

APPENDIX D.5

Draft : Environmental Impact Statement

Appendix D.5

Terrestrial Ecology Supporting Information



**Firescape
Science**

MANAGING FIRE FOR SAFETY & SUSTAINABILITY

PO Box 158 Atherton Qld 4883 Ph: (07) 4091 1289 Mobile: 0419 844 683
Leasie@firescape.com.au

Coastal bird habitat near Trinity Inlet

**Identification, assessment and mapping of the
habitat of selected bird species**



Paul Fisk, Firescape Science

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APPENDIX 1:

List of Coastal Bird Species

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1.0 Introduction

The purpose of this study is to identify, assess and map the habitat of selected bird species within the study area as a contribution to the environmental studies associated the proposed Cairns Shipping Development Project.

1.1 Study area

The study area is the coastal and intertidal areas within approximately 100m of coastline from Yarrabah township, around Trinity Inlet and north of Ellis Beach. This includes Double Island and Haycock Island off Palm Cove.

The study will also identify any additional areas of habitat outside of the study area that are relevant to identified bird populations.

Birds relevant to this study can be grouped into 4 categories:

- **Migratory shorebirds** – These are birds which breed in the Arctic regions and migrate to Australia over the northern winter in the East Asian Australasian Flyway.
- **Species Listed Under State and Federal legislation** - There are six species found in the study area that are classed as threatened under relevant Queensland and Commonwealth legislation (see Appendix 1).
Coastal birds, other than the migratory shorebirds described above, include another sixteen species, which classed as migratory birds and subject to international agreements and fifteen which are listed as “marine” species (see Appendix 1).
Migratory birds includes 5 five resident Australian shorebirds (3 are commonly seen in the Cairns area). Some populations of these birds may move between Australia and nearby countries to the north.
- **Other Coastal Species** – There are a wide range of typically coastal species recorded from the Trinity Inlet coastline however most only use this habitat occasionally as one part of a more extensive foraging area. A list of the most common and abundant species is provided in Appendix 1.

2.0 Methodology

This study is largely a desk-top research and collation of information project. However targeted field surveys were also completed to assess the current condition of known habitat and to investigate gaps in our knowledge.

Major sources of information used in this report include:

- Published data and analysis in journals, previous environmental reports on shorebirds and web based sources.
- Data from various bird surveys completed in Trinity Inlet area; this includes Wildlife Online, Birddata and Australian Atlas, and privately owned bird lists and counts.
- Advice and observations from local bird watchers including shorebird and raptor specialists.

General bird lists for the study area were examined and all species within each of the four categories listed above were identified (in Appendix 1). A list of most significant “target species” was developed from this information (see 2.2 below).

“Habitat” in this report simply refers to areas and resources used for feeding, roosting and/or breeding by relevant species.

To provide structure to the discussion of habitat, eight “coastal bird management units” are recognized which encapsulates areas of similar resources and habitat conditions. These eight management units are identified and mapped (Map 1).

Within each management unit, there are key locations where significant feeding and roosting (and breeding) occurs. These key locations are identified in the annotated maps attached (Maps 2 -8).

The habitat requirements of each of the target species are discussed in the sections that follow. Migratory shorebirds are discussed as one inclusive group with a particular emphasis on the seven most abundant species (see Appendix 1 – records 1-7).

2.1 Identifying the target species

The four general categories of bird identified for this study will include a wide range of species each with their own particular habitat requirements. This report examines only species that are dependent on, or closely associated with, the intertidal areas and coastline.

From this large group of birds, the most significant in terms of conservation status, are selected for closer examination. Habitats that these birds rely on are identified and discussed.

These significant (“target”) species are:

- The seven most abundant migratory shorebird species – Red-necked Stint, Sharp-tailed Sandpiper, Whimbrel, Curlew sandpiper, Great Knot, Bar-tailed Godwit and Lesser Sand Plover (section 3.0)
- Six species listed as threatened under Commonwealth or Queensland legislation – Eastern Curlew, Beach Stone Curlew, Black-necked Stork, Sooty Oystercatcher and Little Tern (section 4.0).
- The Bridled Tern which is listed as a migratory species under the EPBC Act and the only sea bird breeding in the study area (section 5.0).
- Three coastal raptors which are all listed as migratory species and which are the dominant raptors along the coastline. These are the White-bellied Sea Eagle, Eastern Osprey and Brahminy Kite (section 5.0).

3.0 Habitat Requirements of Migratory Shorebirds

There are 33 shorebirds identified from the study area; 18 are commonly recorded in feeding and roosting flocks and another 15 are rare vagrants to Australia or which may be common elsewhere but only rarely visit the Cairns area. All common and rare shorebirds recorded around Cairns are listed in Appendix 1.

3.1 Characteristics of Trinity Inlet shorebird populations

Declines in population numbers and conservation status

There is now mounting evidence of significant declines in many migratory shorebird populations and in particular, those migrating to and from Australia via the East Asian-Australasian Flyway (IWSG 2003, Milton et al 2005, Nicholas, et al 2012). A major factor in these declining numbers is assumed to be reclamation and habitat destruction at major “staging areas” along the eastern Asian coast where birds feed and rest before continuing their migration (Barter 2002, Clemens, et al 2012).

Although there is some doubt about the accuracy of data and validity of conclusions reached in some published accounts (see for example, Schuckard 2008), this general conclusion is supported by data from a number of intensely monitored sites in Australia. For example, long term monitoring has revealed significant declines in one or more species at Moreton Bay (Dhanjal-Adams et al 2012), Hunter estuary (Herbert and Crawford 2012), Botany Bay (Hankin et al 2012), Corner Inlet, Victoria, (Minton et al 2012) and North east Tasmania (Cooper et al 2012).

Overall Australia-wide monitoring is also providing evidence of population declines in at least some species (Minton et al 2005, Gosbell, et al 2006, Clemens, et al 2012).

Population estimates for Trinity Inlet

This pattern of decreasing numbers of shorebirds visiting Australian coastlines is supported by available data from Trinity Inlet.

In 1987- 89, comprehensive and regular monitoring of shorebirds in and around Trinity Inlet (ESS 1989) indicated shorebirds numbered approximately 2,700 – 3,800 birds in the southern migration period and 1,500 – 2,000 after the southern movement of birds had ceased. In addition, there were reliable estimates of approximately 1200 Whimbrels in the mid-summer (non-migratory) period.

More recent estimates in 1995 (Pell and Lawlor 1996) indicated only approximately 1,800 birds were present in Trinity Inlet during the peak southern migration period (October).

In December 1996, a limited number of reliable counts, similar to those used in the 1989 study, resulted in total estimated population of approximately 2,000 birds; that is, approximately half the previous estimated total population.

Counts completed for this study (November 2013) suggest numbers have continued to decline in Trinity Inlet. The maximum count on the esplanade was 878 and only 224 Whimbrels were observed at their nocturnal roost at the Barron River mouth.

Conservation status of shorebirds

The formal designations of conservation status for shorebird species has been slow to respond to these documented trends. No migratory shorebirds are listed as threatened under the Commonwealth EPBC Act.

