

[1] "*Balaenoptera edeni* — Bryde's 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

Cetacean Listed migratory - EPBC Act, Bonn

Approved Conservation Advice

There is no approved Conservation Advice for this species

Listing Advice

There is no Listing Advice for this species

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.

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]

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]

State Listing Status

SA: Listed as Rare (National Parks and Wildlife Act 1972 (South Australia): Rare species: January 2020 list)

Non-statutory Listing Status

IUCN: Listed as Least Concern (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 Data Deficient (The action plan for Australian mammals 2012)

Naming

Top

Scientific name

Balaenoptera edeni [35]

Family

Balaenopteridae: Cetacea: Mammalia: Chordata: Animalia

Species author

Anderson, 1878

Infraspecies author

Reference

<https://www.marinemammalscience.org/species-information/list-marine-mammal-species-subspecies/>;

<https://www.iucnredlist.org/species/2476/50349178>

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

Other Links, Including Superseded Commonwealth Documents

Top 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 (2006bt). *Balaenoptera edeni* in Species Profile and Threats (SPRAT) database. Canberra: DEH. Available from: <http://www.environment.gov.au/cgi->

bin/sprat/public/publicspecies.pl?taxon_id=35.
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
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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 edeni* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <https://www.environment.gov.au/sprat>. Accessed Tue, 18 Jan 2022 20:32:27 +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.
Australian and State/Territory Government Legal Status
Top
The current conservation status of Bryde's Whale, *Balaenoptera edeni*, under Australian Government legislation and international conventions is as follows:
National: Listed as a Cetacean and as a Migratory species under the Environment Protection and Biodiversity Conservation Act 1999.
Taxonomy
Top
Scientific name: *Balaenoptera edeni*
Common name: Bryde's Whale
Other names: Eden's Whale, small-type Bryde's Whale
This species was first described by Anderson in 1878, from a stranding near the mouth of the Sittang River, Myanmar, and considered a separate species from *B. brydei* (Olsen 1912) primarily due to the smaller size (Rice 1998). Since then there has been considerable confusion regarding the taxonomy of Bryde's Whale (Kato 2002). Smaller inshore and larger offshore forms have been identified from Japanese (*B. omurai*) (Kawamura & Satake 1976; Satake et al. 2006) and South African specimens (Best 1977). Mead and Brownell (in Wilson & Reeder 2005) noted that multiple species in the *B. edeni* complex have been described and consider that some may be valid. These authors recognized only *B. edeni*, pending further studies of *Balaenoptera* systematics. Rice (1998) however, recognised *B. edeni* as relating to the "small form" or "pygmy" Bryde's Whale, and *B. brydei* as representing the larger, or "ordinary" Bryde's Whale. To add to the confusion, for many years the Sei Whale (*B. borealis*) was included with the Bryde's Whale, for example, in commercial catch returns (until at least 1970) (Bannister et al. 1996). The distinction between *B. edeni* and *B. brydei* remains contentious. In an address to the International Whaling Commission (IWC), Perrin and Brownell (2006) recommended that the name *Balaenoptera edeni* continue to be used provisionally for both the "ordinary" large form and the small coastal form, recognising that further genetic and morphological research may justify recognition of two species. A recent genetic study supported the belief that the two forms constitute separate sister species (Sasaki et al. 2006). No subspecies of Bryde's Whale are formally recognised, even though several morphological forms exist, possibly meriting subspecific rank. This profile follows the morphological distinction of Rice (1998) and the recent genetic study of Sasaki and colleagues (2006) in considering *B. edeni* as the smaller form of Bryde's Whale found in coastal and shelf waters of the eastern Indian Ocean, the Sunda Shelf, and the western Pacific.
Description
Top
Bryde's Whales are the second smallest

of the balaenopterids (baleen whales) (Cummings 1985). Bryde's Whales closely resemble Sei Whales, but have a number of distinctive characteristics. The body colour of Bryde's Whales is principally dark smoky grey above and white below, with the dark area extending down to include the throat grooves and flippers (Kato 2002). The boundary between the dark and light pigmentation is diffuse. As in other balaenopterids, the rostrum is V-shaped but has three parallel ridges running longitudinally between the blowhole and rostral tip (Kato 2002). The three lateral ridges are the most characteristic feature of Bryde's Whales (Leatherwood & Reeves 1983).

The head is about a quarter of the body length (Kato 2002). The dorsal fin is extremely falcate (sickle-shaped) with a tapering tip and is located at about three-quarters of the way along the body. The flukes are broad with rather straight posterior margins. The throat grooves extend to beyond the navel, in contrast to the Sei Whale where they do not reach the navel (Best 1977).

