

[1] "*Balaenoptera borealis* — Sei Whale — Sei Whale Glossary SPRAT Profile For information to assist regulatory considerations, refer to Policy Statements and Guidelines, the Conservation Advice, the Listing Advice and/or the Recovery Plan. EPBC Legal Status and Documents Top EPBC Act Listing Status Listed as Vulnerable (Date effective 16-Jul-2000) Cetacean Listed migratory - EPBC Act, Bonn Convention, Approved Conservation Advice, Threatened Species Scientific Committee (2015). Conservation Advice *Balaenoptera borealis* sei whale. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/34-conservation-advice-01102015.pdf>. In effect under the EPBC Act from 01-Oct-2015. Listing Advice Listing assessment information may be available in the approved Conservation Advice Recovery Plan Decision Recovery Plan required, this species had a recovery plan in force at the time the legislation provided for the Minister to decide whether or not to have a recovery plan (19/2/2007). The recovery plan (DEH 2005) that was made for this species on 18/05/2005 ceased to be in effect from 1/10/2015. Adopted/Made Recovery Plans There is no adopted or made Recovery Plan for this species Adopted/Made Threat Abatement Plans Department of the Environment and Energy (2018). Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans (2018). Canberra, ACT: Commonwealth of Australia. Available from: <http://www.environment.gov.au/biodiversity/threatened/publications/tap/marine-debris-2018>. In effect under the EPBC Act from 21-Jul-2018. Marine Bioregional Plans Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) (2012). Marine bioregional plan for the Temperate East Marine Region. Prepared under the Environment Protection and Biodiversity Conservation Act 1999. Available from: <http://www.environment.gov.au/topics/marine/marine-bioregional-plans/temperate-east>. In effect under the EPBC Act from 27-Aug-2012. Other Commonwealth Documents Top Other EPBC Act Plans South-east marine region profile: A description of the ecosystems, conservation values and uses of the South-east Marine Region (Commonwealth of Australia, 2015) [Information Sheet]. Policy Statements and Guidelines Australian National Guidelines for Whale and Dolphin Watching 2017 (Department of the Environment and Energy, 2017) [Admin Guideline]. Industry Guidelines on the Interaction between offshore seismic exploration and whales (Department of the Environment and Water Resources (DEW), 2007) [Admin Guideline]. Federal Register of Legislative Instruments Migratory: Environment Protection and Biodiversity Conservation Act 1999 - Amendment to the List of Migratory Species (03/12/2002) (Commonwealth of Australia, 2002d) [Legislative Instrument] Recovery Plan: Blue, Fin and Sei Whale Recovery Plan 2005-2010 (Commonwealth of Australia, 2005y) [Legislative Instrument] Threat Abatement Plan: Instrument under section 270B of the Environment Protection and Biodiversity Conservation Act 1999 to make a Threat Abatement Plan (Commonwealth of Australia, 2018i) [Legislative Instrument] Threatened: Declaration under s178, s181, and s183 of the Environment Protection and Biodiversity Conservation Act 1999 - List of threatened species, List of threatened ecological communities and List of threatening processes (Commonwealth of Australia, 2000) [Legislative Instrument] State Government Documents and Websites NT: Threatened Species of the Northern Territory-Sei Whale *Balaenoptera borealis* (Woinarski, J. & R. Chatto, 2006) [Information Sheet]. State Listing Status SA: Listed as Vulnerable (National Parks and Wildlife Act 1972 (South Australia): January 2020 list) WA: Listed as Endangered (Biodiversity Conservation Act 2016 (Western Australia): September 2018 list) Non-statutory Listing Status IUCN: Listed as Endangered (Global Status: IUCN Red List of Threatened Species: 2020.2 list) VIC: Listed as Data deficient

