Nelly Bay Dredging

EPBC Self-Assessment

Townsville City Council

143 Walker Street
Townsville QLD 4810

Prepared by:

SLR Consulting Australia

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Basis of Report

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Acronyms and Abbreviations

AASS	Actual Acid Sulfate Soil
ALA	Atlas of Living Australia
ALAN	Artificial Lighting at Night
AQP	Appropriately Qualified Person
ASS	Acid Sulfate Soils
ASSMP	Acid Sulfate Soils Management Plan
BIA	Biologically Important Area
CITES	Convention on International Trade in Endangered Species
DMMF	Dredge Material Management Facility
DMP	Dredge Management Plan
DMPF	Dredge Management Plan Framework
EA	Environmental Authority
EPBC	Environmental Protection and Biodiversity Conservation
GBR	Great Barrier Reef
GBRMP	Great Barrier Reef Marine Park
GBRMPA	Great Barrier Reef Marine Park Authority
GBRNHP	Great Barrier Reef National Heritage Place
GBRWHA	Great Barrier Reef World Heritage Area
GWM	Gurambilbarra Wulgurukaba Mada
LAT	Lowest Astronomical Tide
LED	Light Emitting Diode
MNES	Matters of National Environmental Significance
NAGD	National Assessment Guidelines for Dredging
NCA	Nature Conservation Act 1992
NCVA	National Conservation Values Atlas
NSW	New South Wales
PASS	Potential Acid Sulfate Soils
QLD	Queensland
SAP	Sampling and Analysis Plan
SEQ	South East Queensland
SPAM	Sediment Plume-Associated Monitoring
TCC	Townsville City Council
TEC	Threatened Ecological Community
TMP	Traffic Management Plan
UNESCO	United Nations Educational, Scientific and Cultural Organisation

1.0 Introduction

Townsville City Council (TCC) is planning to undertake maintenance dredging within Nelly Bay Harbour on Magnetic Island (the Project). This is required to ensure the canal and associated access channels are fit for safe navigation. Since the previous maintenance dredging campaign was completed in 2011, sediment deposited from Gustav Creek has built up in the harbour triggering the need for TCC to undertake further maintenance dredging of up to of 7,000 m³ to achieve the design depth of -2.566 m Lowest Astronomical Tide (LAT). The Project involves the dredging of three areas within the harbour (Gustav Creek, the Bridge Area, and Marina Bay; Figure 1-1). The Project also involves the transfer of the dredged material to the Dredge Material Management Facility (DMMF) at 55-57 Kelly Street, Magnetic Island (Figure 1-2) for treatment and stockpiling.

TCC has secured the required local and state government approvals for the Project and a Marine Park Permit from the Great Barrier Reef Marine Park Authority (GBRMPA).

Due to the proximity of the Project to the Great Barrier Reef and potential presence of threatened species, the Project has the potential to impact on Matters of National Environmental Significance (MNES) protected under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). A previous desktop assessment identified that an EPBC referral would not be necessary (SMEC pers. Comm. 2024) as:

- All dredging would be occurring underwater within the harbour and not impact on existing marine environments.
- The Great Barrier Reef Marine Park Authority (GBRMPA) that has mandate of the Great Barrier Reef Marine Park (GBRMP) in and around the harbour determined that all the works would be occurring in TCC responsible land and would not be impacting on the GBRMP since it is an enclosed harbour.
- No clearing would be occurring at the DMMF, and on-land spoil management would prevent contamination at Kelly Street.

However, no formal assessment of potential impacts to MNES was completed as part of this assessment. Due to the proximity and high risk of impact to sensitive matters, TCC have commissioned SLR to complete an EPBC Self-assessment to determine if the Project may have a significant impact on EPBC matters as a result of the proposed works.

This report provides the results of the EPBC Self-assessment.

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NELLY BAY DREDGING
EPBC SELF-ASSESSMENT

TARGETED DREDGE AREAS WITHIN NELLY BAY HARBOUR

Figure 1-1

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Figure 1-2 Location of TCC Dredge Material Management Facility (55-77 Kelly Street).

1.1 Study Area

Nelly Bay Harbour and 55-57 Kelly Street are considered the Study Area for this investigation, as it is considered that impacts from dredging on water and sediment quality will be limited to within the Harbour, and 55-57 Kelly Street where the DMMF will be located (Figure 1-1 and Figure 1-2).

Nelly Bay is located on the eastern side of Magnetic Island, within the TCC local government area, approximately 8-11 km offshore from the Townsville. Townsville is the major population centre for tropical north-east Queensland, and ferries travel from Townsville to Magnetic Island daily, landing at Nelly Bay Ferry Terminal within Nelly Bay Harbour. In addition to the ferry terminal, the harbour also contains commercial and recreation berths and a two-laned boat ramp. Boating access is via a narrow entrance channel.

Magnetic Island is about 5,184 ha in size, contains around 40 km of coastline with about half of the island (2,533 ha) and much of the elevated country protected (under the Queensland *Nature Conservation Act 1992*; NCA) as the Magnetic Island National Park, and designated Conservation Parks (Commonwealth of Australia 2010).

Magnetic Island is part of the Great Barrier Reef World Heritage Area (GBRWHA) and Great Barrier Reef National Heritage Place (GBRNHP) and is surrounded by the GBRMP. These areas are renowned for their unique natural attributes and enormous scientific and environmental importance. A number of sensitive marine ecosystems, communities and species occur within the GBRMP and adjacent to Magnetic Island, these include (Commonwealth of Australia 2010; SMEC 2023b):

- Seagrass meadows, mangrove and intertidal soft sediments, rocky foreshores and coral reefs.
- Transient habitat for important and threatened species including dugong, humpback whale, the Australian snubfin dolphin, Indo-Pacific humpback dolphin, loggerhead turtle, green turtle and flatback turtle.
- Permanent water, a wide range of wetland habitats, very rich food resources and sheltered roosting and breeding sites, which is exceptionally important for waterbirds.

These ecosystems provide valuable habitat for a wide variety of flora and fauna, including species of conservation, cultural, commercial and recreational fisheries value, and including a wide variety of marine mammals, reptiles, fin-fish, sharks, rays and invertebrates.

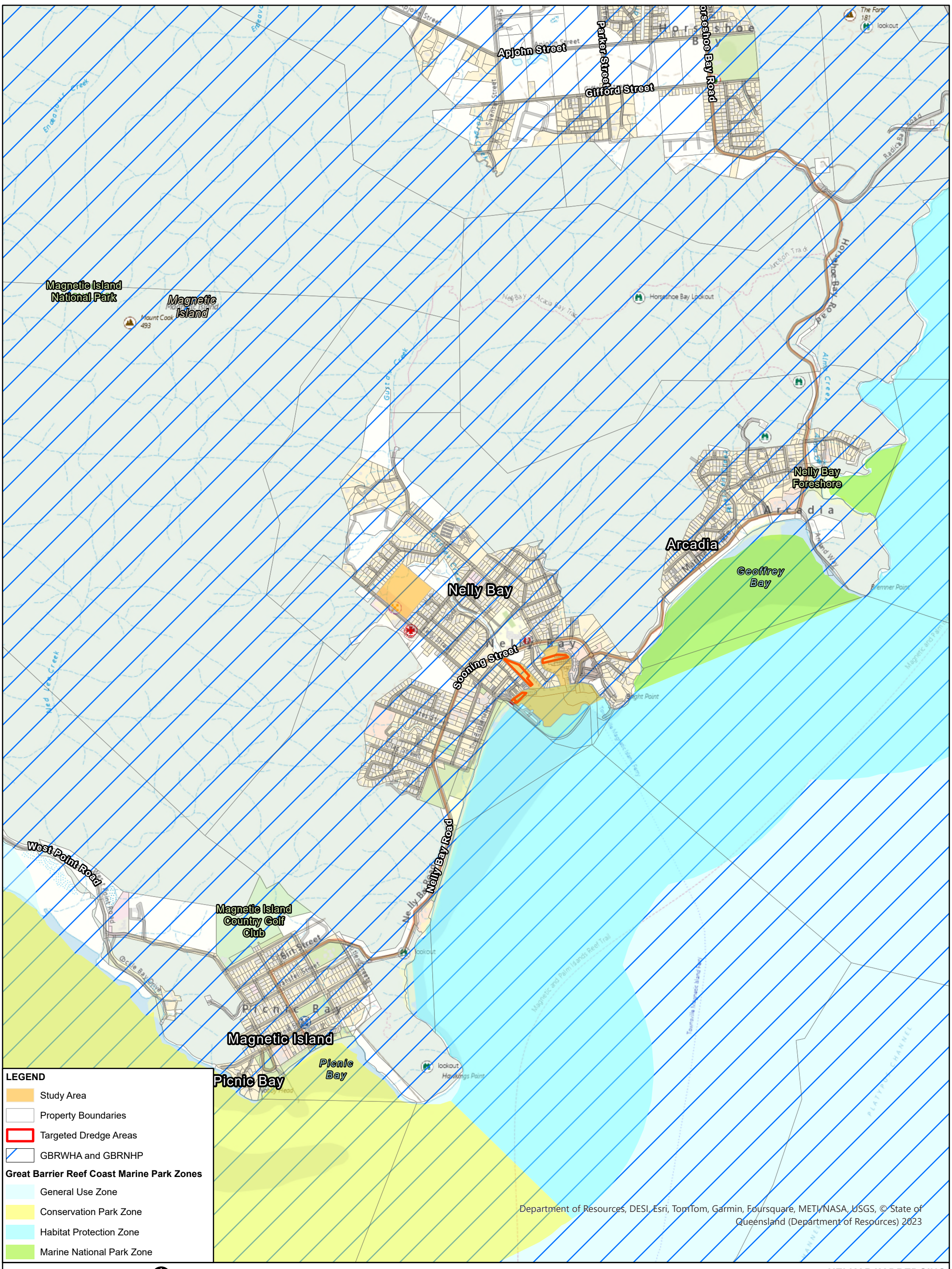
Estuarine and marine ecosystems, such as those around Magnetic Island, are interconnected patches of habitat linked actively through the movement of organisms, and passively through the waterborne transport of primary production. While individual habitat types, such as coral reefs, mangroves, seagrass and saltmarsh are recognised for their ecological importance, connectivity between habitat types is also of prime importance.

Inshore coral reefs and seagrass meadows are particularly susceptible to declines in water quality from climate change (i.e. increasing water temperature, intensity of extreme weather events, and ocean acidification) and catchment activities (BDTB 2005), such as land-based runoff of nutrients, sediments and pesticides (State of Queensland 2018). In particular, increased suspended particulate matter from runoff is a major threat to coral reefs and seagrass due to its impact on water clarity (i.e. decrease in photosynthetic activity) and smothering through deposition.

While these sensitive marine ecosystems are present throughout the GBRMP, surveys of Nelly Bay Harbour have not identified any marine plants, coral reefs or other unique marine ecosystems within the harbour (SMEC 2023b). Coastal waters adjacent to Nelly Bay Harbour are mapped as a Habitat Protection Zone under the GBRMP Zoning (Commonwealth of Australia 2010; Queensland Government 2025 (accessed 4 February 2025)), however in accordance with the *Great Barrier Reef Marine Park Act 1975*, the Habitat Protection Zone is expected to extend to within the Harbour (GBRMPA pers. comm.; Figure 1-3). The Habitat Protection Zone adjacent to Nelly Bay Harbour comprises the Nelly Bay Reef, which extends around Bright Point to Geoffrey Bay. There are a number of shipwrecks and plane wrecks in the vicinity of Nelly Bay, with the shipwreck ‘Presto’ located within the Nelly Bay Harbour but outside of the proposed works area (Figure 1-4).

Magnetic Island also has a diverse array of terrestrial ecological communities, and supports several endemic species such as skipper butterflies and the Sadlier’s skink. The island is mostly covered by eucalypt woodland and low woodlands of acacias and mixed deciduous species, with small pockets of vine thicket occurring in sheltered gullies and on rock scree. Hoop pines and native kapok are also distinctive characteristic of the island (Commonwealth of Australia 2010).

The DMMF operations involving the treatment and stockpiling of dredged material will be limited to the southeastern portion of 55-77 Kelly Street. This area has been previously cleared, is mapped as non-remnant vegetation and is bordered by residential development to the southeast and northwest, Kelly Street to the southwest and cleared parkland to the northeast.



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NELLY BAY DREDGING
EPBC SELF-ASSESSMENT

LOCATION OF THE GBRWHA, GBRNHP AND GBRMP, AND ZONES IN THE GBRMP

Figure 1-3

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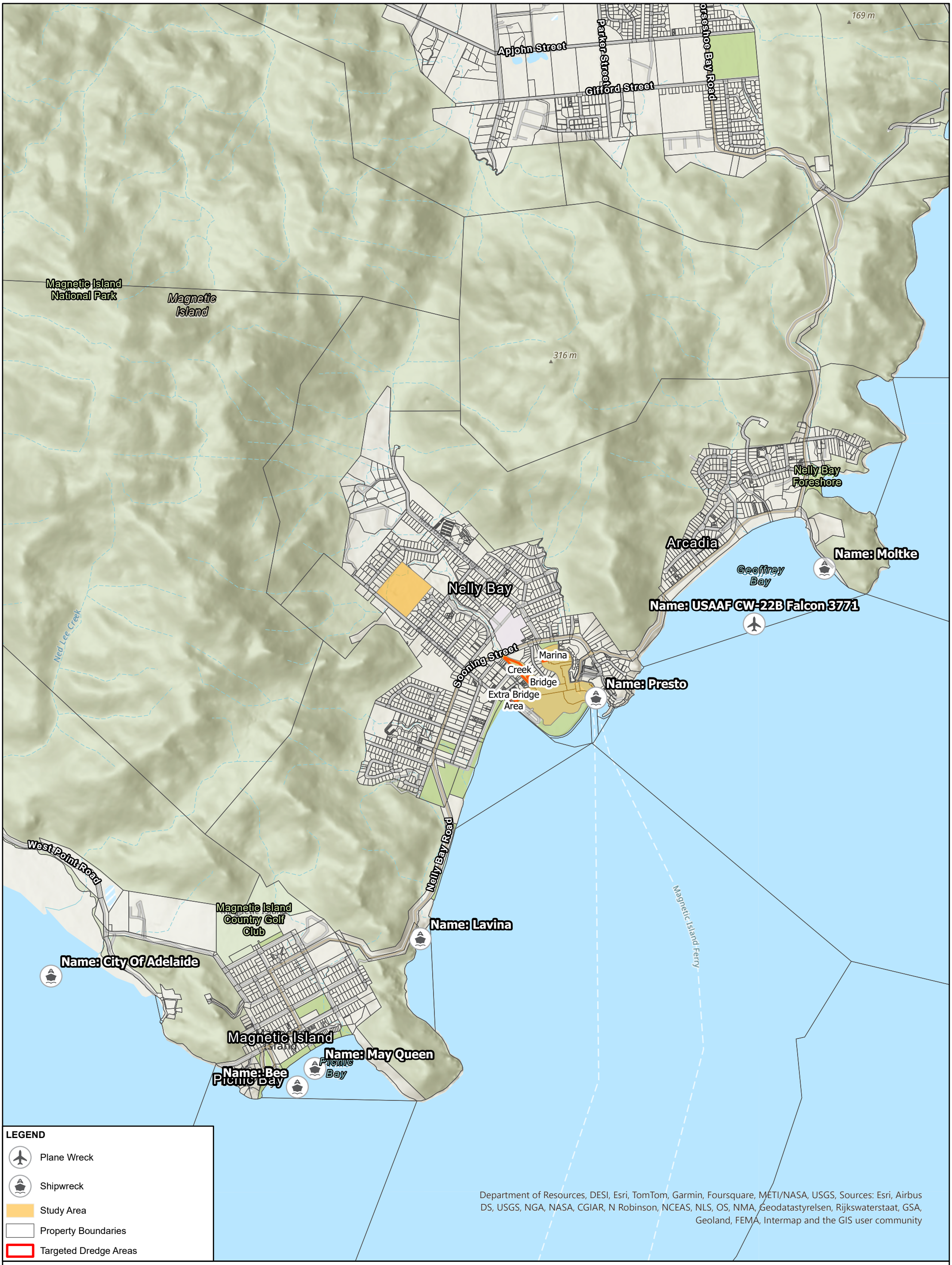

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NELLY BAY DREDGING
EPBC SELF-ASSESSMENT

SHIPWRECKS AND PLANE WRECKS NEAR THE STUDY AREA

Figure 1-4

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2.0 Matters of National Environmental Significance (MNES)

The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places — defined in the EPBC Act as MNES.

MNES comprise:

- World heritage properties.
- National heritage places.
- Wetlands of international importance (listed under the Ramsar Convention).
- Listed threatened species and ecological communities.
- Migratory species protected under international agreements.
- Commonwealth marine areas.
- the Great Barrier Reef Marine Park.
- Nuclear actions (including uranium mines).
- A water resource, in relation to coal seam gas development and large coal mining development.

The Protected Matters Search Tool (DCCEEW 2025c) and WildNet online database (DETSI 2025) were used to determine what MNES may be present within a 1 km radius of the dredging works within Nelly Bay Harbour (Appendix B) and DMMF at 55-77 Kelly Street, (Appendix C).

MNES listed by the PMST and the WildNet database that may be impacted by the dredging activities in Nelly Bay Harbour comprise:

- the Great Barrier Reef World Heritage Property.
- the Great Barrier Reef National Heritage Place.
- the Great Barrier Reef Marine Park.
- Listed threatened species
- Listed migratory species.

MNES listed by the PMST and the WildNet database that may be impacted by the DMMF at 55-77 Kelly Street comprise:

- Listed threatened ecological communities.
- Listed threatened species.
- Listed migratory species.

The Project is not a:

- Nuclear action
- Water resource in relation to coal seam gas development or large coal mining development.

There are no Ramsar wetlands of International Importance within 1 km of the works.

2.1 Listed Threatened Ecological Communities, Threatened Species and Migratory Species

The likelihood that listed threatened ecological communities, listed threatened species and listed migratory species are present in the area potentially impacted by the Project (i.e. dredging of Nelly Bay Harbour and the DMMF at 55-77 Kelly Street) was assessed using the criteria in Table 2-1. Results of this assessment are presented in Appendix A and summarised in

Table 2-2 to Table 2-5.

Table 2-1 Criteria used to assess the likelihood of occurrence of a species in the area that may be impacted.

Likelihood of occurrence	Definition
Nil	The species has not been recorded in the area, and habitat is not suitable for it to occur.
Low	The: • occurrence is infrequent and transient. • existing database records are considered historic, invalid or based only on predictive habitat modelling. • species is considered locally extinct • suitable habitat does not exist for the species, or • despite a low likelihood based on the above criteria, the species cannot be totally ruled out of occurring.
Moderate	The species is known to occur, but their presence is of vagrant nature, with no or minimal core habitat in the area.
High	The species is known to occur (has been recorded) and there is core habitat in the area.

Table 2-2 Likelihood of occurrence of threatened ecological communities within the Study Area.

Ecological community	EPBC status	Likelihood of occurrence
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	Nil

Table 2-3 Likelihood of occurrence of marine conservation significant species within the Study Area.

