



# natural solutions

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Our Ref: J08-069/\_DR\_TOT\_Avifauna

Wednesday, 11 June 2008

Kelly Lynch  
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SOUTH BRISBANE QLD 4101

Via Email: [kelly.lynch@hyderconsulting.com](mailto:kelly.lynch@hyderconsulting.com)

Dear Ms Lynch,

**RE: TOWNSVILLE OCEAN TERMINAL PROJECT - AVIFAUNA**

## 1.0 INTRODUCTION

In order to respond to the comments submitted by the Townsville Region Bird Observers Club (TRBOC) (25/01/08) in response to the Townsville Ocean Terminal Project (TOT) Environmental Impact Statement, I have been requested to investigate the proposed project and consider potential impacts on avifauna. The TOT site is located on and adjacent to the Townsville foreshore, immediately north of the Convention Centre and Casino on the western side of Ross Creek (Townsville Port) (**Figure 1 & Photo Plates**).

I have a PhD in ecology and have completed many years research in ornithology including shorebird biology and management. I am familiar with the birds of Queensland and Townsville. I have completed (since 1999) a number of ecological studies in the Townsville region and am familiar with the local habitats, including Magnetic Island, Ross River and Cape Pallarenda. I have been observing birds professionally for more than 20 years and recreationally for 10 years prior to that.

## 2.0 TRBOC CORRESPONDENCE

It is apparent that TRBOC is concerned that no specific study has considered impacts on avifauna and/or potential habitat, as per their correspondence *"It would appear that the consultant has not conducted a field study of the area as required by the EIS terms of reference. This is highlighted in the fact that the Consultant has concluded that sections of the existing infrastructure are a constructed marine site and therefore does not hold terrestrial fauna. In fact Sooty Oystercatchers, listed as rare under State legislation reside in this area."* (TRBOC 2008a).

The EIS Terms of Reference (ToR) (Queensland Government 2007) states: *"The terrestrial fauna occurring within the Project area and in areas affected by material extraction should be described noting the broad distribution patterns in relation to vegetation, topography and substrate. A field investigation should be undertaken and a description of the fauna present or likely to be present in the area should be provided."*

*This field investigation should cover a range of issues including "existence of any rare, threatened or otherwise noteworthy species communities in the study area, including discussion of range, habitat, breeding, recruitment, feeding and movement requirements, and current level of protection (e.g. any requirements of Protected Area Management Plans); and use of the area by migratory birds, nomadic birds, fish and terrestrial fauna."*

TRBOC have requested the following:

- *The Consultant should be made to withdraw the statement "The site is a constructed marine site. No terrestrial fauna is associated in the area."*
- *Conduct a field investigation as specified in the EIS terms of reference. Any such study will confirm the true situation of this area in respect of terrestrial fauna and we believe will demonstrate the need for compensatory structures to be included in the final design of the project.*

## 3.0 SCOPE OF WORKS

Statutory requirements (Commonwealth, State and local) have been addressed in detail by others in the EIS documentation (including C&R Consulting 2007a, b; EIS 2007). In order to address the EIS ToR, the concerns raised by TRBOC and to ensure the potential impact on avifauna is considered, the following assessment objectives (within context of the site origin, history and size) were identified:

- Site inspection to identify potential habitat;
- Survey of site to determine bird populations;
- Assessment / consideration of similar habitat in locality; and
- Liaison / meeting with TRBOC representatives.

In summary the **key aims** of the assessment were to:

- Assess site value for avifauna;
- Identify potential project impacts on avifauna; and
- Recommend mitigation measures.

## 4.0 PROJECT DESCRIPTION

### 4.1 Current Site

The site is located on the Townsville foreshore within Cleveland Bay and includes the Port western and northern breakwater and the southern breakwater along the Casino and Convention Centre land. The site and immediate locality consists of anthropogenically modified landforms and man-made (artificial) habitats (**Figure 1 & Photo Plates**). The site is located outside the Great Barrier Reef Marine Park. These modified landforms include:

- Reclaimed land for the convention centre and casino;
- Rip rap breakwater in the south, north of the casino / convention centre;
- Marina and constructed breakwaters;
- Rip rap (constructed by placed irregular shaped rocks together to form a wall) northern breakwater;
- "Sealed" western breakwater (extending beyond the northern breakwater with a "rocky headland");
- Shallow (approx. 0.5-1.5m) waters within the breakwaters;
- Deep water (approx. 11m) within the Port Channel (Ross Creek);
- Extensive Port activities to the east;
- Port channel marker / beacons; and
- Small area of sand predominantly exposed at low tide in the northeast portion of the site.

The site (all three breakwaters) is accessible by pedestrians (primarily walkers and fishermen). The Port western breakwater is most accessible as the surface is smooth, whereas the southern and northern breakwaters are both constructed of rip rap and not easily accessible (i.e. boulder hopping is necessary) (**refer Photo Plates**).

### 4.2 Proposed Project

It is understood that the TOT Project (**Figure 2**) includes:

- Ocean Terminal along the current Port western breakwater;
- Residential & Commercial waterfront community in land reclaimed between the northern, western and southern breakwater;
- Private recreational marina / mooring; and
- Open space areas along the northern breakwater.

It is understood that the majority of the southern breakwater, part of the eastern side of the Port western breakwater and the northern side of the northern breakwater will be retained in their current state. Following completion of the project, approximately 3km (i.e. the same amount that currently exists) of rocky shore (rip-rap) habitat will be provided.

The project is currently proposed in 25 stages (or steps) (i.e. the preferred construction method - EIS 2007), starting with the construction of the access haul road and hardstand area. The Strand (i.e. western / perimeter breakwater) is proposed in the 2nd step.



## 5.0 METHODOLOGY

In order to appreciate the site as avifauna habitat and obtain an understanding of the proposed project and potential impacts, the following methodology was implemented:

- Review background information (Sections of the EIS, Specialist Reports, Commonwealth, State & Bird Databases);
- Liaison Project Consultants and Engineers (Hyder Consulting & Flanagan Consulting Group);
- Liaison George Baker (TRBOC); and
- Site Inspection and Inspection of Cleveland Bay.

Seven site inspections were completed from 11<sup>th</sup> May to 14<sup>th</sup> May 2008 and included, surveys during:

- Low & high tide;
- Early morning, late afternoon & midday;
- Weekdays & weekends; and
- 1 survey with G. Baker (TRBOC).

Localities in Cleveland Bay were also inspected between 12<sup>th</sup> & 14<sup>th</sup> May 2008 to determine the occurrence of "rocky substrate" habitat

It should be noted that any study requiring an understanding of fauna populations and use of an area often requires long term observations. Migratory species, by definition, are also not encountered in an area all year. Nevertheless, even with these limitations, a relatively accurate assessment of the habitat available and likely occurring species can be obtained through a limited number of site inspections, habitat assessment, interrogation of databases and local information. In this instance, and with recognition of the study objectives, the survey methodology used is considered sufficient to assess and provide comment on avifauna and project impacts.

## 6.0 SITE ASSESSMENT

### 6.1 Habitat

Both the northern and southern breakwaters contain rip rap structures (irregular rocks). The Port western breakwater is also comprised of rip rap, however this breakwater has been constructed with more regular shaped rocks and has a flat concrete surface (**Photo Plates**). A small area of sand is exposed at low tide in the northeast corner of the site.

Bird habitat is provided in the form of:

- Forage perches (rocks, pipes);
- Shelter/Roosting (rocks, crevices, holes, breakwater);
- Nesting (possible amongst rocks - not confirmed); and
- Food resources (intertidal rocks).

## 6.2 Species

Although referring to existing databases has limited value (as they are often at a broader scale) they do provide an indication of potentially occurring species (including threatened species) for a specific location, particularly if there is no long term site-specific data.

The *Commonwealth* EPBC Act Protected Matter database (DEWHA 2008), *State* Wildlife Online database (EPA 2008) and *Birds Australia Atlas* data (Birds Australia 2008) are included in **Appendix A**. Although C&R Consulting (2007a) did not conduct detailed bird surveys they did consider the potential occurrence of certain species, including threatened birds, within the study area.

Members of TRBOC have kept irregular data of the birds of the Port area for approximately 12 years and report sightings of threatened species (G. Baker, TRBOC *pers. com.*). TRBOC report 30 species (**Table 1**) from the Port breakwater (it is believed these sightings are from the general Port locality) over the past 12 years, as at May 2008.

**TABLE 1** SIGHTINGS FROM PORT BREAKWATER (TRBOC, APPROX. 1996-2008)

SPECIES	COMMON NAME
<i>Puffinus tenuirostris</i>	Short-tailed Shearwater
<i>Puffinus pacificus</i>	Wedge-tailed Shearwater
<i>Puffinus huttoni</i>	Hutton's Shearwater
<i>Anhinga melanogaster</i>	Darter
<i>Phalacrocorax varius</i>	Pied Cormorant
<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant
<i>Egretta sacra</i>	Eastern Reef Egret
<i>Butorides striatus</i>	Striated Heron
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher
<i>Elanus axillaris</i>	Black Kite
<i>Haliastur indus</i>	Brahminy Kite
<i>Pandion haliaetus</i>	Osprey
<i>Falco cenchroides</i>	Nankeen Kestrel
<i>Sula leucogaster</i>	Brown Booby.
<i>Larus novaehollandiae</i>	Silver Gull
<i>Sterna caspia</i>	Caspian Tern
<i>Sterna bergii</i>	Gull-billed Tern
<i>Falco cenchroides</i>	Lesser Crested Tern
<i>Sterna hirundo</i>	Common Tern
<i>Sterna bergii</i>	Crested Tern
<i>Sterna albifrons</i>	Little Tern

SPECIES	COMMON NAME
<i>Heteroscelus incanus</i>	Wandering Tattler
<i>Vanellus miles novaehollandiae</i>	Masked Lapwing
<i>Threskiornis molucca</i>	White Ibis
<i>Todiramphus sanctus</i>	Sacred Kingfisher
<i>Hirundo neoxena</i>	Welcome Swallow
<i>Grallina cyanoleuca</i>	Magpie Lark
<i>Taeniopygia guttata</i>	Zebra Finch
<i>Corvus</i> (assume <i>coronoides</i> )	Raven

During May 2008 site inspections completed as part of this review a total of 21 species were recorded in the "site locality" (Table 2). This represents 70% of the total species recorded by TRBOC over the past 12 years and includes five species not recorded by TRBOC. The total list for the site (locality) would stand at 35 (as at May 2008) collected over the past 12 years.

