the project area, from various public datasets and the ecological surveys undertaken within the project area. This included consideration of factors such as geomorphology, soils, vegetation types, and historic land use, to understand the potential for MNES to occur.

An assessment of the likelihood of occurrence for the Listed Threatened Species, Migratory Species and Threatened Ecological Communities within the project area was undertaken for each species and community identified in the PMST search. Each species and community was assigned to one of the following categories:

- Recorded: the species/community has been previously recorded in the project area during a field survey.
- Likely: suitable habitat for the species/community occurs and it is likely the species/community may occur based on recent historical record/s within or nearby the project area.
- Possible: the project area contains marginal habitat and/or extent for the species/community and is located within the known distribution range for the species but there is no other information to suggest the species may occur within or nearby the project area.

- Unlikely: no suitable habitat for the species/community and/or recent literature records occur near the project area.

3. RESULTS

Error! Reference source not found. below outlines the threatened species and communities and their likelihood of occurrence informed by ecological survey results and consideration to relevant literature to factor habitat preference, sightings and historical records of the species. MNES considered likely or possible to occur have been highlighted in green.

Table 2: Threatened flora and fauna species and likelihood of occurrence

Scientific Name	Common Name	EPBC status	Habitat	Likelihood of occurrence	Justification
Birds					
<i>Actitis hypoleucos</i>	Common Sandpiper	Migratory	Edge of sheltered waters salt or fresh, e.g. estuaries, mangrove creeks, rocky coasts, near-coastal saltlakes (including saltwork ponds), river pools, lagoons, claypans, drying swamps, flood waters, dams and sewage ponds. Preferring situations where low perches are available (Johnstone & Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests the species or species habitat is known to occur within the project area. No suitable habitat (sheltered waters salt or fresh) is present within the project area for the species.
<i>Anous stolidus</i>	Common Noddy	Migratory	Tropical and subtropical seas, cayes, reefs, buoys and piles (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. The project area is highly disturbed and no suitable habitat (tropical and subtropical seas) for the species occurs within the project area.
<i>Anous tenuirostris melanops</i>	Australian Lesser Noddy	Vulnerable (Migratory)	Very common in blue-water seas around the Abrolhos (endemic to this area, accidental occurrences on lower west coast of Australia) (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. The project area is highly disturbed and no suitable habitat (blue-water seas) for the species occurs within the project area.
<i>Apus pacificus</i>	Fork-tailed Swift	Migratory	Aerial, migratory species that is most often seen over inland plains and sometimes above open areas, foothills or in coastal areas. Sometimes occurs over settled areas, including towns, urban areas and cities (Pizzey & Knight 2012).	Possible	<ul style="list-style-type: none"> PMST suggests species or species habitat is likely to occur within the project area. The Pacific swift is an aerial forager and unlikely to be dependent on any of the habitats present within the project area. The species has not been recorded during previous surveys but given its large range it is considered possible to opportunistically forage in the air above the project area or fly over on commute in search for prey. The species is highly mobile and may opportunistically fly over or forage in the Project Area for short periods of time as part of a much larger home range. The species would not breed within the project area. Any occurrence of Pacific swift in the project area would likely be in the air space and largely independent from terrestrial habitat.
<i>Ardenna carneipes</i>	Flesh-footed Shearwater, Fleishy-footed Shearwater	Migratory	Marine species that breeds on islands off south coast from near Cape Leeuwin (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests foraging, feeding or related behaviour is likely to occur within the project area. No suitable habitat (marine habitat) is present within the project area for the species.
<i>Ardenna grisea</i>	Sooty Shearwater	Vulnerable (Migratory)	Marine, migratory species that may visit south-western Australian waters from June to October (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine habitat) is present within the project area for the species.
<i>Arenaria interpres</i>	Ruddy Turnstone	Vulnerable (Migratory)	Tidal mud and reef flats, sheltered rocky coasts, stony and seaweedy beaches and sandpits, dry coral ridges (Abrolhos) and pebbly shores of near-coastal saltlakes (including saltwork ponds) (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (marine/coastal habitat) is present within the project area for the species.
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Endangered	In or over water, in tall reedbeds, sedges, rushes, cumbungi, lignum. Also occurs in ricefields, drains in tussocky paddocks and occasionally in saltmarshes and brackish wetlands (TSSC 2019).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is likely to occur within the project area. No suitable habitat is present within the project area for the species.
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	Vulnerable (Migratory)	Occurs in tidal mudflats, saltmarshes and mangroves, as well as, shallow fresh, brackish or saline inland wetlands. It is also known from floodwaters, irrigated pastures and crops, sewage ponds, saltfields (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests that roosting is known to occur within the project area. No suitable habitat is present (mudflats, saltmarshes or mangroves) within the project area for the species.
<i>Calidris alba</i>	Sanderling	Migratory	Mainly steeply shelving sandy beaches exposed to ocean swell. Also sandy inlets, estuarine sandbanks and near-coastal saltlakes (including saltwork ponds) (Johnstone & Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (marine/coastal) is present within the project area for the species.
<i>Calidris canutus</i>	Red Knot, Knot	Vulnerable (Migratory)	Mud and sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. No suitable habitat (estuaries and sheltered coasts) is present in the project area.
<i>Calidris ferruginea</i>	Curlew Sandpiper	Migratory	Mainly shallows of estuaries and near-coastal saltlakes (including saltwork ponds) and drying near-coastal freshwater lakes and swamps. Also beaches and near-coastal sewage ponds (Johnstone & Storr 1988).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. No suitable habitat is present within the project area for the species.
<i>Calidris melanotos</i>	Pectoral Sandpiper	Migratory	Mainly fresh waters (swamps, lagoons, river pools, irrigation channels and sewage ponds); also samphire flats around estuaries and saltlakes (Johnstone & Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. No suitable habitat is present within the project area for the species.
<i>Calidris pugnax</i>	Ruff	Migratory	Fresh, brackish and saline wetlands; tidal mudflats, saltfields, sewage ponds (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat is present within the project area for the species.