The controversy surrounding in the taxonomic status of Bryde's Whales have led to difficulty in determining the characteristics of the smaller coastal form (considered here as representing Bryde's Whale). Like other balaenopterids, female Bryde's Whales are larger than males throughout life, the difference reaching about 0.5\m at full maturity (Kato 2002). Rice (1998) describes the "small form" Bryde's Whale (*B. edeni*) as reaching physical maturity at nine m and rarely growing longer than about 11.5 m. In contrast, Rice (1998) states that the "ordinary" Bryde's Whale (*B. brydei*) does not even reach sexual maturity until 11.2 m (males) or 11.7 m (females) and can grow to 14.6 m (males) or 15.6 m (females). The average weight for the inshore form of Bryde's Whale off South Africa was estimated as 10.77 tonnes (Best et al. 1984).

Bryde's Whales are not gregarious and mostly swim alone or in pairs. The largest reported group sizes of 10 to 23 individuals are usually loose aggregations covering a few square kilometers in area (Martin 1990). The association of individuals may therefore be coincidental and connected to a common activity, such as feeding.

Australian Distribution

Top

Bryde's Whales occur in temperate to tropical waters, both oceanic and inshore, bounded by latitudes 40° N and 40° S, or the 20 °C isotherm (Bannister et al. 1996). Bryde's Whales have been recorded from all Australian states except the Northern Territory (Bannister et al. 1996), including one sighting each in Victoria and NSW and 11 reported strandings in South Australia (7), NSW (2), Victoria (1) and Queensland (1) (DEW 2007). However, there has been some doubt over the exact identity of some of the specimens, with three individuals from Western Australia and two from the east coast reportedly intermediate between Bryde's Whale and the Sei Whale, while three Bryde's Whales from Victoria and another from Western Australia are typical of the species (Bannister et al. 1996).

The current extent of occurrence for Bryde's Whales is estimated to be greater than 20 000 km² (based on the Australian Economic Exclusion Zone (200 nautical mile (nm), down to about 40° S) (Peddemors & Harcourt 2006, pers. comm.). Increasing ocean temperatures predicted by climate change scenarios could potentially increase the extent of occurrence, with warmer water extending southwards along both coasts.

The area of occupancy of Bryde's Whales cannot be calculated due to the paucity of confirmed records for pelagic waters off Australia, however it is likely to be greater than 2000 km² (Peddemors & Harcourt 2006, pers. comm.). Future expansion of high-seas pelagic fisheries, particularly those targeting schooling pelagic fishes, may result in increased interactions with Bryde's Whales, including incidental catches and injury, potentially depleting local waters and leading to a decrease in area of occupancy (Lewinson et al. 2004).

Global Distribution

Top

Bryde's Whale is found in tropical and warm temperate waters exceeding 16.3 °C, but generally in the 20 °C isotherm, between 40° N and 40° S (Kato 2002). No subspecies are currently recognized for the Bryde's Whale (Rice 1998), but two distinct forms are found off South Africa (Best 1977) and Japan (Kawamura & Satake 1976; Satake et al. 2006): a coastal form that is restricted to within 20 miles from the coast and is considered relatively resident in South Africa, and an offshore form occupying waters over 50 miles from the coast and undergoing northward migration to the equator during winter (Kato 2002). It is possible that similar forms may exist in Australian waters. There are no estimates of the global population size of Bryde's Whales. The western North Pacific stock was estimated at about 24 000 (C.V. = 0.20) (IWC 1997), while those occurring in the eastern tropical Pacific were estimated at 13 000 (C.V. = 0.202) (Wade & Gerrodette 1993). A population estimate for the inshore stock of Bryde's Whales off South Africa yielded a relatively low population size of 582 (±184) animals (Best et al. 1984). No other population estimates exist.

Similarly, no information exists regarding trends of the Bryde's Whale population. Bryde's Whales were not harvested commercially or substantially until recent times, but their value became relatively important in the late 1970s when whaling shifted towards the smaller species (Kato 2002). Commercial harvesting of Bryde's Whales has been banned since the 1985\moratorium imposed by the IWC. According to an assessment of the Bryde's Whale stock for the western North Pacific, the population there has been increasing since the 1987 whaling ban (IWC 1997). However, Bryde's Whales are still being taken in the western North Pacific as part of the scientific research whaling program (Reeves

et al. 2003). As there are no estimates of the Australian Bryde's Whale population size, the proportion of the global population in Australian waters cannot be estimated. The lack of data for Bryde's Whales in Australian waters leads to an inability to assess whether global threats would affect the Australian population. The offshore form could potentially be subjected to threats from incidental entanglement in fishing gear set, lost or discarded in international or adjacent waters.

Surveys Conducted

Bryde's Whales are not well surveyed within Australian waters. Their distribution is primarily assumed from incidental sightings, beach-cast animals, and whaling data for all areas.