TABLE 2 SPECIES RECORDED AT PORT BREAKWATER (WATSON, 11TH-14TH MAY 2008)

SPECIES NAME	COMMON NAME
<i>Puffinus tenuirostris</i>	Short-tailed Shearwater
<i>Anhinga melanogaster</i>	Darter
<i>Phalacrocorax varius</i>	Pied Cormorant
<i>Egretta sacra</i>	Eastern Reef Egret
<i>Butorides striatus</i>	Striated Heron
<i>Elanus axillaris</i>	Black Kite
<i>Haliastur indus</i>	Brahminy Kite
<i>Pandion haliaetus</i>	Osprey
<i>Sula leucogaster</i>	Brown Booby.
<i>Larus novaehollandiae</i>	Silver Gull
<i>Sterna caspia</i>	Caspian Tern
<i>Sterna nilotica</i>	Gull-billed Tern
<i>Sterna bergii</i>	Crested Tern
<i>Vanellus miles novaehollandiae</i>	Masked Lapwing
<i>Hirundo neoxena</i>	Welcome Swallow
<i>Grallina cyanoleuca</i>	Magpie Lark
<i>Acridotheres tristis</i>	Common Mynah
<i>Passer domesticus</i>	House Sparrow
<i>Corvus orru</i>	Torresian Crow
<i>Artamus leucorhynchus</i>	White-breasted Woodswallow
<i>Entomyzon cyanotis</i>	Blue-faced Honey-eater

Most of the species (from the Watson and the TRBOC list) would be considered transient and not resident or reliant on the site as preferred habitat occurs within adjacent areas. However, the habitat provided by the site could be considered “preferred” by a number of species, including Eastern Reef Egret and Striated Heron. The site provides shelter, forage resources and perches for these species. Other shorebird / coastal species such as cormorants, gulls and terns would use the constructed part of site occasionally for roosting while foraging in the local waters.

### 6.3 Threatened Species

Databases (Annexure A), EIS documents (e.g. C&R Consulting 2007a, b) and information from TRBOC (Table 1 & TRBOC 2008) suggest that a number of threatened (listed under the Commonwealth *Environment Protection & Biodiversity Conservation Act 1999* and Queensland *Nature Conservation Act 1992*) species occur or have the potential to occur within the project locality/site. Due to the size of the “site”, proximity to adjacent varied habitats and the nature of broad ranging databases caution is required when analysing database information. Data collected on site (e.g. by local birders - TRBOC) is preferred in this instance as a record of threatened species.

C&R Consulting (2007a) dealt in detail with six threatened bird species (i.e. Red Goshawk, White-bellied Sea-eagle, White-throated Needletail, Barn Swallow, Black-faced Monarch and Australian Painted Snipe) and mentioned that both Little Tern and Sooty Oystercatcher have been “*observed feeding inside the Development site*”. They also conclude that it is unlikely that “*this area is their primary food source*”.

Although some of the species considered as potentially occurring may occasionally utilise the site (or locality) (e.g. White-bellied Sea-eagle, White-throated Needletail, migratory wader species) it is believed that the site does not form significant habitat critical to their survival.

Little Tern (listed as *endangered* in Queensland) and Sooty Oystercatcher (listed as *rare* in Queensland) have been recorded in the site, both roosting and foraging (G. Baker, TRBOC *pers. com.*; TRBOC 2008). Atlas data (Birds Australia 2008) indicates 4 and 18 records for Sooty Oystercatcher and Little Tern respectively in the greater Townsville region. Little Tern would utilise the rip-rap habitat for roosting while foraging in the nearby waters and Sooty Oystercatcher would utilise the rip-rap habitat for roosting while foraging on the intertidal rip-rap (rocky) habitat. There are no breeding records for these (or any other) species within the site (G. Baker, TRBOC *pers. com.*). J. Weineke (Weineke 2000) reports both Little Terns and Sooty Oystercatchers in Cleveland Bay. Wiereke (2000) acknowledges that the terns shelter near the breakwater in rough weather while the oystercatcher prefers exposed reefs and rocky shores on islands.

Brief species profiles for Little Tern and Sooty Oystercatcher (Appendix B) are provided to assist in understanding species life cycles and critical habitat requirements.

## 7.0 CLEVELAND BAY HABITAT

Intertidal habitats within Cleveland Bay are described in the EIS documents (including C&R Consulting 2007b) and include mangroves, sandy shores, mudflats and rocky shores. The site artificial “rip rap” habitat is considered synonymous with natural “rocky shore”. Rocky Shore habitat occurs on Magnetic Island (<10km from site), Cape Pallarenda (<10km from site) and Kissing Point (<3km from site) (refer



**Photo Plates).** This natural habitat is considered greater quality than that provided by the artificial structures. Similar artificial “rip-rap” habitat occurs around the marina (<1km from the site), along the Strand (three small groynes 1-2km from the site), Cleveland Point (approx. 20km from site) and extensive breakwater areas near Ross River (Port land <2km east of the site) (refer **Figure 3 & Photo Plates**).

A crude estimation (based on area approximations and site inspections) of rocky shore habitat (linear strips) in Cleveland Bay (within 20-25km from the site) suggests:

- 40 km of natural habitat
- 9 km artificial habitat

The site provides approximately 3km (33%) of the artificial habitat and <6% of the “rocky shore habitat in Cleveland Bay.

## 8.0 POTENTIAL IMPACTS

A number of avifauna -related impacts (potentially temporary) associated with the proposed project (operational phase) are likely to occur. These changes to the site are summarised below with specific potential impacts for avifauna **Table 3**.

**TABLE 3 POTENTIAL PROJECT-RELATED IMPACTS ON AVIFAUNA**

CHANGE TO CURRENT SITE	POTENTIAL IMPACT
Loss of internal portion of the northern breakwater	Loss of roosting & foraging
Loss of the internal & external Port western breakwater	Loss of roosting & foraging
Pedestrian access to northern breakwater	Disturbance – loss of foraging opportunities, energy expenditure
Reclamation of shallow open water	Loss of shallow feeding resources

The implications of this loss need to be reviewed in context with the amount of “similar” natural rocky shore and artificial “rip-rap” habitat in Cleveland Bay (within 20km of the project site), the numbers (richness and abundance) of common species that utilise the site, the numbers of threatened species that are known to or are likely to use the site and the relative value (how critical the site is to the species survival) the site provides for these species.

Impacts such as dredging, oil/chemical spills, release of contaminants, stormwater run-off, algal blooms, noise, increased vibration, harmful marine debris and introduced pests have been dealt with in detail in the EIS (including C&R Consulting 2007a, b). It should be noted that these matters may impact the avifauna of the site. A number of measures have been proposed to manage these potential impacts (EIS 2007, C&R Consulting 2007a, b).



## 9.0 MANAGEMENT RECOMMENDATIONS

The site is a constructed marine site. Although the habitat is artificial, it does support a small number of species, with even fewer utilising or likely to utilise the site regularly.

In order to provide similar habitat in the locality a number of management measures are recommended for the i) design, ii) construction and iii) operational phase of the project.

### *Design:*

- Creation of appropriately designed compensatory habitat (e.g. Strand breakwater - refer discussion below); and
- Where possible, utilise rip-rap design (i.e. large irregular boulders) for breakwaters.
- Liaison with appropriately qualified scientists to assist in design

### *Construction Phase:*

- Staged construction (only disturb habitat when necessary);
- No dogs allowed on the construction site;
- Areas that provide bird habitat and do not require construction access to be protected (fenced or signposted); and
- Site / project environmental officer to be aware of bird habitat, manage and monitor accordingly.

### *Operational Phase:*

- Restrict access to compensatory habitat (e.g. Strand breakwater - refer discussion below)
- Restrict access to parts of the northern breakwater (e.g. limit pedestrians to the eastern part of the northern breakwater).
- Ongoing monitoring of Compensatory Bird Habitat and project area

It is recommended that the proposed northern breakwater extension and some or all of the proposed Strand breakwater (the western most proposed breakwater) be managed as “**Compensatory Bird Habitat**”. The design of the breakwater should consider rip rap groynes to the west that allow for the creation of “sheltered bays”. Baffles could be used (K. O’Neil, Flanagan Consulting Group *pers. com.*) as part of the groynes to maintain natural hydrological flow. Depending on design, sand / sediment accretion may occur at the intersection between the groyne and breakwater creating small sheltered areas for roosting and foraging. Pedestrian (and domestic / feral animal) access to these (‘Compensatory Bird Habitat’) areas should be prohibited (access restricted to maintenance and conservation purposes) to ensure a “protected and conserved” environment that provides a range of resources (roosting, foraging and potentially nesting) for both common and threatened species.

## 10.0 SUMMARY & CONCLUSION

The site is a constructed marine site. Nevertheless, it does provide habitat for birds. Habitat resources include foraging platforms and prey material and roosting sites.

Cleveland Bay provides a range of intertidal habitats, including rocky shores. Habitat considered of greater quality than that of the site occurs within Cleveland Bay and on Magnetic Island (within 20km of the project site). Approximately 40km of natural and 9km of artificial “rocky shore” habitat exists within

Cleveland Bay. The site comprises entirely artificial rip-rap habitat and provides approximately 3km (<6%) of the total rocky habitat in Cleveland Bay. Following completion of the project, approximately 3km (i.e. the same amount that currently exists) of rocky shore (rip-rap) habitat will be provided.

Impacts on avifauna associated with the project include loss of forage and roost habitat for some common (resident) species. Following the implementation of "mitigation measures" it is likely that these impacts will be temporary. Threatened species (e.g. Little Tern & Sooty Oystercatcher) are known to occasionally utilise the site, however it is not considered that the site forms part of their critical habitat.

Recommendations to minimise impacts on both common and threatened avifauna include design considerations to the breakwater (e.g. rip rap), restricted access and monitoring. The key measure to compensate for habitat loss involves the management of the proposed northern breakwater extension and some or all of the proposed Strand breakwater as a "*Compensatory Bird Habitat*" area.

## 11.0 REFERENCES

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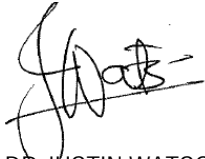
TRBOC (2008) TRBOC sightings from Port Breakwater as of May 2008 (provided by G.Baker).

Wieneke, J. (2000) *Where to find birds in North Eastern Queensland*. (3<sup>rd</sup> Edition).

We trust this information is sufficient for your purpose; however should you require further information or clarification please do not hesitate to contact the undersigned on 3124 9400.