Table 2: Threatened flora and fauna species and likelihood of occurrence (continued)

Scientific Name	Common Name	EPBC status	Habitat	Likelihood of occurrence	Justification
Birds (continued)					
<i>Calidris ruficollis</i>	Red-necked Stint	Migratory	Tidal mudflats, saltmarshes, sandy or shelly beaches, saline and freshwater wetlands (coastal and inland), saltfields, sewage ponds (Pizzey and Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat is present within the project area for the species.
<i>Calidris subminuta</i>	Long-toed Stint	Migratory	Mainly freshwater swamps (especially when drying and where vegetation is short), river pools, lagoons and claypans; also brackish pools, sewage ponds and samphire flats around estuaries and saltlakes (Johnstone & Storr 1988).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat is present within the project area for the species.
<i>Calidris tenuirostris</i>	Great Knot	Vulnerable (Migratory)	Mud or sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds (Johnstone & Storr 1988).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat is present within the project area for the species.
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-Cockatoo, Karrak	Vulnerable	Eucalypt and Corymbia forests, often in hilly interior. More recently also observed in more open agricultural and suburban areas including Perth metropolitan area. Attracted to seeding Corymbia calophylla, Eucalyptus marginata, introduced Melia azedarach and Eucalyptus spp. trees (Johnstone et al. 2013).	Likely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. The project area occurs within the modelled distribution for the species and forest red-tailed black cockatoo do not have a defined breeding distribution but are known to breed on the Swan Coastal Plain and so may breed in the site. 2.16 ha of foraging habitat for forest red-tailed black cockatoo was mapped within the site of which 0.01 ha (0.46 %) comprises native primary plants and 2.15 ha (99.54 %) comprises native secondary plants. The project area comprises 47 habitat trees of which one contains a suitable hollow.
<i>Charadrius leschenaultii</i>	Greater Sand Plover, Large Sand Plover	Vulnerable (Migratory)	Wide sandy or shelly beaches, sandpits, tidal mudflats, reefs, sand cays, mangroves, saltmarsh, dune wilderness, bare paddocks, seldom far inland (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Charadrius mongolus</i>	Lesser Sand Plover, Mongolian Plover	Migratory	Sandy beaches and tidal estuarine flats. Also near-coastal saltlakes, including saltwork ponds (Johnstone & Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Diomedea amsterdamensis</i>	Amsterdam Albatross	Migratory	The Amsterdam albatross is a marine, pelagic seabird. It nests in open patchy vegetation (among tussocks, ferns or shrubs) near exposed ridges or hillocks (Weimerskirch et al. 1985). It sleeps and rests on ocean waters when not breeding (Marchant and Higgins 1990)	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Diomedea dabbenena</i>	Tristan Albatross	Migratory	The Tristan albatross is a marine, pelagic seabird. It forages in open water in the Atlantic Ocean near the Cape of Good Hope, South Africa. It sleeps and rests on ocean waters when not breeding (Marchant and Higgins 1990).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Diomedea epomophora</i>	Southern Royal Albatross	Vulnerable (Migratory)	Rare visitor to Western Australian seas; it breeds on subantarctic islands south of New Zealand (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Diomedea exulans</i>	Wandering Albatross	Vulnerable (Migratory)	Marine, pelagic and aerial species. It breeds on Macquarie Island and feeds in Australian portions of the Southern Ocean (DoE 2018).	Unlikely	<ul style="list-style-type: none"> PMST suggests foraging, feeding or related behaviour is likely to occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Diomedea sanfordi</i>	Northern Royal Albatross	Migratory	Species is marine, pelagic and aerial. Habitat includes subantarctic, subtropical, and occasionally Antarctic waters (Marchant & Higgins 1990). Rare visitors to south-western Australian waters.	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Gallinago megala</i>	Swinhoe's Snipe	Migratory	Wet, grassy ground; edges of reedy swamps (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (wetlands, swamps) is present within the project area for the species.
<i>Gallinago stenura</i>	Pin-tailed Snipe	Migratory	Boggy edges of vegetated wetlands; sewage and other ponds; stubbles, grasslands with shrubs, pastures (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (wetlands, ponds) is present within the project area for the species.
<i>Halobaena caerulea</i>	Blue Petrel	Vulnerable	Marine species that breeds on southern subantarctic and northern arctic islands. Only an accidental or uncommon visitor to Western Australian waters (Johnstone & Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Hydroprogne caspia</i>	Caspian Tern	Migratory	Mainly sheltered areas, estuaries (when not laden with silt) and tidal creeks; occasionally near-coastal saltlakes (including saltwork ponds) and brackish pools in lower courses of rivers; rarely fresh waters (DCCEEW 2023).	Unlikely	<ul style="list-style-type: none"> PMST suggests foraging, feeding or related behaviour known to occur within 10 km of the project area. No suitable habitat (estuaries and sheltered coasts) is present within the project area for the species.

Table 2: Threatened flora and fauna species and likelihood of occurrence (continued)