Common name	Genus and species	EPBC status[1]	NCA status[1]	Likelihood of occurrence
Marine Mammals				
Blue whale	*Balaenoptera musculus*	E, M	–	Nil
Marine Reptiles				
Green turtle	*Chelonia mydas*	V, M	V	Moderate
Hawksbill turtle	*Eretmochelys imbricata*	V, M	E	Moderate
Leatherback turtle	*Dermochelys coriacea*	E, M	E	Low
Loggerhead turtle	*Caretta caretta*	E, M	E	Low
Olive ridley turtle	*Lepidochelys olivacea*	E, M	E	Low
Flatback turtle	*Natator depressus*	V, M	V	Moderate
Fish				
Freshwater sawfish	*Pristis pristis*	V, M	–	Low
Green sawfish	*Pristis zijsron*	V, M	–	Low
Sharks and Rays				
Great white shark	*Carcharodon carcharias*	V, M	–	Low
Scalloped hammerhead	*Sphyrna lewini*	CD	–	Low
Whale shark	*Rhincodon typus*	V, M	–	Low

[1] CE = Critically Endangered, CD = Conservation Dependent, E = Endangered, V = Vulnerable, M = Migratory, – = No Classification

Table 2-4 Likelihood of occurrence of terrestrial conservation significant flora and fauna species within the Study Area

Common name	Genus and species	EPBC status[1]	NCA status[1]	Likelihood of occurrence
Flora				
Granite Nightshade	*Solanum graniticum*	E	E	Nil
-	*Tephrosia leveillei*	V	LC	Nil
Birds				
Ruddy Turnstone	*Arenaria interpres*	V	V	Low
Sharp-tailed Sandpiper	*Calidris acuminata*	V, M	V	Low
Red Knot	*Calidris canutus*	V, M	V	Low
Curlew Sandpiper	*Calidris ferruginea*	CE, M	CE	Low
Greater Sand Plover	*Charadrius leschenaultii*	V, M	V	Low
Red Goshawk	*Erythrotriorchis radiatus*	E	E	Low
White-bellied Storm-petrel	*Fregetta grallaria grallaia*	V	V	Low
Latham's Snipe	*Gallinago hardwickii*	V, M	V	Low
White-throated Needletail	*Hirundapus caudacutus*	V, M	V	Low
Nunivak Bar-tailed Godwit	*Limosa lapponica baueri*	E	E	Low
Star Finch	*Neochmia ruficauda ruficauda*	E	E	Low
Eastern Curlew	*Numenius madagascariensis*	CE, M	CE	Low
Australian Painted Snipe	*Rostratula australis*	E	E	Low
Common Greenshank	*Tringa nebularia*	E	E	Low
Mammals				
Northern Quoll	*Dasyurus hallucatus*	E	E	Low
Ghost Bat	*Macroderma gigas*	V	E	Low
Greater Glider (northern)	*Petauroides minor*	V	V	Low
Greater Glider (southern and central)	*Petauroides Volans*	E	V	Low
Koala	*Phascolarctos cinereus*	E	E	Moderate
Bare-rumped Sheath-tailed Bat	*Saccolaimus saccolaimus nudicluniatus*	V	E	Low

[1] CE = Critically Endangered, CD = Conservation Dependent, E = Endangered, V = Vulnerable, M = Migratory
– = No Classification

Table 2-5 Likelihood of occurrence of listed migratory species within the Study Area

Common name	Genus and species	EPBC status[1]	NCA status[1]	Likelihood of occurrence
Marine Mammals				
Australian humpback dolphin	*Sousa sahulensis*	M	V	Moderate
Australian snubfin dolphin	*Orcaella heinsohni*	M	V	Moderate
Blue whale	*Balaenoptera musculus*	E, M	–	Nil
Bryde's whale	*Balaenoptera edeni*	M	LC	Nil
Dugong	*Dugong dugon*	M	V	Moderate
Killer whale	*Orcinus orca*	M	LC	Low
Humpback whale	*Megaptera novaeangliae*	M	LC	Low
Marine Reptiles				
Flatback turtle	*Natator depressus*	V, M	V	Moderate
Green turtle	*Chelonia mydas*	V, M	V	Moderate
Hawksbill turtle	*Eretmochelys imbricata*	V, M	E	Moderate
Leatherback turtle	*Dermochelys coriacea*	E, M	E	Low
Loggerhead turtle	*Caretta caretta*	E, M	E	Low
Salt-water crocodile	*Crocodylus porosus*	M	V	Moderate
Olive ridley turtle	*Lepidochelys olivacea*	E, M	E	Low
Migratory Marine Birds				
Common Noddy	*Anous stolidus*	M	SL	Low
Fork-tailed Swift	*Apus pacificus*	M	SL	Low
Lesser Frigatebird	*Fregata ariel*	M	SL	Low
Great Frigatebird	*Fregata minor*	M	SL	Low
White-tailed Tropicbird	*Phaethon lepturus*	M	SL	Low
Little Tern	*Sternula albifrons*	M	SL	Low
Migratory Terrestrial Species				
Oriental Cuckoo	*Cuculus optatus*	M	SL	Moderate
White-throated Needletail	*Hirundapus caudacutus*	V, M	V	Low
Yellow Wagtail	*Motacilla flava*	M	SL	Low
Migratory Wetland Species				
Common Sandpiper	*Actitis hypoleucos*	M	SL	Low
Sharp-tailed Sandpiper	*Calidris acuminata*	V, M	V	Low
Red Knot	*Calidris canutus*	V, M	V	Low
Curlew Sandpiper	*Calidris ferruginea*	CE, M	CE	Low
Pectoral Sandpiper	*Calidris melanotos*	*M*	SL	Low
Greater Sand Plover	*Charadrius leschenaultii*	V, M	V	Low
Latham's Snipe	*Gallinago hardwickii*	V, M	V	Low

Common name	Genus and species	EPBC status[1]	NCA status[1]	Likelihood of occurrence
Bar-tailed Godwit	*Limosa lapponica*	M	E	Low
Eastern Curlew	*Numenius madagascariensis*	CE, M	CE	Low
Osprey	*Pandion haliaetus*	M	SL	Low
Common Greenshank	*Triga nebularia*	M	E	Low
Fish				
Freshwater sawfish	*Pristis pristis*	V, M	–	Low
Green sawfish	*Pristis zijsron*	V, M	–	Low
Narrow sawfish	*Anoxypristis cuspidata*	M	–	Low
Sharks and Rays				
Giant manta ray	*Mobula birostris*	M	–	Nil
Great white shark	*Carcharodon carcharias*	V, M	–	Low
Grey Nurse Shark	Carcharias taurus	M	–	Nil
Mackerel shark	*Lamna nasus*	M	–	Nil
Oceanic whitetip shark	*Carcharhinus longimanus*	M	–	Nil
Reef manta ray	*Mobula alfredi*	M	–	Low
Whale shark	*Rhincodon typus*	V, M	–	Low

[1] CE = Critically Endangered, CD = Conservation Dependent, E = Endangered, V = Vulnerable, M = Migratory
– = No Classification

3.0 Summary of Potential Impacts Pathways and Management Measures

3.1 Potential Impacts

The primary risks associated with dredging of Nelly Bay Harbour and the DMMF include:

1. Seabed disturbance through the physical removal of the substrate and its associated flora and fauna from the dredge site.
2. The suspension of fine sediment in the water column which can form plumes 'down current' of the dredge site, as a result of dredging and placement works, and the resulting blanketing and water quality impacts from the settling of sediment in the plume areas.
3. Marine incidents involving vessels, oil or fuel spills, collisions with large marine fauna, or spillage/leaks of material during dredging activities.
4. Translocation of marine pests on dredging plant / machinery, as listed in Commonwealth of Australia (2010).
5. Noise, air, light and vibration emissions that have an adverse impact on the health and behaviour of sensitive flora and fauna.
6. The contamination of soil and groundwater at the DMMF from storage of dredge material, as listed in Commonwealth of Australia (2010), and the potential for impacts on vegetation health and adjacent surface water quality runoff.
7. Translocation of terrestrial weeds and pest to the DMMF.
8. The clearing of vegetation at the DMMF that may contain habitat that supports MNES, as listed in Commonwealth of Australia (2010).
9. Vehicle incidents involving vessels, oil or fuel spills, collisions with wildlife, or spillage/leaks of material in transit to the DMMF.
10. Impacts on areas of cultural significance, such as aboriginal cultural heritage items, places, areas or archaeological sites protected by the *Aboriginal and Cultural Heritage Act 2003* or shipwrecks, planewrecks and other items of national heritage.

In accordance with the EPBC MNES Significant Impact Guidelines (DoE 2013), dredging to maintain existing navigational channels is not be expected to have a significant impact on the environment where the activity is undertaken as part of normal operations and the disposal of spoil does not have a significant impact.

3.2 Management Measures

Potential impacts during the dredge works will be mitigated and managed through the Dredge Management Plan (SLR Consulting 2025) and the Dredge Management Plan Framework (DMPF; SMEC 2023b). The management measures that will be actioned as part of the DMP and DMPF are summarised in Appendix D, with an assessment against the key potential impacts provided below.

3.2.1 Seabed Disturbance

The removal of the substrate and its associated marine habitat (including flora and fauna) is unavoidable in order to carry out the approved works, and thus are accepted impacts. However, no marine plants have been observed within Nelly Bay Harbour during previous surveys, and given that any habitat developed at the proposed dredge locations within the harbour have recovered from multiple previous dredge disturbances, any impacts from the disturbance of the seabed is likely to be temporary and minimal.

3.2.2 Suspension of Fine Sediment

As there is no key marine habitat (e.g. seagrass or coral reef) within Nelly Bay Harbour, environmental harm from the resuspension of fine sediments can only occur to marine habitat located outside of Nelly Bay Harbour. Therefore, management measures are proposed to reduce the extent of any sediment plume and have suitable tolerance to ensure there is no risk of impact outside of Nelly Bay Harbour.

Thus, to manage the impacts from the suspension of fine sediment, the Project will implement management measures outlined in the DMP, such as:

- Ensure dredging and material unloading is undertaken within the approved areas only by reference to electronic navigation aids and visual marks as required.
- Observe all site-specific requirements, which may influence dredging times (e.g. tides, wind direction and velocity etc.).
- Install silt curtains around designated dredge areas to contain turbidity plumes associated with active dredging.
- Provide geofabric for unloading location of the barges to mitigate spillage onto rock wall/kerbing
- Treatment and management of dredge material as per ASSMP and erosion and sediment control plan.
- Cease work where sediment plumes exceed 25 m or are observed outside of Nelly Bay Harbour, with management actions to be implemented in accordance with the DMP.

The effectiveness of these management measures will be assessed during the implementation of the Project, through monitoring outlined within the DMP. Specifically:

- Monitor visually for turbid plumes, specifically for turbid plumes occurring outside of silt curtains, at all times.
- Monitor visually for turbid plumes at monitoring locations and the frequency outlined in the Sediment Plume-Associated Monitoring (SPAM) Plan by an Appropriately Qualified person (AQP).
- Monitor turbidity at monitoring locations and the frequency outlined in the SPAM by an AQP.
- Monitor for other potential sources of sediment plumes within the Nelly Bay Harbour (e.g. other boats and ferries).
- Implementation of low, moderate and high trigger and alert levels.

3.2.3 Marine Incidents

Vessels working within marine conditions can impact on the marine ecosystem of Nelly Bay Harbour through the release of chemicals (such as fuels) or disturbance of / impacts to marine fauna (such as collisions or disruptions to mammals and reptiles). To manage these potential impact pathways the following measures outlined in the DMP and GBRMPA permit are proposed:

- For potential impacts to marine fauna:
  - Only dredge in approved areas (i.e. designated dredge areas).
  - A 300 m radius around the dredge area (observation zone) will be observed by a suitably trained Marine Fauna Observer (MFO) for a minimum of 30 minutes before commencing maintenance dredging.
  - Maintenance dredging will not commence if marine fauna of significance are observed within the observation zone until at least 30 minutes after the last individual has been sighted within the observation zone, or the dredge has moved to another dredging area where it can maintain a minimum distance of 300 m between the dredge and any marine fauna of significance.
  - Silt curtains will be installed around designated dredge areas to reduce interactions with marine fauna of significance.
  - Maintain watch for marine fauna of significance in high risk areas and take necessary action (such as ceasing dredging) when risk of collision exists in order to minimise marine fauna capture.
  - Marine fauna of significance to be monitored within the observation zone by a MFO for 30 minutes prior to the commencement of works, and when silt curtains are moved or modified.
  - No dredging during coral spawning events with likely coral spawning dates to be confirmed with GBRMPA if maintenance dredging activities are likely to occur in October/November.
  - Implementation of low, moderate and high trigger and alert levels.
- For potential impacts from spills:
  - Storage of fuel:
    - Establish areas for the safe storage and use of fuel, oils, chemicals, or fluids.
    - Minimise the quantities of hazardous substances, fuel, oil and chemicals stored onboard.
    - Ban smoking within 5 m of dangerous goods storage areas.
    - Deploy appropriate spill kit equipment onboard where hydrocarbons and chemicals are stored or used at all, and ensure oil, fuel or chemical spills are cleaned-up promptly and effectively to minimise water contamination.
  - Dredge and Barge Washdown:
    - Conduct washdown of dredge deck, dredge head/bucket and/or barge only occur within the designated area.
    - Release only dredge material as a result of dredge/barge washing activities (i.e. no release of oil or other contaminants).
    - Conduct sweeping of deck in preference to washing where possible.

3.2.4 Translocation of Marine Pests

No marine species are listed as Restricted Matters under the *Biosecurity Act 2014,* however, there are some marine pest species that are established in Queensland waters and could occur within the Study Area. This includes the white colonial sea squirt and the black scar oyster (The State of Queensland 2020), with the white colonial sea squirt recorded near the Study Area.

To minimise the potential translocation of marine pests to Nelly Bay Harbour the following management measures will be implemented:

- Ballast water:
  - Ballast water will be managed in accordance with the *Biosecurity Act 2015.*
  - Retain ballast tanks filled with freshwaters without treatment.
  - If discharge of ballast tanks holding seawater is required for safety purposes, exchange any ballast tanks prior to arrival with seawaters at a location as distant from the coastline or other shallow (<100 m) areas as possible, but not less than 12 nm.
- Use of local (Qld) boats where available.
- Only washdown dredge deck, dredge head/bucket and/or barge in the designated area (e.g. adjacent to the unload location).
- Release only dredge material as a result of dredge/barge washing activities (i.e. no release of oil or other contaminants).
- Conduct sweeping of deck in preference to washing where possible.
- Dredge contractor to take reasonable steps to prevent the introduction of marine pests into the GBRMP and the transfer of pests between locations within the GBRMP.
- Summary of potential marine pests (including photographs and descriptions) to be compiled by AQP, referred to in start-up meetings by Dredge Contractor and kept on board vessels for reference.
- Report any observations of contamination, or of marine organisms foreign to the current location of the dredge while washing the dredge/barge immediately to the TCC Project Manager and/or regulator (i.e. DETSI), where required.

3.2.5 Noise, Air, Light and Vibration Emissions

Noise, air, light and vibration emissions from the Project can have an adverse impact on the environmental values of the Study Area by causing changes in the behaviour of fauna. These potential impacts include (but are not limited to):

- Avoidance of the area due to excessive noise and vibration levels
- Changes in water quality from the settling of air pollutants impacting on nearby marine ecosystems
- Artificial lighting at night (ALAN) disorienting marine turtle hatchlings and deterring nesting females
- Excessive vibrations causing damage to marine organisms health, such as impacts to their swim bladder

To minimise the potential impacts from noise, air, light and vibration emissions, the following management measures will be implemented:

- Noise
  - Maintain all noise generating plant/equipment as per manufacturers' specifications and fit with standard noise control equipment (e.g. original mufflers, engine covers and attenuators).
  - Inform dredge crew to minimise noise where possible when the dredge is operating in a particularly noise sensitive environment.
  - No unnecessary use of horns or other audible signals on mobile plant/equipment.
  - Conduct maintenance dredging activities during daytime so that noise will travel a shorter distance and be less noticeable compared to background noise.
  - Avoid early morning and night works.
  - Ensure that there are periods during the day when activities cease, even for a short period (e.g. lunch, morning tea, afternoon tea).
  - Limit the idle time of equipment / vehicles at the operation.
- Air quality
  - Maintain all combustion plant, particularly engines and generators as per manufacturers' specifications.
  - Adjust trim and ballast appropriately to ensure effective operation.
- Light
  - All works to be completed in daylight hours
  - Maintain all lighting as per manufacturers' specifications.
  - Use Light Emitting Diode (LED) lighting, where practicable, to provide more direct illumination of tasks and reduce light spill.
  - Minimise use of external vessel lighting unless required for safety purposes.
- Vibration
  - Maintain all plant/equipment as per manufacturers' specifications.

3.2.6 Contamination at DMMF

Material in each dredge area, mainly sand, clays and silts, has been sampled according to an approved Sediment Sampling and Analysis Plan (SAP; SMEC 2022a); assessed against the National Assessment Guidelines for Dredging (NAGD; Commonwealth of Australia 2009); and classified for approval for land placement (see Nelly Bay Harbour Maintenance Dredging Campaign Sediment Investigation Report; SMEC 2022b). It is noted that updated sampling is to occur prior to the commencement of the Project.

In accordance with Table 2 (page 18) of the Magnetic Island EPBC Act Policy Statement (Commonwealth of Australia 2010), an impact to MNES from the 'dumping of spoil' is not expected where best-practice management of PASS and Actual Acid Sulfate Soils (AASS) for subsurface excavation are implemented.

Dredge material will be managed in accordance with the Acid Sulphate Soil Management Plan (ASSMP; SMEC 2023a), which is in accordance with the State Planning Policy, the National Acid Sulfate Soil Sampling and Identification Methods Manual (Sullivan et al. 2018) and the Queensland Acid Sulfate Soil Technical Manual and Soil Management Guidelines (Dear et al. 2023).

Specifically, the dredge material will be unloaded at the DMMF into pre-established bunded areas that have been classified into separate areas: Untreated, Currently Being Treated, Treated, and Load Out. In accordance with the Queensland Acid Sulfate Soil Technical Manual (Dear et al. 2023), PASS material will be treated with Aglime until the soil is neutralised to a safe pH level. Ongoing inspections and monitoring will take place in accordance with the ASSMP to ensure the soil remains neutral and is not leaking out from the bunded areas. No tailwater release is proposed or expected to occur from the placement of dredge material at the DMMF.

Once deemed safe for land disposal by a suitably qualified individual, stockpiled dredge material at the DMMF will be used as beach nourishment material and top fill when it is required by TCC on Magnetic Island.

The effectiveness of these management measures will be assessed during the implementation of the Project, through monitoring outlined within the ASSMP. Specifically:

- Visual inspections to ensure the soil remains neutral and is not leaking out from the bunded areas.
- Visual inspections of nearby vegetation to identify any change in vegetation condition.
- Monitoring of pH of soil and groundwater.
- Implementation of low, moderate and high trigger and alert levels, in accordance with the DMP.

3.2.7 Translocation of Terrestrial Weeds or Pests to the DMMF

The Project activities and associated frequent vehicle movements may allow weeds to spread within the Study Area and nearby environment.

New weed species may be introduced into the Study Area by machinery or topsoil/mulch sourced from elsewhere, or other vectors such as runoff or aerial dispersal.

Weeds can also be prevalent due to heavy land degradation from previous land use.

To minimise the potential translocation of terrestrial weeds and pests the following management measures will be implemented:

- All materials (e.g. gravel and sand) brought on site are from weed-free sources.
- Implement weed monitoring and weed control measures:
    - Ensure weed washdown compliance.
    - Minimise vegetation and soil disturbance to reduce rate of weed invasion.
    - Minimise bare ground with mulch and revegetation to reduce or prevent rate of weed invasion.
    - Dispose of all removed weeds, weed affected material and rubbish appropriately off site.
    - Undertake rigorous weed management of temporarily disturbed areas until ground cover is established.
- Implement pest monitoring and pest control measures:
    - Ensure all bins are covered and waste is removed from site in a timely manner.
    - Ensure site offices and other structure are rodent proof as far as practicable.

  - Any pest control works on site is to be carried out by a professional pest control organisation.
- Conduct regular site inspections to assess the presence of weeds on site and for inadequate weed and pest management measures.
- Report any incursion of weed and pest species to the site supervisor.

3.2.8 Vegetation Clearing

The DMMF operations, which comprise stockpiling and treatment of the dredged material, will be limited to existing disturbed areas, and therefore no vegetation clearing is required. Therefore, it is not anticipated that there will be any clearing of vegetation that is or supports MNES within the DMMF.

3.2.9 Vehicle Incidents

Potential impacts from vehicles, including potential impacts to wildlife, will be managed as part of the Traffic Management Plan (TMP; PMG 2022). Specifically, to reduce the risk of impact to wildlife the following management measures will be implemented:

- Liaise with and notify community stakeholders of activities and intended working hours and the potential for traffic disruption, boat ramp closures, restricted access to berths, etc. during the maintenance dredging campaign.
- Designate haul routes for trucks travelling to dredge material placement site and drivers of these routes.
- Restrict entry and departure of haulage trucks to/from the site to standard daytime hours (i.e. 6:00 am – 6:00 pm).
- Speed limits as sign posted, or maximum of 40 km/hr (whichever is the lesser speed).
- No person will operate any equipment while fatigued or under the influence of alcohol or other drugs.
- Mobile phones will not be used while driving.
- All Queensland and construction site road laws and rules will be adhered to at all times. This extends to load restraint requirements and the provision covering the transport of dangerous goods as applicable.
- Drivers will always drive to suit road conditions.
- In the event of a collision with an animal, it will be removed from the road (if safe to do so) and reported to the Project Manager.

3.2.10 Cultural Heritage

The native title determination found the Gurambilbarra Wulgurukaba Mada (GWM) People hold native title rights and interests in land and waters within Magnetic Island. Wulgurukaba Aboriginal Corporation holds the native title rights and interests on trust for the Wulgurukaba People and is the prescribed body corporate for the native title holders under the *Native Title Act 1993* (Queensland Government 2025 (accessed 4 February 2025)).

There are no registered Aboriginal cultural heritage sites within the project footprint. The Department of Woman, Aboriginal and Torres Strait Islander Partnerships and Multiculturism search results indicate that there are no known (previously recorded) Aboriginal cultural sites located within the proposed project impact areas. However, Nelly Bay retains a very high

level of Aboriginal cultural significance and sensitivity to the GWM People. This is by virtue of the fact that several tangible cultural sites including a shell midden and human burial were excavated and salvaged from the Nelly Bay Harbour during its construction in the early 1990's (SMEC 2023b).

To reduce any ongoing impacts to cultural heritage, management measures will be implemented in accordance with the DMP, specifically:

- Ensure maintenance dredging is undertaken within the approved dredge area(s) only by reference to electronic navigation aids and visual marks as required.
- Manage all Indigenous archaeological items found during dredging activities in accordance with the *Aboriginal and Cultural Heritage Act 2003* Duty of Care Guidelines and any requirements specified in consultations with Traditional Owners.
- Engage in ongoing consultation with Traditional Owners.
- Cease all work activities in the area immediately upon finding an Indigenous cultural heritage object.
- Cease work around suspected non-indigenous heritage discoveries.
- Cease work immediately (within 100 m of the remains) if human skeletal material is discovered during dredging activities.
- Report and retain any items of suspected cultural significance.

There are a number of shipwrecks and plane wrecks near Nelly Bay with the shipwreck 'Presto' in Nelly Bay Harbour but outside of the proposed works area (Figure 1-4). As 'Presto' shipwreck is outside of the proposed dredge area, any direct impacts are unlikely.

Facilitated impacts to the shipwreck may occur via sedimentation (i.e. increased deposition smothering the shipwreck), however this would be unlikely where the management measures for the suspension of fine sediment outlined in Section 3.2.2 are implemented.

4.0 Assessment of Potential Significant Impacts to Threatened Ecological Communities

One threatened ecological community (TEC) under the EPBC Act was reported as potentially occurring in the Study Area (DMMF at 55-77 Kelly Street); *the Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions*. The Study Area has been previously heavily disturbed and current State mapping shows the entire study area as non-remnant vegetation. Very few trees are present within the DMMF and no native trees are proposed as being impacted.

This TEC does not occur in the Study Area and thus the Project will not impact this TEC.

5.0 Assessment of Potential Significant Impacts to Threatened and Migratory Species

5.1 Terrestrial

5.1.1 Endangered Species

A total of 11 endangered or critically endangered terrestrial flora and fauna species under the EPBC Act were returned from database searches, this includes one flora species, three mammals and seven birds. All species were determined to have a low or nil likelihood of occurring in the study area except for Koala. Koala were determined to have a moderate likelihood of occurring in the Study Area, as there:

- Are nine records of Koala within 2 km of the DMMF.
- Is preferred habitat immediately adjacent to the DMMF.
- Are a few potential Koala feed trees scattered throughout the DMMF.