Yours faithfully

**Natural Solutions Environmental Consultants Pty Ltd**



**DR JUSTIN WATSON**



**Director**

Enc:     **Figure 1:** Project Locality - (Hyder Consulting)  
         **Figure 2:** Project Description - (Hyder Consulting)  
         **Figure 3:** Cleveland Bay Rocky Shore Habitats - (Google Earth Professional)  
         **Photo Plates**  
         **Annexure A:** Databases (EPBC, Wildlife Online, Birds Australia)  
         **Annexure B:** Species Profiles (Sooty Oystercatcher, Little Tern)





Figure 1 Project Locality

		Scale (Plan)	Surveyor			Status		Project		 <div>HYDER CONSULTING ABN 48 010 924 866 P O Box 1653, Southport, Queensland, 4215 Australia Tel: (+617) 5532 3933 Fax: (+617) 5591 4778 E-mail: goldcoast@hyderconsulting.com Web: www.hyderconsulting.com</div>
		BRAZIER MOTTI		NOT TO BE USED FOR CONSTRUCTION		TOWNSVILLE OCEAN TERMINAL PROJECT				
		Scale (Sections)	Architect	Approved		Title				
				R.E.P.Q No :						
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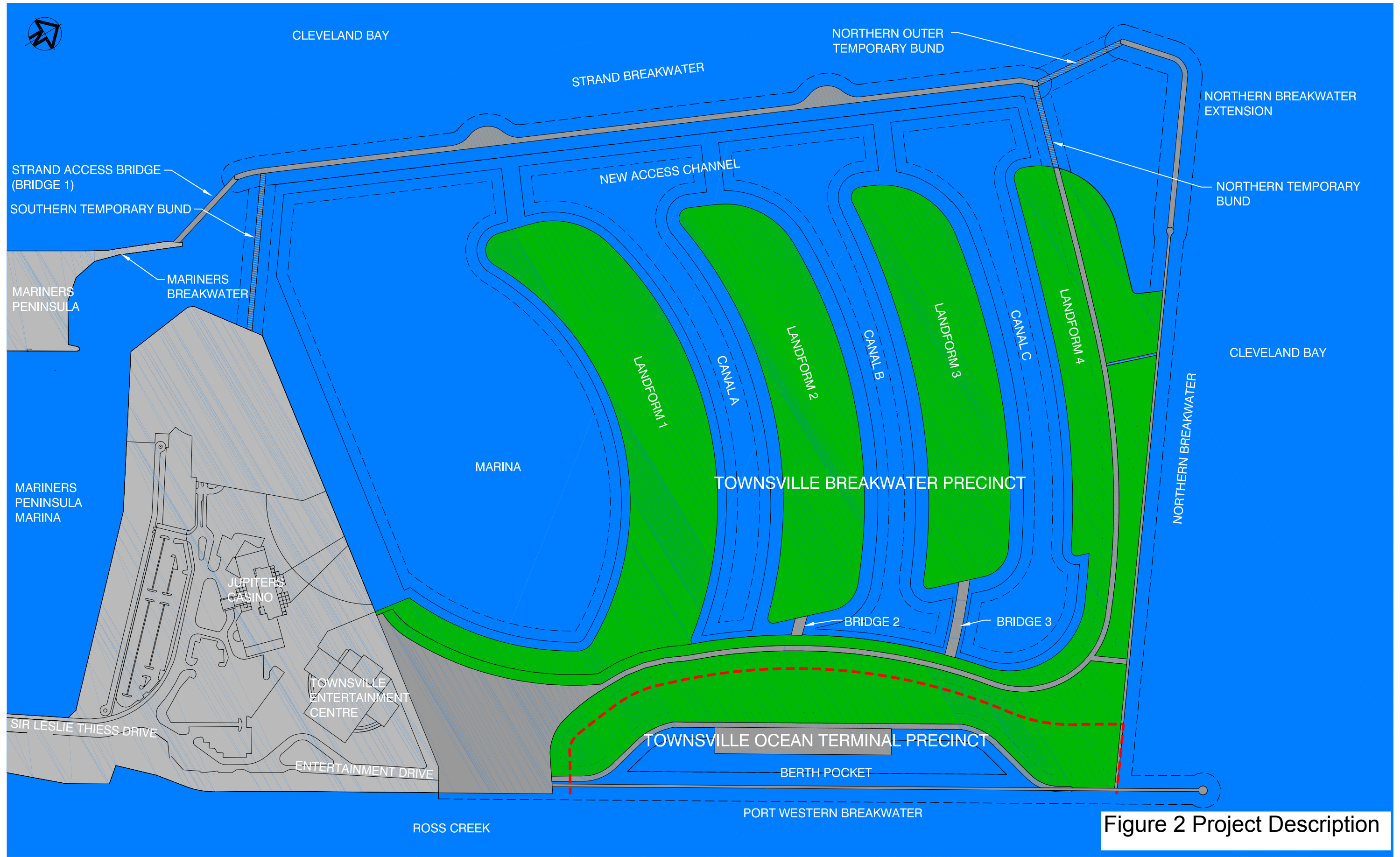



Figure 2 Project Description

		<div>Scale (Plan)</div> 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**Figure 3 – Cleveland Bay Rocky Shore Habitats**

Hyder Consulting					Scale Not To Scale
Compiled 30-05-2008	Compiled by jw	Project Manager jw	Reference J08-069_Figure3_Issue01	Source Google Professional/Hyder Consulting	 <b>natural solutions</b> environmental consultants NATURAL SOLUTIONS ENVIRONMENTAL CONSULTANTS BRISBANE-CAIRNS-TOOWOOMBA-SUNSHINE COAST ABN: 38 103 132 716 Ph: 07 3124 9400 Fax: 07 3124 9499 www.naturalsolutions.com.au
<b>Important Note</b> Natural Solutions Environmental Consultants accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this plan in contravention of the terms of this clause or clauses (i) of (vi) hereof. (i) This plan has been produced for exclusive use of the client and Natural Solutions Environmental Consultants. (ii) The contours shown are suitable only for the purpose of this plan. The accuracy of the contours have not been verified and no reliance should be placed upon such contours for any purpose other than for the original purpose of this plan. (iii) Aerial photography and mapping has been overlaid as a best fit on the boundaries shown and position is approximate only. (iv) The dimensions, area, size and location of improvements shown on this plan are approximate only and may vary. (v) Scale shown is correct for the original plan and any copies of this plan should be verified by checking against the bar scale. (vi) This plan may not be photocopied unless this note is included.					





Rocky Headland (tip of eastern/Port breakwater) – artificial habitat



Northern breakwater - artificial habitat



Northern breakwater (rip-rap construction) - artificial habitat



Eastern/Port breakwater (sealed accessible surface) - artificial habitat





Rocky substrate (intertidal foraging habitat) - artificial habitat



Sand accretion (north eastern corner of site)



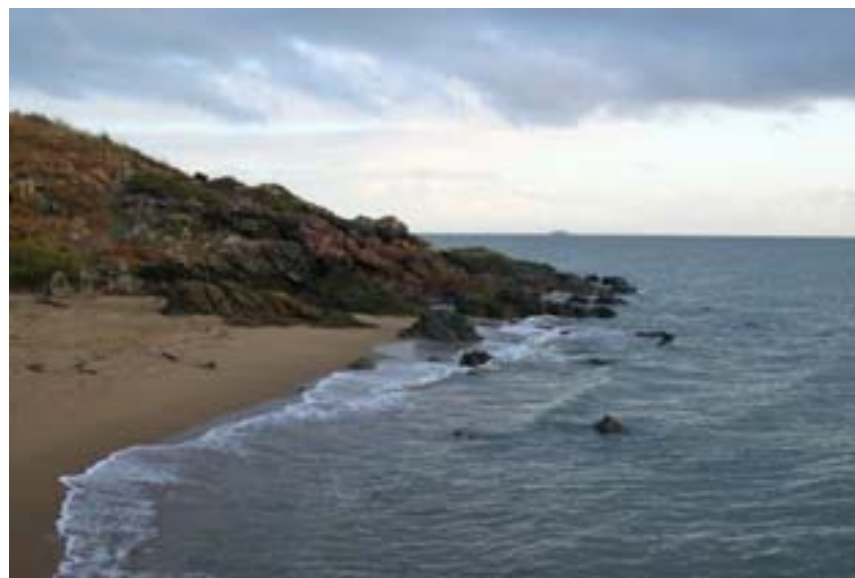
Overview of Project Area



Southern breakwater - artificial habitat



Southern breakwater (Port land, Ross River) - artificial habitat



Cape Pallarenda rocky shore – natural habitat



## Protected Matters Search Tool

You are here: [Environment Home](#) > [EPBC Act](#) > [Search](#)

22 May 2008 10:41

# 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.

You may wish to print this report for reference before moving to other pages or websites.

The Australian Natural Resources Atlas at <http://www.environment.gov.au/atlas> may provide further environmental information relevant to your selected area. Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.environment.gov.au/epbc/assessmentsapprovals/index.html>

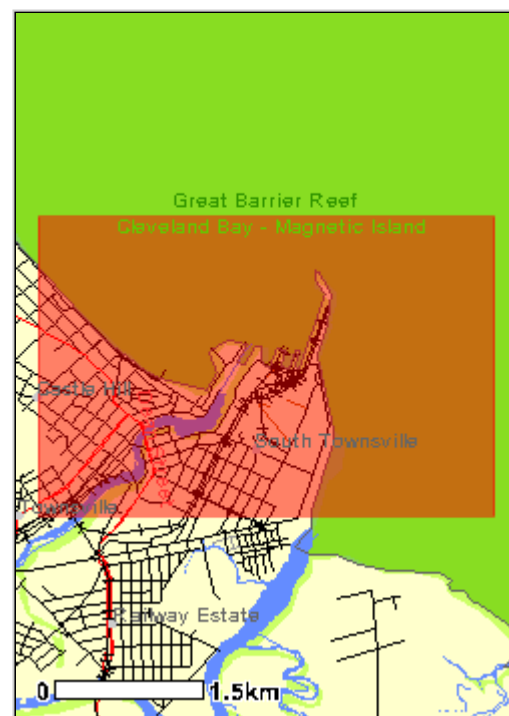
**Search Type:** Area  
**Buffer:** 0 km  
**Coordinates:** -19.23831,146.80861, -19.26750,146.80861, -19.26750,146.85306, -19.2383,146.85306



**Report Contents:** [Summary](#)  
[Details](#)

- [Matters of NES](#)
- [Other matters protected by the EPBC Act](#)
- [Extra Information](#)

[Caveat](#)  
[Acknowledgments](#)



This map may contain data which are  
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(Geoscience Australia)  
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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 - see <http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>.