Scientific Name	Common Name	EPBC status	Habitat	Likelihood of occurrence	Justification
Birds (continued)					
<i>Leipoa ocellata</i>	Malleefowl	Vulnerable	Scrubs and thickets of Eucalyptus spp., Melaleuca lanceolata and Acacia linophylla; also other dense litter-forming shrublands. Attracted to fallen wheat in stubbles and along roads (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is likely to occur within the project area. The species is known to be extinct from the Perth region. No suitable habitat (dense litter forming shrublands) is present within the project area for the species.
<i>Limicola falcinellus</i>	Broad-billed Sandpiper	Migratory	Parts of the coast between Onslow and Broome, in estuarine mudflats, saltmarshes, shallow freshwater lagoons, saltworks and sewage farms, and in areas with large soft intertidal mudflats. They have also been recorded in creeks, swamps and lakes near the coast, particularly those with bare mudflats or sand exposed by receding water. Have been record in Augusta (DCCEEW 2023).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (estuarine, mudflats) is present within the project area for the species.
<i>Limosa lapponica</i>	Bar-tailed Godwit	Migratory	Estuarine sand and mudflats and sandy beaches with loads of seaweed; also reef flats and near-coastal saltlakes (including saltwork and sewage ponds) (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area No suitable habitat (estuarine sane and mudflats) is present within the project area for the species.
<i>Limosa lapponica menzbieri</i>	Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit	Endangered	Mainly coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. Has also been recorded in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats (Higgins and Davies 1996).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area No suitable habitat (coastal habitat) is present within the project area for the species.
<i>Limosa limosa</i>	Black-tailed Godwit	Endangered (Migratory)	Tidal mudflats, estuaries, sewage ponds, shallow river margins, brackish or saline inland lakes, flooded pastures, airfields (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (inland lakes, mudflats, ponds) is present within the project area for the species.
<i>Macronectes giganteus</i>	Southern Giant-Petrel, Southern Giant Petrel	Endangered (Migratory)	Breeds on southern subantarctic and antarctic islands. May visit Western Australian waters from February to December (mostly June to September) (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat is present within the project area for the species.
<i>Macronectes halli</i>	Northern Giant Petrel	Vulnerable (Migratory)	Breeds on subantarctic islands. May visit Western Australian water from February to September (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests foraging, feeding or related behaviour is likely to occur within 10 km of the project area. No suitable habitat is present within the project area for the species.
<i>Motacilla cinerea</i>	Grey Wagtail	Migratory	In Australia mostly near running water in disused quarries, sandy and rocky streams in escarpments and rainforests, sewage ponds, ploughed fields and airfields (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat may occur within the project area No suitable habitat is present within the project area for the species.
<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew	Critically Endangered (Migratory)	Mainly tidal mudflats; also reef flats, sandy beaches and rarely near-coastal lakes (including saltwork ponds) (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. No suitable habitat is present within the project area for the species.
<i>Numenius minutus</i>	Little Curlew, Little Whimbrel	Migratory	Dry grasslands, floodplains, margins of drying swamps; tidal mudflats, airfields, playing fields, crops, commercial saltfields, sewage ponds (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat is present within the project area for the species.
<i>Numenius phaeopus</i>	Whimbrel	Migratory	Estuaries, mangroves, tidal flats, coral cays, exposed reefs, flooded paddocks, sewage ponds, bare grasslands, sportsgrounds and lawns (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (estuaries, mudflats) is present within the project area for the species.
<i>Onychoprion anaethetus</i>	Bridled Tern	Migratory	Tropical and subtropical seas, offshore islands, rarely coasts (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests foraging, feeding or related behaviour is likely to occur within 10 km of the project area. No suitable habitat is present within the project area for the species.
<i>Pachyptila turtur subantarctica</i>	Fairy Prion (southern)	Vulnerable	Breeds on subantarctic islands and is presumed to frequent subtropical waters during non-breeding period (TSSC 2015).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat is likely to occur within 10 km of the project area. No suitable habitat is present within the project area for the species.
<i>Pandion haliaetus</i>	Osprey	Migratory	Coasts, estuaries, bays, inlets, islands, and surrounding waters; coral atolls, reefs, lagoons, rock cliffs, stacks (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests the breeding is known to occur within 10 km of the project area. No suitable habitat (coastal, estuaries) is present within the project area for the species.
<i>Phaethon rubricauda westralis</i>	Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird	Endangered	Spend most of their lives at sea and rarely venture near land. This bird is normally found in tropical and subtropical seas around northern Australia. Though rarely seen in colder areas, a few pairs breed on Sugarloaf Rock, south of Cape Naturaliste (DPAW 2017b). Are known to breed on Rottnest Island (DCCEEW 2023).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.

Table 2: Threatened flora and fauna species and likelihood of occurrence (continued)

Scientific Name	Common Name	EPBC status	Habitat	Likelihood of occurrence	Justification
Birds (continued)					
<i>Phoebastria fusca</i>	Sooty Albatross	Vulnerable (Migratory)	Marine, pelagic species that tolerates a wide range of sea surface temperatures and salinities. breeds on subtropical and subantarctic islands in the Indian and Atlantic Oceans, on vegetated cliffs and steep slopes that are sheltered from prevailing winds, often amongst tussock grass (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Pluvialis fulva</i>	Pacific Golden Plover	Migratory	Estuaries, mudflats, saltmarshes, mangroves; rocky reefs and stranded seaweed on ocean shores; margins of shallow open inland swamps; sewage ponds, short-grass paddocks, sportsgrounds, airfields, ploughed land (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (estuaries, mudflats, swamps) is present within the project area for the species.
<i>Pterodroma mollis</i>	Soft-plumaged Petrel	Vulnerable	Marine species that breeds on temperate and subantarctic islands in south Atlantic and south Indian Ocean. Visitor to West Australian waters from March to September. Rarely observed inshore (Johnstone & Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Rostratula australis</i>	Australian Painted Snipe	Endangered	Mainly shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans (Marchant and Higgins 1993).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is likely to occur within the project area. No suitable habitat (wetlands, lakes) is present within the project area for the species.
<i>Sterna dougallii</i>	Roseate Tern	Migratory	Offshore waters, islands, coral reefs, sand cays, beaches, tidal inlets (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests foraging, feeding or related behaviour is likely to occur within the project area. No suitable habitat (offshore waters) is present within the project area for the species.
<i>Sternula albifrons</i>	Little Tern	Migratory	Species is mainly coastal, being found on beaches, sheltered inlets, estuaries, lakes, sewage farms, lagoons, river mouths and deltas (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (coastal) is present within the project area for the species.
<i>Sternula nereis nereis</i>	Australian Fairy Tern	Vulnerable	Sheltered blue-water seas close to land, estuaries (when free of silt) and near-coastal lakes (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests foraging, feeding or related behaviour known to occur within the project area. No suitable habitat (coastal, estuaries) is present within the project area for the species.
<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross	Vulnerable (Migratory)	Marine species that inhabits seas of south and west coast of Western Australia and breeds on islands in the south Indian Ocean and in the south Atlantic (Johnstone & Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat is likely to occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Thalassarche cauta</i>	Shy Albatross	Endangered (Migratory)	Scarce visitor (late May to mid-October) to southwestern and western seas. Breeds on islands off Tasmania and south New Zealand (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests foraging, feeding or related behaviour is likely to occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Thalassarche impavida</i>	Campbell Albatross, Campbell Black-browed Albatross	Vulnerable (Migratory)	Scarce visitor to south-western and western Australian seas. Breeds on Campbell Island (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Thalassarche melanophris</i>	Black-browed Albatross	Vulnerable (Migratory)	Seas of south and west coasts. Visitor to Western Australian mainland from January to early November (mostly May to September). Breeds on southern subantarctic and Antarctic islands (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests foraging, feeding or related behaviour is likely to occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Thalassarche steadi</i>	White-capped Albatross	Vulnerable (Migratory)	Scarce visitor (late May to mid-October) to southwestern and western seas. Breeds on islands off Tasmania and south New Zealand (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (marine) is present within the project area for the species.
<i>Tringa brevipes</i>	Grey-tailed Tattler	Migratory	Tidal mud and reef flats, sheltered rocky coasts, stony and seaweedy beaches and sandpits, dry coral ridges (Abrolhos) and pebbly shores of near-coastal saltlakes (including saltwork ponds) (Johnstone and Storr 1998).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (tidal mud and reef flats) is present within the project area for the species.
<i>Tringa glareola</i>	Wood Sandpiper	Migratory	Mainly shallow fresh waters (lagoons, swamps, claypans, river pools, dams, bore overflows and sewage ponds); occasionally brackish swamps, rarely saltlakes and estuaries (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (shallow fresh waters) is present within the project area for the species.
<i>Tringa nebularia</i>	Common Greenshank, Greenshank	Endangered (Migratory)	Mudflats, estuaries, saltmarshes, margins of lakes, wetlands, claypans (fresh and saline), commercial saltfields, sewage ponds (Pizzey & Knight 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area No suitable habitat (fresh and saline waters) is present within the project area for the species.
<i>Tringa stagnatilis</i>	Marsh Sandpiper, Little Greenshank	Migratory	Mainly shallow fresh or brackish waters: swamps, lakes, river pools, soaks, sewage ponds and bore overflows. Occasionally estuaries and salt ponds, and rarely coasts (DCCEE 2023).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (shallow fresh or brackish waters) is present within the project area for the species.