However in more recent times, a number have been added to lists of threatened birds under State legislation and in non-statutory (NGO) classifications.

The Eastern Curlew is only shorebird that is listed in Queensland (as “near threatened”). It is also listed as vulnerable in three other States and as endangered in Tasmania.

There are eight other species of migratory shorebirds that are recorded in Trinity Inlet which are listed as threatened in at least one of the other States, these are - .

Lesser Sand Plover	vulnerable in 4 States
Great Knot	vulnerable in 4 States
Greater Sand Plover	vulnerable in 3 States
Curlew Sandpiper	endangered in NSW and vulnerable in 2 other States
Terek Sandpiper	vulnerable in 2 States
Whimbrel	vulnerable in 1 State
Bar-tailed Godwit	vulnerable in 1 State
Black-tailed Godwit	vulnerable in 1 State

Migratory shorebirds are very opportunistic in their use of local habitat

Shorebirds will rapidly exploit temporary abundances of resources and can thrive on artificially created habitat such as ponds in sewerage facilities and salt works. Around Trinity Inlet, these sources of food will include the turf farm paddocks near Edmonton, rehabilitated wetlands on East Trinity, flooded park lawns in Cairns and drained prawn farm ponds at Smithfield.

Shorebird feeding flocks on intertidal flats will usually include individuals from a wide range of species with changes in the relative proportions of each species reflecting variation between different intertidal habitats.

Implications of migration for Trinity Inlet

The critical time for shorebirds around Trinity is from August to December when the birds are arriving from the northern hemisphere after breeding. This is the period when the maximum number of birds feeding on the intertidal flats Inlet is consistently recorded and it is also after long migration flights when the requirement for food resources is greatest.

In addition, during these months prior to the onset of the wet season, shorebird food resources are limited by the lack of freshwater wetlands and productive salt pans and salt marshes.

That is, the southern migration period (August – December) is when food resources are most needed and when available resources are most limited.

3.2 Shorebird habitat areas around Trinity Inlet

In the discussion below, habitat areas for Trinity Inlet migratory shorebird populations are described with notes on species use.

Cairns Esplanade mud flats (Map 3)

Description

- The esplanade mud flats are the **primary feeding area for migratory shorebirds** and a large majority of local shorebird populations will feed on these mudflats throughout the summer months.
- These flats also provide the only source of food for the large migrating flocks passing through in the dry months before the wet season.
- **High elevation mud** that becomes exposed and available for feeding shorebirds at relatively high tide levels provides for extended periods of feeding over the tidal cycle.
- The early exposure of intertidal mud is important to species which need to feed for long periods of time such the Red-necked Stint. It is also important to individuals who are starving and in need of food.
- On the Cairns esplanade birds can begin feeding on intertidal mud at approximately the 1.8m tide level.
- These high mud areas are limited to close inshore areas of the esplanade (particularly around the southern end) and around the mouths of creeks entering the harbour (including Saltwater Creek, Hills Creek and Georges Creek).
- A recent significant change to habitat here has been the **deposition of large quantities of beach sand** along the foreshore. This sand is rapidly moving out onto the mud flats and in so doing, changing the composition and ecology of the intertidal feeding areas.
- This sand is already covering considerable areas of former inshore mud and much of this is the important high elevation muds that allow for extended periods of feeding over the tidal cycle.

- The sand has also mixed with the mud over a much wider area, changing the composition of the intertidal flats which is likely to affect the ecology of the prey species that the shorebirds rely on.
- The effect of this change in substrate ecology on shorebird feeding and the number of birds who use Trinity Inlet is unknown.

Relevant species

- All shorebird species recorded in the study area have been observed on the Cairns mud flats.
- This area consistently supports a majority of all shorebirds estimated to be in Trinity Inlet.
- The most abundant species feeding here are the Red-necked Stint, Great Knot, Bar-tailed Godwit, Sharp-tailed Sandpiper and Lesser Sand Plover.

Barron River mouth intertidal sand (Map 4)

Description

- This is an important **diurnal and nocturnal feeding area** for a significant numbers of shorebird species. The area extends from the southern end of Machans Beach to Ellie Point and includes large areas of intertidal sand flats with patchy occurrences of mud, sandy mud and sea grass beds throughout.
- In 1990 it was estimated these flats are **only available for shorebird feeding below approximately 1.25m** (ESS 1989). At this level there are muddy swales exposed and at lower tides, extensive areas of sea grass beds.
- The **largest shorebird roosts** are often recorded here particularly when the next tide will be low enough to expose feeding areas.
- **Whimbrels** regularly gather here in large roosts at night and at appropriate tide levels, will feed across the flats at night. It is estimated almost the entire local population of Whimbrels will come out of the mangroves to feed here at night during the spring tides (ESS 1989).

Relevant Species

- All shorebird species will feed here at some time and, as noted above, it appears to be particularly important to Whimbrels.
- The predominance of intertidal sand here results in a greater abundance of the Greater Sand Plover and Lesser Sand Plover in feeding flocks. Other species such as the Great Knot, Red-necked Stint and Bar-tailed Godwits will fly in later when feeding areas become available at lower tide levels.

Saltmarshes, Saltpans and Nearby Wetlands (Map 3, Map 4, Map 5)

Description

- **This habitat is a complex mix of high intertidal areas, sand ridges and freshwater wetlands.** It is limited around Trinity Inlet to:
 - Patches of salt pans and sand ridges within the inlet mangrove forests,
 - Saltpans and wetlands around Cairns Airport;
 - Extensive areas of degraded wetlands, rehabilitated areas and adjoining saltpans at East Trinity.
- Shorebird use of this habitat is usually as a **supplementary feeding area** at high tide and as a roost site. During the wet season these areas become highly productive and this is enhanced by high spring tide flushing. At this stage some species will feed for extended periods in this habitat.

The importance of these “additional” feeding areas to the survival of overwintering migratory shorebirds is now well documented (see for example, Betzeletos, D 2012; Purnell, C. 2012; Sripanomyoms, S. 2012).
- **Roosts in salt pans** will include species that are not recorded in significant number in the mixed flocks that gather on undisturbed and open beaches (such as at the mouth of the Barron River). For example, the majority of Eastern Curlews and Golden Plovers will gather in these areas rather than in mixed flocks in more open conditions.
- **The Airport area is used primarily as a roosting area by shorebirds with limited opportunities for feeding at high tide.** Current roosting flocks are primarily Red-necked Stint and Sand plovers who gather on a disused runway

(Map 2). Shorebirds such as Sharp-tailed Sandpipers will also be seen foraging along the drains and low lying areas. (Ian Northcote pers. comm.)