**World Heritage Properties:** 1

**National Heritage Places:** 1

<b><u>Wetlands of International Significance:</u></b> <b>(Ramsar Sites)</b>	1
<b>Commonwealth Marine Areas:</b>	None
<b>Threatened Ecological Communities:</b>	None
<b><u>Threatened Species:</u></b>	23
<b><u>Migratory Species:</u></b>	36

## 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. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage/index.html>.

Please note that the current dataset on Commonwealth land is not complete. Further information on Commonwealth land would need to be obtained from relevant sources including Commonwealth agencies, local agencies, and land tenure maps.

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. Information on EPBC Act permit requirements and application forms can be found at <http://www.environment.gov.au/epbc/permits/index.html>.

<b><u>Commonwealth Lands:</u></b>	1
<b>Commonwealth Heritage Places:</b>	None
<b><u>Places on the RNE:</u></b>	29
<b><u>Listed Marine Species:</u></b>	76
<b><u>Whales and Other Cetaceans:</u></b>	12
<b>Critical Habitats:</b>	None
<b>Commonwealth Reserves:</b>	None

## Extra Information

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

<b><u>State and Territory Reserves:</u></b>	1
<b>Other Commonwealth Reserves:</b>	None
<b>Regional Forest Agreements:</b>	None

## Details

### Matters of National Environmental Significance

World Heritage Properties [ [Dataset Information](#) ]

[Great Barrier Reef QLD](#)

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



[Great Barrier Reef QLD](#)

Wetlands of International Significance [ [Dataset Information](#) ]  
(Ramsar Sites)

[BOWLING GREEN BAY](#)

Within 10 km of Ramsar site

Threatened Species [ [Dataset Information](#) ]

Status

Type of Presence

**Birds**[Erythrotriorchis radiatus](#) \*

Red Goshawk

Vulnerable

Species or species habitat likely to occur within area

[Geophaps scripta scripta](#) \*

Squatter Pigeon (southern)

Vulnerable

Species or species habitat likely to occur within area

[Neochmia ruficauda ruficauda](#) \*

Star Finch (eastern), Star Finch (southern)

Endangered

Species or species habitat likely to occur within area

[Poephila cincta cincta](#) \*

Black-throated Finch (southern)

Endangered

Species or species habitat likely to occur within area

[Rostratula australis](#) \*

Australian Painted Snipe

Vulnerable

Species or species habitat may occur within area

**Mammals**[Balaenoptera musculus](#) \*

Blue Whale

Endangered

Species or species habitat may occur within area

[Dasyurus hallucatus](#) \*

Northern Quoll

Endangered

Species or species habitat may occur within area

[Hipposideros semoni](#) \*

Semon's Leaf-nosed Bat, Greater Wart-nosed Horseshoe-bat

Endangered

Species or species habitat may occur within area

[Megaptera novaeangliae](#) \*

Humpback Whale

Vulnerable

Breeding known to occur within area

[Pteropus conspicillatus](#) \*

Spectacled Flying-fox

Vulnerable

Species or species habitat may occur within area

[Rhinolophus philippinensis \(large form\)](#) \*

Greater Large-eared Horseshoe Bat

Endangered

Species or species habitat may occur within area

[Xeromys myoides](#) \*

Water Mouse, False Water Rat

Vulnerable

Species or species habitat likely to occur within area

**Reptiles**[Caretta caretta](#) \*

Loggerhead Turtle

Endangered

Species or species habitat may occur within area

[Chelonia mydas](#) \*

Green Turtle

Vulnerable

Species or species habitat may occur within area

[Dermochelys coriacea](#) \*

Leathery Turtle, Leatherback Turtle, Luth

Vulnerable

Species or species habitat may occur within area

[Egernia rugosa](#) \*

Yakka Skink

Vulnerable

Species or species habitat likely to occur within area

[Eretmochelys imbricata](#) \*

Hawksbill Turtle

Vulnerable

Species or species habitat may occur within area

[Lepidochelys olivacea](#) \*

Pacific Ridley, Olive Ridley

Endangered

Species or species habitat may occur within area

[Natator depressus](#) \*

Flatback Turtle

Vulnerable

Breeding likely to occur within area

**Sharks**[Pristis zijsron](#) \*

Green Sawfish, Dindagubba, Narrowsnout Sawfish

Vulnerable

Species or species habitat may occur within area

[Rhincodon typus](#) \*

Vulnerable

Species or species habitat may occur within

Whale Shark

area

**Plants**[\*Hydrocharis dubia\*](#) \*

Vulnerable Community likely to occur within area

Frogbit

[\*Taeniophyllum muelleri\*](#) \*

Vulnerable Species or species habitat may occur within area

Minute Orchid, Ribbon-root Orchid

Migratory Species [ [Dataset Information](#) ]

Status Type of Presence

**Migratory Terrestrial Species****Birds**[\*Haliaeetus leucogaster\*](#)

Migratory Species or species habitat likely to occur within area

White-bellied Sea-Eagle

[\*Hirundapus caudacutus\*](#)

Migratory Species or species habitat may occur within area

White-throated Needletail

[\*Hirundo rustica\*](#)

Migratory Species or species habitat may occur within area

Barn Swallow

[\*Merops ornatus\*](#) \*

Migratory Species or species habitat may occur within area

Rainbow Bee-eater

[\*Monarcha melanopsis\*](#)

Migratory Breeding may occur within area

Black-faced Monarch

[\*Monarcha trivirgatus\*](#)

Migratory Breeding likely to occur within area

Spectacled Monarch

[\*Myiagra cyanoleuca\*](#)

Migratory Species or species habitat likely to occur within area

Satin Flycatcher

[\*Rhipidura rufifrons\*](#)

Migratory Breeding may occur within area

Rufous Fantail

**Migratory Wetland Species****Birds**[\*Ardea alba\*](#)

Migratory Breeding likely to occur within area

Great Egret, White Egret

[\*Ardea ibis\*](#)

Migratory Breeding likely to occur within area

Cattle Egret

[\*Charadrius mongolus\*](#)

Migratory Species or species habitat likely to occur within area

Lesser Sand Plover, Mongolian Plover

[\*Gallinago hardwickii\*](#) \*

Migratory Species or species habitat may occur within area

Latham's Snipe, Japanese Snipe

[\*Nettapus coromandelianus albigennis\*](#)

Migratory Species or species habitat may occur within area

Australian Cotton Pygmy-goose

[\*Numenius madagascariensis\*](#)

Migratory Species or species habitat likely to occur within area

Eastern Curlew

[\*Numenius minutus\*](#)

Migratory Species or species habitat may occur within area

Little Curlew, Little Whimbrel

[\*Numenius phaeopus\*](#)

Migratory Species or species habitat likely to occur within area

Whimbrel

[\*Rostratula benghalensis s. lat.\*](#)

Migratory Species or species habitat may occur within area

Painted Snipe

**Migratory Marine Birds**[\*Apus pacificus\*](#)

Migratory Species or species habitat may occur within area

Fork-tailed Swift

[\*Ardea alba\*](#)

Migratory Breeding likely to occur within area

Great Egret, White Egret

[\*Ardea ibis\*](#)

Cattle Egret

Migratory

Breeding likely to occur within area

[\*Sterna albifrons\*](#)

Little Tern

Migratory

Species or species habitat may occur within area

**Migratory Marine Species****Mammals**[\*Balaenoptera edeni\*](#)

Bryde's Whale

Migratory

Species or species habitat may occur within area

[\*Balaenoptera musculus\*](#) \*

Blue Whale

Migratory

Species or species habitat may occur within area

[\*Dugong dugon\*](#)

Dugong

Migratory

Species or species habitat likely to occur within area

[\*Megaptera novaeangliae\*](#) \*

Humpback Whale

Migratory

Breeding known to occur within area

[\*Orcaella brevirostris\*](#)

Irrawaddy Dolphin

Migratory

Species or species habitat may occur within area

[\*Orcinus orca\*](#)

Killer Whale, Orca

Migratory

Species or species habitat may occur within area

[\*Sousa chinensis\*](#)

Indo-Pacific Humpback Dolphin

Migratory

Species or species habitat may occur within area

**Reptiles**[\*Caretta caretta\*](#) \*

Loggerhead Turtle

Migratory

Species or species habitat may occur within area

[\*Chelonia mydas\*](#) \*

Green Turtle

Migratory

Species or species habitat may occur within area

[\*Crocodylus porosus\*](#)

Estuarine Crocodile, Salt-water Crocodile

Migratory

Species or species habitat likely to occur within area

[\*Dermochelys coriacea\*](#) \*

Leathery Turtle, Leatherback Turtle, Luth

Migratory

Species or species habitat may occur within area

[\*Eretmochelys imbricata\*](#) \*

Hawksbill Turtle

Migratory

Species or species habitat may occur within area

[\*Lepidochelys olivacea\*](#) \*

Pacific Ridley, Olive Ridley

Migratory

Species or species habitat may occur within area

[\*Natator depressus\*](#) \*

Flatback Turtle

Migratory

Breeding likely to occur within area

**Sharks**[\*Rhincodon typus\*](#)

Whale Shark

Migratory

Species or species habitat may occur within area

**Other Matters Protected by the EPBC Act**Listed Marine Species [ [Dataset Information](#) ]

Status

Type of Presence

**Birds**[\*Anseranas semipalmata\*](#)

Magpie Goose

Listed -  
overfly  
marine  
area

Species or species habitat may occur within area

[\*Apus pacificus\*](#)

Fork-tailed Swift

Listed -  
overfly  
marine  
area

Species or species habitat may occur within area

[\*Ardea alba\*](#)