Population Information

No population estimates are available for Bryde's Whales globally, or in Australian waters. However, it is considered likely that Australian inshore stocks of Bryde's Whales will be small, possibly of similar size to those off South Africa (estimated at 582 ± 184 animals: Best et al. 1984). It is therefore likely that the total number of mature Bryde's Whales within Australian waters is considerably less than 10 000 (Peddemores & Harcourt 2006, pers. comm.). However, the taxonomy of this species requires resolving and the population structure may include discrete sub-populations.

Extreme fluctuations are unlikely for the coastal form as Australian records of Bryde's Whales show no evidence of large-scale movements, with records of stranded animals made along the coasts throughout the year (Harcourt 2007, pers. comm.). Off South Africa, however, the offshore form also known as Bryde's Whale appears to undergo migrations north to the equator during the winter months (Kato 2002).

The generation length for Bryde's Whales is unknown, but has been estimated at approximately 20 years, based on the life history data of South African animals (Best et al. 2004).

Land Tenure of Populations

All cetaceans are protected within The Australian Whale Sanctuary under the EPBC Act. The Sanctuary includes all Commonwealth waters from the 3 nm state waters limit out to the boundary of the Exclusive Economic Zone (i.e. out to 200 nm and further in some places). Bryde's Whales are also subject to IWC regulations and protected within the Indian Ocean Sanctuary and Southern Ocean Sanctuary.

Habitat

Bryde's Whales are found year-round in waters between 40° S and 40° N, primarily in temperatures exceeding 16.3° C (Kato 2002). The coastal form of Bryde's Whale appears to be limited to the 200 m depth isobar, moving along the coast in response to availability of suitable prey (Best et al. 1984). The offshore form is found in deeper water (500 m to 1000 m). Dive times are relatively short, averaging 1.27 minutes but potentially lasting 9 minutes (Best et al. 1984). This suggests that Bryde's Whales use the upper layers of the ocean, and can therefore be considered pelagic.

Insufficient information exists as to how Australian Bryde's Whales use their habitat, as no specific feeding or breeding grounds have been discovered off Australia. The inshore form appears to be resident in waters containing suitable prey stocks of pelagic shoaling fishes, while the offshore form appears to undergo extensive migrations between subtropical and tropical waters during the winter months (Best 1977).

Life Cycle

The controversy surrounding in the taxonomic status of Bryde's Whales have led to difficulty in determining the life history characteristics for two forms. In addition, extremely limited life history data exist for the Bryde's Whale off Australia, and so the following information comes primarily from data from South African and western North Pacific specimens.

Bryde's Whales may reach over 50 years in age (Bannister et al. 1996). The offshore form of Bryde's Whale reach sexual maturity at between 11.0 to 11.4 m for males and 11.6 to 11.8 m for females (Kato 2002), while the smaller inshore form reaches sexual maturity at about 11.3 to 11.5 m in females and 10 to 10.4 m in males (Best 1977). The age at sexual maturity is thought to be between seven and nine years (Kato 2002; Rice 1998). The mortality rate varies with the stock and history of exploitation, but are estimated at around 3% for the Southern Hemisphere in unexploited stocks (Martin 1990).

Inshore coastal forms appear to breed and give birth throughout the year (Best 1977), while the offshore form appears to have a protracted breeding and calving season over several months during winter (Kato 2002). This is consistent with an absence of migratory behaviour and year-round feeding observed in inshore Bryde's Whales (Martin 1990). Bryde's whales have a 2-year reproductive cycle composed of 11 months gestation, followed by 6 months lactation and then a 6 month resting period (Kato 2002). When born Bryde's Whale calves are about 3.4 m (Kato 2002).

Feeding

Bryde's Whale is considered to be a fairly opportunistic feeder, readily consuming whatever shoaling prey is available (Kato 2002; Martin 1990). It appears that the coastal and offshore forms may be distinguished by their prey preferences (Best 1977), with the smaller coastal Bryde's Whales feeding on schooling fishes, such as pilchard, anchovy, sardine, mackerel, herring and others. In contrast, the larger offshore form appears to feed on small crustaceans such as euphausiids, copepods and pelagic red crabs (Pleuroncodes), plus cephalopods (Best 1960, 1977; Kawamura 1980b;

Nemoto & Kawamura 1977; Ohsumi 1977b). There are no differences in the number of baleen plates or the thickness of the bristles between inshore and offshore Bryde's Whales. Thus, the lack of euphausiids (plankton, krill) in the diet of inshore animals is thought to reflect food preferences rather than an inability to collect plankton, especially as large swarms of euphausiids are abundant in their habitat (Best 1977).