Although there are a few potential feed trees for Koala in the Study Area, the entire area has previously been heavily disturbed and connectivity to areas of preferred habitat are severed to the southwest by Kelly Street. Further, the Study Area is surrounded to the northwest, northeast and southeast by residential development. It would be unlikely for a Koala to traverse these barriers to use the few scattered native trees present in the Study Area. Additionally, no native trees are proposed to be impacted from the Project and hence no potential habitat features for Koala will be impacted. It is highly unlikely there will be a significant impact to Koala from the Project.

Potential impacts to the Koala population are assessed according to the MNES significant impact criteria for Endangered species (DoE 2013) in Table 5.1.

Table 5.1 Significant impact criteria and assessment for terrestrial endangered threatened species with a moderate or high likelihood of occurrence within the Study Area.

Significant Impact Criteria	Assessment	Significant Impact Likelihood
An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:		
Phascolarctos cinereus **Koala**		
• Lead to a long-term decrease in the size of the population.	The Project will not directly or indirectly impact on the population of koala, with no change to vegetation cover or decrease in connectivity.	Not likely
• Reduce the area of occupancy of the species.	The species use of the area is unlikely to alter so the area of occupancy will not reduce.	Not likely
• Fragment an existing population into two or more populations.	The Project, will not directly or indirectly physically or otherwise fragment or separate a population.	Not likely

Significant Impact Criteria	Assessment	Significant Impact Likelihood
• Adversely affect habitat critical to the survival of the species.	The Study Area does not comprise any habitat critical to the survival of the species. Therefore, the Project, and associated facilitated impacts, will not adversely affect habitat critical for the species.	Not likely
• Disrupt the breeding cycle on the population.	The species are not likely to utilise the Study Area for breeding, and therefore the breeding cycle of the population will not be disturbed.	Not likely
• Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The Study Area does not comprise any habitat critical to the survival of the species and no vegetation will be removed as part of the Project. Therefore, the Project is unlikely to alter conditions within the area to an extent that species is likely to decline.	Not likely
• Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat.	The Project is unlikely to facilitate the spread or increase proliferation of weeds and/or pests within the Study Area.	Not likely
• Introduce disease that may cause the species to decline.	The Project is unlikely to facilitate the spread or increase proliferation of diseases within the Study Area.	Not likely
• Interfere with the recovery of the species.	The Project, and associated facilitated impacts, will not interfere with the recovery of the koala as: • the Study Area does not include habitat critical to the survival of the species. • The Project will not change vegetation cover or decrease in connectivity between populations of koalas on Magnetic Island.	Not likely

That is, when risks are assessed according to the Significant Impact Criteria, there will not be a significant impact on terrestrial endangered threatened species within the Study Area.

5.1.2 Vulnerable Species

A total of 11 vulnerable terrestrial species listed under the EPBC Act were returned from database searches. This includes one flora, three mammals and seven birds. These species have habitat preferences that do not occur in the Study Area and were determined to have a low or nil likelihood of occurring in the Study Area.

5.1.3 Migratory Species

A total of 19 terrestrial and avian migratory species were returned from database searches. Most of these species prefer habitat that is not in the Study Area and were determined to have a low likelihood of occurring in the Study Area. The Oriental Cuckoo was determined to have a moderate likelihood of occurring in the Study Area as there are scattered records on Magnetic Island and there is potential for this species to fly through the Study Area or perch sporadically in the few scattered trees that are present. However, the Study Area (DMMF) is highly disturbed and the few native trees will not be impacted by the Project. Due to this, it is unlikely there will be any impacts to populations of or habitat for Oriental Cuckoo from the Project.

Potential impacts to the population of the Oriental Cuckoo is assessed according to the MNES significant impact criteria for listed Migratory species (DoE 2013) in Table 5.4.

Table 5.2. Significant impact criteria and assessment for terrestrial migratory species with a moderate or high likelihood of occurrence within the Study Area

Significant Impact Criteria	Assessment	Significant Impact Likelihood
An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:		
• Substantially modify (including fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.	There is no important habitat for the oriental cuckoo within the Study Area. Furthermore, the Project will not impact the few native trees remaining in the Study Area (DMMF), and therefore will not modify, destroy or isolate habitat utilised by the oriental cuckoo species.	Not likely
• Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.	There is no important habitat for the oriental cuckoo within the Study Area. Furthermore, the management measures outlined in Section 3.2.7 are adequate to ensure the Project will not facilitate the spread or increase proliferation of invasive species within the Study Area.	Not likely
• Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.	An ecologically significant proportion of the oriental cuckoo population is not present within the Study Area. Furthermore, the Project and associated facilitated impacts will not disrupt the lifecycle of the oriental cuckoo in the Study Area.	Not likely

5.2 Marine

5.2.1 Endangered Species

A total of 4 endangered marine species under the EPBC Act were returned from database searches, this includes one marine mammal (blue whale) and three marine reptiles (leatherback turtle, loggerhead turtle and olive ridley turtle). All species were determined to have a low or nil likelihood of occurring in the Study Area due to the lack of available habitat and infrequent and transient occurrences within the Nelly Bay Harbour. Therefore, it is very unlikely that the Project will have any significant impact on endangered marine species. Where an individual of one of these endangered species does occur within the Study Area, the management measures outlined in Section 3.2.3 are expected to be adequate to manage any potential strikes to the species. Further, as the Study Area does not support populations, or provide essential habitat such as foraging, breeding, or resting areas for these species, the Project will not have a significant impact on their population.

5.2.2 Vulnerable Species

A total of 7 vulnerable species listed under the EPBC Act were returned from database searches. This includes three marine reptiles (green turtle, hawksbill turtle and flatback turtle), two marine fish (freshwater sawfish and green sawfish), and two sharks (great white shark and whale shark). All species were determined to have a low likelihood of occurring in the Study Area except for the three marine turtles, which had a moderate likelihood of occurring.

The marine fish and sharks were determined to have a low likelihood of occurrence due to the lack of available habitat and infrequent and transient occurrences within the Nelly Bay Harbour. As the Study Area (Nelly Bay Harbour) does not support populations, or provide essential habitat such as foraging, breeding, or resting areas for these species, the Project will not have a significant impact on their population.

The three marine turtles were determined to have a moderate likelihood of occurring in the Study Area as there are numerous records for each of the species within the Nelly Bay region, as some species are known to nest on Magnetic Island (green turtle and flatback turtle) and as Magnetic Island is identified as a Biologically Important Area (BIA) for flatback turtles.

Therefore, the populations of green turtle, hawksbill turtle and flatback turtle around Magnetic Island have the potential to be an important population necessary for the species long-term survival and recovery. Potential impacts to the population of the marine turtles listed as vulnerable are assessed according to the MNES significant impact criteria for Vulnerable species (DoE 2013) in Table 5.3. In the table, all turtle species are addressed together, due to the similarity in impacts.

Table 5.3 Significant impact criteria and assessment for vulnerable species with moderate or high likelihood of occurring in the Study Area.

Significant Impact Criteria	Assessment	Significant Impact Likelihood
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
• Lead to a long-term decrease in the size of an important population of species.	The Project is unlikely to alter, or impede the reproduction or nesting of turtles within the Study Area, and the management measures listed in Section 3.2.3 are adequate to reduce the chances of vessel strikes and any impacts to marine habitat or water quality. Therefore, the size of the populations for the species will not reduce.	Not likely
• Reduce the area of occupancy of an important population.	The use of the area by marine turtles is unlikely to alter and there will be no impact on critical habitat for the species, so the area of occupancy will not reduce.	Not likely
• Fragment an existing important population into two or more populations.	The Project, will not directly or indirectly physically or otherwise fragment or separate the population of marine turtles.	Not likely
• Adversely affect habitat critical to the survival of a species.	There is no habitat critical to the survival of marine turtles within the Study Area, with potential impacts to water quality and sedimentation suitably managed to not extend outside of the Nelly Bay Harbour. Therefore, the Project will not adversely affect habitat critical to survival of the species.	Not likely
• Disrupt the breeding cycle of an important population.	Magnetic Island is within a BIA for nesting for flatback turtles and green turtles are known to nest on the island. However, the Project will have no direct or indirect impacts on the sandy beach habitats of Magnetic Island, and will therefore not disturb nesting of marine turtles on Magnetic Island.	Not likely
• Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	There is no critical habitat for marine turtles within the Study Area, with potential impacts to water quality and sedimentation suitably managed to not extend outside of the Nelly Bay Harbour. Therefore, the Project will not adversely modify, destroy, remove, isolate or decrease the available habitat to an extent that the species would decline.	Not likely
• Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.	The management measures outlined in Section 3.2.4 are adequate to ensure the Project will not facilitate the spread or increase proliferation of invasive species that can be harmful to marine turtles.	Not likely

Significant Impact Criteria	Assessment	Significant Impact Likelihood
• Introduce disease that may cause the species to decline.	The management measures outlined in Section 3.2.4 are adequate to ensure the Project will not facilitate the spread or increase proliferation of diseases within the Study Area.	Not likely
• Interfere substantially with the recovery of the species.	The Study Area does not comprise habitat critical to the survival of any vulnerable species. The Project, and associated facilitated impacts, will not interfere with the recovery of marine turtles as: • the coastal habitats utilised for nesting will not alter, and so critical habitat for the species is unlikely to be affected. • the Project, and associated facilitated impacts are suitably managed to not alter conditions or impact on habitat outside of the Nelly Bay Harbour. Therefore the Project complies with the primary management objectives of the Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia 2017) and Queensland Marine Turtle Conservation Strategy 2021–2031 (DES 2021b) as the works will not increase or facilitate the listed primary threats to turtles, specifically: • climate change and variability (sand temperature, feminisation, reduced hatching success). • light pollution. • marine debris–entanglement and ingestion (hard plastic by pH, fishing line).	Not likely

The Project is not likely to have a significant impact on populations of vulnerable species within the Study Area.

5.2.3 Conservation Dependent Species

One conservation dependent marine species (scalloped hammerhead) under the EPBC Act was returned from database searches, The scalloped hammerhead has a low likelihood of occurring in the Study Area due to the lack of available habitat and infrequent and transient occurrences within the Nelly Bay Harbour. Therefore, it is very unlikely that the Project will have any significant impact on conservation dependent marine species, as the Study Area does not support populations, or provide essential habitat such as foraging, breeding, or resting areas for this species.

5.2.4 Migratory Species

A total of 24 migratory marine species were returned from database searches. The majority of these species have a low likelihood of occurring in the Study Area due to the lack of available habitat and infrequent and transient occurrences within the Nelly Bay Harbour. Therefore, the Study Area does not support an ecologically significant proportion of the population, or provide important habitat for these species, where an important habitat is defined as:

- Habitat utilised occasionally or periodically that supports an ecologically significant proportion of the population of the species.
- Habitat that is of critical importance to the species at particular life-cycle stages.
- Habitat utilised which is at the limit of the species range, and/or
- habitat within an area where the species is declining.

Therefore, the Project will not have a significant impact on their population.

Marine Species listed as migratory which have a moderate or high likelihood of occurring in the Study Area are:

- Australian humpback dolphin (*Sousa sahulensis*) – moderate.
- Australian snubfin dolphin (*Orcaella heinsohni*) – moderate.
- dugong (*Dugong dugon*) – moderate.
- flatback turtle (*Natator depressus*) – moderate.
- green turtle (*Chelonia mydas*) – moderate.
- hawksbill turtle (*Eretmochelys imbricata*) – moderate.
- salt-water crocodile (*Crocodylus porosus*) – moderate.

However, the Study Area does not provide important habitat or support an ecologically significant proportion of the population for any of these species. Potential impacts to the populations of these marine migratory species are assessed according to the MNES significant impact criteria for listed Migratory species (DoE 2013) in Table 5.4.

Table 5.4. Significant impact criteria and assessment for migratory species with a moderate or high likelihood of occurrence within the Study Area

Significant Impact Criteria	Assessment	Significant Impact Likelihood
Australian humpback dolphin and Australian snubfin dolphin		
An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:		
• Substantially modify (including fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.	Magnetic Island is a BIA for reproduction for the Australian humpback dolphin, with confirmed sightings on the southern side of Magnetic Island nearby to Nelly Bay. Magnetic Island is not a BIA for the Australian snubfin dolphin, but are known to be present near the island. However, there is no important habitat for migratory dolphin species within the Study Area, with preference for shallow coastal waters. Furthermore, the Project will not substantially alter the existing water quality, sedimentation or coastal processes outside of Nelly Bay Harbour, and therefore will not modify, destroy or isolate habitat utilised by migratory dolphin species.	Not likely
• Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.	There is no important habitat for migratory dolphin species within the Study Area. Furthermore, the management measures outlined in Section 3.2.4 are adequate to ensure the Project will not facilitate the spread or increase proliferation of invasive species within the Study Area.	Not likely
• Seriously disrupt the lifecycle (breeding, feeding, migration or resting. behaviour) of an ecologically significant proportion of the population of a migratory species.	Although Magnetic Island is mapped as a BIA for reproduction for the Australian humpback dolphin, an ecologically significant proportion of the population is not present within the Study Area, with sightings along the coastal waters outside of the Study Area. There have been no records of the Australian snubfin dolphin within the Study Area. Furthermore, the Project and associated facilitated impacts will not disrupt the lifecycle of these migratory dolphin species in the Study Area.	Not likely
Dugong		
An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:		

Significant Impact Criteria	Assessment	Significant Impact Likelihood
• Substantially modify (including fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.	Although Magnetic Island is not mapped as a BIA for dugongs, the island and Cleveland Bay to the south is mapped as dugong protection area, with numerous confirmed sightings within the seagrass meadows of the region. However, there is no important habitat (i.e. seagrass meadows) for dugongs within the Study Area. Furthermore, the Project will not substantially alter the existing water quality, sedimentation or coastal processes outside of Nelly Bay Harbour, and therefore will not modify, destroy or isolate the seagrass meadows utilised by migratory dugongs.	Not likely
• Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.	There is no important habitat for migratory dugongs within the Study Area. Furthermore, the management measures outlined in Section 3.2.4 are adequate to ensure the Project will not facilitate the spread or increase proliferation of invasive species within the Study Area.	Not likely
• Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.	While are large population of dugongs are present near Magnetic Island, records indicate they prefer nearby coastal waters rather than within Nelly Bay Harbour. Therefore, an ecologically significant proportion of the population of dugongs is not present within the Study Area. Furthermore, the Project and associated facilitated impacts will not disrupt the lifecycle of migratory dugongs in the Study Area.	Not likely
Flatback turtle, green turtle and hawksbill turtle		
An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:		
• Substantially modify (including fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.	There is no important habitat (such as seagrass, coral reefs or sandy beaches for nesting) for migratory turtle species within the Study Area. Furthermore, the Project will not substantially alter the existing water quality, sedimentation or coastal processes outside of Nelly Bay Harbour, and therefore will not modify, destroy or isolate habitat utilised by migratory turtle species.	Not likely
• Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.	There is no important habitat for migratory turtle species within the Study Area. Furthermore, the management measures outlined in Section 3.2.4 are adequate to ensure the Project will not facilitate the spread or increase proliferation of invasive species within the Study Area.	Not likely

Significant Impact Criteria	Assessment	Significant Impact Likelihood
• Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.	Magnetic Island is within a BIA for nesting for flatback turtles and green turtles are known to nest on the island. However, the Project will have no direct or indirect impacts on the sandy beach habitats of Magnetic Island, and will therefore not disturb nesting of marine turtles on Magnetic Island. Furthermore, records indicate the turtles typically occur along coastal habitats rather than within the Nelly Bay Harbour, and therefore an ecologically significant proportion of the migratory turtle population is not present within the Study Area. Thus, the Project and associated facilitated impacts will not disrupt the lifecycle of these migratory turtle species in the Study Area.	Not likely
Salt-water crocodile		
An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:		
• Substantially modify (including fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.	While salt-water crocodiles can be found along the coast and on coastal islands, they typically inhabit lower (estuarine) reaches of rivers, coastal waterways and floodplain wetlands. These habitats are not present within Nelly Bay Harbour, and therefore there is no important habitat for salt-water crocodiles within the Study Area. Furthermore, the Project will not substantially alter the existing water quality, sedimentation or coastal processes outside of Nelly Bay Harbour, and therefore will not modify, destroy or isolate habitat utilised by salt-water crocodiles.	Not likely
• Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species.	There is no important habitat for salt-water crocodiles within the Study Area. Furthermore, the management measures outlined in Section 3.2.4 are adequate to ensure the Project will not facilitate the spread or increase proliferation of invasive species within the Study Area.	Not likely

Significant Impact Criteria	Assessment	Significant Impact Likelihood
• Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.	Although there have been a number of salt-water crocodile sightings around Magnetic Island, including within Nelly Bay Harbour, these sightings are likely vagrant individuals, with the population size much smaller than is present within lower estuarine waters and floodplain wetlands of Australia's mainland. Therefore, an ecologically significant proportion of the population for migratory species is not present within the Study Area. Furthermore, as salt-water crocodiles typically nest within mangrove and other accessible vegetated areas, which are not present within the Study Area, the Project and associated facilitated impacts will not disrupt the lifecycle of salt-water crocodiles in the Study Area.	Not likely

Therefore, the Project is not likely to have a significant impact on important habitat for, or a significant proportion of, the population of migratory species within the Study Area.

As there will be no significant impact to listed marine and threatened species, the action will consequently be consistent with:

- the Biodiversity Convention.
- the Convention on Conservation of Nature in the South Pacific (Apia Convention).
- the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- Recovery plans and threat abatement plans.

6.0 Assessment of Potential Significant Impacts to Great Barrier Reef Marine Park

6.1 Impact Assessment

Of the 3 proposed dredge locations, only the 'Bridge' area is located within the GBRMP, with the 'Creek' and 'Marina' areas outside of the GBRMP (Figure 1-3). Therefore, there is only potential for direct impacts to the GBRMP within the 'Bridge' targeted dredge area.

Potential indirect or facilitated impacts from the Project are described in Section 3.1, with proposed management measures outlined in Section 3.2. These management measures are in accordance with conditions outlined in the GBRMPA permit (G21/43953.1) approved and issued to TCC on 9 June 2021. Where these conditions are met, it is anticipated there will be no significant impact on the GBRMP.

In summary, the assessment of potential impacts as a result of the Project identified:

- No direct or indirect impacts to marine habitat.
- Any increase in the suspension of fine sediment will be limited to immediately adjacent to the dredge areas by the use of silt curtains, with monitoring implemented to ensure sediment plumes are restricted to within the Nelly Bay Harbour and therefore not impact on important habitat within the GBRMP.
- Marine fauna will be monitored prior to and during any works, with most species restricted from accessing the works area due to the presence of silt curtains.
- No increase in the risk of spread of pest species or diseases, with local vessels used and ballast water / vessel wash downs to be managed in accordance with the Biosecurity Act.
- Hydrocarbon and other contaminants spills may occur due to the requirement to refuel and maintain heavy vehicles. However, is expected to be managed through the DMP, DMPF and suitable contaminant storage.
- Potential impacts from ASS are expected to be managed in accordance with the DMP and ASSMP, which are in line with best-practice management of PASS and AASS.
- No areas of cultural significance in the vicinity of the Project that may be directly or indirectly impacted by the Project.

6.2 Avoidance, Mitigation and Management

Potential impacts on the GBRMP will be mitigated and managed using the approaches listed in Section 3.2, which are in accordance with conditions outlined in the GBRMPA permit.

6.3 Statutory Requirements

As there will be no significant impact to the ecological values of the GBRMP, the action will consequently be consistent with:

- The Reef 2050 Long-Term Sustainability Plan (2018).
- Reef 2050 Water Quality Improvement Plan 2017-2022 (2018).
- Cumulative Impact Management Policy (2018).
- Net Benefit Policy (2018).
- Great Barrier Reef Strategic Assessment Reports.
- Great Barrier Reef Outlook Reports.
- Threat abatement plan for the impacts of marine debris on the vertebrate wildlife of Australia's costs and oceans (2018).
- Recovery plan for marine turtles in Australia (2018).

6.4 Significant Impact Assessment

The likelihood that the Project will have a significant residual impact on the GBRMP was assessed using the MNES significant impact criteria (DoE 2013) in Table 6.1.

Table 6.1 Significant impact criteria and assessment for the GBRMP within the Study Area.

Significant Residual Impact Criteria	Assessment	Significant Residual Impact Likelihood
An action is likely to have a significant impact on the environment of the GBRMP if there is a real chance or possibility that the action will:		
• Modify, destroy, fragment, isolate or disturb an important, substantial, sensitive or vulnerable area of habitat or ecosystem component such that an adverse impact on marine ecosystem health, functioning or integrity in the GBRMP results.	The Project will have no direct, indirect or facilitative impacts that have a real chance or possibility of impacting important, substantial, sensitive or vulnerable areas of habitat or ecosystems within the GBRMP.	Not likely
• have a substantial adverse effect on a population of a species or cetacean including its life cycle (for example, breeding, feeding, migration behaviour, life expectancy) and spatial distribution.	The Project will have no substantial adverse effect on the life cycle or spatial distribution of populations within the GBRMP a population of listed species or important habitat for migratory species.	Not likely
• Result in a substantial change in air quality or water quality (including temperature) which may adversely impact on biodiversity, ecological health or integrity or social amenity or human health.	The Project has a very low likelihood of causing a substantial change in water quality within the GBRMP. An assessment of impacts to air quality from the Project have not been assessed as part of this report, however with respect to the GBRMP would be expected to be negligible.	Not likely

Significant Residual Impact Criteria	Assessment	Significant Residual Impact Likelihood
• Result in a known or potential pest species being introduced or becoming established in the GBRMP	The Project is unlikely to introduce or increase proliferation of pest species within the GBRMP.	Not likely
• Result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, or social amenity or human health may be adversely affected.	The Project is likely to decrease the concentration of pollutants within the Study Area, as the works comprise the removal of fine sediment accumulated within the Nelly Bay Harbour.	Not likely
• Have a substantial adverse impact on heritage values of the Great Barrier Reef Marine Park, including damage or destruction of an historic shipwreck.	The Project will have no direct, indirect or facilitative impact on the heritage values of the GBRMP.	Not likely

The project is not likely to have a significant direct, indirect or cumulative residual impact to the GBRMP values, or on the environment or any protected matters within the GBRMP.

7.0 Assessment of Potential Significant Impacts to Great Barrier Reef World Heritage Properties

7.1 Impact Assessment

The potential impacts from the Project on the values and/or integrity of the GBRWHA are considered the same as those for the GBRMP and are described in detail in Section 3.1.