- **The Boardwalk saltpan** is used by roosting and feeding shorebirds – significant flocks of Sharp-tailed Sandpipers, Red-necked Stint and Golden Plovers have been recorded here (see Map 2).
- **The East Trinity property** (Map 4) is reclaimed low lying intertidal and swamp areas (significant part is below the 2m tide level) which is currently being rehabilitated to its former natural state.
- **Rehabilitation of salt marshes here has been successful** between Hills Creek and Georges Creek (see NW salt marshes, Map 4) and this has created an important roosting and feeding area for shorebirds that was not available in previous times (e.g. prior to late 1990s).
- **There is considerable potential for creating new shorebird feeding areas** on this property through the rehabilitation of land into productive intertidal areas and wetlands.
- **There is evidence many former open saltpans are being encroached and covered by regrowth mangroves.** This is occurring at the Boardwalk saltpan, adjoining the bund wall along the East Trinity boundary and in many places within the inlet mangroves. This change in conditions will affect their habitat value to shorebirds.

Relevant Species

- Most shorebird species will roost and feed in productive salt marsh areas and this use can be expected to increase with the increase in plant and animal growth that accompanies the wet season.
- Sharp-tailed Sandpipers and Red-necked Stint are often the most abundant species in roosting flocks on salt marshes and salt pans.
- Species such as the Greenshank, Black-tailed Godwit and Common Sandpiper will commonly forage in these areas.
- Recent surveys (November 2013) indicate the NW salt marsh on East Trinity is a major roosting and feeding area, with over 250 birds recorded . The most abundant species are the Sharp-tailed Sandpiper, Red-necked Stint and Curlew Sandpiper

4.0 Habitat requirements of other threatened species

4.1 Beach nesting birds

These birds include oystercatchers, resident Australian shorebirds and certain terns – they all nest on open beaches which are vulnerable to disturbance by people and dogs and destruction by storms and high tides.

The vulnerability of nests has resulted in declines in local populations for some species in parts of Australia leading to them being listed as threatened in a number of State and Commonwealth legislation.

Access to food resources for this group of birds is generally secure, providing the intertidal and marine areas where they feed remain healthy and productive. Oystercatchers and shorebirds require intertidal flats and the terns require productive inshore marine areas.

Beach Stone Curlew

- Listed as Vulnerable under Queensland legislation and identified as a Priority Species for management by the State government.
- The Beach Stone Curlew has largely disappeared from the south eastern parts of its Australian range and it is classed as Critically Endangered in NSW.
- Commonly observed around Cairns esplanade and on beaches to the northern boundary of the study area (Ellis Beach).
- The most remote and least disturbed beaches is where nesting is likely to occur – in the study area records indicate 2 locations where this species is breeding.
- The beaches at the **southern side of Barron River mouth** have always supported a pair of Beach Stone Curlews. They have been consistently recorded here since at least 1989 (authors records).
- **On Double Island**, 2 pairs of Beach Stone Curlews are commonly observed and are assumed to be breeding pairs. (pers. comm. S. Foggin, Palm Cove Watersports).

Sooty Oystercatcher

- Listed as Near Threatened under Queensland legislation.
- This bird favours rocky shorelines and reef flats and would not be expected along the muddy coastline of the study area.
- Limited number of records in Wildnet and Birddata sources and these include Cairns esplanade, mouth of Barron River and Green Island.
- There is one record of obvious nest protection behavior on Double Island (pers. comm. S. Foggin, Palm Cove Watersports).
- No nest records within the study area were recorded by this study.

Little Tern

- Listed as Endangered by EPBC and in three States (Queensland, Tasmania, and NSW). It is listed as vulnerable by Victoria and SA.
- Birddata records indicate this species may forage/roost along all beaches within the study area and there is a concentration of records from the Cairns esplanade.
- In November 2013, there was a flock of 21 birds roosting and feeding over the Cairns esplanade mud flats which were reliably observed over at least a two week period.
- No records of breeding were obtained for this report.

Fairy Tern

- Listed as vulnerable by IUCN, EPBC; and three States (WA, Tasmania, and Victoria);
- Breeding distribution is along the western and southern coasts of Australia and it is considered to be a vagrant along the east coast;
- There are relatively few records of this bird in the study area.

4.2 Birds of Freshwater Wetlands and Salt Marshes

The low lying areas along the high intertidal areas are often a complex mix of salt pans, salt marshes and freshwater swamp. This is habitat for wide range of birds that

may include additional threatened and migratory terrestrial species. It is also important habitat for migratory shorebirds as described above.

Many wetlands in the region were drained and filled in the early years of settlement and losses in recent times are restricted to relatively small areas around the Cairns Airport and isolated locations in adjoining rural lands.

Black-necked Stork

- The Black-necked Stork is listed as Near Threatened under Queensland legislation. This is also its classification under international listings such as IUCN and Birdlife International (an NGO).
- This is considered to be a coastal species feeding and nesting in and around wetlands and open water. It is distributed across northern Australia and south to NSW where its numbers are reported to be in significant decline.
- Records in the study area indicate it forages widely across the coastal plain in marine and freshwater wetlands including a number of records along the Cairns esplanade and at the mouth of the Barron River
- Managers at the East Trinity property report there are three pairs regularly seen here and it is assumed they breed on or near to the property.

4.3 Habitat of threatened species in study area

Beach nesting birds

- **Undisturbed and remote beaches** are essential for beach nesting birds to breed and they provide undisturbed feeding and roosting conditions for shorebirds.
- **The Yarrabah Coastline** has all of the characteristics of good habitat for this group of species – undisturbed beaches, rocky shorelines, mangroves and intertidal flats.
However little or no bird surveys have been completed for this coastline and there is no data to confirm their presence here.
- **The Mouth of the Barron River and Double Island area** provides suitable habitat for beach nesting birds and local records suggest there are long term

resident pairs of birds occupying both these locations for many years. Observations on behavior indicate nesting is occurring at these places.

Wetland birds

- There are three pairs of Black-necked Stork regularly seen on the **East Trinity property** which provides a range of suitable wetlands and intertidal habitat. It is assumed these birds are also feeding on nearby areas such as the esplanade and Barron River mouth.
- **Future rehabilitation of swamps and salt marshes on East Trinity** offers the opportunity to increase the overall food resources available to shorebirds and other significant species.

4.4 Iconic coastal birds – migratory coastal raptors and seabirds

This group of birds does not include any listed threatened species and focuses on a few “iconic” birds that characterize the avifauna inhabiting the beaches and coastline in the study area. These are also listed as migratory birds under the EPBC, as some populations of this species are known to migrate from countries in east asia.

Coastal raptors

There are at least five raptors that regularly forage along the coastline including the Whistling Kite and Black Kite (the other three are described below).

Raptors present in the coastal zone are usually generalists which exploit both marine and terrestrial areas for food. The only raptor which is wholly dependent on the marine environment is the Brahminy Kite.

There was a pair of Peregrine Falcons who nested on a high rise building near the Cairns CBD in September 2001. There have been no recent sightings of these birds in Cairns and they may have left the area.

White-bellied Sea Eagle

- Birddata records concentrate around the Cairns esplanade and along beaches north of Taylors Point.
- This species is also recorded across the coastal plain and further inland, commonly seen along the Barron River.
- Nests are commonly used for many years by the same pair of birds and/or by successive pairs.
- There is a Sea eagle nest on Haycock Island (S. Foggin pers. Comm.)
- Shorebirds always take flight with the presence of a sea eagle suggesting this species may be a significant predator of these birds.