Great Egret, White Egret

Listed -  
overfly  
marine

Breeding likely to occur within area



	area	
<a href="#"><i>Ardea ibis</i></a> Cattle Egret	Listed - overfly marine area	Breeding likely to occur within area
<a href="#"><i>Charadrius mongolus</i></a> Lesser Sand Plover, Mongolian Plover	Listed	Species or species habitat likely to occur within area
<a href="#"><i>Gallinago hardwickii</i></a> * Latham's Snipe, Japanese Snipe	Listed - overfly marine area	Species or species habitat may occur within area
<a href="#"><i>Haliaeetus leucogaster</i></a> White-bellied Sea-Eagle	Listed	Species or species habitat likely to occur within area
<a href="#"><i>Hirundapus caudacutus</i></a> White-throated Needletail	Listed - overfly marine area	Species or species habitat may occur within area
<a href="#"><i>Hirundo rustica</i></a> Barn Swallow	Listed - overfly marine area	Species or species habitat may occur within area
<a href="#"><i>Merops ornatus</i></a> * Rainbow Bee-eater	Listed - overfly marine area	Species or species habitat may occur within area
<a href="#"><i>Monarcha melanopsis</i></a> Black-faced Monarch	Listed - overfly marine area	Breeding may occur within area
<a href="#"><i>Monarcha trivirgatus</i></a> Spectacled Monarch	Listed - overfly marine area	Breeding likely to occur within area
<a href="#"><i>Myiagra cyanoleuca</i></a> Satin Flycatcher	Listed - overfly marine area	Species or species habitat likely to occur within area
<a href="#"><i>Nettapus coromandelianus albigularis</i></a> Australian Cotton Pygmy-goose	Listed - overfly marine area	Species or species habitat may occur within area
<a href="#"><i>Numenius madagascariensis</i></a> Eastern Curlew	Listed	Species or species habitat likely to occur within area
<a href="#"><i>Numenius minutus</i></a> Little Curlew, Little Whimbrel	Listed - overfly marine area	Species or species habitat may occur within area
<a href="#"><i>Numenius phaeopus</i></a> Whimbrel	Listed	Species or species habitat likely to occur within area
<a href="#"><i>Rhipidura rufifrons</i></a> Rufous Fantail	Listed - overfly marine area	Breeding may occur within area
<a href="#"><i>Rostratula benghalensis s. lat.</i></a> Painted Snipe	Listed - overfly marine area	Species or species habitat may occur within area

[\*Sterna albifrons\*](#)

Little Tern

Listed

Species or species habitat may occur within area

**Mammals**[\*Dugong dugon\*](#)

Dugong

Listed

Species or species habitat likely to occur within area

**Ray-finned fishes**[\*Acentronura tentaculata\*](#)

Hairy Pygmy Pipehorse

Listed

Species or species habitat may occur within area

[\*Campichthys tryoni\*](#)

Tryon's Pipefish

Listed

Species or species habitat may occur within area

[\*Choeroichthys brachysoma\*](#)

Pacific Short-bodied Pipefish, Short-bodied Pipefish

Listed

Species or species habitat may occur within area

[\*Choeroichthys suillus\*](#)

Pig-snouted Pipefish

Listed

Species or species habitat may occur within area

[\*Corythoichthys amplexus\*](#)

Fijian Banded Pipefish, Brown-banded Pipefish

Listed

Species or species habitat may occur within area

[\*Corythoichthys flavofasciatus\*](#)

Yellow-banded Pipefish, Network Pipefish

Listed

Species or species habitat may occur within area

[\*Corythoichthys intestinalis\*](#)

Australian Messmate Pipefish, Banded Pipefish

Listed

Species or species habitat may occur within area

[\*Corythoichthys ocellatus\*](#)

Orange-spotted Pipefish, Ocellated Pipefish

Listed

Species or species habitat may occur within area

[\*Corythoichthys paxtoni\*](#)

Paxton's Pipefish

Listed

Species or species habitat may occur within area

[\*Corythoichthys schultzi\*](#)

Schultz's Pipefish

Listed

Species or species habitat may occur within area

[\*Cosmocampus darrosanus\*](#)

D'Arros Pipefish

Listed

Species or species habitat may occur within area

[\*Doryrhamphus excisus\*](#)

Indian Blue-stripe Pipefish, Blue-stripe Pipefish

Listed

Species or species habitat may occur within area

[\*Festucalex cinctus\*](#)

Girdled Pipefish

Listed

Species or species habitat may occur within area

[\*Halicampus dunckeri\*](#)

Red-hair Pipefish, Duncker's Pipefish

Listed

Species or species habitat may occur within area

[\*Halicampus grayi\*](#)

Mud Pipefish, Gray's Pipefish

Listed

Species or species habitat may occur within area

[\*Halicampus nitidus\*](#)

Glittering Pipefish

Listed

Species or species habitat may occur within area

[\*Halicampus spinirostris\*](#)

Spiny-snout Pipefish

Listed

Species or species habitat may occur within area

[\*Hippichthys cyanospilos\*](#)

Blue-speckled Pipefish, Blue-spotted Pipefish

Listed

Species or species habitat may occur within area

[\*Hippichthys heptagonus\*](#)

Madura Pipefish, Reticulated Freshwater Pipefish

Listed

Species or species habitat may occur within area

[\*Hippichthys penicillus\*](#)

Beady Pipefish, Steep-nosed Pipefish

Listed

Species or species habitat may occur within area

[\*Hippocampus bargibanti\*](#)

Pygmy Seahorse

Listed

Species or species habitat may occur within area

[\*Hippocampus kuda\*](#)

Spotted Seahorse, Yellow Seahorse

Listed

Species or species habitat may occur within area

[\*Hippocampus planifrons\*](#)

Flat-face Seahorse

Listed

Species or species habitat may occur within area

<a href="#"><i>Hippocampus zebra</i></a> Zebra Seahorse	Listed	Species or species habitat may occur within area
<a href="#"><i>Micrognathus andersonii</i></a> Anderson's Pipefish, Shortnose Pipefish	Listed	Species or species habitat may occur within area
<a href="#"><i>Micrognathus brevirostris</i></a> Thorn-tailed Pipefish	Listed	Species or species habitat may occur within area
<a href="#"><i>Nannocampus pictus</i></a> Painted Pipefish, Reef Pipefish	Listed	Species or species habitat may occur within area
<a href="#"><i>Solegnathus hardwickii</i></a> Pipehorse	Listed	Species or species habitat may occur within area
<a href="#"><i>Solenostomus cyanopterus</i></a> Blue-finned Ghost Pipefish, Robust Ghost Pipefish	Listed	Species or species habitat may occur within area
<a href="#"><i>Solenostomus paradoxus</i></a> Harlequin Ghost Pipefish, Ornate Ghost Pipefish	Listed	Species or species habitat may occur within area
<a href="#"><i>Syngnathoides biaculeatus</i></a> Double-ended Pipehorse, Alligator Pipefish	Listed	Species or species habitat may occur within area
<a href="#"><i>Trachyrhamphus bicoarctatus</i></a> Bend Stick Pipefish, Short-tailed Pipefish	Listed	Species or species habitat may occur within area
<a href="#"><i>Trachyrhamphus longirostris</i></a> Long-nosed Pipefish, Straight Stick Pipefish	Listed	Species or species habitat may occur within area

## Reptiles

<a href="#"><i>Acalyptophis peronii</i></a> Horned Seasnake	Listed	Species or species habitat may occur within area
<a href="#"><i>Aipysurus duboisii</i></a> Dubois' Seasnake	Listed	Species or species habitat may occur within area
<a href="#"><i>Aipysurus eydouxii</i></a> Spine-tailed Seasnake	Listed	Species or species habitat may occur within area
<a href="#"><i>Aipysurus laevis</i></a> Olive Seasnake	Listed	Species or species habitat may occur within area
<a href="#"><i>Astrotia stokesii</i></a> Stokes' Seasnake	Listed	Species or species habitat may occur within area
<a href="#"><i>Caretta caretta</i></a> * Loggerhead Turtle	Listed	Species or species habitat may occur within area
<a href="#"><i>Chelonia mydas</i></a> * Green Turtle	Listed	Species or species habitat may occur within area
<a href="#"><i>Crocodylus porosus</i></a> Estuarine Crocodile, Salt-water Crocodile	Listed	Species or species habitat likely to occur within area
<a href="#"><i>Dermochelys coriacea</i></a> * Leathery Turtle, Leatherback Turtle, Luth	Listed	Species or species habitat may occur within area
<a href="#"><i>Disteira kingii</i></a> Spectacled Seasnake	Listed	Species or species habitat may occur within area
<a href="#"><i>Disteira major</i></a> Olive-headed Seasnake	Listed	Species or species habitat may occur within area
<a href="#"><i>Enhydrina schistosa</i></a> Beaked Seasnake	Listed	Species or species habitat may occur within area
<a href="#"><i>Eretmochelys imbricata</i></a> * Hawksbill Turtle	Listed	Species or species habitat may occur within area
<a href="#"><i>Hydrophis elegans</i></a> Elegant Seasnake	Listed	Species or species habitat may occur within area
<a href="#"><i>Hydrophis mcdowelli</i></a>	Listed	Species or species habitat may occur within area
<a href="#"><i>Hydrophis ornatus</i></a>	Listed	Species or species habitat may occur within area

a seasnake		area
<a href="#">Lapemis hardwickii</a> Spine-bellied Seasnake	Listed	Species or species habitat may occur within area
<a href="#">Laticauda colubrina</a> a sea krait	Listed	Species or species habitat may occur within area
<a href="#">Laticauda laticaudata</a> a sea krait	Listed	Species or species habitat may occur within area
<a href="#">Lepidochelys olivacea</a> * Pacific Ridley, Olive Ridley	Listed	Species or species habitat may occur within area
<a href="#">Natator depressus</a> * Flatback Turtle	Listed	Breeding likely to occur within area
<a href="#">Pelamis platurus</a> Yellow-bellied Seasnake	Listed	Species or species habitat may occur within area
Whales and Other Cetaceans [ <a href="#">Dataset Information</a> ]	Status	Type of Presence
<a href="#">Balaenoptera acutorostrata</a> Minke Whale	Cetacean	Species or species habitat may occur within area
<a href="#">Balaenoptera edeni</a> Bryde's Whale	Cetacean	Species or species habitat may occur within area
<a href="#">Balaenoptera musculus</a> * Blue Whale	Cetacean	Species or species habitat may occur within area
<a href="#">Delphinus delphis</a> Common Dolphin	Cetacean	Species or species habitat may occur within area
<a href="#">Grampus griseus</a> Risso's Dolphin, Grampus	Cetacean	Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> * Humpback Whale	Cetacean	Breeding known to occur within area
<a href="#">Orcaella brevirostris</a> Irrawaddy Dolphin	Cetacean	Species or species habitat may occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca	Cetacean	Species or species habitat may occur within area
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin	Cetacean	Species or species habitat may occur within area
<a href="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin	Cetacean	Species or species habitat may occur within area
<a href="#">Tursiops aduncus</a> Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin	Cetacean	Species or species habitat likely to occur within area
<a href="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin	Cetacean	Species or species habitat may occur within area

Commonwealth Lands [ [Dataset Information](#) ]

Defence

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

Note that not all Indigenous sites may be listed.