Therefore, the assessment of potential impacts to the GBRMP outlined in Section 6.1 is anticipated to be applicable to assess for impacts to GBRWHA values. In summary, the assessment of potential impacts identified:

- No direct or indirect impacts to marine habitat.
- Any increase in the suspension of fine sediment will be limited to immediately adjacent to the dredge areas by the use of silt curtains, with monitoring implemented to ensure sediment plumes are restricted to within the Nelly Bay Harbour and therefore not impact on important habitat within the GBRWHA.
- Marine fauna will be monitored prior to and during any works, with most species restricted from accessing the works area due to the presence of sediment curtains.
- No increase in the risk of spread of pest species or diseases, with local vessels used and ballast water / vessel wash downs to be managed in accordance with the Biosecurity Act.
- Hydrocarbon and other contaminants spills may occur due to the requirement to refuel and maintain heavy vehicles, however is expected to be managed through the DMP, DMPF and suitable contaminant storage.

- Potential impacts from ASS are expected to be managed in accordance with the DMP and ASSMP, which are in line with best-practice management of PASS and AASS.
- No areas of cultural significance in the vicinity of the Project that may be directly or indirectly impacted by the Project.

As such, the Project and associated facilitated impacts are unlikely to lose, degrade or notably alter:

- Values associated with the geology or landscape of the GBRWHA (i.e., natural water quality and coastal landforms).
- Biological and ecological values (e.g., plant or animal populations, diversity or composition of plant and animal communities).
- Wilderness, natural beauty or rare or unique EVs (e.g., structures or changes that impact on the natural aesthetics of the GBRWHA (i.e., coral habitats)).

The potential for the Project to have a significant residual impact on the GBRWHA was assessed using the MNES significant impact criteria (DoE 2013) and is provided in Section 7.4.

7.2 Avoidance, Mitigation and Management

Potential impacts on the GBRWHA will be mitigated and managed using the approaches listed in Section 3.2, which are in accordance with conditions outlined in the GBRMPA permit.

7.3 Statutory Requirements

The EPBC Act provides an overarching mechanism for protecting the World Heritage values from inappropriate development, including actions taken inside or outside the area (UNESCO 2021). The primary purpose of management of natural heritage and cultural heritage of a declared World Heritage property must be, in accordance with Australia's obligations under the World Heritage Convention, to identify, protect, conserve, present, transmit to future generations and, if appropriate, rehabilitate the World Heritage values of the property.

As any potential impact to the values and/or integrity of the GBRWHA is not likely to be significant, the Project will be consistent with:

- Australia's obligations under the World Heritage Convention.
- the Australian World Heritage management principles,
- the Reef 2050 Plan, including key documents delivered under the plan (such as Water Quality Improvement Plan, Net Benefit Policy, Great Barrier Reef (GBR) Strategic assessment reports and GBR outlook reports.

As there will be no significant impact to the values and/or integrity of the GBRWHA, the action will consequently be consistent with:

- Australia's obligations under the World Heritage Convention.
- the Australian World Heritage management principles.
- the Reef 2050 Plan, including key documents delivered under the plan.

7.3.1 Australia's Obligations under the World Heritage Convention

The World Heritage Convention was adopted by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) General Conference at its 17th session in Paris on 16 November 1972. The Convention came into force in 1975, with Australia ratifying the Convention in August 1974. The aims of the World Heritage Convention is to promote cooperation among nations to protect heritage around the world that is of such outstanding universal value that its conservation is important for current and future generations. As part of these aims, countries that have ratified the Convention (such as Australia) agree, amongst other things, as far as possible to:

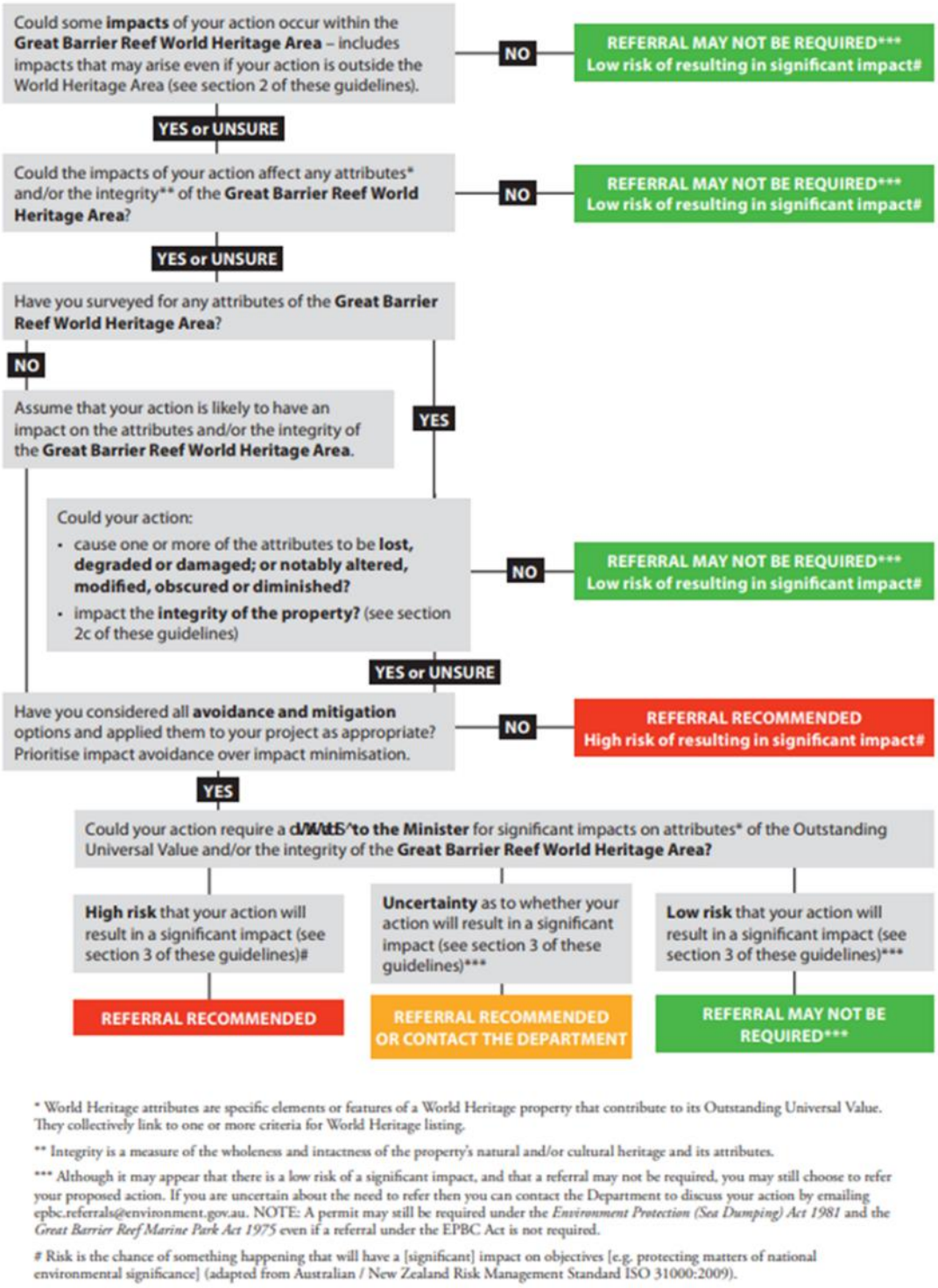
- 'adopt a general policy that aims to give the cultural and natural heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning programs'.
- undertake 'appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage'.
- refrain from 'any deliberate measures which might damage, directly or indirectly, the cultural and natural heritage' of other Parties to the Convention, and to help other Parties in the identification and protection of their properties.

As the Project is unlikely to directly or indirectly have a significant impact on the Outstanding Universal Values of the GBRWHA, it is consistent with Australia's obligations under the World Heritage Convention.

7.3.2 EPBC Act *referral* guidelines for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area

The EPBC Act referral guidelines for the Outstanding Universal Value of the GBRWHA provides general guidance on whether an action (e.g. the Project) requires referral to the Australian Government Minister for the Environment due to significant impacts to the GBRWHA, in accordance with the Significant Impact Guidelines. The EPBC Act referral guidelines for the Outstanding Universal Value of the GBRWHA provides a decision tree to assist in determining whether the Project needs to be referred to the Environment Minister (Figure 7-1).

In accordance with the decision tree, the Project may not be required to be referred to the Environment Minister (i.e. low risk of resulting in significant impact) as there will be no impacts on the GBRWHA or attributes and/or the integrity of the GBRWHA (see impact assessment in Section 3.0).



* World Heritage attributes are specific elements or features of a World Heritage property that contribute to its Outstanding Universal Value. They collectively link to one or more criteria for World Heritage listing.

** Integrity is a measure of the wholeness and intactness of the property's natural and/or cultural heritage and its attributes.

*** Although it may appear that there is a low risk of a significant impact, and that a referral may not be required, you may still choose to refer your proposed action. If you are uncertain about the need to refer then you can contact the Department to discuss your action by emailing epbc.referrals@environment.gov.au. NOTE: A permit may still be required under the *Environment Protection (Sea Dumping) Act 1981* and the *Great Barrier Reef Marine Park Act 1975* even if a referral under the EPBC Act is not required.

Risk is the chance of something happening that will have a [significant] impact on objectives [e.g. protecting matters of national environmental significance] (adapted from Australian / New Zealand Risk Management Standard ISO 31000:2009).

Figure 7-1 Decision making for the Great Barrier Reef World Heritage Area

7.4 Significant Impact Assessment

The likelihood that the Project will have significant residual impact on the GBRWHA was assessed using the MNES significant impact criteria (DoE 2013) in Table 7.1.

Table 7.1 Significant impact criteria and assessment for the GBRWHA within the Study Area.

Significant Residual Impact Criteria	Assessment	Significant Residual Impact Likelihood
An action is likely to have a significant impact on the World Heritage property if there is a real chance or possibility that it will cause:		
• One or more of the World Heritage values to be lost.	The potential impacts identified in Section 3.0 are insufficient to cause permanent, irreversible loss of GBRWHA values.	Not likely
• One or more of the World Heritage values to be degraded or damaged.	The potential impacts identified in Section 3.0 are insufficient to cause significant change to water quality or marine habitat that may degrade or damage GBRWHA values.	Not likely
• One or more of the World Heritage values to be notably altered, modified, obscured or diminished.	The potential impacts identified in Section 3.0 are insufficient to cause significant change to water quality or marine habitat that may notably alter, modify, obscure or diminish GBRWHA values.	Not likely

The Project is not likely to have a significant impact to the GBRWHA values as the Project and associated facilitated impacts are unlikely to lose, degrade or notably alter:

- Values associated with the geology or landscape of the GBRWHA (i.e. natural water quality and coastal landforms).
- Biological and ecological values (e.g. plant or animal populations, diversity or composition of plant and animal communities).
- Wilderness, natural beauty or rare or unique environmental values (e.g. structures or changes that impact on the natural aesthetics of the GBRWHA, i.e. coral habitats).

8.0 Assessment of Potential Significant Impacts to Great Barrier Reef National Heritage Places

8.1 Impact Assessment

The potential impacts from the Project on the values of the GBRNHP are considered the same as those for the GBRMP and are described in detail in Section 3.1.

Therefore, the assessment of potential impacts to the GBRMP outlined in Section 6.1 is anticipated to generally be applicable to assess for impacts to GBRNHP values.

In summary the assessment of potential impacts as a result of the Project identified:

- No direct or indirect impacts to marine habitat.
- Any increase in the suspension of fine sediment will be limited to immediately adjacent to the dredge areas by the use of silt curtains, with monitoring implemented to ensure sediment plumes are restricted to within the Nelly Bay Harbour and therefore not impact on important habitat within the GBRNHP.
- Marine fauna will be monitored prior to and during any works, with most species restricted from accessing the works area due to the presence of silt curtains.
- No increase in the risk of spread of pest species or diseases, with local vessels used and ballast water / vessel wash downs to be managed in accordance with the Biosecurity Act.
- Hydrocarbon and other contaminants spills may occur due to the requirement to refuel and maintain heavy vehicles, however is expected to be managed through the DMP, DMPF and suitable contaminant storage.
- Potential impacts from ASS are expected to be managed in accordance with the DMP and ASSMP, which are in line with best-practice management of PASS and AASS.
- While a shipwreck (‘Presto’) is located within the Nelly Bay Harbour, it is sufficiently distanced from the proposed dredge areas that there will be no direct or indirect (e.g. through changes in sedimentation) impacts as a result of the Project.
- No areas of cultural significance in the vicinity of the Project that may be directly or indirectly impacted by the Project.

8.2 Statutory Requirements

The GBRNHP is protected by the Australian Government under the EPBC Act and in accordance with the protection measures listed within the Great Barrier Reef Marine Park Commonwealth Heritage Listed Places and Properties Heritage Strategy 2022-25 and the National Heritage management principles. In general, the National Heritage management principles provide the framework to manage and protect National Heritage places for future generations.

As the impact assessment in Section 3.0 did not identify any impact to heritage places within the marine environment, and the Project is consistent with statutory requirements for the GBRMP (Section 6.3) and GBRWHA (Section 7.3), it is fundamentally in accordance with the National Heritage management principles. Specifically, as places with heritage value are predominantly located within the terrestrial environment (such as lightstations and research stations), and there will be no impact on indigenous heritage values, the Project is in accordance with protection measures listed within the GBRMP Commonwealth Heritage Listed Places and Properties Heritage Strategy 2022-25, the environmental impact assessment guidelines (i.e. EPBC Act) and the Reef Plan.

8.3 Significant Impact Assessment

The likelihood that the Project will have a significant residual impact on the GBRNHP was assessed using the MNES significant impact criteria (DoE 2013) in Table 8.1.

Table 8.1 Significant impact criteria and assessment for the GBRNHP within the Study Area

Significant Residual Impact Criteria	Assessment	Significant Residual Impact Likelihood
An action is likely to have a significant impact on the National Heritage values of a National Heritage place if there is a real chance or possibility that it will cause:		
• One or more of the National Heritage values to be lost.	The potential impacts identified in Section 3.0 are insufficient to cause permanent, irreversible loss of GBRNHP values.	Not likely
• One or more of the National Heritage values to be degraded or damaged.	The potential impacts identified in Section 3.0 are insufficient to degrade or damage GBRNHP values associated with the: • geological landscape. • biological and ecological values, or • wilderness, natural beauty or rare or unique environmental values. Places of heritage values are suitably distanced from the Project that potential impacts are negligible.	Not likely
• One or more of the National Heritage values to be notably altered, modified, obscured or diminished.	The potential impacts identified in Section 3.0 will not sufficiently change the water quality or sedimentation to cause a notable impact to the biological and ecological values of the GBRNHP or notably alter or diminish GBRNHP values associated with the wilderness, natural beauty or rare or unique environmental values.	Not likely

The Project is not likely to have a significant residual impact to the GBRNHP as a result of the Project. Therefore, the Project and associated facilitated impacts are unlikely to lose, degrade or notably alter the National Heritage values within the GBRNHP, so that they can be protected, conserved and presented to all generations.

9.0 Recommended Mitigation and Offset Measures

As the Project, including both the dredging activity within Nelly Bay and the associated stockpiling and treatment activities of the dredged material at the DMMF will not have a significant impact on MNES within the Study Area, the Project does not require the implementation of any additional mitigation or offsets measures to reduce residual impacts to MNES.

10.0 Summary

The Project, including both the dredging activities within Nelly Bay Harbour and the associated stockpiling and treatment activities of the dredged material at DMMF located at 55-77 Kelly Street, do not require referral to the Commonwealth Government under the EPBC Act, as there are no risks of a significant impact to MNES where the management measures outlined in the DMP, DMPF, ASSMP and Section 3.2, which are based on permits and approvals issued by State and National agencies, are implemented.

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Appendix A Likelihood of Occurrence Assessment

Nelly Bay Dredging

EPBC Self-Assessment

Townsville City Council

SLR Project No.: 623.030475.00006

31 January 2025

Table 11-1Likelihood of occurrence of threatened ecological communities within the Study Area.

Ecological community	EPBC status	Likelihood of occurrence
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	**Nil** – The entire study area is mapped as non-remnant vegetation with a only a few scattered trees present. No native trees are proposed as being impacted from the project. As the study area is previously highly disturbed and no remnant vegetation is present, there is no likelihood that this TEC is present.

Table 11-2Likelihood of occurrence of marine conservation significant species within the Study Area.

Common name	Genus and species	EPBC status[1]	NCA status	Likelihood of occurrence
Marine Mammals				
Blue whale	*Balaenoptera musculus*	E, M	–	**Nil** - Two blue whale subspecies are recognised in the Southern Hemisphere – the Antarctic or true blue whale (B. m. intermedia) and the pygmy blue whale (B. m. brevicauda) (Double et al. 2014). The Antarctic ('true') subspecies is exceedingly rare, in summer they are found throughout the Antarctic; in winter they migrate to southern Africa (Branch et al. 2007). Pygmy blue whales are found around the Indian Ocean and from southern Australia to New Zealand. While the blue whale may occur in coastal and continental shelf waters off eastern Australia, with an ALA record 20 km away within Cleveland Bay, they are predominately found around the southern coastline off Western Australia and South Australia and are unlikely to occur in the Nelly Bay Harbour (DCCEEW 2025d).
Marine Reptiles				
Green turtle	*Chelonia mydas*	V, M	V	**Moderate** - The green turtle is globally distributed in tropical and sub-tropical waters and is usually associated with shallow marine habitats that support seagrass and algal communities (DCCEEW 2025d). Green turtles nest on sandy beaches. In Queensland, southern green turtle populations typically nest around the Capricorn Bunker Groups and adjacent islands in the Southern GBR (Limpus et al. 2003). Minor aggregations occur on the mainland coast from Bustard Head to Bundaberg and the Northern part of Fraser Island (Limpus 2008b). Green turtles use Magnetic Island for foraging and nesting, with green turtles favouring the northern shores of the island (e.g. Horseshoe Bay) (MIJS 2025). While nesting has recently been reported on the island, Magnetic Island does not represent an important population for the species, with the nearest Biologically Important Area (BIA) in the National Conservation Values Atlas (NCVA) for nesting over 200 km away in the Percy Group of islands (DCCEEW 2025b). BIAs in the NCVA are indicative only, and do not have a legal status (DCCEEW 2025a). Additionally, while Nelly Bay and nearby coastal waters of Magnetic Island are a known foraging and nesting areas for green turtles, the proposed works area within the Nelly Bay Harbour does not comprise core habitat for the species.
Hawksbill turtle	*Eretmochelys imbricata*	V, M	E	**Moderate** - The hawksbill turtle is globally distributed in tropical, sub-tropical and temperate waters (DCCEEW 2025d). Within the GBR, hawksbill turtles nest on sandy beaches in low numbers from just north of Princess Charlotte Bay to Torres Strait, with some nesting areas also occurring in the Northern Territory and Western Australia. The key nesting areas within the GBR and Torres Strait include: Milman and Bouydong Islands in the GBR, and Sassie, Hawksbury, Dayman, Zuizin, Mimi, Bourke, Aukane, Layoak, Bet, Saddle, Dabalai, Albany and Mt Adolphus Islands in the Torres Strait (DCCEEW 2021b). There has only been one record of hawksbill turtles nesting south of Princess Charlotte Bay in over 70 years of records (GBRMPA 2012). Magnetic Island is within the Hawksbill turtle distribution range and ALA records indicate seagrass beds provide some foraging grounds for the species, but there are no known populations or key nesting habitats on Magnetic Island. Therefore, there is a moderate likelihood the hawksbill turtle would occur in the Study Area but there is no core habitat within the Nelly Bay Harbour and the population would not represent an important population for the species.
Leatherback turtle	*Dermochelys coriacea*	E, M	E	**Low** - As the most pelagic of all marine turtles, the leatherback turtle spends much of its time in the open ocean and venturing close to shore, mainly during the nesting season (Benson et al. 2007; GBRMPA 2011; Lutz & Musick 1996). There are no large leatherback turtle rookeries in Australia, however, leatherback turtles occasionally nest within the GBR, with nesting recorded at Wreck Rock and adjacent beaches near Bundaberg (one to three nests per annum) (GBRMPA 2011). Given there are no key nesting habitats in Australia and its largely pelagic existence, and the last recording for the species in the area was ~60 years ago, the likelihood of this species occurring in the Study Area is very low.
Loggerhead turtle	*Caretta caretta*	E, M	E	**Low** - Loggerhead turtles are primarily found around coral and rocky reefs, seagrass beds and muddy bays throughout eastern, northern, and western Australia (DCCEEW 2025d; Limpus 1995; Limpus et al. 1992; Prince 1994). Mon Repos, in the Wide Bay Burnett Region of QLD, has the most significant loggerhead turtle nesting population in the South Pacific region (Limpus 2008b). In Australia, loggerhead turtles nest on open, sandy beaches (Spotila 2004). Small loggerheads live at or near the surface (Arthur et al. 2007) and evidence suggests they spend 15 years or more in the open ocean before recruiting to their chosen inshore or neritic feeding area. Loggerhead turtles choose a wide variety of tidal and sub-tidal habitat as feeding areas and show fidelity to both foraging and breeding areas (Limpus 2008b). While no significant loggerhead nesting areas have been identified in the Study Area, loggerhead turtles are known to forage on the nearby seagrass beds in the area and are likely to occur vagrantly in coastal waters of Magnetic Island, with only two undated recordings of the species within 50 km of the Study Area . Habitat critical to the