(Advisory List of Threatened Vertebrate Fauna in Victoria: 2013 list)
NGO: Listed as Endangered (The action plan for Australian mammals 2012)
Naming Top Scientific name
Balaenoptera borealis [34] Family
Balaenopteridae: Cetacea: Mammalia: Chordata: Animalia Species author Lesson, 1828
Infraspecies author Reference Distribution
Map Top Distribution map
The distribution shown is generalised from the Departments Species of National Environmental Significance dataset. This is an indicative distribution map of the present distribution of the species based on best available knowledge. Some species information is withheld in line with sensitive species policies. See map caveat for more information.
Illustrations Top
Illustrations Google Images <http://e-info.org.tw/topic/whale/images-kuo/Balaenoptera-borealis.jpg>
Other Links, Including Superseded Commonwealth Documents Top Commonwealth of Australia (2000). Declaration under s178, s181, and s183 of the Environment Protection and Biodiversity Conservation Act 1999 - List of threatened species, List of threatened ecological communities and List of threatening processes. F2005B02653. Canberra: Federal Register of Legislative Instruments. Available from: <http://www.comlaw.gov.au/Details/F2005B02653>. In effect under the EPBC Act from 16-Jul-2000.
Commonwealth of Australia (2002d). Environment Protection and Biodiversity Conservation Act 1999 - Amendment to the List of Migratory Species (03/12/2002). F2007B00765. Canberra: Federal Register of Legislative Instruments. Available from: <http://www.comlaw.gov.au/Details/F2007B00765>.
Department of the Environment and Heritage (2005e). Australian National Guidelines for Whale and Dolphin Watching. Available from: <http://www.environment.gov.au/resource/australian-national-guidelines-whale-and-dolphin-watching-2005>.
Department of the Environment and Heritage (DEH) (2005a). NON-CURRENT Blue, Fin and Sei Whale Recovery Plan 2005 - 2010. Department of the Environment and Heritage. Canberra, Commonwealth of Australia. Available from: <http://www.environment.gov.au/biodiversity/threatened/publications/recovery/balaenoptera-sp/index.html>. In effect under the EPBC Act from 18-May-2005. Ceased to be in effect under the EPBC Act from 01-Oct-2015.
Department of the Environment, Water, Heritage and the Arts (2009t). Threat abatement plan for the impacts of marine debris on vertebrate marine life. Department of the Environment, Water, Heritage and the Arts. Available from: <http://www.environment.gov.au/marine/publications/threat-abatement-plan-impacts-marine-debris-vertebrate-marine-life>. In effect under the EPBC Act from 01-Jul-2009. Ceased to be in effect under the EPBC Act from 21-Jul-2018.
Newsletters Top EPBC Act email updates can be received via the Communities for Communities newsletter and the EPBC Act newsletter.
Caveat Top
This database is designed to provide statutory, biological and ecological information on species and ecological communities, migratory species, marine species, and species and species products subject to international trade and commercial use protected under the Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act). It has been compiled from a range of sources including listing advice, recovery plans, published literature and individual experts. While reasonable efforts have been made to ensure the accuracy of the information, no guarantee is given, nor responsibility taken, by the Commonwealth for its accuracy, currency or completeness. The Commonwealth does not accept any responsibility for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the information contained in this database. The information contained in this database does not necessarily represent the views of the Commonwealth. This database is not intended to be a complete source of information on the matters it deals with. Individuals and organisations should consider all the available information, including that available from other sources, in deciding whether there is a need to make a referral or apply for a permit or exemption under the EPBC Act.
Citation: Department of the Environment (2022). Balaenoptera borealis in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <https://www.environment.gov.au/sprat>. Accessed Tue, 18 Jan 2022 20:31:52 +1100.
Where available the sections below provide a biological profile for the species. Biological profiles vary in age and content across species, some are no longer being updated and are retained as archival content. These profiles are still displayed as they contain valuable information for many species. The Profile Update section below indicates when the biological profile was last updated for some species. For information to assist regulatory considerations, please refer to Conservation Advice, the Recovery Plan, Policy Statements and Guidelines.
Profile

Update
The following detailed profile was last updated on 26 August 2016.

Taxonomy
Scientific name: *Balaenoptera borealis*
Common name: sei whale; coalfish whale; pollack whale; Rudophi's rorqual
Subspecies: *Balaenoptera borealis borealis*, which occurs in the Northern Hemisphere; *Balaenoptera borealis schlegellii*, which occurs in the Southern Hemisphere (Rice 1998)