Table 2: Threatened flora and fauna species and likelihood of occurrence (continued)

Scientific Name	Common Name	EPBC status	Habitat	Likelihood of occurrence	Justification
Birds (continued)					
<i>Tringa totanus</i>	Common Redshank, Redshank	Migratory	Sheltered coastal wetlands such as bays, river estuaries, lagoons, inlets and saltmarsh (with bare open flats and banks of mud or sand). Also found around saltlakes, freshwater lagoons, artificial wetlands and saltworks and sewage farms (Higgins & Davies 1999).	Unlikely	<ul style="list-style-type: none"> PMST suggests roosting is known to occur within 10 km of the project area. No suitable habitat (sheltered coastal wetlands) is present within the project area for the species.
<i>Zanda baudinii</i>	Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo	Endangered	Mainly eucalypt forests. Attracted to seeding <i>Corymbia calophylla</i> , <i>Banksia</i> spp., <i>Hakea</i> spp., and to fruiting apples and pears (Johnstone and Storr 1998).	Likely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. The project area occurs within the modelled distribution for the species. The project area is outside the modelled breeding distribution for the species. Limited foraging habitat is available within the project area for the species (a total of 0.03 ha of native secondary foraging habitat) (Emerge Associates 2024a).
<i>Zanda latirostris</i>	Carnaby's Black Cockatoo, Short-billed Black-cockatoo	Endangered	Mainly proteaceous scrubs and heaths and adjacent eucalypt woodlands and forests; also plantations of <i>Pinus</i> spp. Attracted to seeding <i>Banksia</i> spp., <i>Hakea</i> spp., <i>Eucalyptus</i> spp., <i>Corymbia calophylla</i> , <i>Grevillea</i> spp., and <i>Allocasuarina</i> spp. (Johnstone and Storr 1998).	Likely	<ul style="list-style-type: none"> PMST suggests the breeding is known to occur within the project area. The project area occurs within the modelled distribution for the species. The project area is approximately 2 km outside the modelled breeding distribution for the species. Limited foraging habitat is available within the project area for the species including a total of 2.17 ha of foraging habitat of which 0.02 ha (0.92 %) comprises native primary plants and 2.15 ha (99.08 %) comprises native secondary plants (Emerge Associates 2024a).
Mammals					
<i>Bettongia penicillata ogilbyi</i>	Woylie	Endangered	Woodlands and adjacent heaths with a dense understorey of shrubs, particularly <i>Gastrolobium</i> spp. (TSSC 2018). Confined to three reserves and surrounding areas in the wheatbelt of Western Australia: Dryandra Forest, Tutanning Nature Reserve and Perup Forest.	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. No suitable habitat (woodlands with a dense understorey) is present within the project area and it is highly disturbed.
<i>Dasyurus geoffroii</i>	Chuditch, Western Quoll	Vulnerable	Wide range of habitats from woodlands, dry sclerophyll forests, riparian vegetation, beaches and deserts. Appears to utilise native vegetation along roadsides in the wheatbelt (DEC 2012). Chuditch mainly occur in jarrah forests and woodlands but have also been recorded in mallee shrublands and heaths along the south coast and occasionally in dry woodland and mallee shrubland in the Wheatbelt (DEC 2012). Chuditch require large areas of native vegetation for their refuge and resource requirements. Broadly this is defined as adequate den resources (hollows logs, suitable soil for burrowing or rock crevices), adequate prey resources (particularly large invertebrates) and sizeable areas (>20,000 ha) (DEC 2012).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. No suitable habitat (jarrah forests and woodlands and/or mallee shrublands and heaths) is present within the project area and it is highly disturbed and disconnected from large areas of habitat required by the species and so is not likely to support a population.
<i>Pseudocheirus occidentalis</i>	Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit	Critically Endangered	On the Swan Coastal Plain in <i>Agonis flexuosa</i> woodlands and <i>Agonis flexuosa</i> / <i>Eucalyptus gomphocephala</i> forests. Also <i>Eucalyptus marginata</i> forests (DBCA 2017).	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is likely to occur within the project area. No suitable habitat (<i>agonis flexuosa</i> woodlands) is present within the survey area and the project area is highly disturbed.
<i>Setonix brachyurus</i>	Quokka	Vulnerable	On the mainland mostly dense streamside vegetation or shrubland and heath areas, particularly around swamps (Cronin 2007).	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. No suitable habitat (dense streamside vegetation) is present within the survey area and the project area is highly disturbed.
Plants					
<i>Andersonia gracilis</i>	Slender Andersonia	Endangered	Seasonally damp, black sandy clay flats near or on the margins of swamps.	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is likely to occur within the project area The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Banksia mimica</i>	Summer Honeypot	Endangered	Flat to gentle slopes in grey and white sand in open woodlands.	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.