Common name	Genus and species	EPBC status[1]	NCA status	Likelihood of occurrence
				survival of this species is defined as major nesting areas with Percy Islands and Mon Repos being the closest, over 500 km to the south of the Study Area (DCCEEW 2025d).
Olive ridley turtle	*Lepidochelys olivacea*	E, M	E	**Low** - In Australia, this species is found in soft-bottomed, shallow, protected waters from the Joseph Bonaparte Gulf in Western Australia to southern Queensland (GBRMPA 2013b). Little is known about the olive ridley turtle in Australia, mainly because of the remoteness of their nesting beaches in northern Australia, and as their foraging habitat is over 10 m in depth (Whiting et al. 2005). They are typically not associated with coral reef habitat or shallow inshore seagrass flats (Limpus 2008a), and are therefore unlikely to be found in the Nelly Bay marina, however historical records indicate they have been present in the region.
Flatback turtle	*Natator depressus*	V, M	V	**Moderate** – The flatback turtle is found only in the tropical waters of northern Australia, Papua New Guinea and Irian Jaya, and is one of only two species of marine turtles without a global distribution (DCCEEW 2025d). The major eastern Australian breeding aggregations occur on continental islands and inshore areas of the southern GBR, and minor nesting sites occur on the mainland coast and adjacent islands north from Mon Repos to Herald Island near Townsville (Limpus 2007). The distribution of flatback turtle nesting stretches along the majority of the Whitsunday-Burdekin-Townsville coastline, with higher densities occurring on the mainland coastal beaches (Hof & Bell 2014). Unlike other marine turtles, the flatback turtle lacks an oceanic phase and remains in the surface waters of the continental shelf (DCCEEW 2025d). Capture locations indicate flatback turtles feed in turbid, shallow inshore waters in depths from less than 10 m to over 40 m (DCCEEW 2025d). Flatback turtles require sandy beaches to nest (DCCEEW 2025d). Magnetic Island is a nesting area for flatback turtles and has also been identified as a BIA for flatback turtle nesting. However, it is not mapped as critical habitat on the NCVA, is not listed as an important nesting area in the Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia 2017), and is not located within the major eastern Australian breeding aggregation (i.e. is not a key source population).
Fish				
Freshwater sawfish	*Pristis pristis*	V, M	–	**Low** – The majority of records for freshwater sawfish in Australia are of juvenile and sub-adult animals from rivers (DoE 2015). They have been recorded in numerous drainage systems in northern Australia, predominantly from the Fitzroy River in Western Australia to the eastern side of Cape York Peninsula (DoE 2015). In Queensland, there are few historical records south of Cape York Peninsula, with the most recent from Bowling Green Bay in 1966 (Science in Public 2022). The historical range in Queensland has recently been extended down to Brisbane with the discovery of two records from 1938 and the 1950-60s (Hudgins et al. 2020). Juveniles and sub-adult freshwater sawfish predominantly occur in rivers and estuaries, with large mature animals occurring more often in coastal and offshore waters (DCCEEW 2025d). The preferred habitat of this species is mud bottoms of river embankments and estuaries, and in turbid channels of large rivers over soft mud bottoms more than 1 m deep (DCCEEW 2025d). Although the offshore coast of Cleveland Bay and Magnetic Island may provide habitat for this species, the species has not been reported in this area since 1936 (~70 km away) and thus there is a very low likelihood of this species occurring in the Study Area. Therefore, the Study area does not represent an important population for the species.
Green sawfish	*Pristis zijsron*	V, M	–	**Low** – Within Australia, this species is currently distributed from the Whitsundays (DCCEEW 2025d) in Queensland, across northern Australian waters to Shark Bay in Western Australia. A sighting was reported in the Townsville area as recently as January 2022 (ALA 2025). The green sawfish inhabits inshore marine waters, estuaries and river mouths with both sandy and muddy bottom habitats (Allen 1997; Peverell et al. 2004; Stevens et al. 2005) but does not penetrate into freshwater (DoE 2015). Green sawfish have been recorded offshore in relatively deep water (DoE 2015). Although there are no records within the study area or Cleveland Bay, there are recent records within and off-shore of the nearby Bowling Green Bay, indicating that the study area is within the range of its distribution, and there is a low likelihood of this species occurring in the Nelly Bay Harbour. However, the population within the Study Area does not represent an important population for the species, as the population is not known to be necessary for the species' long-term survival and recovery.
Sharks and Rays				
Great white shark	*Carcharodon carcharias*	V, M	–	**Low** - Great white sharks occur in coastal, shelf, and continental slope waters around Australia from the Montebello Islands in north-western Western Australia, south around the coast to at least as far north as central Queensland (CSIRO 2021). Great white sharks eat a variety of prey including fish, sharks and rays, marine mammals, squid, crustaceans and seabirds (DCCEEW 2025d). Feeding aggregations can occur in areas around food sources such as sea lion and fur seal colonies (DCCEEW 2025d). Great white sharks may pass through the near-shore waters adjacent to the Nelly Bay however the Nelly Bay Harbour does not provide critical habitat for this species.
Scalloped hammerhead	*Sphyrna lewini*	CD	–	**Low** - The Scalloped hammerhead is a large pelagic species with a global distribution in tropical and sub-tropical waters. In Australia, the species extends from southern Western Australia around northern Australia down to Wollongong. Scalloped hammerheads generally occur in deeper waters near the edge of the continental shelf (TSSC 2018). Scalloped hammerhead may pass through the near-shore waters adjacent to the Nelly Bay however the Nelly Bay Harbour does not provide critical habitat for this species.
Whale shark	*Rhincodon typus*	V, M	–	**Low** - Whale sharks are found in all oceanic and coastal waters around Australia but is most seen in waters off northern Western Australia, Northern Territory and Queensland (Compagno 1984; Last & Stevens 2009), as far down as North Stradbroke Island in southeast Queensland (van Vonderen 2016). Whale sharks primarily feed on planktonic and nektonic prey using suction filter feeding techniques (Compagno 1984). The whale shark aggregate seasonally in response to a pulse surge of prey in the

Common name	Genus and species	EPBC status[1]	NCA status	Likelihood of occurrence
				areas around Ningaloo Reef, Christmas Island and the Coral Sea (DCCEEW 2025d). Whale sharks may pass through the near-shore waters adjacent to the Nelly Bay however the Nelly Bay Harbour does not provide critical habitat for this species.

[1] CE = Critically Endangered, CD = Conservation Dependent, E = Endangered, V = Vulnerable, M = Migratory,
– = No Classification

Table 11-3Likelihood of occurrence of terrestrial conservation significant flora and fauna species within the Study Area

Common name	Genus and species	EPBC status[1]	NCA status[1]	Likelihood of occurrence
Flora				
Granite Nightshade	*Solanum graniticum*	E	E	**Nil** - This species is endemic to Queensland and is found on Gloucester Island and adjacent areas of the mainland. This Solanum occurs in open eucalypt woodlands on hillsides with shallow granite derived soils. It can be found in association with *Eucalyptus drepanophylla* and *Corymbia erythrophloia* and has been recorded flowering between February and March (DETSI, 2025). There are no records of this species in Townsville with the closest record occurring around Taravale Station. Habitat requirements for this species are not found in the study area and there is a low likelihood that this species would occur in the study area.
-	*Tephrosia leveillei*	V	LC	**Nil** - This species is only known from the areas between Chillagoe and Forty Mile Scrub and one record near Ravenswood. This species occurs on alluvial plains in association with *Eucaplytpus cullenii*, *Corymbia erythrophloia*, *Erythrophleum chlorostachys* and *Grevillea glauca* on red sands (DCCEEW, 2025). There are no records of this species in Townsville with the closest record occurring around Undara Volcanic National Park. Habitat requirements for this species are not found in the study area and there is a low likelihood that this species would occur in the study area.
Birds				
Ruddy Turnstone	*Arenaria interpres*	V	V	**Low** - During the non-breeding season, the ruddy turnstone occurs throughout Australia in coastal, and occasionally inland, regions. The species prefers rocky shores where there are large amounts of rotting seaweed. The species typically roosts also shelves of rock or gravel beaches with tidal pools nearby. In north Australia, they typically occur mudflats and in southern Australia, they prefer rocky coastlines and sometimes large embayments (Department of Climate Change, Energy, the Environment and Water, 2025). There is one WN record of this species within 2km of the study area, however, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Sharp-tailed Sandpiper	*Calidris acuminata*	V, M	V	**Low** - Occurs along the coastline of Queensland, New South Wales, and Victoria, with scattered records inland and in other states. The species occurs in freshwater/brackish wetlands that have muddy edges with sedges, grass, saltmarsh, or other low vegetation. They can be attracted to aquatic vegetation such as algae mats and water weeds. The species spends the non-breeding season (spring and summer) in Australia (Department of Climate Change, Energy, the Environment and Water, 2025). There is one WN record of this species within 2km of the study area, however, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Red Knot	*Calidris canutus*	V, M	V	**Low** - Red knots occur around the Australian coast. They mainly inhabit intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans, and recorded on sewage ponds and saltworks, but rarely use freshwater swamps. They rarely use inland lakes or swamps. Roosting mainly occurs in intertidal mudflats in sheltered areas and nesting occurs in shallow depressions on open ground (Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Curlew Sandpiper	*Calidris ferruginea*	CE, M	CE	**Low** - Occurs around the coasts of Australia and is widespread inland in smaller numbers. In Queensland there are scattered records occurring in the Gulf of Carpentaria, with widespread records along the coast south of Cairns. Habitat generally consists of intertidal mudflats in sheltered coastal areas, though is known to occur around non-tidal swamps, lakes, and ephemeral water bodies. The Curlew Sandpiper roosts on beaches, sandspits, islets and occasionally dunes. The Curlew Sandpiper spends the non-breeding season (spring and summer) in Australia (Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Greater Sand Plover	*Charadrius leschenaultii*	V, M	V	**Low** - Occurs around the entire Australian coast in littoral and estuarine habitats. These include muddy, sandy, and shelly sheltered beaches with large intertidal zones, estuaries, reefs, and rocky zones. The species spends the non-breeding season (spring and summer) in Australia

Common name	Genus and species	EPBC status[1]	NCA status[1]	Likelihood of occurrence
				(Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Red Goshawk	*Erythrotriorchis radiatus*	E	E	**Low** - Occurs from the Cape York Peninsula in Queensland to the Kimberly in Western Australia, with records in south-east Queensland becoming increasingly scant since 2010. The species occurs in wooded and forested lands of tropical and warm temperate Australia. The vegetation type the red goshawk prefers includes open forest, tall open forest, eucalypt woodland, gallery rainforest, rainforest margins, and swamp sclerophyll forests. They nest in large trees normally within one kilometre of permanent water (Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
White-bellied Storm-petrel	*Fregetta grallaria grallaia*	V	V	**Low** – This species occurs breeds on small islets and rocks in the Lord Howe Island group. It has been recorded north and east of its breeding island to the tropics including the coral sea. This species has been recorded over near-shore waters off the Queensland coast (DCCEEW, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Latham's Snipe	*Gallinago hardwickii*	V, M	V	**Low** - Occurs from the Cape York Peninsula in Queensland south to South Australia, and inland west of the Great Dividing Range. They inhabit various wetlands, permanent and ephemeral, of varying salinity, though they prefer freshwater with low, dense vegetation. The species spends the non-breeding season (spring and summer) in Australia (Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
White-throated Needletail	*Hirundapus caudacutus*	V, M	V	**Low** - Occurs from northern Queensland through to south-eastern Australia and inland to the west of the Great Dividing Range, and in Tasmania. The species is nearly exclusively aerial. They are found above a variety of ecosystems, though there appears to be preference for open forests, rainforest, and heathlands, and less often over woodland and treeless areas. The species spends the non-breeding season (spring and summer) in Australia (Threatened Species Scientific Committee, 2019). There are no WN records of this species within 2km of the study area. This species may rarely fly over the study area but no preferred habitat occurs in the study area and depositing dredging material will have no impact on this species. This species has a low likelihood of occurring in the study area.
Nunivak Bar-tailed Godwit	*Limosa lapponica baueri*	E	E	**Low** - The Bar-tailed Godwit (both subspecies combined) has been recorded in the coastal areas of all Australian states (DCCEEW, 2025). It is widespread in the Torres Strait and along the east and south-east coasts of Queensland, New South Wales (NSW) and Victoria. The migratory Bar-tailed Godwit (western Alaskan) does not breed in Australia (DCCEEW, 2025). Occurs mainly in coastal habitats in coastal habitats which include large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays (DCCEEW, 2025). It also has been recorded in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms and coral reef-flats (DCCEEW, 2025). The subspecies L. l. baueri breeds in north-east Siberia from around the Kolyma River to east of the Chukotka Peninsula as well as in west Alaska, from Wales to Barrow (DCCEEW, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Star Finch	*Neochmia ruficauda ruficauda*	E	E	**Low** - The Star Finch (eastern) occurs in central Queensland. Records suggest the species occurs north of Bowen to west beyond Winton. It has been recorded in damp grasslands, grassy woodlands, sedgelands, or near water or areas of permanent inundation (Department of the Environment, Water, Heritage and the Arts, 2008). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Eastern Curlew	*Numenius madagascariensis*	CE, M	CE	**Low** - The eastern curlew has a coastal distribution and can be found in all states. The eastern curlew can be seen in Australia throughout the non-breeding season on sheltered coasts, especially bays, harbours, estuaries, inlets and coastal lagoons, with intertidal mudflats/sandflats and often beds of seagrass. The species roosts during high tide on islets, sandbars, sandy spits particularly among vegetation and near the high-water mark. Foraging typically occurs during the non-breeding season on sheltered mudflats or sandflats (Department of Climate Change, Energy, the Environment and Water, 2025). There are three WN records of this species within 2km of the study area, however, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Australian Painted Snipe	*Rostratula australis*	E	E	**Low** - Occurs across Australia though is more common in eastern Australia. They inhabit permanent and ephemeral wetlands, preferably freshwater though occasionally brackish, that typically have emergent, fringing vegetation. They will sometimes use areas lined with trees. Required breeding habitat is shallow freshwater wetlands (often islands within wetlands) with wet mud, dense low cover, and upper and canopy cover nearby (Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Common Greenshank	*Tringa nebularia*	E, M	E	**Low** - Occurs along most of the Australian coastline and sporadically inland, in all types of wetlands. They prefer wetlands with muddy or clay edges, occasionally sand, with either bare, emergent, or fringing vegetation. The species spends the non-breeding season (spring and summer)

Common name	Genus and species	EPBC status[1]	NCA status[1]	Likelihood of occurrence
				in Australia (Department of Climate Change, Energy, the Environment and Water, 2025). There is one WN records of this species within 2km of the study area, however, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Mammals				
Northern Quoll	*Dasyurus hallucatus*	E	E	**Low** - The current distribution of the northern quoll in Queensland includes Cape Cleveland, Mt Elliott, Mareeba, Crediton, Eungella, Clarke Range, Cleveland, Cape Upstart, Cape Gloucester, and the Condor Range (Hill & Ward, 2010). The northern quolls require habitat where they are least exposed to threats. These habitats typically include rocky areas and offshore islands (Hill & Ward, 2010). They can also occur in eucalypt forests and woodlands, sandy lowlands, rainforests, beaches, grasslands, desert and shrubland (Hill & Ward, 2010). There are no WN records of this species within 2km of the study area and the few records on Magnetic Island are over 20 years old. There is no preferred habitat for this species in the study area. This species has a low likelihood of occurring in the study area.
Ghost Bat	*Macroderma gigas*	V	E	**Low** - This species currently has a disjunct geographical range occurring from Cape York to near Rockhampton in Queensland, northern Territory, the Pilbara and Kimberley in Western Australia (TSSC, 2016). The bat current inhabits habitats ranging from tropical savanna woodlands to rainforests (TSSC, 2016). There are no WN records of this species within 2km of the study area and none on Magnetic Island. No preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Greater Glider (northern)	*Petauroides minor*	V	V	**Low** - The greater glider (northern) occurs in northeast Australia including the Wet Tropics World Heritage Area (DCCEEW, 2025). The species is largely restricted to eucalypt woodlands and forests. It commonly occurs in higher elevation, wetter sites in open forests to open woodland, containing abundant hollows and relatively old trees (DCCEEW, 2025). The species favours white mahogany and lemon-scented gums for denning (DCCEEW, 2025). There are no WN records of this species within 2km of the study area and none on Magnetic Island. No preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Greater Glider (southern and central)	*Petauroides volans*	E	V	**Low** - The greater glider can be found throughout much of eastern Australia, where it occurs from Proserpine in Queensland, south through New South Wales and the Australian Capital Territory to the Wombat State Forest in central Victoria (DCCEEW, 2025). This is an arboreal marsupial restricted to eucalypt forest and woodlands (DCCEEW, 2025). It can commonly be found in taller, montane, eucalypt forests on fertile soils with older trees and abundant hollows (DCCEEW, 2025). There are no WN records of this species within 2km of the study area and none on Magnetic Island. No preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Koala	*Phascolarctos cinereus*	E	E	**Moderate** - Koala occur in eastern Australian forest and woodland of primarily *Eucalyptus* species (DCCEEW, 2025). The distribution of koala extends from Queensland to New South Wales, the Australian Capital Territory, Victora and South Australia (DCCEEW, 2025). In Queensland they occur as far north as the Wet Tropics and the Einasleigh upland bioregions as well as southeast Queensland (DCCEEW, 2025). They have also been recorded west in the Central Mackay Coast, Desert Uplands, Mulga Lands, Mitchell Grass Downs, and both the north and south Brigalow Belt (DCCEEW, 2025). In Queensland, Koalas inhabit coastal forests, subhumid woodlands as well as eucalypt woodlands (DCCEEW, 2025). There are nine records of Koala within 2km of the study area and numerous records throughout Magnetic Island. Magnetic Island contains a dense population of Koala and scattered trees occur in the study area that may provide potential feeding or resting areas for this species. However, the study area is highly disturbed, with only a few scattered trees present. Although these may provide very rare feeding opportunities for this species, they are isolated in the environment which would reduce the potential of this species being able to utilise this resource. Additionally, no native trees are proposed as being impacted from the project. Vast tracks of higher quality habitat occur outside the study area that would be preferential for Koala. Although the study area is fairly isolated with high quality habitat immediately across Kelly Street, there are potential feed trees in the study area and this species has a moderate likelihood of occurring at least periodically.
Bare-trumped Sheath-tailed Bat	*Saccolaimus Saccolaimus nudicluniatus*	V	E	**Low -** This species is known to occur in northeast Queensland and the monsoonal tropics of the Northern Territory as well as areas of the Kimberley in Western Australia (TSSC, 2016). In Queensland, it occurs from Ayr to the Iron Range (TSSC, 2016). The species has mostly been recorded in eucalypt forest and woodland, commonly near-coastal areas (TSSC, 2016). In Queensland, the species is associated with coastal lowland rainforest and more open forests dominated by *Eucalyptus* or *Corymbia* species (TSSC, 2016). There are no WN records of this species within 2km of the study area however this is one record on Magnetic Island. No preferred habitat for this species occurs in the study area as it has been mostly cleared and is highly disturbed. This species has a low likelihood of occurring in the study area.

[1] CE = Critically Endangered, CD = Conservation Dependent, E = Endangered, V = Vulnerable, M = Migratory – = No Classification

Table 11-4Likelihood of occurrence of listed migratory species within the Study Area

Common name	Genus and species	EPBC status[1]	NCA Status	Likelihood of occurrence
Marine Mammals				
Australian humpback dolphin	*Sousa sahulensis*	M	V	**Moderate** - The Australian humpback dolphin is found in the northern waters of Australia, extending from Exmouth Gulf in Western Australia to the Queensland – New South Wales border on the east coast (Corkeron et al. 1997; DCCEEW 2025a). The distribution of Australian humpback dolphins appears to be continuous along the east coast of Queensland (Corkeron et al. 1997). The Australian humpback dolphin usually inhabits shallow coastal waters in association with rivers or creeks, estuaries, enclosed bays, and coastal lagoons (Hale et al. 1998; Parra 2006). Surveys conducted in the far northern section of the GBRMP showed that most sightings of Australian humpback dolphins occurred in waters less than 5 km from land, 20 km from the nearest river mouth, and in waters less than 15 m deep (Parra et al. 2006). Magnetic Island (including the Study Area) has been identified as a BIA for Australian humpback dolphin reproduction (DCCEEW 2025d), with confirmed sightings in the area as recent as August 2024 (ALA 2025). However, the Nelly Bay Marina does not provide core habitat for the species.
Australian snubfin dolphin	*Orcaella heinsohni*	M	V	**Moderate** - The Australian snubfin dolphin only occurs in waters off the northern half of Australia and is Australia's only endemic dolphin species. The Australian snubfin dolphin occurs from approximately Broome on the west coast to the Brisbane River on the east coast, of which the latter was considered outside the normal range (Parra et al. 2002). There appears to be 'hotspots' of higher densities along the Queensland coast (DCCEEW 2025d; Parra et al. 2002). Preliminary data suggests they occur in small, localised populations (Stacey & Arnold 1999). This species appears to inhabit shallow waters <15 m deep within 10 km of the coast and up to 20 km of a river mouth, often in proximity to seagrass meadows (GBRMPA 2013a). It is doubtful that they venture very far upstream in river systems, although occasional vagrants may (DCCEEW 2025d; Parra et al. 2002). Although Magnetic Island has not been identified as a BIA for the species, there is suitable habitat for the species and numerous confirmed sightings in the area (ALA 2025). However, the Nelly Bay Marina does not provide core habitat for the species.
Blue whale	*Balaenoptera musculus*	E, M	–	**Nil** – Likelihood of occurrence addressed in Table 11-2
Bryde's whale	*Balaenoptera edeni*	M	LC	**Nil** - The Bryde's whale is a non-migrating species with a wide distribution throughout tropical and warm-temperate waters. There are currently two recognised subspecies of Bryde's whales, a larger offshore species, and smaller coastal species (Kershaw et al. 2013). Little is known about the behaviour of these whales (Sadar 2018) and, while there have been sightings in all Australian state and territory waters, a lack of data makes population estimates in Australia impossible. While the offshore species does travel northerly to tropical waters, the Study Area is not considered to be core habitat and is unlikely to support important populations. Individuals may occasionally pass offshore of the region's coastline.
Dugong	*Dugong dugon*	M	V	**Moderate** - Dugongs occur in all northern coastal waters, from Broome in Western Australia to Moreton Bay in Queensland (Marsh et al. 2011; Marsh et al. 2002). In relation to the Wet Tropics, the closest habitat with high importance is in the northern GBR, which supports the most significant populations of Dugongs (Sobtzick et al. 2014). Dugongs are seagrass specialists, with the dugong range within Australia broadly coincident with the distribution of seagrass in the tropical and sub-tropical waters of Australia (DCCEEW 2021a). Magnetic Island is recognised as an important area for dugongs providing important foraging habitat, with confirmed sightings in the area (DETSI 2025) and the island and Cleveland Bay mapped as dugong protection area. Although, Dugongs are known to use the habitat around Magnetic Island, the Nelly Bay Harbour does not provide critical habitat for this species and therefore do not represent an important population for the species.
Killer whale	*Orcinus orca*	M	LC	**Low** - Killer whales are found throughout all Australian state and territorial waters, with the greatest number of sightings occurring around the southern coastlines (Morrice 2004; Pitman et al. 2015). The southern Queensland coast is also a region of killer whale activity over the winter and spring during the humpback whale breeding migration (Paterson et al. 2001), and the availability of other temperate and subtropical prey such as seals, dugongs and pelagic fish species (Morrice 2004). Killer whales are not known to be migratory, but seasonal movements may be made (Ross 2006) and probably follow migratory routes of prey species. Killer whales are predominately found in southern Australian waters, with the northern Queensland coast not considered to be core habitat for this species. Therefore, the Study Area is unlikely to support important populations or offer habitat critical to the survival of this species.
Humpback whale	*Megaptera novaeangliae*	M	LC	**Low** - There are two separate populations of humpback whales in Australian waters: the west coast and the east coast populations. Sightings along both coasts are seasonal and coincide with the annual migration between breeding areas in tropical waters and Antarctic feeding grounds. Australia's east coast population experiences one of the world's largest humpback whale migrations (Meynecke et al. 2013), with a recent survey (2015) estimating an abundance of 25,545 whales (Noad et al. 2019). The eastern Australian humpback whale migrate close to the coast of Australia on their way to and from winter breeding areas (DCCEEW 2021a). The near-shore coastal waters of the Townsville region are mapped as a BIA in the NCVA for humpback whale breeding and calving (DCCEEW 2025b). However, the