Brahminy Kite

- Birddata indicates this species is commonly seen on all beaches north of Cairns and across the coastal plain.
- There are nest records located in suburban trees and parkland around Cairns and northern beaches. There is currently an active nest (with young) in the Cairns historical cemetery – this is the second breeding attempt by this pair at this nest.
- This raptor feeds primarily on carrion and small prey and is dependent on marine and coastal areas for foraging.

Eastern Osprey

- The Osprey is commonly recorded over the Cairns esplanade and on beaches north of Yorkeys Knob.
- Six nests were identified in the study area although none are active at present. It is not known how many pairs of birds this represents as there may be more than one nest per territory.
- There are two osprey nests (and possibly a third) on Double Island and Haycock Island (S. Foggin pers. Comm.).
- Nests are commonly used for many years by the same pair of birds and/or by successive pairs. For example, there has been an osprey nest on the Buchan Point tower for over 25 years.

- Ospreys feed almost exclusively on fish caught on the surface of waters.

Seabirds

This general category of “seabirds” includes the usually small flocks of terns that feed close inshore and roost on undisturbed beaches and headlands.

A number of these sea birds are listed migratory species and populations here may include migrants moving through to over wintering areas. Listed migratory terns (under the EPBC) recorded here include the Bridled Tern, Roseate Tern, Caspian Tern, Lesser Crested Tern and Black-naped Tern.

Bridled Tern

There is a breeding colony (more than 20 pairs) of Bridled Terns (*Onychoprion anaethetus*), on Haycock Island. Observers report two locations on the island where breeding “colonies” have formed regularly over summer (S. Foggin pers. comm.).

The Bridled Tern is described as migratory and dispersive – populations are thought to come down from north Australia to disperse widely across the northern and eastern coastline to mix with sedentary resident populations.

4.5 Habitat for seabirds and coastal raptors in the study area

- **Adequate food resources**, for both coastal raptors and seabirds, appears to be secure at present. Ultimately this habitat value depends on maintaining the overall productivity of local estuaries and inshore areas. In this respect all mangrove and estuary areas have important habitat value for this group of birds.
- **Nesting by coastal raptors** can occur anywhere across the coastal plain including within the city and suburbs as these birds are remarkably tolerant of built up environments and human activity. Bird watchers have observed a number of Brahminy Kite and Eastern Osprey nests throughout the suburbs and city of Cairns for many years.
- **The breeding colony of Bridled Terns on Haycock Island** is the only seabird nesting recorded in the study area. This is a significant record being

one of the closest inshore breeding areas in the region. Bridled Terns are a listed migratory species under the EPBC Act.

5.0 Conclusions – key coastal bird habitat areas

There are four management units which are critical to the long term survival of migratory shorebirds and identified threatened species. Three lie within Trinity Inlet and Cairns Harbour and together they support a majority of the migratory shorebird populations found here. These are the Cairns Esplanade mudflats, the East Trinity wetlands and intertidal areas around the mouth of the Barron River.

The fourth location is Double Island, Haycock Island and the sand and reef flat that lies between these two islands.

Within each of these management units there are key locations which are identified in the text of this report and on the annotated maps (map 2 – 6) attached.

5.1 Coastal bird habitat - conclusions and key locations

- Underlying all habitats in the study area is the **productivity of intertidal and inshore marine area**. This productivity depends on nutrients and freshwater flows that come with mangrove forests and river/creek mouths. These nutrient rich areas are essential habitat to all coastal bird species.
- The **esplanade mudflats** are critical to maintaining shorebird populations and in particular, **the southern end of the esplanade** provides a rich foraging area that is used by large numbers of birds.
- For some species that require extended feeding times, the **high elevation mud** around creek mouths and along the esplanade foreshore is an important resource.
- The **deposition of large quantities of sand onto the esplanade mudflats** will change the ecology of the intertidal feeding areas on the esplanade. This will change the species composition of feeding flocks and lead to an overall decrease in the food resources available to migratory shorebirds.

- The **intertidal area between the Barron River mouth and Ellie Point** is an essential feeding and roosting area for migratory shorebirds. It is also likely to be a nesting area for a pair of Beach Stone Curlews.
- **East Trinity property and in particular the rehabilitated NW salt marsh**, currently supports a large number of migratory shorebirds and other threatened species. The rehabilitation of intertidal areas here could make a very significant contribution to the long term survival of shorebirds and other key species.
- **Double Island and Haycock Island is a significant coastal bird habitat area** providing undisturbed, productive habitat for coastal raptors and beach nesting birds. It has the only breeding colony of seabirds in the study area. The value of the intertidal sand and reef flat to shorebirds has not been determined however small flocks of shorebirds have been observed here.

6.0 References

- Australian Museum** (2013) Beach Stone Curlew Fact Sheet. “Nature Culture Discover” data on <http://australianmuseum.net.au/Birds>
- Barter, M.A.** 2002. Shorebirds of the Yellow Sea – Importance, Threats and Conservation Status. Global Series 9, International Wader Studies 12, Canberra, Australia.
- Birdata** <http://birdata.com.au/homecontent.do> – data provided by the Atlas and Birdata Project affiliated with the BirdLife Australia (accessed November 2013)
- Betzeletos, D.** 2012. Water, salt and substrate; how these abiotic parameters create globally significant shorebird habitat in tropical Australian salinas. *Stilt* **62**: 58-59.
- Cooper, Ralph, Robert Clemens, Nuno Oliveira & Ashly Chase.** 2012. Long-term declines in migratory shorebird abundance in North-east Tasmania. *Stilt* **61**: 19-29
- Clemens, R.S., N.J. Murray, H.B. Wilson, B.E. Kendall, C.E. Studds, K. Dhanjal-Adams & R.A. Fuller.** 2012. Progress toward uncovering evidence of declines in migratory shorebirds in Australia and the habitats they rely on in S.E. Asia. *Stilt* **62**: 59.
- Environment Science and Services (ESS).** 1989. The Waders of Trinity Inlet - Environmental Report for Trinity Point Project– McDonnell Wagner.
- Estrella, Sora M,** 2012. Feeding mechanisms of migratory shorebirds in salt pans. *Stilt* **62**: 60.
- Fisk, P.** 1996 The Waders of Trinity Inlet – A Review of Available Information and Implications for Management. Report to Trinity Inlet Management Program. October 1996.
- Gosbell, K. and R. Clemens** 200) “Population monitoring in Australia – Some insights after 25 years monitoring”. *Stilt* **50**: 162-175
- Herbert, Chris & Liz Crawford.** 2012. Shorebird population trends in the Hunter Estuary. *Stilt* **62**: 61.