## Historic

[AMP Building QLD](#)

[ANZ Bank \(former\) QLD](#)

[Anzac Park Bandstand QLD](#)

[Australian Bank of Commerce \(former\) QLD](#)

[Australian Institute of Tropical Medicine \(former\) QLD](#)

[Burns Philp Offices \(former\) QLD](#)

[Castle Hill QLD](#)[Commonwealth Offices \(former\) QLD](#)[Magistrates Court Building \(former\) QLD](#)[Magnetic House QLD](#)[Matthew Rooney House \(former\) QLD](#)[National Bank of Australia \(former\) QLD](#)[Queens Hotel \(former\) QLD](#)[Queensland Building QLD](#)[Sacred Heart Cathedral QLD](#)[Samuel Allen & Sons Ltd Building \(former\) QLD](#)[St James Anglican Cathedral QLD](#)[State Government Offices QLD](#)[State Government Offices QLD](#)[Tattersalls Hotel \(former\) QLD](#)[Tobruk Memorial Baths QLD](#)[Townsville Customs House QLD](#)[Townsville General Hospital Block A QLD](#)[Townsville Post Office \(former\) QLD](#)[Townsville Railway Station QLD](#)[Townsville War Memorial QLD](#)[Victoria Bridge QLD](#)[Warringa QLD](#)

## Natural

[Great Barrier Reef Region QLD](#)

## Extra Information

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

Cleveland Bay Dugong Protection Area, QLD

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## 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 [migratory](#) and [marine](#) provisions of the Act have been mapped.

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.

## Acknowledgments

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

- [New South Wales National Parks and Wildlife Service](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Water and Environment, Tasmania](#)
- [Department of Environment and Heritage, South Australia Planning SA](#)
- [Parks and Wildlife Commission of the Northern Territory](#)
- [Environmental Protection Agency, Queensland](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [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](#)
- Other groups and individuals

[ANUcliM Version 1.8, Centre for Resource and Environmental Studies, Australian National University](#) was used extensively for the production of draft maps of species distribution. Environment Australia is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Last updated:

[Department of the Environment, Water, Heritage and the Arts](#)

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# Queensland Government

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## Environmental Protection Agency Queensland Parks and Wildlife Service

### Wildlife Online Extract

Search Criteria: Species List for a Specified Point  
Species: All  
Type: All  
Status: All  
Records: All  
Date: All  
Latitude: 19.4  
Longitude: 146.13  
Distance: 10  
Email: amber.nethercott@naturalsolutions.com.au  
Date submitted: Friday 09 May 2008 11:20:58  
Date extracted: Friday 09 May 2008 11:31:06

The number of records retrieved = 58

### **Disclaimer**

As the EPA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle		C		1
animals	birds	Accipitridae	<i>Haliastur indus</i>	brahmyny kite		C		1
animals	birds	Ardeidae	<i>Ixobrychus flavicollis</i>	black bittern		C		1
animals	birds	Artamidae	<i>Artamus cinereus</i>	black-faced woodswallow		C		2
animals	birds	Artamidae	<i>Artamus leucorhynchus</i>	white-breasted woodswallow		C		1
animals	birds	Cacatuidae	<i>Nymphicus hollandicus</i>	cockatiel		C		1
animals	birds	Campephagidae	<i>Coracina maxima</i>	ground cuckoo-shrike		C		1
animals	birds	Campephagidae	<i>Lalage leucomela</i>	varied triller		C		1
animals	birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		C		1
animals	birds	Climacteridae	<i>Climacteris picumnus</i>	brown treecreeper		C		1
animals	birds	Columbidae	<i>Geopelia striata</i>	peaceful dove		C		1
animals	birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		C		1
animals	birds	Corcoracidae	<i>Struthidea cinerea</i>	apostlebird		C		1
animals	birds	Corvidae	<i>Corvus orru</i>	Torresian crow		C		1
animals	birds	Megaluridae	<i>Cincloramphus mathewsi</i>	rufous songlark		C		1
animals	birds	Meliphagidae	<i>Meliphaga notata</i>	yellow-spotted honeyeater		C		1
animals	birds	Meliphagidae	<i>Ramsayornis modestus</i>	brown-backed honeyeater		C		1
animals	birds	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		1
animals	birds	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater		C		1
animals	birds	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		1
animals	birds	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		1
animals	birds	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		1
animals	birds	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater		C		1
animals	birds	Meliphagidae	<i>Meliphaga gracilis</i>	graceful honeyeater		C		1
animals	birds	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		C		1
animals	birds	Monarchidae	<i>Myiagra alecto</i>	shining flycatcher		C		1
animals	birds	Nectariniidae	<i>Nectarinia jugularis</i>	yellow-bellied sunbird		C		1
animals	birds	Pachycephalidae	<i>Pachycephala rufiventris</i>	rufous whistler		C		1
animals	birds	Petroicidae	<i>Microeca flavigaster</i>	lemon-bellied flycatcher		C		1
animals	birds	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		C		1
animals	birds	Psittacidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		1
animals	birds	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		1
animals	bony fish	Ambassidae	<i>Ambassis agassizii</i>	Agassiz's glassfish				3
animals	bony fish	Anguillidae	<i>Anguilla reinhardtii</i>	longfin eel				1
animals	bony fish	Atherinidae	<i>Craterocephalus stercusmuscarum</i>	flyspecked hardyhead				3
animals	bony fish	Clupeidae	<i>Nematalosa erebi</i>	bony bream				3
animals	bony fish	Eleotridae	<i>Hypseleotris compressa</i>	empire gudgeon				3
animals	bony fish	Eleotrididae	<i>Mogurnda adspersa</i>	southern purplespotted gudgeon				4
animals	bony fish	Melanotaeniidae	<i>Melanotaenia splendida splendida</i>	eastern rainbowfish				4
animals	bony fish	Plotosidae	<i>Neosilurus hyrtlui</i>	Hyrtl's catfish				2
animals	bony fish	Terapontidae	<i>Amniataba percoides</i>	barred grunter				3
animals	bony fish	Terapontidae	<i>Hephaestus fuliginosus</i>	sooty grunter				2
animals	bony fish	Terapontidae	<i>Leiopotherapon unicolor</i>	spangled perch				3
plants	higher dicots	Asteraceae	<i>Parthenium hysterophorus</i>	parthenium weed	Y			1/1
plants	higher dicots	Boraginaceae	<i>Heliotropium collinum</i>			C		1/1
plants	higher dicots	Boraginaceae	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	higher dicots	Fabaceae	<i>Crotalaria novae-hollandiae</i> subsp. <i>novae-hollandiae</i>			C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia julifera</i>			C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia umbellata</i>			C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia hammondii</i>			C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia hyaloneura</i>			C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia disparrima</i> subsp. <i>calidestris</i>			C		1/1
plants	higher dicots	Proteaceae	<i>Grevillea parallela</i>			C		1/1
plants	higher dicots	Tamaricaceae	<i>Tamarix aphylla</i>	athel tree	Y			1/1
plants	higher dicots	Vitaceae	<i>Cayratia clematidea</i>	slender grape		C		1/1
plants	higher dicots	Vitaceae	<i>Cissus cardiophylla</i>			C		1/1
plants	monocots	Laxmanniaceae	<i>Cordyline cannifolia</i>			C		1/1
plants	monocots	Poaceae	<i>Sporobolus jacquemontii</i>		Y			1/1

#### CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Presumed Extinct (PE), Endangered (E), Vulnerable (V), Rare (R), Common (C) or Not Protected ( ).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*. The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.

This number is output as 999 if it equals or exceeds this value.

Birdata Custom Species List		
Invoice Number: 1000241		
Polygon coordinates:		
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(146.76531, -19.32504, NaN)		
(146.88816, -19.32583, NaN)		
(146.88423, -19.25008, NaN)		
(146.76295, -19.21946, NaN)		
(146.76374, -19.21986, NaN)		
Month: All Months		
Species count: 262		
Common Name	Scientific Name	Survey Count
Australian Brush-turkey	Alectura lathamii	28
Brown Quail	Coturnix ypsilophora	85
Magpie Goose	Anseranas semipalmata	177
Plumed Whistling-Duck	Dendrocygna eytoni	42
Wandering Whistling-Duck	Dendrocygna arcuata	36
Black Swan	Cygnus atratus	3
Radjah Shelduck	Tadorna radjah	1
Australian Wood Duck	Chenonetta jubata	5
Cotton Pygmy-goose	Nettapus coromandelianus	9
Green Pygmy-goose	Nettapus pulchellus	2
Pacific Black Duck	Anas superciliosa	156
Grey Teal	Anas gracilis	11
Hardhead	Aythya australis	14
Australasian Grebe	Tachybaptus novaehollandiae	7
Wedge-tailed Shearwater	Puffinus pacificus	1
Short-tailed Shearwater	Puffinus tenuirostris	1
Masked Booby	Sula dactylatra	1
Red-footed Booby	Sula sula	1
Brown Booby	Sula leucogaster	5
Darter	Anhinga melanogaster	212
Little Pied Cormorant	Phalacrocorax melanoleucos	244
Pied Cormorant	Phalacrocorax varius	74
Little Black Cormorant	Phalacrocorax sulcirostris	296
Great Cormorant	Phalacrocorax carbo	26
Australian Pelican	Pelecanus conspicillatus	171
Great Frigatebird	Fregata minor	1
White-faced Heron	Egretta novaehollandiae	175
Little Egret	Egretta garzetta	257
Eastern Reef Egret	Egretta sacra	77
White-necked Heron	Ardea pacifica	10
Great Egret	Ardea alba	305
Intermediate Egret	Ardea intermedia	176
Cattle Egret	Ardea ibis	112
Striated Heron	Butorides striatus	249
Nankeen Night Heron	Nycticorax caledonicus	76
Black Bittern	Ixobrychus flavicollis	4
Australasian Bittern	Botaurus poiciloptilus	1
Glossy Ibis	Plegadis falcinellus	11