Common name	Genus and species	EPBC status[1]	NCA Status	Likelihood of occurrence
				nearest key breeding area for the eastern humpback whale population is approximately 500 km south, from the Whitsunday offshore of Proserpine to the south of the Capricorn and Bunker groups(Chaloupka et al. 2008; Smith et al. 2012). This species is unlikely to frequently use the waters of the Nelly Bay Harbour, due to the relatively shallow depths. The coastal waters adjacent to the Study Area are within a BIA for humpback whale breeding and calving; however, the breeding area is presumed to be offshore of the Whitsundays approximately 500 km south from Cairns. Individuals may occasionally pass offshore of the region during migration.
Marine Reptiles				
Flatback turtle	*Natator depressus*	V, M	V	**Moderate** – Likelihood of occurrence addressed in Table 11-2
Green turtle	*Chelonia mydas*	V, M	V	**Moderate** – Likelihood of occurrence addressed in Table 11-2
Hawksbill turtle	*Eretmochelys imbricata*	V, M	E	**Moderate** – Likelihood of occurrence addressed in Table 11-2
Leatherback turtle	*Dermochelys coriacea*	E, M	E	**Low** – Likelihood of occurrence addressed in Table 11-2
Loggerhead turtle	*Caretta caretta*	E, M	E	**Moderate** – Likelihood of occurrence addressed in Table 11-2
Salt-water crocodile	*Crocodylus porosus*	M	V	**Moderate -** In Australia, salt-water crocodiles are found in northern coastal areas and drainages, from Broome in Western Australia to the Gladstone area in Queensland (Australian Museum 2024). They also occur on a number of islands off the Northern Territory and Queensland coasts which may be as far as 96 km from the nearest point on the mainland (Australian Museum 2024). Salt-water crocodiles mostly occur in tidal rivers, coastal floodplains and channels, billabongs and swamps up to 150 km inland from the coast (DF 2012). There are five recorded observations of Salt-water crocodiles adjacent to Magnetic Island, with a sighting within Nelly Bay Harbour in 2011 (DETSI 2025). Prior to 1970, the salt-water crocodile was unsustainably hunted, with populations heavily reduced. Since its full protection in 1974, recovery has been relatively slow and highly variable throughout Queensland (DES 2021a). Results of the latest Queensland estuarine crocodile monitoring program identified a slow increase in the population size along the Queensland east coast, but the average size of crocodiles has decreased, likely from the removal of 'problem crocodiles' (DES 2021a). The salt-water crocodile usually inhabits the lower (estuarine) reaches of rivers, however they have also been found hundreds of kilometres upstream (DCCEEW 2025d). In Queensland the species is usually restricted to coastal waterways and floodplain wetlands (DCCEEW 2025d). Salt-water crocodiles mostly use tidal waters, coastal floodplains and channels, billabongs and swamps (DCCEEW 2025d; Webb et al. 1987). In the Wet Tropics region, crocodiles are common in all lower estuarine waters. While the salt-water crocodile has been recorded within Nelly Bay Harbour, this sighting was likely vagrant, with no habitat critical for the species present within Nelly Bay Harbour..
Olive ridley turtle	*Lepidochelys olivacea*	E, M	E	**Low** – Likelihood of occurrence addressed in Table 11-2
Migratory Marine Birds				
Common Noddy	*Anous stolidus*	M	SL	**Low** - The common noddy mainly occurs of the Queensland coast. However, also occurs along the Western Australia coast and Northern Territory. During breeding season, this species occurs near or on islands, on rocky islets and stacks, or on shoals or cays of coral/sand. The birds can nest in saltbush, bushes, other low vegetation, on grass, on top of rocks, among coral rubble, on shingle beaches or in sand close to grassy areas. There are no WN records of this species within 2km of the study area and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Fork-tailed Swift	*Apus pacificus*	M	SL	**Low** - The Fork-tailed swift can occur in all states and territories of Australia (DOTE, 2025). In Queensland, there have been records of the species in the Gulf Country, Cape York Peninsula, east of the Great Divide, near Cooktown and south to Townsville (DOTE, 2024). They primarily occur over inland plains but can also sometimes occur in coastal areas or above foothills. This species mostly occurs over dry open habitat including low shrub, saltmarsh, heathland, or riparian woodland (DOTE, 2025). There are two WN records of this species within 2km of the study area and this species may rarely fly over the study area. However, no preferred habitat occurs in the study area and depositing dredging material will have no impact on this species due to its aerial nature. This species has a low likelihood of occurring in the study area.
Lesser Frigatebird	*Fregata ariel*	M	SL	**Low** - This species can be found along coastal areas of the northern parts of Australia, in Queensland, the Northern Territory, and Western Australia (Birdlife International, 2018). The species breeds on small subtropical and tropical islands, in bushes or mangroves and sometimes on bare ground (Birdlife International, 2018). There is one WN record of this species within 2km of the study area associated with the coastline. No preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.

Common name	Genus and species	EPBC status[1]	NCA Status	Likelihood of occurrence
Great Frigatebird	*Fregata minor*	M	SL	**Low** - This species has non-breeding individuals that disperse throughout the tropical seas and can be found in the northern coastal parts of Queensland and the Northern Territory (BirdLife International, 2020). The species breeds on subtropical and tropical islands, in bushes or mangroves and sometimes bare ground (BirdLife International, 2020). There are no WN records of this species within 2km of the study area and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
White-tailed Tropicbird	*Phaethon lepturus*	M	SL	**Low** - The White-tailed Tropicbird breeds on the Cocos-Keeling Islands in the main atoll, at Ashmore Reef, and Rowley Shoals of the north coast of Western Australia (BirdLife International, 2020). The birds can be found over pelagic waters and the coasts of subtropical and tropical seas (BirdLife International, 2020). The species nests in a sheltered scrape on the ground or in rock crevices (BirdLife International, 2020). There are no WN records of this species within 2km of the study area and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Little Tern	*Stemula albifrons*	M	SL	**Low** - There are two major subpopulations of little terns that breed in Australia (DCCEEW, 2025). One extends from the Gulf of Carpentaria and eastern Cape York Peninsula through the Northern Territory to Broome in Western Australia, and another the breeds along the eastern coast of the mainland, northern and eastern Tasmania (DCCEEW, 2025). This species inhabits coastal environments including estuaries, lagoons, deltas, bays, lakes, river mouths, inlets, harbours particularly those with exposed ocean beaches, sand-pits, sandbanks (DCCEEW, 2025). There are no WN records of this species within 2km of the study area and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Migratory Terrestrial Species				
Oriental Cuckoo	*Cuculus optatus*	M	SL	**Moderate** - This species can be found in the north and eastern parts of Australia (Birdlife International, 2021). This species breeds in coniferous-deciduous, larch taiga and broadleaf forests, as well as wooded hill country, orchards, and open areas (Birdlife International, 2021). There is one WN record of this species within 2km of the study area and a few scattered trees are present in the study area that could be used for perching. However, the majority of the study area has been previously cleared and no trees are proposed as being impacted by the project. Additionally, large remnant tracks of higher quality habitat occurs immediately outside the study area. There is a moderate likelihood that this species could occur in the study area however there are not likely to be any impacts to this species from the project.
White-throated Needletail	*Hirundapus caudacutus*	V, M	V	**Low** - Occurs from northern Queensland through to south-eastern Australia and inland to the west of the Great Dividing Range, and in Tasmania. The species is nearly exclusively aerial. They are found above a variety of ecosystems, though there appears to be preference for open forests, rainforest, and heathlands, and less often over woodland and treeless areas. The species spends the non-breeding season (spring and summer) in Australia (Threatened Species Scientific Committee, 2019). There are no WN records of this species within 2km of the study area. This species may rarely fly over the study area but no preferred habitat occurs in the study area and depositing dredging material will have no impact on this species. This species has a low likelihood of occurring in the study area.
Yellow Wagtail	*Motacilla flava*	M	SL	**Low** - This is rare visitor to Australia with records sporadically occurring around the coasts with the majority of records between Broome and Darwin. It can be found in open country near swamps, salt marshes, sewage ponds, grassed surrounds to airfields and bare ground (Morcombe, 2011). There are no WN records of this species within 2km of the study area and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Migratory Wetland Species				
Common Sandpiper	*Actitis hypoleucos*	M	SL	**Low** -The common sandpiper is found the coastlines of Australia but highly concentrated in northern and western Australia. In Queensland, the species is found on the Cairns Foreshore and the south-eastern Gulf of Carpentaria (DOTE, 2025). The species inhabits coastal wetlands and some inland wetlands, and is mostly found around rocky shores or muddy margins (DOTE, 2025). There is one WN record of this species within 2km of the study area, however, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Sharp-tailed Sandpiper	*Calidris acuminata*	V, M	V	**Low** - Occurs along the coastline of Queensland, New South Wales, and Victoria, with scattered records inland and in other states. The species occurs in freshwater/brackish wetlands that have muddy edges with sedges, grass, saltmarsh, or other low vegetation. They can be attracted to aquatic vegetation such as algae mats and water weeds. The species spends the non-breeding season (spring and summer) in Australia (Department of Climate Change, Energy, the Environment and Water, 2025). There is one WN record of this species within 2km of the study area, however, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Red Knot	*Calidris canutus*	V, M	V	**Low** - Red knots occur around the Australian coast. They mainly inhabit intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans,

Common name	Genus and species	EPBC status[1]	NCA Status	Likelihood of occurrence
				and recorded on sewage ponds and saltworks, but rarely use freshwater swamps. They rarely use inland lakes or swamps. Roosting mainly occurs in intertidal mudflats in sheltered areas and nesting occurs in shallow depressions on open ground (Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Curlew Sandpiper	*Calidris ferruginea*	CE, M	CE	**Low** - Occurs around the coasts of Australia and is widespread inland in smaller numbers. In Queensland there are scattered records occurring in the Gulf of Carpentaria, with widespread records along the coast south of Cairns. Habitat generally consists of intertidal mudflats in sheltered coastal areas, though is known to occur around non-tidal swamps, lakes, and ephemeral water bodies. The Curlew Sandpiper roosts on beaches, sandspits, islets and occasionally dunes. The Curlew Sandpiper spends the non-breeding season (spring and summer) in Australia (Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Pectoral Sandpiper	*Calidris melanotos*	*M*	SL	**Low** -In Queensland, most records of this species occur around Cairns (DOTE, 2025). The Pectoral Sandpiper has a preference for shallow fresh to saline wetlands but can also be found on coastal lagoons, estuaries, swamps, bays, lakes, grasslands, river pools, saltmarshes, floodplains and creeks. This species prefers wetlands with open mudflats and low emergent vegetation (DOTE, 2025). There is one WN record of this species within 2km of the study area, however, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Greater Sand Plover	*Charadrius leschenaultii*	V, M	V	**Low** - Occurs around the entire Australian coast in littoral and estuarine habitats. These include muddy, sandy, and shelly sheltered beaches with large intertidal zones, estuaries, reefs, and rocky zones. The species spends the non-breeding season (spring and summer) in Australia (Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Latham's Snipe	*Gallinago hardwickii*	V, M	V	**Low** - Occurs from the Cape York Peninsula in Queensland south to South Australia, and inland west of the Great Dividing Range. They inhabit various wetlands, permanent and ephemeral, of varying salinity, though they prefer freshwater with low, dense vegetation. The species spends the non-breeding season (spring and summer) in Australia (Department of Climate Change, Energy, the Environment and Water, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Bar-tailed Godwit	*Limosa lapponica*	M	E	**Low** - The Bar-tailed Godwit (both subspecies combined) has been recorded in the coastal areas of all Australian states (DCCEEW, 2025). It is widespread in the Torres Strait and along the east and south-east coasts of Queensland, NSW and Victoria. The migratory Bar-tailed Godwit (western Alaskan) does not breed in Australia (DCCEEW, 2025). Occurs mainly in coastal habitats in coastal habitats which include large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays (DCCEEW, 2025). It also has been recorded in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms and coral reef-flats (DCCEEW, 2025). The subspecies L. l. baueri breeds in north-east Siberia from around the Kolyma River to east of the Chukotka Peninsula as well as in west Alaska, from Wales to Barrow (DCCEEW, 2025). There are no WN records of this species within 2km of the study area, and no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Eastern Curlew	*Numenius madagascariensis*	CE, M	CE	**Low** - The eastern curlew has a coastal distribution and can be found in all states. The eastern curlew can be seen in Australia throughout the non-breeding season on sheltered coasts, especially bays, harbours, estuaries, inlets and coastal lagoons, with intertidal mudflats/sandflats and often beds of seagrass. The species roosts during high tide on islets, sandbars, sandy spits particularly among vegetation and near the high-water mark. Foraging typically occurs during the non-breeding season on sheltered mudflats or sandflats (Department of Climate Change, Energy, the Environment and Water, 2025). There are three WN records of this species within 2km of the study area, however, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Osprey	*Pandion haliaetus*	M	SL	**Low** - The Osprey has a distribution that extends around the north coast of Australia (BirdLife International, 2021). The species inhabits the areas around shallow waters and persists in suburban and urban environments (BirdLife International, 2021). They are frequently observed in wetland habitats including reefs, coastal cliffs, mangrove swamps, reservoirs, bays, beaches, lakes and waterholes (BirdLife International, 2021). They prefer coastal cliffs and elevated islands but may also inhabit muddy, sandy or rocky shores and over coral cays (BirdLife International, 2021). There are four WN records of this species within 2km of the study area and this species may fly over the study area while transiting from roosting to hunting areas. However, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.

Common name	Genus and species	EPBC status[1]	NCA Status	Likelihood of occurrence
Common Greenshank	*Triga nebularia*	M	E	**Low** - Occurs along most of the Australian coastline and sporadically inland, in all types of wetlands. They prefer wetlands with muddy or clay edges, occasionally sand, with either bare, emergent, or fringing vegetation. The species spends the non-breeding season (spring and summer) in Australia (Department of Climate Change, Energy, the Environment and Water, 2025). There is one WN records of this species within 2km of the study area, however, no preferred habitat for this species occurs in the study area. This species has a low likelihood of occurring in the study area.
Fish				
Freshwater sawfish	*Pristis pristis*	V, M	–	**Low** – Likelihood of occurrence addressed in Table 11-2
Green sawfish	*Pristis zijsron*	V, M	–	**Low** – Likelihood of occurrence addressed in Table 11-2
Narrow sawfish	*Anoxypristis cuspidata*	M	–	**Low** - In Australia, the narrow sawfish occurs across northern Australia from the Pilbara region of Western Australia, through the Northern Territory, the Gulf of Carpentaria, Cape York Peninsula to the central Queensland coast (Kyne & Pillans 2014). Juveniles are found in lower reaches of rivers and estuaries as well as large coastal mud and sand flats often over intertidal areas, whereas adults are primarily offshore. Unlike other sawfish, this species has been captured in mid-water gillnets targeting pelagic fish and sharks (Kyne & Pillans 2014). As the Nelly Bay Harbour does not provide habitat for this species, but it is within the range of its distribution, there is a low likelihood of this species occurring in the Study Area.
Sharks and Rays				
Giant manta ray	*Mobula birostris*	M	–	**Nil** – The Giant Manta Ray is circumglobal in tropical to temperate waters (Lawson et al. 2017). It occurs across northern Australia in a wide range from Montague Island (New South Wales) to Shark Bay (Western Australia) (Armstrong et al. 2020; Last 2016; Last & Stevens 2009). The Giant Manta Ray is mainly pelagic from the surface to a depth of 1,000 m. As this is a predominantly oceanic species found in cooler deeper waters and the closest record is ~200 km from the Magnetic Island, it is very unlikely to occur within the Nelly Bay Harbour.
Great white shark	*Carcharodon carcharias*	V, M	–	**Low** – Likelihood of occurrence addressed in Table 11-2
Grey Nurse Shark	Carcharias taurus	M*	E	**Nil** – The grey nurse shark is listed as two separate populations (east and west coast) under the EPBC Act, with the east coast population listed as critically endangered and the west coast vulnerable. The remainder of the Australian coastline is mapped as potential habitat for the species and listed as migratory under the EPBC Act. The east coast population is considered to extend from the Capricornia coast (central Queensland) to Narooma in southern NSW, but has been recorded as far north as Cairns. The grey nurse shark Grey nurse sharks are often observed just above the sea bed in or near deep sandy-bottomed gutters or rocky caves, in the vicinity of inshore rocky reefs and islands. As the Study Area is outside of the east coast population and the closest record is in SEQ approximately 1000 km away, there is very low likelihood of the species occurring within the Study Area.
Mackerel shark	*Lamna nasus*	M	–	**Nil** - The mackerel shark is a wide ranging coastal and oceanic species found in temperate and cold-temperate waters worldwide, preferring water temperatures below 18°C (Stevens et al. 2006). In Australia, this species occurs from southern Queensland to south-west Australia (Last & Stevens 2009). They typically occur in oceanic waters off the continental shelf, although they occasionally enter coastal waters (Francis et al. 2002). Mackerel sharks are thought to be reasonably flexible in the types of habitats used for foraging (Pade et al. 2009). As this is a predominantly oceanic species found in cooler deeper waters and the closest record is ~300 km from the Magnetic Island, it is very unlikely to occur within the Nelly Bay Harbour.
Oceanic whitetip shark	*Carcharhinus longimanus*	M	–	**Nil** - Oceanic Whitetip Sharks are widespread in tropical to warm temperate waters, usually well offshore (Bray & Gomon 2018). In Australia, the species occurs mostly in oceanic areas off northern Australia, but is rare or absent in the Arafura Sea and Gulf of Carpentaria. Oceanic Whitetip Sharks have also been recorded off South Australia but are typically rare off the southern coast. The species feeds mostly on a variety of pelagic bony fishes, as well as on squid. Prey also includes crustaceans, stingrays, turtles, sea birds and carrion (Bray & Gomon 2018). As this is a predominantly oceanic species found in cooler deeper waters and the closest record is ~200 km from the Magnetic Island, it is very unlikely to occur within the Nelly Bay Harbour.
Reef manta ray	*Mobula alfredi*	M	–	**Low** - The taxonomy of manta rays has recently been revised and the genus *Mobula* now includes two distinct species: *Mobula birostris*, a more oceanic species that migrates large distances in cooler waters, and *M. alfredi*, more common on the continental shelf around tropical and subtropical coral and rocky reefs, islands and along coastlines (Couturier et al. 2011; Marshall 2008; Marshall et al. 2009). The known distribution of manta rays in Australian waters is patchy, with records primarily centred around tourism hotspots (Armstrong et al. 2020). Of the two giant manta ray species, the most likely species to occur near the coastline is *M. alfredi*. This species shows high site affinity that is likely to be related to feeding areas, cleaning stations, reproductive sites, and migratory landmarks (Couturier et al. 2011).

Common name	Genus and species	EPBC status[1]	NCA Status	Likelihood of occurrence
				Little information is available on the Reef Manta Ray in the Wet Tropics region. Magnetic Island is within the distribution range of this species with a record on the north of the island in 2007 (ALA 2025). However, there is a low likelihood of occurrence within the Nelly Bay Harbour as they are typically not associated with the habitat within harbours.
Whale shark	*Rhincodon typus*	V, M	–	**Low** – Likelihood of occurrence addressed in Table 11-2

[1] CE = Critically Endangered, CD = Conservation Dependent, E = Endangered, V = Vulnerable, M = Migratory – = No Classification

* The eastern population of grey nurse shark is classified as critically endangered under the EPBC act, however the PMST search only triggered the potential impact to migratory individuals for the species.