Table 2: Threatened flora and fauna species and likelihood of occurrence (continued)

Scientific Name	Common Name	EPBC status	Habitat	Likelihood of occurrence	Justification
Plants (continued)					
<i>Caladenia huegelii</i>	King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid	Endangered	Well-drained, deep sandy soils in lush undergrowth in a variety of moisture levels.	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat may occur within the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Diuris drummondii</i>	Tall Donkey Orchid	Vulnerable	In low-lying depressions in peaty and sandy clay swamps.	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Diuris micrantha</i>	Dwarf Bee-orchid	Vulnerable	Dark grey-black sandy clay-loam in winter wet depressions or swamps. Often in shallow standing water.	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Diuris purdiei</i>	Purdie's Donkey-orchid	Endangered	Sand to sandy clay soils in areas subject to winter inundation.	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is likely to occur within the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Drakaea elastica</i>	Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid	Endangered	Bare patches of sand within otherwise dense vegetation in low-lying areas alongside winter-wet swamps. Typically in banksia woodland or thickets of <i>Kunzea glabrescens</i> .	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is known to occur within the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Drakaea micrantha</i>	Dwarf Hammer-orchid	Vulnerable	Open sandy patches often adjacent to winter-wet swamps.	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is likely to occur within the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Eucalyptus x balanites</i>	Cadda Road Mallee, Cadda Mallee	Endangered	Light coloured sandy soils over laterite. Habitat consists of gently sloping heathlands; open mallee woodland over shrubland (Population 2) or heathland with emergent mallees (population 1)	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Morelotia australiensis</i>	Southern Terraria	Vulnerable	Sand over clay, winter wet depressions and drainage lines.	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Synaphea</i> sp. Fairbridge Farm (D.Papenfus 696)	Selena's Synaphea	Critically Endangered	Sandy with lateritic pebbles. Near winter-wet flats, in low woodland with weedy grasses.	Unlikely	<ul style="list-style-type: none"> PMST suggests species or species habitat is likely to occur within the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Synaphea</i> sp. Pinjarra Plain (A.S.George 17182)	null	Endangered	White grey clayey sand on edges of seasonally inundated low lying areas.	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.
<i>Synaphea</i> sp. Serpentine (G.R.Brand 103)	null	Critically Endangered	Seasonally damp areas, loam - sand.	Unlikely	<ul style="list-style-type: none"> PMST suggests species of species habitat may occur within 10 km of the project area. The project area is highly disturbed and the species was not considered likely to occur based on ecological survey results (Emerge Associates 2014). Therefore the species is not considered to be present within the project area.

Table 3: Threatened Ecological Communities and likelihood of occurrence

Community Name	EPBC Status	Habitat/Description	Likelihood of occurrence	Reason
Ecological communities				
Banksia Woodlands of the Swan Coastal Plain	Endangered	The Conservation Advice (Threatened Species Scientific Committee 2016) states that Banksia Woodland TEC “typically occurs on well drained, low nutrient soil on sandplain landforms, particularly deep Bassendean and Spearwood sands and occasionally on Quindalup sands”, and that the community “is also common on sandy colluvium and aeolian sands of the Ridge Hill Shelf, Whicher Scarp and Dandaragan Plateau; and may also occur in other limited scenarios” (DoEE 2016).	Does not occur	<ul style="list-style-type: none"> PMST suggests the ecological community is likely to occur within the project area. No vegetation that meets the description or key diagnostic criteria of this TEC was identified to occur within the project area based on review of the Spring Flora and Vegetation Assessment (Emerge Associates 2014).
Clay Pans of the Swan Coastal Plain	Critically Endangered	The Conservation Advice states that the TEC “generally occurs as a shrubland (less commonly as a low, open woodland) over a ground layer of geophytes, herbs and sedges which are characteristic of the wetter parts of the sites”, and that “a distinctive feature of these clay pan wetlands is the suite of geophytes and annual flora that germinates, grows and flowers sequentially as these areas dry over summer, producing a floral display for over three months. The clay pans have very high species richness, a number of local endemics and are the most floristically diverse of the Swan Coastal Plain wetlands”.	Does not occur	<ul style="list-style-type: none"> PMST suggests the ecological community is likely to occur within 10 km of the project area. No vegetation that meets the description of this TEC was identified to occur within the project area based on review of the Spring Flora and Vegetation Assessment (Emerge Associates 2014).
Empodisma peatlands of southwestern Australia	Endangered	The Conservation Advice states that the TEC “is typically a sedgeland to shrubland vegetation complex on peaty substrates that almost always includes the perennial grass-like twig rush <i>Empodisma gracillimum</i> (tanglefoot)” and that “ <i>Empodisma</i> peatlands provide habitat for a diverse range of hydrophilic species, including threatened, regionally endemic, and relictual flora and fauna species”.	Does not occur	<ul style="list-style-type: none"> PMST suggests the ecological community may occur within 10 km of the project area. No vegetation that meets the description of this TEC was identified to occur within the project area based on review of the Spring Flora and Vegetation Assessment (Emerge Associates 2014).
Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion	Critically Endangered	The Conservation Advice stated that the TEC is an “assemblage of plants, animals and other organisms associated with a type of warm temperate shrubland or heath, dominated by <i>Melaleuca huegelii</i> (chenille honeymyrtle), <i>M. systema</i> (coastal honeymyrtle), and/or <i>Banksia sessilis</i> (parrot bush)” and that the TEC “is a shrub-dominated ecological community, with sclerophyll shrubs forming thickets or heaths, above a typically diverse ground layer of herbs, including sedges, Restionaceae and occasional grasses”.	Unlikely	<ul style="list-style-type: none"> PMST suggests the ecological community may occur within the project area. The <i>MhTrMsS</i> plant community has similarity to the TEC due to the presence of <i>Melaleuca systema</i> and <i>Melaleuca huegelii</i> shrubs and outcropping limestone (Emerge Associates 2014). However, species diversity recorded was low and the project area and adjacent areas are highly disturbed, with vegetation condition ranging from completely degraded to good (Emerge Associates 2014). An additional site visit was undertaken by ecologists from Emerge on 22 April 2025 to inspect the <i>MhTrMsS</i> plant community and inform the likelihood of occurrence of the TEC. It was noted that the area is dominated by <i>M. huegelii</i> and <i>M. systema</i> with one or two scattered <i>Acacia lasiocarpa</i> and <i>Spyridium globulosum</i> shrubs. The ground layer contained weedy herbs (<i>Trachyandra divaricata</i>) and grasses (<i>Avena barbata</i>), with small patches of <i>Desmocladius flexuosus</i> in some areas and was otherwise bare and very open. The ground layer was heavily grazed and trampled by kangaroos, so considered unlikely to support a variety of native herbs or form a mossy ground cover. The degraded nature of the area as a result of historic land uses within and adjacent to the project area is considered to have permanently impacted the vegetation present. Based on the above, the TEC may have occurred previously within the area but current vegetation present within the site does not meet the diagnostic criteria as per the conservation advice. As such, the TEC is considered unlikely to occur within the project area.
Sedgelands in Holocene dune swales of the southern Swan Coastal Plain (floristic community type 19 as originally described in Gibson et al. 1994)	Endangered	The Conservation Advice states that the TEC “is primarily an assemblage of sedge and shrub species occurring in seasonally inundated, linear wetlands (damplands and occasionally sumplands under the WA geomorphic classification system (Semenuk & Semenuk 1995; Semenuk & Semenuk 2011a) in swales on sands or sandy-loams, between Holocene dunes”.	Does not occur	<ul style="list-style-type: none"> PMST suggests the ecological community is known to occur within 10 km of the project area. No vegetation that meets the description of this TEC was identified to occur within the project area based on review of the Spring Flora and Vegetation Assessment (Emerge Associates 2014).