Common Name	Scientific Name	Survey Count
Australian White Ibis	Threskiornis molucca	527
Straw-necked Ibis	Threskiornis spinicollis	299
Royal Spoonbill	Platalea regia	225
Yellow-billed Spoonbill	Platalea flavipes	13
Black-necked Stork	Ephippiorhynchus asiaticus	77
Osprey	Pandion haliaetus	54
Pacific Baza	Aviceda subcristata	70
Black-shouldered Kite	Elanus axillaris	39
Black Kite	Milvus migrans	479
Whistling Kite	Haliastur sphenurus	311
Brahminy Kite	Haliastur indus	337
White-bellied Sea-Eagle	Haliaeetus leucogaster	121
Spotted Harrier	Circus assimilis	7
Swamp Harrier	Circus approximans	11
Brown Goshawk	Accipiter fasciatus	117
Grey Goshawk	Accipiter novaehollandiae	9
Collared Sparrowhawk	Accipiter cirrhocephalus	32
Wedge-tailed Eagle	Aquila audax	29
Little Eagle	Hieraaetus morphnoides	1
Brown Falcon	Falco berigora	36
Australian Hobby	Falco longipennis	163
Peregrine Falcon	Falco peregrinus	19
Nankeen Kestrel	Falco cenchroides	124
Brolga	Grus rubicunda	76
Buff-banded Rail	Gallirallus philippensis	13
Bush-hen	Amauornis olivaceus	3
White-browed Crake	Porzana cinerea	19
Purple Swamphen	Porphyrio porphyrio	11
Dusky Moorhen	Gallinula tenebrosa	10
Australian Bustard	Ardeotis australis	14
Red-backed Button-quail	Turnix maculosa	4
Red-chested Button-quail	Turnix pyrrhothorax	2
Latham's Snipe	Gallinago hardwickii	9
Black-tailed Godwit	Limosa limosa	7
Bar-tailed Godwit	Limosa lapponica	29
Little Curlew	Numenius minutus	3
Whimbrel	Numenius phaeopus	158
Eastern Curlew	Numenius madagascariensis	115
Marsh Sandpiper	Tringa stagnatilis	12
Common Greenshank	Tringa nebularia	19
Terek Sandpiper	Xenus cinereus	3
Common Sandpiper	Actitis hypoleucos	50
Grey-tailed Tattler	Heteroscelus brevipes	94
Great Knot	Calidris tenuirostris	17
Red Knot	Calidris canutus	6
Sanderling	Calidris alba	2
Red-necked Stint	Calidris ruficollis	11
Sharp-tailed Sandpiper	Calidris acuminata	15
Curlew Sandpiper	Calidris ferruginea	2
Comb-crested Jacana	Irediparra gallinacea	26
Bush Stone-curlew	Burhinus grallarius	230
Beach Stone-curlew	Esacus neglectus	21
Pied Oystercatcher	Haematopus longirostris	25
Sooty Oystercatcher	Haematopus fuliginosus	4
Black-winged Stilt	Himantopus himantopus	92

Common Name	Scientific Name	Survey Count
Pacific Golden Plover	<i>Pluvialis fulva</i>	10
Grey Plover	<i>Pluvialis squatarola</i>	2
Red-capped Plover	<i>Charadrius ruficapillus</i>	20
Lesser Sand Plover	<i>Charadrius mongolus</i>	6
Greater Sand Plover	<i>Charadrius leschenaultii</i>	2
Oriental Plover	<i>Charadrius veredus</i>	2
Black-fronted Dotterel	<i>Elseya melanops</i>	112
Red-kneed Dotterel	<i>Erythronyx cinctus</i>	2
Masked Lapwing	<i>Vanellus miles</i>	467
Australian Pratincole	<i>Stiltia isabella</i>	4
Black-tailed Gull	<i>Larus crassirostris</i>	1
Silver Gull	<i>Larus novaehollandiae</i>	371
Gull-billed Tern	<i>Sterna nilotica</i>	114
Caspian Tern	<i>Sterna caspia</i>	184
Lesser Crested Tern	<i>Sterna bengalensis</i>	9
Crested Tern	<i>Sterna bergii</i>	75
Black-naped Tern	<i>Sterna sumatrana</i>	1
Common Tern	<i>Sterna hirundo</i>	1
Little Tern	<i>Sterna albifrons</i>	18
Whiskered Tern	<i>Chlidonias hybridus</i>	3
Common Noddy	<i>Anous stolidus</i>	1
Rock Dove	<i>Columba livia</i>	298
Spotted Turtle-Dove	<i>Streptopelia chinensis</i>	49
Brown Cuckoo-Dove	<i>Macropygia amboinensis</i>	1
Emerald Dove	<i>Chalcophaps indica</i>	1
Crested Pigeon	<i>Ocyphaps lophotes</i>	109
Diamond Dove	<i>Geopelia cuneata</i>	2
Peaceful Dove	<i>Geopelia striata</i>	531
Bar-shouldered Dove	<i>Geopelia humeralis</i>	119
Wompoo Fruit-Dove	<i>Ptilinopus magnificus</i>	3
Superb Fruit-Dove	<i>Ptilinopus superbus</i>	6
Pied Imperial-Pigeon	<i>Ducula bicolor</i>	164
Topknot Pigeon	<i>Lopholaimus antarcticus</i>	1
Red-tailed Black-Cockatoo	<i>Calyptorhynchus banksii</i>	370
Galah	<i>Cacatua roseicapilla</i>	62
Long-billed Corella	<i>Cacatua tenuirostris</i>	3
Little Corella	<i>Cacatua sanguinea</i>	336
Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	406
Cockatiel	<i>Nymphicus hollandicus</i>	5
Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	536
Scaly-breasted Lorikeet	<i>Trichoglossus chlorolepidotus</i>	158
Little Lorikeet	<i>Glossopsitta pusilla</i>	2
Red-winged Parrot	<i>Aprosmictus erythropterus</i>	3
Pale-headed Rosella	<i>Platycercus adscitus</i>	91
Budgerigar	<i>Melopsittacus undulatus</i>	1
Oriental Cuckoo	<i>Cuculus saturatus</i>	4
Pallid Cuckoo	<i>Cuculus pallidus</i>	12
Brush Cuckoo	<i>Cacomantis variolosus</i>	216
Fan-tailed Cuckoo	<i>Cacomantis flabelliformis</i>	25
Black-eared Cuckoo	<i>Chrysococcyx osculans</i>	2
Horsfield's Bronze-Cuckoo	<i>Chrysococcyx basalis</i>	28
Shining Bronze-Cuckoo	<i>Chrysococcyx lucidus</i>	7
Little Bronze-Cuckoo	<i>Chrysococcyx minutillus</i>	28
Gould's Bronze-Cuckoo	<i>Chrysococcyx russatus</i>	29
Common Koel	<i>Eudynamys scolopacea</i>	223

Common Name	Scientific Name	Survey Count
Channel-billed Cuckoo	Scythrops novaehollandiae	152
Pheasant Coucal	Centropus phasianinus	291
Barking Owl	Ninox connivens	118
Southern Boobook	Ninox novaeseelandiae	7
Barn Owl	Tyto alba	3
Tawny Frogmouth	Podargus strigoides	25
White-throated Nightjar	Eurostopodus mystacalis	1
Spotted Nightjar	Eurostopodus argus	1
Large-tailed Nightjar	Caprimulgus macrurus	6
Australian Owlet-nightjar	Aegotheles cristatus	2
White-rumped Swiftlet	Collocalia spodiopygius	1
White-throated Needletail	Hirundapus caudacutus	1
Fork-tailed Swift	Apus pacificus	16
Azure Kingfisher	Alcedo azurea	15
Little Kingfisher	Alcedo pusilla	25
Laughing Kookaburra	Dacelo novaeguineae	81
Blue-winged Kookaburra	Dacelo leachii	204
Forest Kingfisher	Todirhamphus macleayii	102
Red-backed Kingfisher	Todirhamphus pyrrhopygia	7
Sacred Kingfisher	Todirhamphus sanctus	228
Collared Kingfisher	Todirhamphus chloris	4
Rainbow Bee-eater	Merops ornatus	458
Dollarbird	Eurystomus orientalis	114
Noisy Pitta	Pitta versicolor	1
Red-backed Fairy-wren	Malurus melanocephalus	183
Striated Pardalote	Pardalotus striatus	56
Yellow-throated Scrubwren	Sericornis citreogularis	1
Brown Gerygone	Gerygone mouki	1
Mangrove Gerygone	Gerygone levigaster	83
Large-billed Gerygone	Gerygone magnirostris	21
Fairy Gerygone	Gerygone palpebrosa	4
White-throated Gerygone	Gerygone olivacea	3
Spiny-cheeked Honeyeater	Acanthagenys rufogularis	1
Helmeted Friarbird	Philemon buceroides	437
Noisy Friarbird	Philemon corniculatus	48
Little Friarbird	Philemon citreogularis	161
Blue-faced Honeyeater	Entomyzon cyanotis	422
Noisy Miner	Manorina melanocephala	3
Yellow-throated Miner	Manorina flavigula	44
Lewin's Honeyeater	Meliphaga lewinii	2
Yellow-spotted Honeyeater	Meliphaga notata	5
Graceful Honeyeater	Meliphaga gracilis	1
Yellow-faced Honeyeater	Lichenostomus chrysops	1
Singing Honeyeater	Lichenostomus virescens	3
Varied Honeyeater	Lichenostomus versicolor	190
Mangrove Honeyeater	Lichenostomus fasciocularis	4
White-gaped Honeyeater	Lichenostomus unicolor	405
Yellow Honeyeater	Lichenostomus flavus	402
White-throated Honeyeater	Melithreptus albogularis	358
Brown Honeyeater	Lichmera indistincta	481
Brown-backed Honeyeater	Ramsayornis modestus	166
Rufous-throated Honeyeater	Conopophila rufogularis	115
Black Honeyeater	Certhionyx niger	1
Dusky Honeyeater	Myzomela obscura	48
Scarlet Honeyeater	Myzomela sanguinolenta	2