Description
Sei whales are dark grey or blue-grey on their back and sides. The undersides and sides may appear mottled with light coloured circular scars caused by various types of parasites, including scars from the bite of the 'cookie-cutter' shark (*Isistius brasiliensis*) (Aguilar 2002).
At sexual maturity, sei whales are approximately 12–16 m long, although they can reach lengths of 17.7 m in males and 21 m in females (Gambell 1985). Adult females are about 0.5–0.6 m longer than males, and sei whales of the Southern Hemisphere are larger than those of the Northern Hemisphere (Horwood 1987). The body of the sei whale is slim, streamlined and laterally compressed in the caudal (hind) region.
Sounds of the sei whale consist of a series of short pulses with peak energy in the 1.5–3.5 kHz range (Richardson et al. 1995). During a recent Southern Ocean Global Ocean Ecosystems Dynamics (SO-GLOBEC) cruise, acoustic recordings accompanied by photographs and acoustic tracking of a group of sei whales feeding in the Western Antarctic Peninsula provided the first confirmed description of sei whale sounds. Vocalisations included a series of "growly" type calls, with tonal calls having abrupt shifts in a much lower dominant frequency (~200–400 Hz) (McDonald & Thiele 2004, pers. comm.).

Australian Distribution
Sei whales have been infrequently recorded in Australian waters (Bannister et al. 1996). The similarity in appearance of sei whales and Bryde's whales (*Balaenoptera edeni*) has resulted in confusion about distributional limits and frequency of occurrence, particularly in warmer waters (>20 °C) where Bryde's whales are more common. Sei whales were thought to be the most common whales reported by whalers off Albany, Western Australia while hunting sperm whales (*Physeter macrocephalus*), however, these may have been misidentified Bryde's whales (Bannister et al. 1996). There are several reports of presumed sei whale sightings by fishermen around the shelf edge (50 km offshore) off the coast of NSW. A trawled carcass of a sei whale was reported within 300 km of the Northern Territory coast (Chatto & Warneke 2000). There is one record of a sei whale stranding for Tasmania in 1963 (Warneke 2004, pers. comm.) and another stranding of a sei whale in Tasmania in 1980 (McManus et al. 1984).
Sei whales have been sighted 20–60 km offshore on the continental shelf in the Bonney Upwelling (Miller et al. 2012) where opportunistic feeding has been observed between November and May (Gill et al. 2015). Sei whales were reported 200 nautical miles (nm) south-west of Port Lincoln in December 1995 and a concentration of sei whales was reported at the western end of Bass Strait (Kato et al. 1996). Surveys passing through Commonwealth waters during the 2001–02 and 2002–03 International Whaling Commission (IWC) Southern Ocean Whale and Ecosystem Research (SOWER) cruises found a small number of sei whales, including cows with calves, about 40 km south of Hobart, Tasmania (Ensor et al. 2002). Seven sei whales were seen apparently feeding about 65 km south of Tasmania in January 1993, and a sei whale was seen close inshore off the Tasman Peninsula, south-east Tasmania, in June 1996 (Gill 2004, pers. comm.).
Sei whales are also found in waters off Australia's Antarctic Territory. In the 1960s and 1970s, sei whales formed the highest percentage of whales sighted during Australian National Antarctic Research Expedition (ANARE) voyages (Parker 1978). However, very few sei whales were seen during Japanese Research Whaling Program in the Antarctic (JARPA) cruises in Australian Antarctic waters between 1989–90 and 1995–96 (Nishiwaki et al. 1998). The diversity of habitat for sei whales may be driven by dynamic physical and prey processes (Thiele 2004, pers. comm.). Acoustic recordings of vocalisations provide an insight into sei whales distribution within Antarctic waters. Low frequency sei whale calls were recorded nearby a small pod found the waters west of the Antarctic Peninsula (McDonald et al. 2005). Sei whale vocalisations have also been detected in three East Antarctic sites from 64.5° S - 65.5° S during acoustic surveys conducted in 2006 (Gedamke & Robinson 2010).
There are no known mating or calving areas in Australian waters (Parker 1978).
The extent of occurrence and area of occupancy of sei whales in Australian waters cannot be calculated due to the rarity of sightings records.