- Hankin, Chelsea, Joan Dawes Phil Straw.** 2012. Shorebird responses to major infrastructure developments on Botany Bay. *Stilt* 62: 61.
- IWSG.** 2003. Waders are declining worldwide. Conclusions from the 2003 International Wader Study Group Conference, Cadiz, Spain. Wader Study Group Bull. 101/102: 8–12.
- Milton, D., C. Minton & K. Gosbell.** 2005. Are populations of migratory shorebirds in the East Asian Australasian Flyway at risk of decline? Proceedings of the Australian Shorebirds Conference 13–15 December 2003, Canberra, Australia. Wetlands International Global Series 18, International Wader Studies 17, Sydney, Australia: pp 153–157.
- Minton, Clive, Peter Dann, Alice Ewing, Susan Taylor, Roz Jessop, Peter Anton & Robert Clemens.** 2012. Trends of Shorebirds in Corner Inlet, Victoria, 1982-2011. *Stilt* 61: 3-18.
- Nicholas J. Murray and Richard A. Fuller** 2012. Coordinated effort to maintain East Asian–Australasian Flyway. *Oryx*, 46, pp 479-480 doi:10.1017/S003060531200113
- NSW Parks and Wildlife** 2013. Threatened Species database (accessed November 2013) <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10280>
- Purnell, Chris. M.** 2012. A pinch of salt: the value of the commercial saltfields as supratidal habitats for shorebirds in Gulf St. Vincent. *Stilt*: 62: 64.
- Sripanomyom, Siriya.** 2012. Traditional salt-pans vitally sustain shorebird populations in the Inner Gulf of Thailand. *Stilt* 62: 65.
- Schuckard, R.** 2008. Review of Bamford, M. et al. 2008. Migratory shorebirds of east Asian – Australasian flyway; population estimates and internationally important sites. *Notornis* 55:4: 226-228
- Wildlife Online** - <http://www.ehp.qld.gov.au/wildlife/wildlife-online/> - Species lists within 25km radius of Cairns esplanade; (accessed November 2013)

APPENDIX 1: Coastal Bird Species Around Trinity Inlet

Source: The Wildlife Online Search and Atlas of Living Australia Search undertaken for this study, as well as the Species Likelihood Assessment for EPBC Act Listed Species.

#	Name	EPBC Act Status			NC Act Status	Comments / Notes Colour code - Red (targeted species), Yellow (commonly recorded), Orange (rarely observed)
		Threatened Status	Migratory Status	Marine Status		
MIGRATORY SHOREBIRDS						
1	<i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		Migratory	Marine		. large numbers recorded on mudflats in southern migration period; . will move out into freshwater wetlands and saltmarshes with the onset of wet season;
2	<i>Calidris ruficollis</i> (Red-necked Stint)		Migratory	Marine		. usually the most abundant species in shorebird flocks; . records concentrate around Cairns esplanade and mouth of Barron River; also limited records in wetlands / flooded areas on coastal plain (up to 5 km inland); . prefers muddy substrate; needs to feed for extended periods in tidal cycle and commonly roost and feed on alternative feeding areas at high tide (e.g. saltmarshes);
3	<i>Numenius phaeopus</i> (Whimbrel)		Migratory	Marine		. 1989-90 study Trinity Inlet consistently recorded approx. 1200 birds flying out of inlet mangroves to Barron River mouth; . records of small numbers (or single bird) along entire coastline where there are mangroves; . feed in closed forest conditions of mangroves during day and move to mouth of Barron River to feed at night (when tides of lower than 1.2m)
4	<i>Calidris ferruginea</i> (Curlew Sandpiper)		Migratory	Marine		. Usually the most abundant species in shorebird flocks; . records concentrate around Cairns esplanade and mouth of Barron River; also limited records in wetlands / flooded areas on coastal plain (up to 5 km inland); . prefers muddy substrate; needs to feed for extended periods of tidal cycle;
5	<i>Calidris tenuirostris</i> (Great Knot)		Migratory	Marine		. one of most abundant species in Trinity Inlet; . usually observed feeding on receding / expanding edge of tidal water; appears to prefer both intertidal mud and sand under the right conditions;
6	<i>Charadrius mongolus</i> (Lesser Sand Plover)		Migratory	Marine		. can be difficult to distinguish from greater sand plover in field; . appears to equally favor mud and sand intertidal areas;
7	<i>Limosa lapponica</i> (Bar-tailed Godwit)		Migratory	Marine		. one of most abundant species in Trinity Inlet; . feeds as concentrated flocks on esplanade mud and disperses to sand and mud flats elsewhere in the inlet at lower tides;
8	<i>Charadrius leschenaultii</i> (Greater Sand Plover)		Migratory	Marine		. more abundant on intertidal sand flats;
9	<i>Limosa limosa</i> (Black-tailed Godwit)		Migratory	Marine		. Small to medium size flocks in southern migration period; disperse into freshwater wetlands
10	<i>Numenius madagascariensis</i> (Eastern Curlew)		Migratory	Marine	NT	. Often recorded feeding in salt marshes, freshwater wetlands
11	<i>Pluvialis fulva</i> (Pacific Golden Plover)		Migratory	Marine		. Roosts as single species flocks in salt pans
12	<i>Tringa brevipes</i> (Grey-tailed Tattler)		Migratory			. Feeds as dispersed individuals, will gather in groups to feed on sea grass beds
13	<i>Tringa nebularia</i> (Common Greenshank)		Migratory	Marine		. Often recorded feeding in salt marshes, freshwater wetlands
14	<i>Actitis hypoleucos</i> (Common Sandpiper)		Migratory	Marine		. feeds as dispersed individuals,
15	<i>Arenaria interpres</i> (Ruddy Turnstone)		Migratory	Marine		. Few individuals on mud flats, prefers rocky shores and reef flats
16	<i>Calidris canutus</i> (Red Knot)		Migratory	Marine		. Usually found as rare individuals but sometimes passage migrant flocks recorded on esplanade
17	<i>Limicola falcinellus</i> (Broad-billed Sandpiper)		Migratory	Marine		. Usually found as rare individuals but sometimes passage migrant flocks recorded on esplanade
18	<i>Pluvialis squatarola</i> (Grey Plover)		Migratory	Marine		. One or few individuals sometimes recorded on esplanade mud flats
19	<i>Calidris alba</i> (Sanderling)		Migratory	Marine		. Based on single or very few records; rare vagrant species
20	<i>Calidris melanotos</i> (Pectoral Sandpiper)					. Based on single or very few records; rare vagrant species
21	<i>Calidris minuta</i> (Little Stint)		Migratory	Marine		. Based on single or very few records; rare vagrant species
22	<i>Numenius minutus</i> (Little Curlew)		Migratory			. Based on single or very few records; rare vagrant species
23	<i>Tringa glareola</i> (Wood Sandpiper)		Migratory	Marine		. Based on single or very few records; rare vagrant species
24	<i>Tringa incana</i> (Wandering Tattler)		Migratory			. Based on single or very few records; rare vagrant species
25	<i>Charadrius veredus</i> (Oriental Plover)					. Based on single or very few records; rare vagrant species
26	<i>Tringa stagnatilis</i> (Marsh Sandpiper)		Migratory	Marine		. Based on single or very few records; rare vagrant species
27	<i>Charadrius bicinctus</i> (double-banded plover)		Migratory			. migrates between Australia and New Zealand
28	<i>Gallinago hardwickii</i> (Latham's snipe)					. Based on single or very few records; rare vagrant species
29	<i>Limnodromus semipalmatus</i> (Asian dowitcher)					. Based on single or very few records; rare vagrant species
30	<i>Tringa totanus</i> (common redshank)					. Based on single or very few records; rare vagrant species
31	<i>Calidris alpina</i> (dunlin)					. Based on single or very few records; rare vagrant species
32	Scolopacidae <i>Calidris subminuta</i> (long-toed stint)					. Based on single or very few records; rare vagrant species
33	<i>Philomachus pugnax</i> (ruff)					. Based on single or very few records; rare vagrant species
RESIDENT AUSTRALIAN SHOREBIRDS						
1	<i>Euseyonis melanops</i> (Black-fronted Dotterel)		Migratory			. Scattered individuals or small flocks; may breed in or near to study area;