Common Name	Scientific Name	Survey Count
Mangrove Robin	<i>Peneoenanthe pulverulenta</i>	2
Rufous Whistler	<i>Pachycephala rufiventris</i>	60
Little Shrike-thrush	<i>Colluricincla megarhyncha</i>	32
Black-faced Monarch	<i>Monarcha melanopsis</i>	6
Spectacled Monarch	<i>Monarcha trivirgatus</i>	9
Leaden Flycatcher	<i>Myiagra rubecula</i>	188
Satin Flycatcher	<i>Myiagra cyanoleuca</i>	1
Shining Flycatcher	<i>Myiagra alecto</i>	8
Restless Flycatcher	<i>Myiagra inquieta</i>	1
Magpie-lark	<i>Grallina cyanoleuca</i>	559
Rufous Fantail	<i>Rhipidura rufifrons</i>	17
Grey Fantail	<i>Rhipidura albiscapa</i>	104
Willie Wagtail	<i>Rhipidura leucophrys</i>	117
Spangled Drongo	<i>Dicrurus bracteatus</i>	426
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	406
Barred Cuckoo-shrike	<i>Coracina lineata</i>	1
White-bellied Cuckoo-shrike	<i>Coracina papuensis</i>	347
Cicadabird	<i>Coracina tenuirostris</i>	1
White-winged Triller	<i>Lalage sueurii</i>	31
Varied Triller	<i>Lalage leucomela</i>	151
Yellow Oriole	<i>Oriolus flavocinctus</i>	2
Olive-backed Oriole	<i>Oriolus sagittatus</i>	46
Figbird	<i>Sphecotheres viridis</i>	430
White-breasted Woodswallow	<i>Artamus leucorhynchus</i>	477
Masked Woodswallow	<i>Artamus personatus</i>	4
White-browed Woodswallow	<i>Artamus superciliosus</i>	12
Black-faced Woodswallow	<i>Artamus cinereus</i>	3
Black Butcherbird	<i>Cracticus quoyi</i>	47
Grey Butcherbird	<i>Cracticus torquatus</i>	1
Pied Butcherbird	<i>Cracticus nigrogularis</i>	117
Australian Magpie	<i>Gymnorhina tibicen</i>	388
Pied Currawong	<i>Strepera graculina</i>	1
Australian Raven	<i>Corvus coronoides</i>	166
Torresian Crow	<i>Corvus orru</i>	288
Apostlebird	<i>Struthidea cinerea</i>	1
Spotted Bowerbird	<i>Chlamydera maculata</i>	3
Great Bowerbird	<i>Chlamydera nuchalis</i>	454
Singing Bushlark	<i>Mirafra javanica</i>	156
Richard's Pipit	<i>Anthus novaeseelandiae</i>	201
House Sparrow	<i>Passer domesticus</i>	393
Zebra Finch	<i>Taeniopygia guttata</i>	263
Double-barred Finch	<i>Taeniopygia bichenovii</i>	78
Red-browed Finch	<i>Neochmia temporalis</i>	2
Nutmeg Mannikin	<i>Lonchura punctulata</i>	325
Chestnut-breasted Mannikin	<i>Lonchura castaneothorax</i>	84
Yellow-bellied Sunbird	<i>Nectarinia jugularis</i>	379
Mistletoebird	<i>Dicaeum hirundinaceum</i>	366
Welcome Swallow	<i>Hirundo neoxena</i>	441
Tree Martin	<i>Hirundo nigricans</i>	10
Fairy Martin	<i>Hirundo ariel</i>	241
Clamorous Reed-Warbler	<i>Acrocephalus stentoreus</i>	25
Tawny Grassbird	<i>Megalurus timoriensis</i>	36
Little Grassbird	<i>Megalurus gramineus</i>	4
Rufous Songlark	<i>Cinclorhamphus mathewsi</i>	1
Golden-headed Cisticola	<i>Cisticola exilis</i>	309

Common Name	Scientific Name	Survey Count
Silvereye	Zosterops lateralis	1
Common Starling	Sturnus vulgaris	1
Common Myna	Acridotheres tristis	481
Corvid species		31

## SOOTY OYSTERCATCHER (*Haematopus fuliginosus*)

### **Distribution**

The Sooty oystercatcher is a strictly coastal species endemic to Australia. It occurs around the Australian coast on rocky shores, estuaries and, more rarely, on beaches (Reader's Digest 1997). It is found singly, in pairs or in small flocks (Geering et al 2007).

### **Status**

The world population is estimated at 11 500. The Australian population is estimated at 4000 (subsp. *fuliginosus*) and 7500 (subsp. *ophthalmicus*). This species is classified as 'Rare' in Queensland under the *Nature Conservation Act 1992*.

### **Description**

The Sooty oystercatcher is a large, powerful black shorebird with a long, heavy bill and stout legs. It is dusky black all over with a bright orange-red bill and eyes. The legs and feet are pink. Head and body length is about 48-52 cm.

### **Habitat**

Entirely coastal in NSW, it favours intertidal rock ledges and reefs but may also occur on ocean beaches and occasionally estuarine mudflats (Smith 1990).

### **Life Cycle Requirements**

Foraging: Feeds vigorously, using powerful pecking, stabbing or hammering to open heavily armoured prey (Geering et al 2007). Has been observed to take a wide range of prey including; various molluscs, crustaceans, marine worms, sea-squirts and even washed-up dead fish (Smith 1990). Prey is usually picked off rocks; some shells are hammered against a stone (Reader's Digest 1997).

Breeding: The nest is a scrape in sand or shingle, sometimes in a small cave, under grass tussocks or on top of a rock. Clutch size is two, rarely three. Breeding season is spring-summer (Geering *et al* 2007).

Movements: Indications are that, after breeding on islands in spring and early summer, numbers increase on mainland rocky shores through summer and then on ocean beaches in winter (Smith 1990).

### **Threatening Processes**

- Disturbance to coastal feeding, nesting and roosting areas through beach-combing, fishing, dog-walking, horse-riding and 4WD vehicles.;
- Predation of eggs and chicks by foxes, dogs, cats, rats and raptors;
- Habitat destruction as a result of residential, agricultural and tourism developments; and
- Hydrological changes to estuaries and similar water bodies causing modification or removal of important areas of suitable habitat (Department Environment & Conservation, 2007).

### **References**

Geering, A. Agnew, L. & Harding, S. (Eds.) *Shorebirds of Australia* (pp 35-49). Victoria: CSIRO.

Reader's Digest (1997) *Complete Book of Australian Birds*. Reader's Digest, Sydney.

Smith, P. (1990) *The Biology and Management of Waders (Suborder Charadrii) in NSW*. NPWS.

Environmental Protection Agency (2006)

[www.epa.qld.gov.au/nature\\_conservation/wildlife/threatened\\_plants\\_and\\_animals/shorebirds/](http://www.epa.qld.gov.au/nature_conservation/wildlife/threatened_plants_and_animals/shorebirds/)

## LITTLE TERN (*Sterna albifrons*)

### *Distribution*

The Little Tern is found on the north, east and south-east Australian coasts, from Shark Bay in Western Australia to the Gulf of St Vincent in South Australia. Much of the population migrates from eastern Asia. It breeds in spring and summer along the entire east coast from Tasmania to northern Queensland, and is seen until May, with only occasional birds seen in winter months.

### *Status*

A survey of eastern Australia in 1989 recorded a total breeding population of 310-319 pairs with 3178 birds, including 56 breeding pairs, occurring in Queensland (Higgins & Davies 1996). This species is classified as 'Endangered' in Queensland under the *Nature Conservation Act 1992*.

### *Description*

The Little Tern is small and slender. At less than 25 cm long it is two-thirds to half the size of any other south-eastern tern. The pale grey upperparts contrast with the white chest, underbelly and the moderately long, deeply forked tail. The Little Tern has a black cap and black outer wing-edges. During breeding the bill and legs change from black to yellow, and a black wedge appears from the bill to the eye. During non-breeding, the Little Tern's black cap shrinks to a black nape and its bill becomes black.

### *Habitat*

The Little tern is almost exclusively coastal, preferring beaches, sheltered inlets, estuaries, lakes, bays and harbours, especially where exposed sandbanks or sand spits occur (EPA 2006). It may occur several kilometres from the sea in harbours, inlets and rivers and is occasionally found on offshore islands or coral cays.

The Little tern is gregarious, usually occurring in small groups though often in large flocks. It often roosts or feeds with other terns, especially the Fairy tern (Higgins & Davies 1996).

### *Life cycle requirements*

Foraging: Often seen feeding in flocks, foraging for small fish, crustaceans, insects, annelids and molluscs by plunging in the shallow water of channels and estuaries, and in the surf on beaches, or skipping over the water surface with a swallow-like flight.

Breeding: Nests in small, scattered colonies in low dunes or on sandy beaches just above high tide mark near estuary mouths or adjacent to coastal lakes and islands. The nest is a scrape in the sand, which may be lined with shell grit, seaweed or small pebbles. Both parents incubate up to three well-camouflaged eggs for up to 22 days, aggressively defending the nest against intruders until the young fledge at 17 - 19 days.

The little tern breeds from May to July in the Gulf of Carpentaria, and mostly from September to January along the eastern Queensland coast. This species lays eggs directly on the sand. Laying does not occur at the same time, even within individual breeding colonies. Clutch size is one to three, incubation period is 17–25 days. Chicks are mobile very soon after hatching and leave the nest almost at once. The fledging period (hatching to maturity) is 17–19 days (EPA 2006).

### *Threatening processes*

- Predation of eggs and chicks by foxes, dogs, cats, black rats, silver gulls, ravens and raptors.
- Disturbance to coastal feeding, nesting and roosting areas through beach-combing, fishing, dog-walking, horse-riding and 4WD vehicles; parents often leave the nest when approached, resulting in exposure of

chicks or eggs.

- Coastal and inland habitat areas are being impacted by land clearing for residential, agricultural and tourism developments, by sand and rutile mining, and by waste disposal dumps.
- Hydrological changes to estuaries and similar waterbodies may modify or remove important areas of suitable habitat, or affect the availability of food.
- Potentially susceptible to pesticides and contamination of estuaries by oil-spills and heavy metals.
- Well-camouflaged eggs are at risk of accidental destruction. (Department Environment & Conservation, 2007).
- Nesting at flood-prone locations.

### References

- Environmental Protection Agency (2006) *Little tern*.  
[http://www.epa.qld.gov.au/nature\\_conservation/wildlife/native\\_animals/little\\_tern/](http://www.epa.qld.gov.au/nature_conservation/wildlife/native_animals/little_tern/)
- Department of Environment & Conservation (2007) *Little tern – profile*.  
[www.threatenedspecies.environment.nsw.gov.au](http://www.threatenedspecies.environment.nsw.gov.au)
- NSW National Parks & Wildlife Service (2003) *Little Tern (Sterna albifrons) Recovery Plan*. NSW NPWS, Hurstville NSW
- Higgins, P.J. & Davies, S. (1996) *Handbook of Australian, New Zealand & Antarctic Birds*. Volume 3. Snipe-Pigeons. Melb. Oxf.Univ.Pr.