Appendix B EPBC Act Protected Matters Report for Nelly Bay Harbour

Nelly Bay Dredging

EPBC Self-Assessment

Townsville City Council

SLR Project No.: 623.030475.00006

31 January 2025

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: 10-Jan-2025

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:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	4
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	34
Listed Migratory Species:	52

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:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	90
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:	3
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	13
Key Ecological Features (Marine):	None
Biologically Important Areas:	5
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [Resource Information]

Name	State	Legal Status	Buffer Status
Great Barrier Reef	QLD	Declared property	In feature area

National Heritage Places [Resource Information]

Name	State	Legal Status	Buffer Status
Natural			
Great Barrier Reef	QLD	Listed place	In feature area

Great Barrier Reef Marine Park [Resource Information]

Zone Type	Zone ID	IUCN	Buffer Status
Conservation Park	CP-19-4058	IV	In buffer area only
Habitat Protection	HP-19-5161	VI	In feature area
Marine National Park	MNP-19-1093	II	In buffer area only
Marine National Park	MNP-19-1094	II	In feature area

Listed Threatened Ecological Communities [Resource Information]

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

Community Name	Threatened Category	Presence Text	Buffer Status
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Calidris acuminata			
Sharp-tailed Sandpiper [874]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat likely 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
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	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat may occur within area	In feature area
Neochmia ruficauda ruficauda Star Finch (eastern), Star Finch (southern) [26027]	Endangered	Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
MAMMAL			
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Species or species habitat may occur within area	In feature area
[Dasyurus hallucatus](#) Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area	In feature area
[Macroderma gigas](#) Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Petauroides minor](#) Greater Glider (northern), Greater Glider (north-eastern Queensland) [92008]	Vulnerable	Species or species habitat may occur within area	In feature area
[Petauroides volans](#) Greater Glider (southern and central) [254]	Endangered	Species or species habitat may occur within area	In feature area
[Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)](#) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
[Saccolaimus saccolaimus nudicluniatus](#) Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area	In feature area
PLANT			
[Solanum graniticum](#) Granite Nightshade [84819]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Tephrosia leveillei](#) [16946]	Vulnerable	Species or species habitat may occur within area	In feature area
REPTILE			
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Breeding known to occur within area	In feature area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In feature area
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
[Lepidochelys olivacea](#) Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area	In feature area
[Natator depressus](#) Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	In feature area
SHARK			
[Carcharodon carcharias](#) White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area	In feature area
[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
[Pristis zijsron](#) Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding likely to occur within area	In feature area
[Rhincodon typus](#) Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In feature area
[Sphyrna lewini](#) Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area	In feature area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat known to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
Sternula albifrons Little Tern [82849]		Breeding likely to occur within area	In feature area
Migratory Marine Species			
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area	In feature area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In feature area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In feature area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In feature area
Carcharias taurus Grey Nurse Shark [64469]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Carcharodon carcharias](#) White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area	In feature area
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Breeding known to occur within area	In feature area
[Crocodylus porosus](#) Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In feature area
[Dugong dugon](#) Dugong [28]		Species or species habitat known to occur within area	In feature area
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
[Lamna nasus](#) Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area	In feature area
[Lepidochelys olivacea](#) Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area	In feature area
[Megaptera novaeangliae](#) Humpback Whale [38]		Species or species habitat known to occur within area	In feature area
[Mobula alfredi as Manta alfredi](#) Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area	In feature area
[Mobula birostris as Manta birostris](#) Giant Manta Ray [90034]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	In feature area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat likely to occur within area	In feature area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In feature area
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
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding likely to occur within area	In feature area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In feature area
Sousa sahulensis as Sousa chinensis Australian Humpback Dolphin [87942]		Breeding known to occur within area	In feature area
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		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

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
[Calidris canutus](#) Red Knot, Knot [855]	Vulnerable	Species or species habitat likely 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 likely to occur within area	In feature area
[Calidris ruficollis](#) Red-necked Stint [860]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Charadrius mongolus](#) Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
[Gallinago megala](#) Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
[Gallinago stenura](#) Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Numenius phaeopus Whimbrel [849]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In feature area
Pluvialis fulva Pacific Golden Plover [25545]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa brevipes Grey-tailed Tattler [851]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

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

Commonwealth Land Name	State	Buffer Status
Defence		
Defence - AMAROO - MAGNETIC ISLAND [30246]	QLD	In buffer area only

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris ruficollis Red-necked Stint [860]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Charadrius mongolus](#) Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
[Charadrius ruficapillus](#) Red-capped Plover [881]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
[Fregata ariel](#) Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area	In feature area
[Fregata minor](#) Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat known to occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
[Gallinago megala](#) Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
[Gallinago stenura](#) Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
[Haliaeetus leucogaster](#) White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
Numenius phaeopus Whimbrel [849]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
Pluvialis fulva Pacific Golden Plover [25545]		Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
[Rostratula australis as Rostratula benghalensis (sensu lato)](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
[Sternula albifrons as Sterna albifrons](#) Little Tern [82849]		Breeding likely to occur within area	In feature area
[Symposiachrus trivirgatus as Monarcha trivirgatus](#) Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area	In feature area
[Tringa brevipes as Heteroscelus brevipes](#) Grey-tailed Tattler [851]		Foraging, feeding or related behaviour 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 overfly marine area	In feature area
Fish			
[Acentronura tentaculata](#) Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area	In feature area
[Campichthys tryoni](#) Tryon's Pipefish [66193]		Species or species habitat may occur within area	In feature area
[Choeroichthys brachysoma](#) Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area	In feature area
[Choeroichthys suillus](#) Pig-snouted Pipefish [66198]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area	In feature area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area	In feature area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area	In feature area
Corythoichthys ocellatus Orange-spotted Pipefish, Ocellated Pipefish [66203]		Species or species habitat may occur within area	In feature area
Corythoichthys paxtoni Paxton's Pipefish [66204]		Species or species habitat may occur within area	In feature area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area	In feature area
Cosmocampus darrosanus D'Arros Pipefish [66207]		Species or species habitat may occur within area	In feature area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area	In feature area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area	In feature area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area	In feature area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area	In feature area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area	In feature area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area	In feature area
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within area	In feature area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	In feature area
Hippocampus bargibanti Pygmy Seahorse [66721]		Species or species habitat may occur within area	In feature area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area	In feature area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area	In feature area
Hippocampus zebra Zebra Seahorse [66241]		Species or species habitat may occur within area	In feature area
Micrognathus andersonii Anderson's Pipefish, Shortnose Pipefish [66253]		Species or species habitat may occur within area	In feature area
Micrognathus brevirostris thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Nannocampus pictus Painted Pipefish, Reef Pipefish [66263]		Species or species habitat may occur within area	In feature area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area	In feature area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In feature area
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area	In feature area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In feature area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In feature area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area	In feature area
Mammal			
Dugong dugon Dugong [28]		Species or species habitat known to occur within area	In feature area
Reptile			
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area	In feature area
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area	In feature area
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area	In feature area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In feature area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area	In feature area
Hydrophis hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may occur within area	In feature area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area	In feature area
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area	In feature area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area	In feature area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area	In feature area
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area	In feature area
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area	In feature area
Hydrophis zweiffei as Enhydrina schistosa Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area	In feature area
Laticauda colubrina Yellow-lipped Sea Krait [1092]		Species or species habitat may occur within area	In feature area
Laticauda laticaudata a sea krait [1093]		Species or species habitat may occur within area	In feature area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	In feature area

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 feature area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In feature area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In feature area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In feature area

Current Scientific Name	Status	Type of Presence	Buffer Status
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	In feature area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In feature area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat likely to occur within area	In feature area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In feature area
Sousa sahulensis Australian Humpback Dolphin [87942]		Breeding known to occur within area	In feature area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In feature area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In feature area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Cleveland Bay - Magnetic Island	Dugong Protection Area (A)	QLD	In feature area
Great Barrier Reef Coast	Marine Park	QLD	In feature area
Magnetic Island	National Park	QLD	In feature area

Nationally Important Wetlands		[Resource Information]
Wetland Name	State	Buffer Status

Wetland Name	State	Buffer Status
Great Barrier Reef Marine Park	QLD	In feature area

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Clearing of land for master planning	2002/705	Not Controlled Action	Completed	In feature area
Construction of Residential Apartments at 146 Sooning St Bright Point Nelly Bay	2004/1796	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Installation of additional mobile telecommunications infrastrucutre	2005/2120	Not Controlled Action	Completed	In feature area
Lot 22 Nobby Head subdivision	2002/897	Not Controlled Action	Completed	In buffer area only
Magnetic Island Waste Transfer Station	2012/6497	Not Controlled Action	Completed	In buffer area only
Magnetic Island Water Reuse Project	2019/8536	Not Controlled Action	Completed	In buffer area only
Mobile Telephone Communications Facility, 'Arkies' Hotel, Hayles Avenue, Arcadia	2002/878	Not Controlled Action	Completed	In buffer area only
Mobile Telephone Communications Facility Yule Street	2002/902	Not Controlled Action	Completed	In buffer area only
New Base Station Telecommunications Facility	2008/3957	Not Controlled Action	Completed	In buffer area only
Telecommunications Facility	2003/964	Not Controlled Action	Completed	In feature area
Telecommunications facility, Arkies Hotel, Arcadia	2005/2056	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Magnetic Island Submarine and Overland Electricity Cable, QLD	2012/6584	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence	Buffer Status
Dolphins			

Scientific Name	Behaviour	Presence	Buffer Status
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Breeding	Known to occur	In feature area
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Known to occur	In feature area
Marine Turtles			
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur	In feature area
Seabirds			
Sterna sumatrana Black-naped Tern [800]	Breeding	Known to occur	In feature area
Whales			
Megaptera novaeangliae Humpback Whale [38]	Breeding and calving	Known to occur	In feature area

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

Where data is 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 on the contents of this report.

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 point locations and environmental data layers.

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 when time permits.

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 breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

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Appendix C EPBC Act Protected Matters Report for DMMF

Nelly Bay Dredging

EPBC Self-Assessment

Townsville City Council

SLR Project No.: 623.030475.00006

31 January 2025

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: 24-Jan-2025

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:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	2
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	33
Listed Migratory Species:	44

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:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	81
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:	3
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	6
Key Ecological Features (Marine):	None
Biologically Important Areas:	5
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [Resource Information]

Name	State	Legal Status	Buffer Status
Great Barrier Reef	QLD	Declared property	In feature area

National Heritage Places [Resource Information]

Name	State	Legal Status	Buffer Status
Natural			
Great Barrier Reef	QLD	Listed place	In feature area

Great Barrier Reef Marine Park [Resource Information]

Zone Type	Zone ID	IUCN	Buffer Status
Habitat Protection	HP-19-5161	VI	In buffer area only
Marine National Park	MNP-19-1094	II	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
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	Community likely to occur within area	In buffer area only

Listed Threatened Species [Resource Information]

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Calidris acuminata			
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris canutus			
Red Knot, Knot [855]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat may occur within area	In feature area
Neochmia ruficauda ruficauda Star Finch (eastern), Star Finch (southern) [26027]	Endangered	Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
MAMMAL			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Balaenoptera musculus			
Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Dasyurus hallucatus			
Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area	In feature area
Macroderma gigas			
Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Petauroides minor			
Greater Glider (northern), Greater Glider (north-eastern Queensland) [92008]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat may occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Saccolaimus saccolaimus nudicluniatus			
Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area	In feature area
PLANT			
Solanum graniticum			
Granite Nightshade [84819]	Endangered	Species or species habitat may occur within area	In feature area
Tephrosia leveillei			
[16946]	Vulnerable	Species or species habitat may occur within area	In buffer area only
REPTILE			
Caretta caretta			
Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
Chelonia mydas			
Green Turtle [1765]	Vulnerable	Breeding known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In feature area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	In feature area
SHARK			
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	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
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding likely to occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
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 likely to occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Fregata ariel](#) Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area	In feature area
[Fregata minor](#) Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat known to occur within area	In feature area
[Phaethon lepturus](#) White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
[Sternula albifrons](#) Little Tern [82849]		Breeding likely to occur within area	In feature area
Migratory Marine Species			
[Anoxypristis cuspidata](#) Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area	In buffer area only
[Balaenoptera edeni](#) Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
[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 may occur within area	In buffer area only
[Carcharodon carcharias](#) White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Breeding known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In feature area
Dugong dugon Dugong [28]		Species or species habitat known to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area	In buffer area only
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area	In feature area
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	Breeding known to occur within area	In feature area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat likely 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

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
Pristis zijsron			
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding likely to occur within area	In buffer area only
Rhincodon typus			
Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sousa sahulensis as Sousa chinensis			
Australian Humpback Dolphin [87942]		Breeding known to occur within area	In buffer area only
Migratory Terrestrial Species			
Cuculus optatus			
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus			
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Motacilla flava			
Yellow Wagtail [644]		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
Calidris acuminata			
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris canutus			
Red Knot, Knot [855]	Vulnerable	Species or species habitat likely 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat likely to occur within area	In feature area
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
[Limosa lapponica](#) Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
[Pandion haliaetus](#) Osprey [952]		Breeding known to occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]	
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 likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area overfly marine area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area	In feature area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat known to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Sternula albifrons as Sterna albifrons](#) Little Tern [82849]		Breeding likely to occur within area	In feature area
[Symposiachrus trivirgatus as Monarcha trivirgatus](#) Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Fish			
[Acentronura tentaculata](#) Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area	In feature area
[Campichthys tryoni](#) Tryon's Pipefish [66193]		Species or species habitat may occur within area	In feature area
[Choeroichthys brachysoma](#) Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area	In feature area
[Choeroichthys suillus](#) Pig-snouted Pipefish [66198]		Species or species habitat may occur within area	In feature area
[Corythoichthys amplexus](#) Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area	In feature area
[Corythoichthys flavofasciatus](#) Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area	In feature area
[Corythoichthys intestinalis](#) Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area	In feature area
[Corythoichthys ocellatus](#) Orange-spotted Pipefish, Ocellated Pipefish [66203]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Corythoichthys paxtoni Paxton's Pipefish [66204]		Species or species habitat may occur within area	In feature area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area	In feature area
Cosmocampus darrosanus D'Arros Pipefish [66207]		Species or species habitat may occur within area	In feature area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area	In feature area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area	In feature area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area	In feature area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area	In feature area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area	In feature area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area	In feature area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area	In feature area
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	In feature area
Hippocampus bargibanti Pygmy Seahorse [66721]		Species or species habitat may occur within area	In feature area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area	In feature area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area	In feature area
Hippocampus zebra Zebra Seahorse [66241]		Species or species habitat may occur within area	In feature area
Micrognathus andersonii Anderson's Pipefish, Shortnose Pipefish [66253]		Species or species habitat may occur within area	In feature area
Micrognathus brevirostris thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area	In feature area
Nannocampus pictus Painted Pipefish, Reef Pipefish [66263]		Species or species habitat may occur within area	In feature area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area	In feature area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In feature area
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Syngnathoides biaculeatus](#) Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In feature area
[Trachyrhamphus bicoarctatus](#) Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In feature area
[Trachyrhamphus longirostris](#) Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area	In feature area
Mammal			
[Dugong dugon](#) Dugong [28]		Species or species habitat known to occur within area	In buffer area only
Reptile			
[Aipysurus duboisii](#) Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area	In buffer area only
[Aipysurus laevis](#) Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area	In buffer area only
[Aipysurus mosaicus as Aipysurus eydouxii](#) Mosaic Sea Snake [87261]		Species or species habitat may occur within area	In buffer area only
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Breeding known to occur within area	In feature area
[Crocodylus porosus](#) Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area	In buffer area only
Hydrophis hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may 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
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area	In buffer area only
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area	In buffer area only
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area	In buffer area only
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area	In buffer area only
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area	In buffer area only
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area	In buffer area only
Hydrophis zweiffei as Enhydrina schistosa Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Laticauda colubrina Yellow-lipped Sea Krait [1092]		Species or species habitat may occur within area	In buffer area only
Laticauda laticaudata a sea krait [1093]		Species or species habitat may occur within area	In buffer area only
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	In feature area

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 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
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
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat likely to occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In buffer area only
Sousa sahulensis Australian Humpback Dolphin [87942]		Breeding known to occur within area	In buffer area only
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In buffer area only
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In buffer area only
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In buffer area only

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State	Buffer Status
Cleveland Bay - Magnetic Island	Dugong Protection Area (A)	QLD	In buffer area only
Great Barrier Reef Coast	Marine Park	QLD	In buffer area only
Magnetic Island	National Park	QLD	In feature area

Nationally Important Wetlands [Resource Information]

Wetland Name	State	Buffer Status
Great Barrier Reef Marine Park	QLD	In feature area

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Clearing of land for master planning	2002/705	Not Controlled Action	Completed	In feature area
Construction of Residential Apartments at 146 Sooning St Bright Point Nelly Bay	2004/1796	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

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Installation of additional mobile telecommunications infrastrucutre	2005/2120	Not Controlled Action	Completed	In feature area
Telecommunications Facility	2003/964	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
Magnetic Island Submarine and Overland Electricity Cable, QLD	2012/6584	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only

Biologically Important Areas

[Resource Information]

Scientific Name	Behaviour	Presence	Buffer Status
Dolphins			
Sousa chinensis			
Indo-Pacific Humpback Dolphin [50]	Breeding	Known to occur	In buffer area only
Tursiops aduncus			
Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Known to occur	In buffer area only
Marine Turtles			
Natator depressus			
Flatback Turtle [59257]	Nesting	Known to occur	In buffer area only
Seabirds			
Sterna sumatrana			
Black-naped Tern [800]	Breeding	Known to occur	In feature area
Whales			
Megaptera novaeangliae			
Humpback Whale [38]	Breeding and calving	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 is 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 on the contents of this report.

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 point locations and environmental data layers.

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 when time permits.

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 breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

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Appendix D Key Management Actions During Management Dredging

Nelly Bay Dredging

EPBC Self-Assessment

Townsville City Council

SLR Project No.: 623.030475.00006

31 January 2025

Table 3-1 Marine fauna interactions management actions.

Objectives	To minimise the capture of, or harm to, protected marine fauna and not affect species populations during maintenance dredging activities. To prevent or minimise adverse impacts on the GBRMP and existing habitats. To minimise and manage contamination and debris to ensure that no lasting damage or degradation to the environment occurs.		
Performance Indicators	All maintenance dredging activities are managed in accordance with the DMPF, the applicable Commonwealth and State legislation, approvals and statutory requirements and any other relevant standards and guidelines. No capture of, or harm to, marine fauna of significance, including turtles, dugong, dolphins and whales (as defined in section 6.2 of the DMPF). No injury of death of native wildlife. No loss of threatened species or communities. No potential or actual adverse impact on marine park as part of carrying out the maintenance dredging activities. No maintenance dredging occurs outside approved areas.		
Element	**Action**	**Responsibility**	**Timing**
Mitigation Measures	Only dredge in approved areas (i.e. designated dredge areas).	Dredge Contractor	At all times.
	A 300 m radius around the dredge area (observation zone) shall be observed by a Marine Fauna Observer (MFO) for a minimum of 30 minutes before commencing maintenance dredging.	Environmental Observer/Supervisor	30 minutes prior to the commencement of works or where silt curtains are moved or modified.
	Do not commence maintenance dredging if marine fauna of significance are observed within the observation zone until at least 30 minutes after the last individual has been sighted within the observation zone, or the dredge has moved to another dredging area where it can maintain a minimum distance of 300 m between the dredge and any marine fauna of significance.	Dredge Contractor	At all times.
	Install silt curtains around designated dredge areas to reduce interactions with marine fauna of significance.	Dredge Contractor	At all times.
	Maintain watch for marine turtles in high risk areas and take necessary action when risk of collision exists in order to minimise turtle capture.	Dredge Contractor	At all times.
	Marine fauna of significance to be monitored within the observation zone by a MFO for 30 minutes prior to the commencement of works, and when silt curtains are moved or modified.	Environmental Observer/Supervisor	30 minutes prior to the commencement of works and when silt curtains are moved or modified.
Monitoring	Marine fauna of significance to be monitored within the observation zone by a MFO for 30 minutes prior to the commencement of works or where silt curtains are moved or modified.	Environmental Observer/Supervisor	30 minutes prior to the commencement of works or where silt curtains are moved or modified.
	Marine fauna of significance to be monitored by the dredge contractor during all works.	Dredge Contractor	At all times.

Alert Level	Trigger Levels	Responsibility	Management Actions
Low risk	Marine fauna of significance is observed within the observation zone.	Dredge Contractor and Environmental Observer/Supervisor	In-water works must not recommence until the marine fauna of significance sighted within the observation zone is observed to leave the observation zone or is not sighted for at least 30 minutes.
Moderate	Marine fauna of significance is observed within the silt curtain.	Dredge Contractor and Environmental Observer/Supervisor	In-water works must cease immediately and not recommence until the marine fauna of significance is released, silt curtain is re-installed and the marine fauna of significance is observed to leave the observation zone or is not sighted by a MFO for at least 30 minutes.
High	Marine fauna of significance is found stranded, injured or dead within 300 m of the dredge operations (i.e. observation zone), where the cause of the stranding, injury or death is unknown or may have been associated with the dredging operations..	Dredge Contractor and Environmental Observer/Supervisor	In-water works must cease immediately. Notify the Managing Agency (GBRMPA) no later than 24 hours after the marine fauna of significance is found. If works are underway at the time or have taken place within the previous week, must ensure that: (i) use of equipment that may have contributed to the injury or death of the marine fauna of significance ceases immediately; (ii) an assessment is made of the cause of the incident and a report submitted to the Managing Agency; (iii) where investigations determine injury or death may have been associated with the dredging operations, additional measures are incorporated into the Environmental Management Plan or Schedule of Works to minimise the risks identified; and (iv) the works do not resume without the written approval of the Managing Agency.

Table 3-2 Water quality, including turbidity control management actions.