Global Distribution
Sei whales are considered a cosmopolitan species, ranging from polar to tropical waters, but tend to be found more offshore than other species of large whales. They show well defined migratory movements between polar, temperate and tropical waters (Mackintosh 1965). Migratory movements are essentially north-south with little longitudinal dispersion. Sei whales do not penetrate the polar waters as far as the blue, fin, humpback and minke whales (Horwood 1987), although they have been observed very close to the Antarctic continent on SOWER cruises (Thiele 2004, pers. comm.).
Sei whales move between Australian waters and Antarctic feeding areas;

Subantarctic feeding areas (e.g. Subtropical Front); and tropical and subtropical breeding areas. The proportion of the global population in Australian waters is unknown as there are no estimates for sei whales in Australian waters. It is likely that threats affecting the global population of sei whales would also affect Australian populations (Horwood 1987).

Surveys Conducted

While there are no specific surveys for sei whales within Australian waters, observations have been made through various other fieldwork, as described below:

Sei whale vocalisations

have been detected in three East Antarctic sites from 64.5° S - 65.5° S during acoustic surveys conducted in 2006 (Gedamke & Robinson 2010).

During blue whale acoustic surveys

conducted in the Bonney Upwelling along the south-east coast of South Australia, one sei whale was sighted in January 2012 (Miller et al. 2012).

Two sei whales were visually sighted

, along with the collection of sei whale vocalisations during the 2013 Southern Ocean Research Partnership (SORP) Antarctic Blue Whale Project (ABWP) cruise south of the Subantarctic Auckland Islands (Calderan et al. 2014).

Sei whales (four in total) were sighted

during the 2013 Antarctic Blue Whale Voyage (Double et al. 2013).

Sei whales were sighted (n=12)

between November-May (upwelling season) during aerial surveys conducted between 2002-2013 in South Australia (Gill et al. 2015). Sei whale feeding was also observed during aerial observations, which is one of the first documented records of sei whale feeding in Australian waters, suggesting that the region may be used for opportunistic feeding (Gill et al. 2015).

Population Information

Providing reliable estimates of the sei whale population size in our region is not currently possible, as there are no dedicated surveys, and sei whales range widely over a very large area that is difficult to survey. There is insufficient information to describe the population structure of sei whales (Donovan 1991).

Populations of sei whales were severely depleted

by commercial whalers. For example, in the north-east Pacific the population was estimated at 7260–12 260 in 1974, from a pre-exploitation population of 42 000 (Tillman 1977). A total of 141 553 sei whales were reported killed in the Southern Hemisphere between 1947–80 (Horwood 1987). However Soviet whaling grossly under-reported their catch, with 29 751 reported killed between 1947–72, while the true number taken was later revealed to be 53 366 (Yablokov 1994). Therefore a minimum estimate for the number of sei whales killed in the Southern Hemisphere for this period is 165 168.

There is insufficient information from any region to indicate trends in current population size.

The sei whale produces one offspring every 2–3 years. This low reproductive rate hinders rapid population recovery (Gambell 1985).

Habitat

The Australian Antarctic waters are important feeding grounds for sei whales, as are temperate, cool waters (Horwood 1987). Sightings of sei whales feeding in the Bonney Upwelling area indicate that this area is potentially also an important feeding ground (Morrice et al. 2004, Gill et al. 2015). Breeding occurs in tropical and subtropical waters.

Life Cycle

Sei whales reach sexual maturity between 6–8 years for males and 7.5–8.35 years for females. The average length at sexual maturity is 12.9–13.9 m for males and 13.8–14.4 m for females in the Southern Hemisphere (Horwood 1987). Sei whale calves are often born at a size of 4.5 meters (Horwood 2009)

The age of first reproduction is around 9-10 years and the inter-birth interval is 2.5 years

(Taylor et al. 2007). The main breeding season is in winter (April to August) in the Southern Hemisphere and November to March in the Northern Hemisphere, with gestation between 10.5–12.5 months in the Southern Hemisphere (Horwood 1987). Calves are generally weaned in seven months (Horwood 2009).

Physical maturity takes place between 25–30 years. The life span of the sei whale, determined from annual growth layers in the earplug, can be up to 65 years

(Gambell 1985). The largest reliably recorded length was of a 19.5 m female (Horwood 1987).

Natural mortality rates (instantaneous mortality) varied from between 0.063–0.070 for males and 0.084–0.088 for females in the Southern Hemisphere between 1957–1964. This period is prior to major exploitation and therefore likely to apply to natural stocks

(Horwood 1987). Natural mortality post-exploitation is unknown.