2	Himantopus himantopus (Black-winged Stilt)		Migratory	Marine		. Breeds in very large numbers in major wetlands elsewhere; individuals commonly seen around Cairns
3	Charadrius ruficapillus (Red-capped Plover)		Migratory	Marine		. Scattered individuals or small to medium sizeflocks; may breed in or near to study area;
4	Vanellus miles miles (masked lapwing)(northern subspecies)					. Very common species around Cairns; commonly breeds in parkland of city;
5	Erythrogonys cinctus (Red-kneed Dotterel)		Migratory			. Recorded as rare vagrant in study area
6	Himantopus leucocephalus (Banded Stilt)		Migratory			. Recorded as rare vagrant in study area
7	Sillitia isabella (Australian pratincole)					. Recorded as rare vagrant in study area
BEACH NESTING SHOREBIRDS						
1	Esacus magnirostris (Beach Stone-curlew)				V	. Individuals or pairs observed on beaches around Cairns; will move considerable distances to feed;
2	Haematopus fuliginosus (Sooty Oystercatcher)				NT	. Prefers rocky shores and reef flats, occasionally recorded on local beaches;
3	Haematopus longirostris (Australian Pied Oystercatcher)					. Individuals or pairs observed on beaches around Cairns; will move considerable distances to feed;
SPECIES LISTED IN LEGISLATION						
1	Ephippiorhynchus asiaticus (Black-necked Stork)				NT	. Occasionally recorded on esplanade mud flats; prefers wetlands and mangrove areas;
2	Sternula albifrons (Little Tern)		Migratory		E	. Local birds are usually in non-breeding flocks which may include migratory flocks from the north of Australia; no known nesting areas in study area;
3	Onychoprion anaethetus (bridled tern)		Migratory			. Very common in breeding season (Sept - Jan) on off shore islands and reefs; nests on Haycock Island; (record to be confirmed);
4	Sternula nereis (Australian Fairy Tern)	V		Marine		. Breeding distribution in west and south west, local birds assumed to be rare vagrants;
5	Sterna sumatrana (Black-naped Tern)		Migratory	Marine		. Uncommon on coast, very common around off shore reefs;
6	Thalasseus bengalensis (Lesser Crested Tern)		Migratory			. Small numbers feed and roost along coastline;
7	Egretta sacra (Eastern Reef Egret)		Migratory	Marine		. Very common on offshore islands and reefs;
8	Bubulcus ibis (Cattle Egret)		Migratory			. Very common throughout north Queensland; considered migratory species in northern (agreement) countries;
9	Sterna hirundo (Common Tern)		Migratory	Marine		. Uncommon species in local area;
Coastal Raptors						
1	Haliaeetus leucogaster (White-bellied Sea-eagle)		Migratory	Marine		. Only uncommonly seen in study area; more frequent observations to north (Ellis Beach and further);
2	Haliastur indus (Brahminy Kite)		Migratory	Marine		. Wholly marine/coastal species; recorded in many locations along coastline;
3	Pandion haliaetus (Osprey)		Migratory	Marine		. Individuals regularly seen along coastline and further inland;
4	Haliastur sphenurus (Whistling Kite)		Migratory	Marine		. Often found foraging along coastline, sometimes in large loose groups;
5	Milvus migrans (Black Kite)		Migratory			. Very common raptor in north Queensland which sometimes feeds along coast;
6	Falco peregrinus (Peregrine Falcon)		Migratory			. Pair nested in Cairns CBD but they appear to have moved on; individuals occasionally seen over esplanade;
Other Common Coastal Birds						
1	Thalasseus bergii (Crested Tern)					
2	Gelochelidon nilotica (Gull-billed Tern)					
3	Chroicocephalus novaehollandia (Silver gull)					
4	Pelecanus conspicillatus (Australian Pelican)			Marine		
5	Phalacrocorax carbo (Great Cormorant)					
6	Phalacrocorax melanoleucos (Little Shag)					
7	Phalacrocorax sulcirostris (Little Black Cormorant)					
8	Phalacrocorax varius (Pied Cormorant)					
9	Ardea alba (Eastern Great Egret)			Marine		
10	Ardea intermedia (Intermediate Egret)			Marine		
11	Ardea pacifica (White-necked Heron)					
12	Butorides striata (Striated Heron)					
13	Egretta garzetta (Little Egret)			Marine		
14	Egretta novaehollandiae (White-faced Heron)			Marine		
15	Threskiornis molucca (Australian White Ibis)			Marine		
16	Threskiornis spinicollis (Straw-necked Ibis)			Marine		
17	Egretta picata (Pied Heron)					
18	Platalea flavipes (Yellow-billed Spoonbill)					
19	Platalea regia (Royal Spoonbill)					
20	Sterna dougallii (roseate tern)					

lia Citations (ALA)

Data resource	Citation	Rights
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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.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 02/10/13 10:42:37

[Summary](#)

[Details](#)

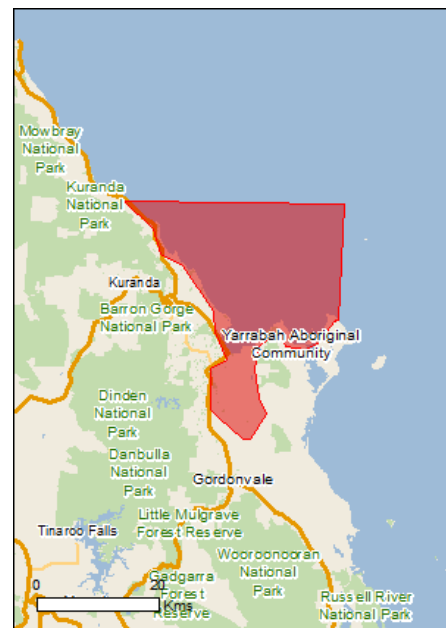
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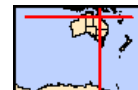
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Summary

Matters of National Environmental 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:	2
National Heritage Places:	3
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	6
Commonwealth Marine Areas:	1
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	42
Listed Migratory Species:	53

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 and the heritage values of a place on the Register of the National Estate.