Objectives	To minimise the generation of turbid plumes from operation of the dredge and protect environmental values of waters. To perform dredge/barge washing activities in an approved area and in such a way that the material is contained within the area.		
Performance Indicators	All maintenance dredging activities are managed in accordance with the DMPF, the applicable Commonwealth and State legislation, approvals and statutory requirements and any other relevant standards and guidelines. No exceedances of turbidity triggers. No visual turbidity plumes outside of dredge area No discharge of materials outside the designated washing area.		
Element	**Action**	**Responsibility**	**Timing**
Mitigation Measures	Ensure dredging and material unloading is undertaken within the approved areas only by reference to electronic navigation aids and visual marks as required.	Dredge Contractor	At all times
	Observe all site-specific requirements, which may influence dredging times (e.g. tides, wind direction and velocity etc.).	Dredge Contractor	At all times
	Install silt curtains around designated dredge areas to contain turbidity plumes associated with active dredging	Dredge Contractor	At all times
	Provide geofabric for unloading location of the barges to mitigate spillage onto rock wall/kerbing	Dredge Contractor	At all times
	Conduct washdown of dredge deck, dredge head/bucket and/or barge only occur within the designated area.	Dredge Contractor	At all times
	Release only dredge material as a result of dredge/barge washing activities (i.e. no release of oil or other contaminants).	Dredge Contractor	At all times
	Conduct sweeping of deck in preference to washing where possible	Dredge Contractor	At all times
	Treatment and management of dredge material as per ASSMP and erosion and sediment control plan.	Dredge Contractor	At all times
Monitoring	Monitor visually for turbid plumes, specifically for turbid plumes occurring outside of silt curtains.	Dredge Contractor and AQP	At all times when dredging
	Monitor visually for turbid plumes at monitoring locations and the frequency outlined in the SPAM by an Appropriately Qualified person (AQP) (see Section 4.0)	AQP	Twice weekly, only when dredging on outgoing tide
	Monitor turbidity at monitoring locations and the frequency outlined in the SPAM by an AQP (see Section 4.0)	AQP	Twice weekly, only when dredging on outgoing tide
	Monitor for other potential sources of sediment plumes within the Nelly Bay Harbour (e.g. other boats and ferries).	Dredge Contractor and AQP	Twice weekly, only when dredging on outgoing tide

Alert Level	Trigger Levels	Responsibility	Management Actions
Low risk	Turbid plume from the dredge operation observed ≥ 5 m and < 25 m down current of silt curtains when dredging	Dredge Contractor and AQP	Investigate the reason for turbid plumes outside of silt curtains and implement appropriate corrective action(s), which may include assessment of condition of silt curtains, reduction in load size, movement to different dredge area.
Moderate	Turbid plume from the dredge operation observed ≥ 25 m and < 100 m down current of silt curtains when dredging	Dredge Contractor and AQP	In-water works must cease until turbid plume is reduced to < 5 from silt curtain. Investigate the reason for turbid plumes outside of silt curtains and implement appropriate corrective action(s), which may include assessment of condition of silt curtains, reduction in load size, movement to different dredge area.
High	Turbid plume from the dredge operation observed ≥ 100 m down current of silt curtains or at mouth of Nelly Bay Harbour when dredging	Dredge Contractor and AQP	In-water works must cease until potential sources of turbid plumes are investigated and corrected. Investigate whether sediment plumes from the dredge operation have impacted on the turbidity of water at sensitive receptors (as outlined in the SPAM). Investigate the reason for turbid plumes outside of silt curtains and implement appropriate corrective action(s), which may include assessment of condition of silt curtains, reduction in load size, movement to different dredge area.

Table 3-3 Translocation of marine pests management actions.

Objectives	To minimise the potential for translocation of marine organisms to the environment.		
Performance Indicators	No translocation of marine organisms to the receiving environment.		
Element	**Action**	**Responsibility**	**Timing**
Mitigation Measures	Ballast water will be managed in accordance with the *Biosecurity Act 2015*.	Dredge Contractor	At all times
	Retain ballast tanks filled with freshwaters without treatment.	Dredge Contractor	At all times
	If discharge of ballast tanks holding seawater is required for safety purposes, exchange any ballast tanks prior to arrival with seawaters at a location as distant from the coastline or other shallow (<100m) areas as possible, but not less than 12nm.	Dredge Contractor	At all times
	Use of local (Qld) boats where available.	Dredge Contractor	At all times
	Only washdown dredge deck, dredge head/bucket and/or barge in the designated area (e.g. adjacent to the unload location).	Dredge Contractor	At all times
	Release only dredge material as a result of dredge/barge washing activities (i.e. no release of oil or other contaminants).	Dredge Contractor	At all times
	Conduct sweeping of deck in preference to washing where possible	Dredge Contractor	At all times
	Take reasonable steps to prevent the introduction of marine pests into the GBRMP and the transfer of pests between locations within the GBRMP	Dredge Contractor	At all times
	Summary of potential marine pests (including photographs and descriptions) to be compiled by AQP, referred to in start-up meetings by Dredge Contractor and kept on board vessels for reference	Dredge Contractor and AQP	At all times
Monitoring	Monitor visually for presence of marine pests in water and at washdown locations	Dredge Contractor and AQP	At all times
	Conduct regular reviews of the log and implementation of the washdown and ballast/de-ballasting operations.	Dredge Contractor	At all times

Alert Level	Trigger Levels	Responsibility	Management Actions
Low risk	Dredge/barge washdown runoff releases material outside of designated area	Dredge Contractor and AQP	Review dredge and barge washdown activities and rectify immediately, including further staff training if required.
Moderate	Ballast tanks holding seawater released within Nelly Bay Harbour	Dredge Contractor	Review ballast water management procedure if incident(s) occur and rectify immediately, including further staff training if required. Investigate all incidents in relation to ballast water management within 2 business days and undertaken appropriate actions, including updating the DMP if required.
High	Marine pest observed at washdown location or in water	Dredge Contractor and AQP	Cease all washdown activities. Remove and isolate marine pest and investigate potential source for contamination. Report any observations of contamination, or of marine organisms foreign to the current location of the dredge while washing the dredge/barge immediately to the TCC Project Manager and/or regulator (DETSI; where required).

Table 3-4 Hazardous substances and contamination management actions.

Objectives	To ensure that the generation of hazardous and regulated waste is minimised, segregated, stored, managed, and disposed of in line with legal and community expectations. To ensure that hazardous and regulated waste is collected, retained and transferred to an appropriate facility without unintentional loss and managed in a way that prevents or minimises adverse effects on environmental values.		
Performance Indicators	All maintenance dredging activities are managed in accordance with the DMP, the applicable Commonwealth and State legislation, approvals and statutory requirements and any other relevant standards and guidelines. No inappropriate storage, disposal or spill of hazardous and regulated wastes.		
Element	**Action**	**Responsibility**	**Timing**
Mitigation Measures	All waste generated in carrying out the activity must be reused, recycled or removed to a facility that can lawfully accept the waste	All dredge crew	At all times
	Establish areas for the safe storage and use of fuel, oils, chemicals, or fluids.	Dredge Contractor	At all times
	Minimise the quantities of hazardous substances, fuel, oil and chemicals stored onboard.	Dredge Contractor	At all times
	Ban smoking within 5m of dangerous goods storage areas.	Dredge Contractor	At all times
	Deploy appropriate spill kit equipment onboard where hydrocarbons and chemicals are stored or used at all, and ensure oil, fuel or chemical spills are cleaned-up promptly and effectively to minimise water contamination.	Dredge Contractor	At all times
	Washdown of dredge deck, dredge head/bucket and/or barge only within the designated areas	Dredge Contractor	At all times
	Release only dredge material as a result of dredge/barge washing activities (i.e. no release of oil or other contaminants).	Dredge Contractor	At all times
Monitoring	Monitor visually for oil, grease, floating scum or litter on the barge, in the washdown area and in water.	Dredge Contractor and AQP	At all times

Alert Level	Trigger Levels	Responsibility	Management Actions
Low risk	Observe litter on the barge, in the washdown area or in the water.	Dredge Contractor and AQP	Retrieve litter and dispose of in appropriate location, if practicable. Investigate source of litter and where sourced as a result from dredging activity, review procedure causing material loss and rectify immediately, including further staff training if required.
Moderate	Observe oil or grease on barge outside of bunded areas, or in the washdown area.	Dredge Contractor and AQP	Deploy appropriate spill kit equipment and ensure oil, fuel or chemical spills are cleaned-up promptly and effectively to minimise water contamination. Investigate source of contamination and undertake appropriate actions.
High	Observe oil, grease or floating scum in the water adjacent to the dredging works	Dredge Contractor and AQP	Cease works. Deploy appropriate spill kit equipment and ensure oil, fuel or chemical spills are cleaned-up promptly and effectively to minimise water contamination. Investigate source of contamination and undertake appropriate actions. Investigate whether contamination has impacted on the quality of water at sensitive receptors (as outlined in the SPAM).

Table 3-5 Contamination of soil and groundwater at the DMMF from PASS management actions.

Objectives	To prevent contamination of soil and groundwater at the DMMF as a result of the disposal of PASS.		
Performance Indicators	All maintenance dredging material is managed in accordance with the ASSMP, which is in accordance with SPP, the National ASSIMM and the Queensland ASSTM and Soil Management Guidelines. Treated ASS remains neutralised to a safe pH level. PASS remains within bunded areas until deems safe for land disposal No visual impacts to nearby vegetation.		
Element	**Action**	**Responsibility**	**Timing**
Mitigation Measures	Dredge material will be unloaded at the DMMF disposal site into pre-established bunded areas that have been classified into separate areas: Untreated, Currently Being Treated, Treated, and Load Out.	Dredge Contractor	At all times
	PASS material will be treated with Aglime until the soil is neutralised to a safe pH level	Dredge Contractor	At all times
	Dredge material to be managed in accordance with the ASSMP, which is in accordance with SPP, the National ASSIMM and the Queensland ASSTM	Dredge Contractor	At all times
	No tailwater release is to occur form the placement of dredge material	Dredge Contractor	At all times
Monitoring	Visual inspections to ensure the soil remains neutral and is not leaking out from the bunded areas	All dredge crew and AQP	At all times
	Visual inspections of nearby vegetation to identify any change in vegetation condition	All dredge crew and AQP	At all times
	Monitoring of pH of soil and groundwater	AQP	At all times

Alert Level	Trigger Levels	Responsibility	Management Actions
Low risk	Dredge material placed in incorrect pre-established bunded area	Dredge Contractor	Cease disposal of dredge material to DMMF Re-treat PASS material with Aglime and re-test soils to ensure safe pH levels Review protocols to ensure does not occur again.
Moderate	pH of water outside of bunded area below levels outlined in the Acid Sulphate Soil Management Plan	Dredge Contractor	Cease disposal of dredge material to DMMF Monitor pH of soil and groundwater outside of bunded area Re-establish bunded areas and amend site processes as required.
High	Vegetation outside of the bunded area dying off	All dredge crew and AQP	Cease disposal of dredge material to DMMF Investigate cause of die-back Monitor pH of soil and groundwater outside of bunded area Re-establish bunded areas and amend site processes as required.

Table 3-6 Noise, air, light and vibration emissions management actions.

Objectives	To minimise addition to background noise so that adverse effects on environmental values, including health and wellbeing and sensitive ecosystems, are prevented or minimised. To meet the acoustic quality objectives stated in Schedule 1 of the EPP Noise at a sensitive receptor. To ensure carbon emissions and dust generated by operation of the dredge do not unduly adversely impact adjacent areas or the environmental values of the air and acoustic environment. To meet the air objectives stated in Schedule 1 of the EPP Air at a sensitive receptor.		
Performance Indicators	All maintenance dredging activities are managed in accordance with this DMP and relevant approvals. No discharge to the air of emissions that may cause an adverse effect on the environment. No legitimate complaints regarding emissions received from community stakeholders or regulators.		
Element	**Action**	**Responsibility**	**Timing**
Mitigation Measures	Noise • Maintain all noise generating plant/equipment as per manufacturers' specifications and fit with standard noise control equipment (e.g. original mufflers, engine covers and attenuators). • Inform dredge crew to minimise noise where possible when the dredge is operating in a particularly noise sensitive environment (e.g. close proximity to residential areas). • No unnecessary use of horns or other audible signals on mobile plant/equipment. • Conduct maintenance dredging activities during daytime so that noise will be less noticeable. • Avoid early morning and night works. • Ensure that there are periods during the day when activities cease, even for a short period (e.g. lunch, morning tea, afternoon tea). • Limit the idle time of equipment / vehicles at the operation.	TCC	At all times
	Air quality • Maintain all combustion plant, particularly engines and generators as per manufacturers' specifications. • Adjust trim and ballast appropriately to ensure effective operation.	TCC	At all times
	Light • All works to be completed in daylight hours • Maintain all lighting as per manufacturers' specifications. • Use LED lighting, where practicable, to provide more direct illumination of tasks and reduce light spill. • Minimise use of external vessel lighting unless required for safety purposes.	Dredge Contractor	At all times
	Vibration • Maintain all plant/equipment as per manufacturers' specifications.	Dredge Contractor	At all times
Monitoring	Visually monitor exhaust stack to ensure no visual dark emissions (i.e. high concentration of particulate matter).	Dredge Contractor	At all times

	Undertake noise monitoring to investigate any complaint of noise nuisance when requested by the regulator. The method of measurement and reporting must comply with the latest edition of DES Noise Measurement Manual and must include: • Location, date and time of recording • Atmospheric condition including wind speed and direction • LA_{10}, adj, 10 mins • LA_{1}, adj, 10 mins • The level and frequency of occurrence of impulsive or tonal noises • Effects due to extraneous factors such as traffic noise. Monitoring equipment must be calibrated and appropriately operated and maintained	AQP	As required
	Undertake dust and particulate monitoring to investigate any complaint of environmental nuisance when requested by the regulator. Monitoring must be carried out at a place(s) relevant to the potentially affected sensitive receptor and at upwind control sites in accordance with the requirements of AS2922–1987 and must include: • For complaint alleging dust nuisance, dust deposition monitoring shall be in accordance with AS3580.10.1 2016 or more recent editions. • For a complaint alleging adverse health effects caused by dust, the PM_{10} concentration suspended in the atmosphere over a 24 hr averaging time shall be monitoring in accordance with AS3580.9.6 2003 (or more recent editions).	AQP	As required
Alert Level	**Trigger Levels**	**Responsibility**	**Management Actions**
Low risk	Observed visual emissions from exhaust stack (e.g. visible smoke)	All dredge crew	Immediately repair / maintain equipment to ensure visual emissions are no longer visible
Moderate	Receive request to monitor noise or dust by the regulator due to a complaint where results are within relevant guidelines	TCC	Review use of equipment to minimise potential for ongoing complaints
High	Receive request to monitor noise or dust by the regulator due to a complaint where results are non-compliant with relevant guidelines	TCC	Follow orders and requirements from the GBRMPA. Undertake noise or dust monitoring as appropriate, and immediately repair / maintain equipment to manufacturer, state and Australian standards.

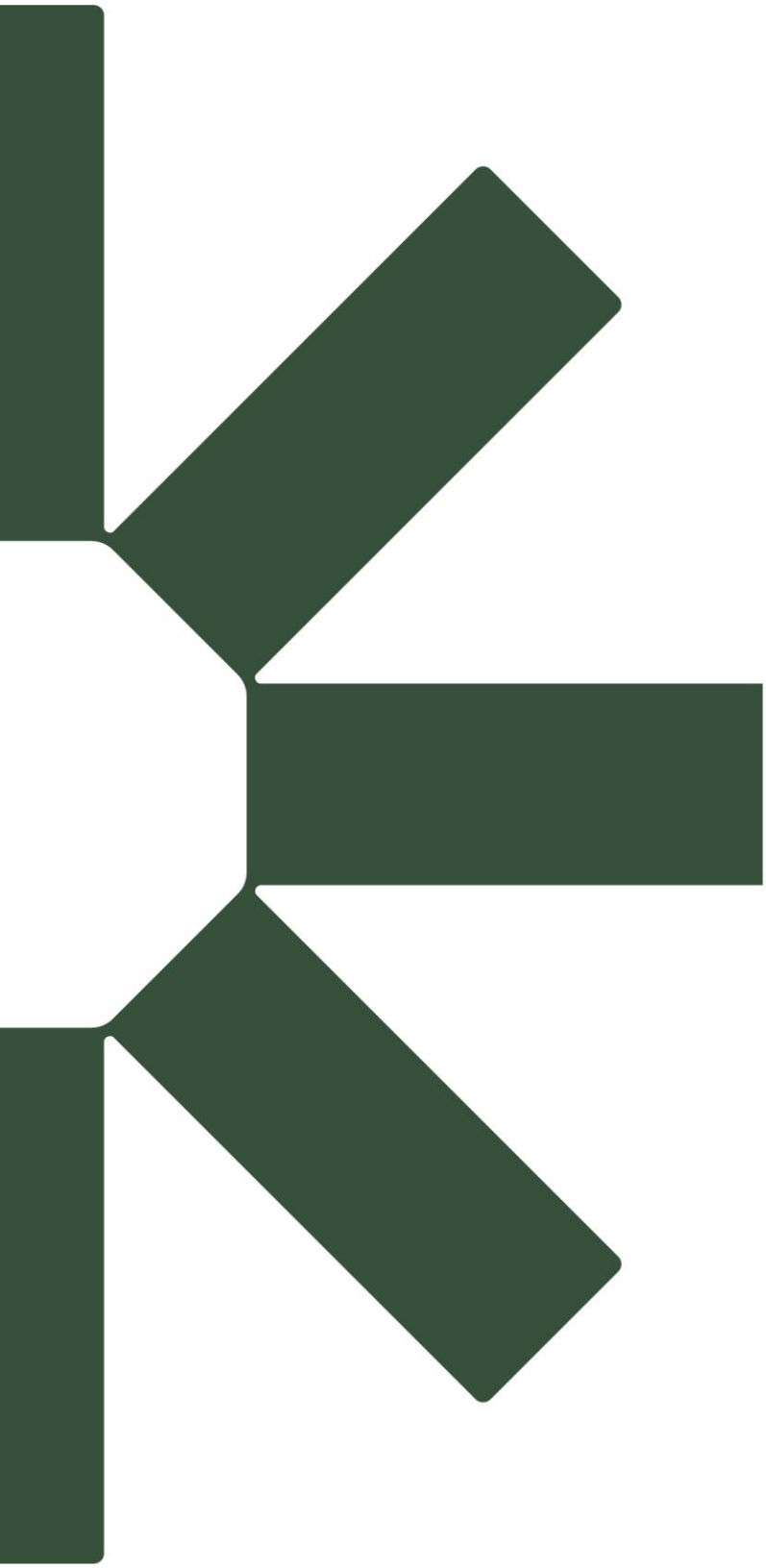
Table 3-7 Road and vessel traffic management actions.

Objectives	To avoid disruption to existing road transport and vessel traffic from maintenance dredging activities.		
Performance Indicators	All maintenance dredging activities are managed in accordance with this DMP, the applicable Commonwealth and State legislation, approvals and statutory requirements and any other relevant standards and guidelines. Traffic delays from maintenance dredging activities do not contribute significantly to peak traffic loads and maintenance dredging activities do not impede other vessel operations significantly, excluding vessels left within dredging works (silt curtain) area. No complaints are received from regulators or community stakeholders in relation to maintenance dredging road or vessel traffic.		
Element	**Action**	**Responsibility**	**Timing**
Mitigation Measures	Liaise with and notify community stakeholders of activities and intended working hours and the potential for traffic disruption, boat ramp closures, restricted access to berths, etc. during the maintenance dredging campaign.	TCC	Prior to start of dredging
	Designate haul routes for trucks travelling to dredge material placement site and drivers of these routes.	Dredge Contractor	At all times
	Restrict entry and departure of haulage trucks to/from the site to standard daytime hours (i.e. 6:00 am – 6:00 pm).	Dredge Contractor	At all times
	Speed limits as sign posted, or maximum of 40 km per hour (whichever is the lesser speed).	Dredge Contractor	At all times
	No person will operate any equipment while fatigued or under the influence of alcohol or other drugs.	Dredge Contractor	At all times
	Mobile phones will not be used while driving.	Dredge Contractor	At all times
Monitoring	Monitor along the haul route for wildlife that may have been hit by vehicles used for the Project	Dredge Contractor	At all times
Alert Level	**Trigger Levels**	**Responsibility**	**Management Actions**
Low risk	Use of dredging equipment or haul trucks outside of daytime hours	Dredge Contractor	Review the implementation of traffic management controls and discuss with regulators if any adverse impacts are observed/reported.
Moderate	Dredge crew receive infringement from law enforcement for vehicle/vessel related activities (e.g. speeding, drink driving, use of mobile phone).	Dredge Contractor	If performance criteria are not met due to poor work practices, make personnel aware of the problem and inform of acceptable work practices.
High	Collision with a vessel, vehicle or protected species by a vessel / vehicle used for the Project	Dredge Contractor	Investigate all incidents/complaints in relation to traffic management within 2 business days and undertaken appropriate actions, including updating the DMPF if required.

Table 3-8 Cultural heritage management actions.

Objectives	To ensure dredging operations do not disturb/destroy or disrespect items of Indigenous or Non-Indigenous cultural significance.		
Performance Indicators	All maintenance dredging activities are managed in accordance with this DMPF, the applicable Commonwealth and State legislation, approvals and statutory requirements and any other relevant standards and guidelines. No disturbance of items of Indigenous or Non-Indigenous cultural significance.		
Element	**Action**	**Responsibility**	**Timing**
Mitigation Measures	Ensure maintenance dredging is undertaken within the approved dredge area(s) only by reference to electronic navigation aids and visual marks as required.	Dredge Contractor	At all times
	Manage all Indigenous archaeological items found during dredging activities in accordance with the Aboriginal and Cultural Heritage Act 2003 Duty of Care Guidelines and any requirements specified in consultations with Traditional Owners.	Dredge Contractor	At all times
	Engage in ongoing consultation with Traditional Owners.	TCC	During campaign
	Cease all work activities in the area immediately upon finding an Indigenous cultural heritage object and notify the Dredge Contractor.	All dredge crew	At all times
	Cease work around suspected non-indigenous heritage discoveries and notify Dredge Contractor.	All dredge crew	At all times
	Cease work immediately (within 100 m of the remains) if human skeletal material is discovered during dredging activities and notify the Dredge Contractor immediately.	All dredge crew	At all times
Monitoring	Undertake opportunistic visual inspection of dredge load and dredge heads/buckets for evidence of items of cultural heritage significance.	All dredge crew	At all times
	Monitor dredge location through use of electronic aids to ensure it is within designated dredge area(s)	All dredge crew	At all times

Alert Level	Trigger Levels	Responsibility	Management Actions
Low risk	Undertake dredging within an area outside of the approved dredge area.	Dredge Contractor	Cease all work. Inspect dredge material for evidence of items of cultural heritage. Re-assess location of dredging and review practices to ensure it does not occur again.
Moderate	Observe an item of cultural heritage significance within the dredge load.	Dredge Contractor	Cease all work immediately. Contact Traditional Owner representative(s) and TCC in accordance with protocols outlined in the DMPF.
High	Observe human skeletal remains during dredging activity.	Dredge Contractor	Cease all work within 100 m of discovery immediately. Contact the Queensland Police, Cultural Heritage Coordination Unit (DETSI) and Traditional Owner representative(s) immediately and treat site as a crime scene.



Making Sustainability Happen