Table 3: Threatened Ecological Communities and likelihood of occurrence (continued)

Community Name	EPBC Status	Habitat/Description	Likelihood of occurrence	Reason
Ecological communities				
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	The Conservation Advice states that the TEC “consists of organisms including and associated with saltmarsh in coastal regions of sub-tropical and temperate Australia” and that the TEC’s physical environment “is coastal areas under regular or intermittent tidal influence”.	Does not occur	<ul style="list-style-type: none"> PMST suggests the ecological community is likely to occur within 10 km of the project area. No vegetation that meets the description of this TEC was identified to occur within the project area based on review of the Spring Flora and Vegetation Assessment (Emerge Associates 2014).
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain	Critically Endangered	Tuart (Eucalyptus gomphocephala) woodland and forests of the Swan Coastal Plan TEC, listed in July 2019 as a Critically Endangered TEC under the EPBC Act and Priority 3 listed by DBCA. Mostly confined to Quindalup Dunes and Spearwood Dunes from Jurien Bay to the Sabina River, with outliers along some rivers and the Bassendean dunes and Pinjarra Plain. Tuart is the key dominant canopy species however Tuart communities comprise a variety of flora and fauna assemblages. Trees commonly co-occurring with Tuart include <i>Agonis flexuosa</i> (peppermint), <i>Banksia grandis</i> , <i>Banksia attenuata</i> , <i>Eucalyptus marginata</i> ; and less commonly, <i>Corymbia calophylla</i> , <i>Banksia menziesii</i> and <i>Banksia prionotes</i> . An understorey of native plants is typically present, which may include grasses, herbs and shrubs (DoEE 2019).	Recorded	<ul style="list-style-type: none"> PMST suggests the ecological community is likely to occur within the project area. The Tuart Woodland Assessment Emerge Associates (2024c) identified 9.92 ha of Tuart Woodland TEC occurring within the project area. No vegetation that meets the description or key diagnostic criteria of this TEC was identified to occur within the Project Area as part of the Detailed Flora and Vegetation Assessment (Emerge Associates 2024b).

4. CONCLUSIONS

Information from available databases and comprehensive flora and fauna surveys were used to assess the likelihood of occurrence of each identified MNES.

None of the conservation significant flora species identified within the PMST database search were considered 'likely' or 'possible' to occur within the project area based on the lack of preferred habitat, historic and current disturbance and/or because they were not identified during the ecological surveys.

One TEC, *Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain*, identified in the MNES search is present within the project area and no other TECs are considered likely or possible to occur.

Of the 68 fauna species identified in the PMST search, three threatened and one migratory species was considered 'possible' or 'likely' to occur based on suitable habitat identified within the project area:

- *Zanda baudinii* (Baudin's black cockatoo) - suitable foraging habitat was recorded within the project area.
- *Zanda latirostris* (Carnaby's black cockatoo) – suitable foraging habitat was recorded within the project area.
- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo - suitable foraging habitat and potentially suitable breeding habitat was recorded within the project area.
- *Apus pacificus* (fork-tailed swift) – may opportunistically fly over the project area on commute or in search of prey.

The remainder of the conservation significant fauna species identified in the PMST were considered 'unlikely' to occur in the project area due to a lack of suitable or preferred habitat, because the project area lies outside of the species known distribution, and/or it has been confirmed through targeted survey that they do not occur within the project area.

5. References

The references listed below have been considered as part of preparing this document.

Department of Environment and Energy (DoEE) 2016, *Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community*, Canberra.

Department of Environment and Energy (DoEE) 2019, *Approved Conservation Advice (incorporating listing advice) for the Tuart (Eucalyptus gomphocephala) woodlands and forests of the Swan Coastal Plain ecological community*, Canberra.

Emerge Associates 2014, *Spring Flora and Vegetation Assessment - Lot 101 Mandurah Road Lakelands*.

Emerge Associates (Emerge Associates) 2024a, *Black Cockatoo Habitat Assessment - Ocean Hill NE Precinct*. EP15-019(60)--099, 1.

Emerge Associates 2024b, *Detailed Flora and Vegetation Assessment - Parron Wind Farm Development Support*, EP23-085(01)--006 MS, Version 1.

Emerge Associates (Emerge Associates) 2024c, *Tuart Woodland Assessment - Ocean Hill NE Precinct*. EP15-019(59)--097 MS, 1.

Harewood, G. 2014, *Fauna Assessment of Lot 101 Mandurah Road*.

Attachment A: PMST 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: 14-Oct-2024

[Summary](#)

[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:	None
Wetlands of International Importance (Ramsar)	2
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	7
Listed Threatened Species:	68
Listed Migratory Species:	68

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:	36
Commonwealth Heritage Places:	None
Listed Marine Species:	94
Whales and Other Cetaceans:	12
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:	15
Regional Forest Agreements:	None
Nationally Important Wetlands:	2
EPBC Act Referrals:	38
Key Ecological Features (Marine):	2
Biologically Important Areas:	9
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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

Ramsar Site Name	Proximity	Buffer Status
Becher point wetlands	Within Ramsar site	In feature area
Peel-yalgorup system	Within Ramsar site	In feature area

Commonwealth Marine Area [[Resource Information](#)]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name	Buffer Status
Commonwealth Marine Areas (EPBC Act)	In buffer area only

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
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area	In feature area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area	In buffer area only
Empodisma peatlands of southwestern Australia	Endangered	Community may occur within area	In buffer area only
Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion	Critically Endangered	Community may occur within area	In feature area
Sedgeland in Holocene dune swales of the southern Swan Coastal Plain	Endangered	Community known to occur within area	In buffer area only
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In buffer area only
Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species

[\[Resource Information \]](#)

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Ardena grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area	In buffer area only
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	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]	Vulnerable	Roosting known to occur within area	In buffer area only
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	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 known to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may 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
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area	In feature area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 likely to occur within area	In buffer area only
Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat may 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
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
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 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
Zanda baudinii listed as Calyptorhynchus baudinii Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736]	Endangered	Species or species habitat known to occur within area	In feature area
Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding known to occur within area	In feature area