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.

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 Land:	5
Commonwealth Heritage Places:	1
Listed Marine Species:	119
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

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

Place on the RNE:	23
State and Territory Reserves:	9
Regional Forest Agreements:	None
Invasive Species:	38
Nationally Important Wetlands:	2
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

World Heritage Properties [\[Resource Information \]](#)

Name	State	Status
Great Barrier Reef	QLD	Declared property
Wet Tropics of Queensland	QLD	Declared property

National Heritage Properties [\[Resource Information \]](#)

Name	State	Status
Natural		
Great Barrier Reef	QLD	Listed place
Wet Tropics of Queensland	QLD	Listed place
Indigenous		
Wet Tropics World Heritage Area (Indigenous Values)	QLD	Within listed place

Great Barrier Reef Marine Park [\[Resource Information \]](#)

Type	Zone	IUCN
Conservation Park	CP-16-4037	IV
General Use	GU-16-6004	VI
Habitat Protection	HP-16-5126	VI
Habitat Protection	HP-16-5130	VI
Habitat Protection	HP-16-5131	VI
Marine National Park	MNP-16-1055	II

Commonwealth Marine Areas [\[Resource Information \]](#)

Approval may be required for a proposed activity that is likely to have a significant impact on the environment in a Commonwealth Marine Area, when the action is outside the Commonwealth Marine Area, or the environment anywhere when the action is taken within the Commonwealth Marine Area. Generally the Commonwealth Marine Area stretches from three nautical miles to two hundred nautical miles from the coast.

Name
EEZ and Territorial Sea

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.

Name	Status	Type of Presence
Broad leaf tea-tree (Melaleuca viridiflora) woodlands in high rainfall coastal north Queensland	Endangered	Community likely to occur within area
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area

Listed Threatened Species [\[Resource Information \]](#)

Name	Status	Type of Presence
Birds		
Casuarius casuarius johnsonii Southern Cassowary (Australian), Southern	Endangered	Species or species

Name	Status	Type of Presence
Cassowary [25986]		habitat known to occur within area
Erythrotriorchis radiatus		
Red Goshawk [942]	Vulnerable	Species or species habitat known to occur within 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
Rostratula australis		
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis		
Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area
Tyto novaehollandiae kimberli		
Masked Owl (northern) [26048]	Vulnerable	Species or species habitat likely to occur within area
Frogs		
Litoria nannotis		
Waterfall Frog, Torrent Tree Frog [1817]	Endangered	Species or species habitat may occur within area
Litoria nyakalensis		
Mountain Mistfrog [1820]	Critically Endangered	Species or species habitat likely to occur within area
Litoria rheocola		
Common Mistfrog [1802]	Endangered	Species or species habitat likely to occur within area
Nyctimystes dayi		
Lace-eyed Tree Frog, Australian Lacelid [1813]	Endangered	Species or species habitat known to occur within area
Mammals		
Balaenoptera musculus		
Blue Whale [36]	Endangered	Species or species habitat may occur within area
Dasyurus hallucatus		
Northern Quoll [331]	Endangered	Species or species habitat likely to occur within area
Dasyurus maculatus gracilis		
Spotted-tailed Quoll or Yarri (North Queensland subspecies) [64475]	Endangered	Species or species habitat likely to occur within area
Hipposideros semoni		
Semon's Leaf-nosed Bat, Greater Wart-nosed Horseshoe-bat [180]	Endangered	Species or species habitat may occur within area
Megaptera novaeangliae		
Humpback Whale [38]	Vulnerable	Breeding known to occur within 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]	Vulnerable	Species or species habitat may occur within area
Pteropus conspicillatus		
Spectacled Flying-fox [185]	Vulnerable	Species or species habitat known to occur within area
Rhinolophus philippinensis (large form)		
Greater Large-eared Horseshoe Bat [66890]	Endangered	Species or species habitat known to occur within area
Saccolaimus saccolaimus nudicluniatus		
Bare-rumped Sheath-tail Bat [66889]	Critically Endangered	Species or species

Name	Status	Type of Presence
		habitat known to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat may occur within area
Plants		
Arenga australasica Australian Arenga Palm [4067]	Vulnerable	Species or species habitat likely to occur within area
Cajanus mareebensis [8635]	Endangered	Species or species habitat may occur within area
Canarium acutifolium var. acutifolium [64559]	Vulnerable	Species or species habitat likely to occur within area
Chingia australis [24603]	Endangered	Species or species habitat may occur within area
Dendrobium bigibbum Cooktown Orchid [10306]	Vulnerable	Species or species habitat may occur within area
Durabaculum mirbelianum an orchid [78703]	Endangered	Species or species habitat may occur within area
Durabaculum nindii an orchid [78704]	Endangered	Species or species habitat may occur within area
Eleocharis retroflexa a sedge [23672]	Vulnerable	Species or species habitat likely to occur within area
Myrmecodia beccarii Ant Plant [11852]	Vulnerable	Species or species habitat likely to occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Phalaenopsis rosenstromii Native Moth Orchid [15984]	Endangered	Species or species habitat likely to occur within area
Streblus pendulinus Siah's Backbone, Sia's Backbone, Isaac Wood [21618]	Endangered	Species or species habitat likely to occur within area
Taeniophyllum muelleri Minute Orchid, Ribbon-root Orchid [10771]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Name	Status	Type of Presence
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sharks		
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat likely to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
Migratory Marine Species		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Breeding known to occur

Name	Threatened	Type of Presence
Natator depressus Flatback Turtle [59257]	Vulnerable	within area Foraging, feeding or related behaviour known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Foraging, feeding or related behaviour known to occur within area
Migratory Terrestrial Species		
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Roosting known to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area

Name	Threatened	Type of Presence
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]		Roosting known to occur within area
Calidris ferruginea Curlew Sandpiper [856]		Roosting known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]		Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]		Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]		Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Roosting known to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Roosting known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Roosting known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Numenius madagascariensis Eastern Curlew [847]		Roosting known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

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.