Feeding

Sei whales feed intensively between the Antarctic and subtropical convergences and mature animals may also feed in higher latitudes. This species has been sighted (n=12) between November-May (upwelling season) during aerial surveys conducted between 2002-2013 in South Australia (Gill et al. 2015). Sei whale feeding was observed during these aerial surveys, which is one of the first documented records of sei whale feeding in Australian waters, suggesting that the region may be used for opportunistic feeding (Gill et al. 2015).

Sei whales feed on planktonic crustacea, in particular copepods and amphipods. Below the Antarctic convergence sei whales feed exclusively upon krill (Euphausia superba) though, as a proportion of their diet, krill makes up a much smaller component than the other great rorquals

(Kawamura 1974; Nemoto 1970). There has been speculation that the existence of copepod and amphipods in their diet is a means of avoiding interspecific competition with other whales

(Horwood 1987). However, there is no direct information on how such interactions may or may not affect the status of the sei whale and other whale species (Clapham & Brownell 1996).

The diving and feeding behaviour of sei whales is somewhat different to that of other rorqual whales. Sei whales feed by swimming horizontally near the surface skimming pelagic crustaceans and will feed on concentrations of food that are thought inadequate for other rorquals. Side lunge feeding has been observed in Antarctica (IWC 2003). Sei whales sink rather than dive and tend to be shallow swimmers with their heads seldom emerging and with no positive arching when diving (Horwood 1987).

Movement Patterns

Top

There is insufficient data on sei whale migration, however, they have been sighted inshore in the proximity of the Bonney Upwelling, Victoria, along the continental shelf during the summer and autumn months (Gill 2002).

The movements and distributions of sei whales are unpredictable and not well documented. Information suggests that sei whales have the same general pattern of migration as most other baleen whales, although it is timed a little later and they do not go to such high latitudes (Gambell 1968). There is evidence from catch data of a pronounced segregation of the sexes during migration - generally the pregnant females arrive and depart from feeding areas earlier than males (Matthews 1938a). Satellite tagging of a sei whale in the North Atlantic has demonstrated individual large scale movement between wintering grounds and feeding areas (Olsen et al. 2009).

In general, sei whales swim in small pods of three to five animals, with some segregation by age, sex and reproductive status. Pods in temperate waters are predominantly lactating females and juveniles; in high latitudes, adult animals (mostly male but also adult female) predominate (Horwood 1987).

Long-range movements of sei whales appear to be food related. Coastal fisheries in Durban, Natal, Peru, Brazil and Chile have found the local abundance of sei whales erratic, presumably associated with food availability (Horwood 1987).

Survey Guidelines

Top

Sei whales may be confused with Bryde's whales (*Balaenoptera edeni*). Bryde's whales are usually found in waters >20 °C, whereas sei whales are not as common in these waters. Also, Bryde's whales have three distinct head ridges running along the length of the rostrum while the sei whale only has a single central ridge (Horwood 1987).

Bonney Upwelling Surveys

In the Bonney Upwelling area, aerial surveys for blue whales have been conducted in all months of the year except September, however sei whales have only been sighted during summer and autumn (Gill 2004, pers. comm.). Surveys are flown during the middle of the day (0900 till 1500) in order to utilise light penetration, and in sea conditions of Beaufort 4 or less. Survey transects lie perpendicular to the coast and bathymetry, and are spaced 6 nm apart to maximise detection of whales. Surveys typically cover 600 to 1000 nm. Surveys have been conducted in 'closing mode', in which the aircraft breaks from the trackline to investigate species' identity, behaviour and presence of prey and other fauna. GPS record trackline and sightings waypoints. Survey data are later correlated with remote sensing imagery (SST, SeaWiFs) whenever possible, to interpret patterns of distribution (Gill 2004, pers. comm.).

Fine-scale vessel line transect surveys have used parallel cross-shelf transects 3 nm apart, with oceanographic sampling stations positioned along each transect at approximately 3 nm intervals. Using a dedicated recorder and two observers, cetacean and other marine wildlife observations are recorded in the GPS-linked Logger program. Acoustic backscatter is sampled almost continuously using a Simrad ES60 Echosounder with 120 kHz transducer. Sea temperature, conductivity and depth are sampled at oceanographic stations via a Seacat CTD Profiler (SBE 19plus). Plankton and whale faecal samples and photo-ID are collected opportunistically. Remote sensing images are downloaded for each survey day when available (Gill 2004, pers. comm.).