MAMMAL

Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat known to occur within area	In feature area
Dasyurus geoffroi Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area	In buffer area only
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat may occur within area	In buffer area only
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Setonix brachyurus Quokka [229]	Vulnerable	Species or species habitat may occur within area	In buffer area only

OTHER

Scientific Name	Threatened Category	Presence Text	Buffer Status
Westralunio carteri Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
PLANT			
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat likely to occur within area	In feature area
Banksia mimica Summer Honeypot [82765]	Endangered	Species or species habitat may occur within area	In buffer area only
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat may occur within area	In feature area
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat likely to occur within area	In feature area
Drakaea elastica Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat known to occur within area	In feature area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Eucalyptus x balanites Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat may occur within area	In buffer area only
Morelotia australiensis listed as Tetraria australiensis Southern Tetraria [92784]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Synaphea sp. Fairbridge Farm (D.Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Synaphea sp. Pinjarra Plain (A.S.George 17182) [86878]	Endangered	Species or species habitat may occur within area	In buffer area only
Synaphea sp. Serpentine (G.R.Brand 103) [86879]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
REPTILE			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
SHARK			
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat likely 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
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In feature area
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

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 may 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 feature area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may 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
Hydroprogne caspia Caspian Tern [808]		Foraging, feeding or related behaviour known to 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
Onychoprion anaethetus Bridled Tern [82845]		Foraging, feeding or related behaviour likely 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
Sterna dougallii Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Sternula albifrons Little Tern [82849]		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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to 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 steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Marine Species			
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 likely to occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]		Species or species habitat 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
Carcharias taurus Grey Nurse Shark [64469]		Species or species habitat likely 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
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Breeding known to occur within area	In buffer area only
Lamna nasus Porbeagle, Mackerel Shark [83288]		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
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area	In buffer area only
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In buffer area only
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area	In feature area
Calidris alba Sanderling [875]		Roosting known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]	Vulnerable	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
Calidris pugnax as Philomachus pugnax Ruff [91256]		Roosting known to occur within area	In buffer area only
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area	In buffer area only
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area	In buffer area only
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting 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]	Endangered	Roosting 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]		Roosting likely to occur within area	In buffer area only
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area	In buffer area only
Tringa totanus Common Redshank, Redshank [835]		Roosting 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
Unknown		
Commonwealth Land - [50566]	WA	In buffer area only
Commonwealth Land - [50595]	WA	In buffer area only
Commonwealth Land - [50596]	WA	In buffer area only
Commonwealth Land - [50634]	WA	In buffer area only
Commonwealth Land - [51492]	WA	In buffer area only
Commonwealth Land - [50599]	WA	In buffer area only
Commonwealth Land - [50600]	WA	In buffer area only
Commonwealth Land - [51114]	WA	In buffer area only
Commonwealth Land - [50608]	WA	In buffer area only
Commonwealth Land - [50601]	WA	In buffer area only
Commonwealth Land - [50632]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [50426]	WA	In buffer area only
Commonwealth Land - [51109]	WA	In buffer area only
Commonwealth Land - [50429]	WA	In buffer area only
Commonwealth Land - [50637]	WA	In buffer area only
Commonwealth Land - [50547]	WA	In buffer area only
Commonwealth Land - [50540]	WA	In buffer area only
Commonwealth Land - [50541]	WA	In buffer area only
Commonwealth Land - [50542]	WA	In buffer area only
Commonwealth Land - [50546]	WA	In buffer area only
Commonwealth Land - [50578]	WA	In buffer area only
Commonwealth Land - [50535]	WA	In buffer area only
Commonwealth Land - [50536]	WA	In buffer area only
Commonwealth Land - [50533]	WA	In buffer area only
Commonwealth Land - [50529]	WA	In buffer area only
Commonwealth Land - [50589]	WA	In buffer area only
Commonwealth Land - [50534]	WA	In buffer area only
Commonwealth Land - [50530]	WA	In buffer area only
Commonwealth Land - [51112]	WA	In buffer area only
Commonwealth Land - [50554]	WA	In buffer area only
Commonwealth Land - [50537]	WA	In buffer area only
Commonwealth Land - [50662]	WA	In buffer area only
Commonwealth Land - [50414]	WA	In buffer area only
Commonwealth Land - [50644]	WA	In buffer area only
Commonwealth Land - [50624]	WA	In buffer area only
Commonwealth Land - [50627]	WA	In buffer area only

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area	In buffer area only
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Ardenna grisea as Puffinus griseus Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area	In buffer area only
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]	Vulnerable	Roosting known to occur within area	In feature area
Calidris alba Sanderling [875]		Roosting known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 pugnax as Philomachus pugnax Ruff [91256]		Roosting known to occur within area overfly marine area	In buffer area only
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area overfly marine area	In buffer area only
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting 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 known to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area	In buffer area only
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area overfly marine area	In buffer area only
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may 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
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area overfly marine area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Roosting 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
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area	In buffer area only
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting 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
Motacilla cinerea Grey Wagtail [642]		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]		Roosting likely to occur within area overfly marine area	In buffer area only
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area	In buffer area only
Onychoprion anaethetus as Sterna anaethetus Bridled Tern [82845]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area	In buffer area only
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Puffinus assimilis Little Shearwater [59363]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area overfly marine area	In buffer area only
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 dougallii Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Sternula albifrons as Sterna albifrons Little Tern [82849]		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 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 steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area overfly marine area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area	In buffer area only
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area overfly marine area	In buffer area only
Fish			
Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area	In buffer area only
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
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
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area	In buffer area only
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area	In buffer area only
Hippocampus subelongatus West Australian Seahorse [66722]		Species or species habitat may occur within area	In buffer area only
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area	In buffer area only
Lissocampus caudalis Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area	In buffer area only
Lissocampus fatiloquus Prophet's Pipefish [66250]		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
Mitotichthys meraculus Western Crested Pipefish [66259]		Species or species habitat may occur within area	In buffer area only
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phycodurus eques Leafy Seadragon [66267]		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
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area	In buffer area only
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		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
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
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area	In buffer area only
Vanacampus poecilolaemus Longsnout Pipefish, Australian Longsnout Pipefish, Long-snouted Pipefish [66285]		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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat may occur within area	In buffer area only
Reptile			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour 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 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 likely to occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Caperea marginata Pygmy Right Whale [39]		Species or species habitat 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	Breeding known to occur within area	In buffer area only
Grampus griseus Risso's Dolphin, Grampus [64]		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 may 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
Creery Island	Nature Reserve	WA	In buffer area only
Goegrup Lake	Nature Reserve	WA	In buffer area only
NTWA Bushland covenant (0014)	Conservation Covenant	WA	In buffer area only