Name

Defence - HMAS CAIRNS - CAIRNS
 Defence - KENNY STREET NAVAL STORES-CAIRNS
 Defence - LAS PALMAS MOTEL - CAIRNS
 Defence - NORTHERN HERITAGE MOTEL - CAIRNS
 Defence - QUEERAH MAGAZINE

Commonwealth Heritage Places [\[Resource Information \]](#)

Name	State	Status
Natural		
Great Barrier Reef Region (Commonwealth)	QLD	Indicative Place

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Roosting known to occur within area
Anseranas semipalmata		
Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat likely to occur within area
Arenaria interpres		
Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba		
Sanderling [875]		Roosting known to occur within area
Calidris canutus		
Red Knot, Knot [855]		Roosting known to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]		Roosting known to occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Roosting known to occur within area
Calidris ruficollis		
Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris		
Great Knot [862]		Roosting known to occur within area
Charadrius bicinctus		
Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii		
Greater Sand Plover, Large Sand Plover [877]		Roosting known to occur

Name	Threatened	Type of Presence
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]		within area Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Roosting known to occur within area
Heteroscelus incanus Wandering Tattler [59547]		Roosting known to occur within area
Himantopus himantopus Black-winged Stilt [870]		Roosting known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Roosting known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew [847]		Roosting known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area

Name	Threatened	Type of Presence
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Foraging, feeding or related behaviour known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area
Fish		
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area
Bulbonaricus davaoensis Davao Pughead Pipefish [66190]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys cinctus Barred Short-bodied Pipefish, Girdled Pipefish [66195]		Species or species habitat may occur within area
Choeroichthys sculptus Sculptured Pipefish [66197]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
Corythoichthys ocellatus Orange-spotted Pipefish, Ocellated Pipefish		Species or species

Name	Threatened	Type of Presence
[66203]		habitat may occur within area
Corythoichthys paxtoni Paxton's Pipefish [66204]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Cosmocampus maxweberi Maxweber's Pipefish [66209]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Festucalex gibbsi Gibbs' Pipefish [66215]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus macrorhynchus Whiskered Pipefish, Ornate Pipefish [66222]		Species or species habitat may occur within area
Halicampus mataafae Samoan Pipefish [66223]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribbened Pipehorse, Ribbened Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippichthys spicifer Belly-barred Pipefish, Banded Freshwater Pipefish [66232]		Species or species habitat may occur within area
Hippocampus bargibanti Pygmy Seahorse [66721]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Hippocampus zebra Zebra Seahorse [66241]		Species or species habitat may occur within area
Micrognathus andersonii Anderson's Pipefish, Shortnose Pipefish [66253]		Species or species habitat may occur within area
Micrognathus breviceps thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area
Micrognathus natans Offshore Pipefish [66256]		Species or species habitat may occur within area
Microphis brachyurus Short-tail Pipefish, Short-tailed River Pipefish [66257]		Species or species habitat may occur within area
Nannocampus pictus Painted Pipefish, Reef Pipefish [66263]		Species or species habitat may occur within area
Phoxocampus diacanthus Pale-blotched Pipefish, Spined Pipefish [66266]		Species or species habitat may occur within area
Siokunichthys breviceps Softcoral Pipefish, Soft-coral Pipefish [66270]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paegnius Rough-snout Ghost Pipefish [68425]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short- tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammals		
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Reptiles		
Acalyptophis peronii Horned Seasnake [1114]		Species or species habitat may occur within area
Aipysurus duboisii Dubois' Seasnake [1116]		Species or species habitat may occur within area
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area
Enhydrina schistosa Beaked Seasnake [1126]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species

Name	Threatened	Type of Presence
Hydrophis mcdowelli null [25926]		habitat may occur within area Species or species habitat may occur within area
Hydrophis ornatus a seasnake [1111]		Species or species habitat may occur within area
Lapemis hardwickii Spine-bellied Seasnake [1113]		Species or species habitat may occur within area
Laticauda colubrina a sea krait [1092]		Species or species habitat may occur within area
Laticauda laticaudata a sea krait [1093]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area
Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Delphinus delphis Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Breeding known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Foraging, feeding or related behaviour known to occur within area

Name	Status	Type of Presence
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

Places on the RNE [[Resource Information](#)]

Note that not all Indigenous sites may be listed.

Name	State	Status
Natural		
Wet Tropical Forests of North Queensland	QLD	Interim List
Cairns Tidal Wetlands	QLD	Registered
Cairns Tidal Wetlands Redefined Area #2	QLD	Registered
Great Barrier Reef Region	QLD	Registered
Great Barrier Reef Region (Commonwealth)	QLD	Registered
Malbon / Thompson Range Area	QLD	Registered
Malbon / Thompson Range Extension Area	QLD	Registered
Historic		
Cairns Post Office (former)	QLD	Indicative Place
Cairns Wharves	QLD	Indicative Place
Cairns Yacht Club	QLD	Indicative Place
Consolidated Fertilisers Building	QLD	Indicative Place
St Monica's War Memorial Cathedral	QLD	Indicative Place
Adelaide Steamship Company Building	QLD	Registered
Barrier Reef Hotel	QLD	Registered
Cairns Cemetery (Old)	QLD	Registered
Cairns City Council Building (former)	QLD	Registered
Cairns Court House (former)	QLD	Registered
Cairns Post Building	QLD	Registered
Cairns War Memorial	QLD	Registered
Customs House	QLD	Registered
Government Offices (former)	QLD	Registered
Hides Hotel	QLD	Registered
Jack and Newell Store	QLD	Registered

State and Territory Reserves [[Resource Information](#)]

Name	State
Barr Creek	QLD
Great Barrier Reef Coast	QLD
Grey Peaks	QLD
Half Moon Creek	QLD
Malbon Thompson	QLD
Trinity	QLD
Trinity Inlet	QLD
Trinity Inlet	QLD
Yorkeys Creek	QLD

Invasive Species

[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Bufo marinus Cane Toad [1772]		Species or species habitat likely to occur within area
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Rattus norvegicus Brown Rat, Norway Rat [83]		within area Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Plants		
Andropogon gayanus Gamba Grass [66895]		Species or species habitat likely to occur within area
Annona glabra Pond Apple, Pond-apple Tree, Alligator Apple, Bullock's Heart, Cherimoya, Monkey Apple, Bobwood, Corkwood [6311]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Cryptostegia grandiflora Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Jatropha gossypifolia Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Protasparagus plumosus Climbing Asparagus-fern, Ferny Asparagus [11747]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead		Species or species

Name	Status	Type of Presence
[68483]		habitat likely to occur within area
Salvinia molesta		
Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus		
Asian House Gecko [1708]		Species or species habitat likely to occur within area
Lepidodactylus lugubris		
Mourning Gecko [1712]		Species or species habitat likely to occur within area
Ramphotyphlops braminus		
Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area
Nationally Important Wetlands		[Resource Information]
Name		State
Great Barrier Reef Marine Park		QLD
Port of Cairns and Trinity Inlet		QLD

Coordinates

-16.872183 145.929495,-16.905035 145.902029,-16.914232 145.88555,-16.910291145.855338,-16.887953
145.848471,-16.886639 145.844351,-16.908977 145.815512,-16.940508 145.810019,-16.982542
145.816885,-17.004868 145.827872,-17.03901145.804526,-17.03901 145.792166,-17.008808
145.756461,-16.998302 145.745474,-16.940508 145.745474,-16.927371 145.76882,-16.887953
145.752341,-16.859041145.749594,-16.795946 145.704276,-16.778854 145.671317,-16.744665
145.66033,-16.705209 145.617758,-16.709155 145.941855,-16.872183 145.933615,-16.874812
145.928122,-16.872183 145.929495

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

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.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

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:

- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [Environmental and Resource Management, Queensland](#)
- [Department of Environment and Conservation, Western Australia](#)
- [Department of the Environment, Climate Change, Energy and Water](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [SA 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, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [State Forests of NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- 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.