Passive acoustic monitoring may be a cost-effective way of obtaining preliminary information on distribution and local abundance year round. For example, acoustic monitoring using sonobuoys during the 2001–02 SOCEP voyage to Australian Antarctic waters successfully recorded sei whale calls (Thiele 2002). In addition, a moored acoustic recording package (ARP) was deployed off Mawson, Antarctica, and recorded fin, sei and other baleen whale calls (Thiele 2004, pers. comm.).

Threats

Top

The Action Plan for Australian Mammals 2012 (Woinarski et al. 2014) has identified a number of threats:

Threat factor	Consequence rating	Extent over which threat may operate
Climate and oceanographic variability and change	minor to moderate	large, potentially operating and increasing throughout the range
Anthropogenic noise and acoustic disturbance	minor	moderate-large
Habitat degradation including pollution (increasing port expansion and coastal development)	minor	likely to be localised for sei whales due to their mainly offshore habitat use in Australian waters
Pollution (persistent toxic pollutants)	minor	localised
Vessel strike	minor	localised, but potentially increasing in future as sei whale populations increase and shipping and fisheries increase
Prey depletion due to fisheries (potential threat)	potentially minor	depending upon the scale of future over-harvesting
Resumption of commercial		

whaling (potential threat) minor to severe depending upon the scale of whaling impacts potentially throughout large part of range depending upon the scale of commercial whaling if it were to resume

Threat Abatement and Recovery Top

The approved Conservation Advice for the sei whale (TSSC 2015), identifies the following conservation and management actions:

- Maintain and improve existing legal and management protection
- Continue or improve existing legislative management actions under the Environment Protection and Biodiversity Act 1999, including the Australian whale Sanctuary provisions.
- Australia should maintain its position on promoting high levels of protection for sei whales in all relevant international agreements including the IWC, CITES, CMS, fisheries related agreements, and the Antarctic Treaty Consultative Meetings (ATCM).
- Understanding impacts of climate variability and change
- Continue to meet Australia's international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica.
- Assessing and addressing anthropogenic noise
- Once the spatial and temporal distribution (including biologically important areas) of sei whales is further defined an assessment of the impacts of increasing anthropogenic noise (including from seismic surveys, port expansion, and coastal development) should be undertaken on this species.
- If required, additional management measures should be developed and implemented to ensure the ongoing recovery of sei whales.
- Minimising vessel collisions
- Develop a national vessel strike strategy that investigates the risk of vessel strikes on sei whales and also identifies potential mitigation measures.
- Ensure all vessel strike incidents are reported in the National Vessel Strike Database.
- Information and research priorities
- Priority research objectives include:
 - Determine population abundance, trends and population structure for sei whales, and establish a long-term monitoring program in Australian waters.
 - Describe the spatial and temporal distribution of sei whales and further define biologically important areas (feeding and calving), and migratory routes within Australian and Antarctic waters.

Marine Bioregional Plans Top

Marine bioregional plans have been developed for four of Australia's marine regions - South-west, North-west, North and Temperate East. Marine Bioregional Plans will help improve the way decisions are made under the EPBC Act, particularly in relation to the protection of marine biodiversity and the sustainable use of our oceans and their resources by our marine-based industries. Marine Bioregional Plans improve our understanding of Australia's oceans by presenting a consolidated picture of the biophysical characteristics and diversity of marine life. They describe the marine environment and conservation values of each marine region, set out broad biodiversity objectives, identify regional priorities and outline strategies and actions to address these priorities. Click here for more information about marine bioregional plans.

The sei whale has been identified as a conservation value in the Temperate East (DSEWPaC 2012aa) Marine Region. The "species group report card - cetaceans" for the Temperate East (DSEWPaC 2012aa) Marine Region provides additional information.

Marine bioregional plans have not been developed for the Great Barrier Reef Marine Park, the Coral Sea Commonwealth Marine Reserve, the South East marine bioregion or the Torres Strait. Preliminary work has been undertaken to identify conservation values, Key Ecological Features and Biologically Important Areas in these areas, but these data are currently not complete.

Management Documentation Top

Management documents relevant to this species are available at the start of the profile.

Species Profile References Top

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