Protected Area Name	Reserve Type	State	Buffer Status
NTWA Bushland covenant (0077)	Conservation Covenant	WA	In buffer area only
Port Kennedy Scientific Park	Nature Reserve	WA	In buffer area only
Shoalwater Islands	Marine Park	WA	In buffer area only
Unnamed WA35283	Nature Reserve	WA	In buffer area only
Unnamed WA41102	5(1)(h) Reserve	WA	In buffer area only
Unnamed WA44004	Nature Reserve	WA	In buffer area only
Unnamed WA44986	Nature Reserve	WA	In buffer area only
Unnamed WA45089	Nature Reserve	WA	In buffer area only
Unnamed WA46661	Nature Reserve	WA	In buffer area only
Unnamed WA50750	Nature Reserve	WA	In buffer area only
Unnamed WA51945	5(1)(h) Reserve	WA	In buffer area only
Unnamed WA51946	5(1)(h) Reserve	WA	In buffer area only

Nationally Important Wetlands [\[Resource Information \]](#)

Wetland Name	State	Buffer Status
Barraghup Swamp	WA	In buffer area only
Becher Point Wetlands	WA	In buffer area only

EPBC Act Referrals [\[Resource Information \]](#)

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Marine Route Survey for Subsea Fibre Optic Data Cable System - Australia West	2024/09826		Completed	In buffer area only
Controlled action				
'Lakelands East' residential development, Mandurah, WA	2013/7048	Controlled Action	Post-Approval	In feature area
Clearing of 12.8ha of native vegetation on Lots 19 and 20, Sixty Eight Road, Baldivis, WA	2016/7661	Controlled Action	Post-Approval	In buffer area only
Construction of New Perth Bunbury Highway project	2005/2193	Controlled Action	Post-Approval	In feature area
Halls Head Shopping Centre stages 2 & 3 expansion	2010/5636	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Lot 505 Hungerford Avenue, Halls Head, WA Residential Development	2009/4789	Controlled Action	Post-Approval	In buffer area only
Mandurah Junction Commercial and Residential Development	2010/5410	Controlled Action	Completed	In buffer area only
Mixed Use Residential and Commercial Development	2009/4919	Controlled Action	Post-Approval	In buffer area only
Parklands West Estate Development	2010/5693	Controlled Action	Post-Approval	In buffer area only
Proposed Urban Development	2008/3984	Controlled Action	Post-Approval	In buffer area only
Residential Development Lot 518 Stock Road, Stakehill, WA	2019/8483	Controlled Action	Assessment Approach	In buffer area only
Residential development of Lot 105 Stock Road, Lakelands, WA	2017/8041	Controlled Action	Post-Approval	In feature area
Sand Mining	2010/5522	Controlled Action	Completed	In buffer area only
Urban Development Ravendale Drive, Coodanup Drive & Wanjeep Street	2011/5928	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
'Looping 10' gas transmission pipeline from Kwinana to Hopelands	2005/2212	Not Controlled Action	Completed	In buffer area only
Bushfire Mitigation Works - City of Mandurah	2020/8674	Not Controlled Action	Completed	In buffer area only
Construction of Secret Harbour High School	2004/1489	Not Controlled Action	Completed	In feature area
Demolish and replace Old Mandurah Traffic Bridge, Mandurah, WA	2015/7415	Not Controlled Action	Completed	In buffer area only
Eradication of the European House Borer, Perth metropolitan area, WA	2009/5027	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
Karnup Sand Mining Project, Stakehill Road, Baldivis, WA	2015/7533	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Kennedy Bay urban development, Port Kennedy, WA	2014/7122	Not Controlled Action	Completed	In buffer area only
Kennedy Park Estate Residential Development	2003/1044	Not Controlled Action	Completed	In feature area
Lot 101 Mandurah Road, Madora Bay, WA	2012/6466	Not Controlled Action	Completed	In feature area
Montessori School Lot 11 and 700 Karnup Rd, Karnup, WA	2017/8034	Not Controlled Action	Completed	In buffer area only
Residential development, Lot 179 and part Lot 180 Riverside Dr, and Lot 198 Ronlyn Rd, Furnissdale,	2016/7799	Not Controlled Action	Completed	In buffer area only
Residential development of Lot 9501 Muzzlewood Street, Baldivis, WA	2016/7775	Not Controlled Action	Completed	In buffer area only
Residential Subdivision, Lot 90 Leisure Way, Halls Head, WA	2018/8175	Not Controlled Action	Completed	In buffer area only
Urban development, Lot 805 Mandurah Road, Karnup, WA	2015/7481	Not Controlled Action	Completed	In buffer area only
urban residential development	2006/2924	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Construction of Mandurah Entrance Road	2009/4692	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Multipurpose development stage 1 within 340ha	2004/1913	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
South West Metropolitan Railway Project	2003/1175	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Referral decision				
Kennedy Bay Urban Development, Port Kennedy, Rockingham	2013/7022	Referral Decision	Completed	In buffer area only
Lakelands Station	2020/8718	Referral Decision	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Referral decision				
Lot 877 Stakehill Road, Karnup	2021/8887	Referral Decision	Completed	In buffer area only

Key Ecological Features

[[Resource Information](#)]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region	Buffer Status
Commonwealth marine environment within and adjacent to the west coast inshore lagoons	South-west	In buffer area only
Western rock lobster	South-west	In buffer area only

Biologically Important Areas

[[Resource Information](#)]

Scientific Name	Behaviour	Presence	Buffer Status
Seabirds			
Ardena pacifica Wedge-tailed Shearwater [84292]	Foraging (in high numbers)	Known to occur	In buffer area only
Eudyptula minor Little Penguin [1085]	Foraging (provisioning young)	Known to occur	In buffer area only
Hydroprogne caspia Caspian Tern [808]	Foraging (provisioning young)	Known to occur	In buffer area only
Onychoprion anaethetus Bridled Tern [82845]	Foraging (in high numbers)	Known to occur	In buffer area only
Puffinus assimilis tunneyi Little Shearwater [59363]	Foraging (in high numbers)	Known to occur	In buffer area only
Sterna dougallii Roseate Tern [817]	Foraging	Known to occur	In feature area
Sternula nereis Fairy Tern [82949]	Foraging (in high numbers)	Known to occur	In buffer area only

Whales

Scientific Name	Behaviour	Presence	Buffer Status
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Migration	Known to occur	In buffer area only
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur	In buffer area only

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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