Bryde's Whales frequently exploit the activities of other predators, swimming through and engulfing 'boils' of fish herded by other species. They are therefore often found with flocks of sea birds, as well as with other cetaceans, seals and sharks in areas of high fish abundance (Martin 1990). Feeding behaviour may involve 'gulping' or following shoaling fish in a zigzag pattern while turning on one side. Feeding is a year round activity in Bryde's Whales, which follow the local movements of their prey. They have been described as "voracious feeders" when compared to other baleen whale species (Best 1967, 1977), apparently feeding several times a day to consume the estimated requirement of 4% of body weight daily, i.e. 600 kg per day (Best 1977; Kato 2002).

Movement Patterns

There is no evidence of large-scale movements of the inshore form of Bryde's Whales, with strandings recorded throughout the year (DEW 2007). It appears that the offshore form of Bryde's Whale may migrate seasonally, heading towards warmer tropical waters during the winter. Limited data suggest that this migration may be to allow breeding and calving in lower latitudes (Kato 2002). Generally, Bryde's Whales are considered to move in close association with their prey, although daily movement patterns have not been recorded. Considerably more data is required before the timing and pattern of movements in this species become clear.

Survey Guidelines

Distinctiveness

The chief distinguishing feature of Bryde's Whales are the three ridges that run from the tip of the rostrum to the level of the blowhole, separating them from all other rorquals (Baker 1990). The blow may rise as high as 3 m in a tall cloud (Kato 2002). The head and blow usually appear before the dorsal fin, with a steeper angle of emergence at the surface than the similarly sized Sei Whale. The dorsal fin is tall and strongly falcate and generally rises abruptly out of the back, a feature that will help distinguish this species (and Sei Whales) from Fin Whales (*B. physalus*), in which the dorsal fin rises at a relatively shallow angle from the back (Jefferson et al. 1993).

Detectability

Although generally seen alone or in pairs, Bryde's Whales do aggregate into groups of 10 to 20 individuals on feeding grounds (Jefferson et al. 1993). The Bryde's Whale appears to be livelier than most other rorquals and frequently breach clear of the water. Like Minke Whales, Bryde's Whales will often approach vessels, allowing the characteristics to be confirmed (Leatherwood & Reeves 1983).

Diving behaviour is variable, depending on the prey being exploited, with dive depths varying from shallow to perhaps 300 m (Martin 1990). Dive duration is usually 1 to 2 minutes, but may last as long as 10 minutes. Usually four to seven blows follow a longer dive. While feeding, the swimming speed of Bryde's Whale is between 2 and 7 km per hour, but it can swim as fast as 20 to 25 km per hour (Kato 2002).

Bryde's Whales produce short powerful low frequency moaning sounds averaging 0.4 seconds in duration with most of the call energy at 124 to 250 Hz and a frequency modulation of up to 15 Hz (Cummings 1985).

Recommended Methods

Cetacean surveys are constrained by several important factors including weather (sea state and light conditions), area to be covered, aim of the survey (abundance estimate vs ecological studies), the activities of the animals themselves (travelling, resting, surface vs deep feeding), and the type of craft used for the survey.

Surveys for oceanic cetaceans such as Bryde's Whales have primarily been boat-based transects linked to the IWC surveys for whale abundance. There are almost no dedicated cetacean surveys conducted in continental Australian waters. During non-dedicated surveys, a minimum requirement is to record all cetacean sightings encountered with corresponding GPS position, environmental data (sea conditions and habitat) and behavioural observations. From fishing vessels, all incidentally caught animals should be recorded with corresponding GPS position, and basic biological information from dead animals should be obtained (V. Peddemors 2006, pers. comm.).

Acoustic surveys may also be useful to determine the presence of Bryde's Whale (Cummings 1985).

Threats

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Overall the Bryde's Whale is considered to be neither in danger nor at depleted levels (Martin 1990). Because of its distribution, Bryde's Whales were less subject to whaling than other Southern Hemisphere baleenopterids. They were never the subject of any major Australian fishery, though eight were taken during post-World War II Humpback whaling off the west coast between 1958 and 1963 (Bannister et al. 1996). It is thought that Bryde's Whale stocks have kept relatively stable due to exploitation being controlled and monitored under the post-1975 New Management Procedure (NMP) of the IWC (Kato 2002).

Pollution, including increasing amounts of plastic debris at sea (DEH 2002), oil spills and dumping of industrial wastes into waterways and the sea are leading to bio-accumulation of toxic substances in body tissues of marine mammals. The coastal form of Bryde's Whale may be particularly threatened by discarded plastic. The stomach of an 8 m Bryde's Whale

stranded close to central Cairns in north Queensland in August 2000 was found to be tightly packed with almost 6 m² of plastic. The whale had swallowed supermarket bags, food packaging, three large sheets of plastic, 2 m long, and fragments of garbage bags (DEH 2002).

Other current and future threats to Bryde's Whales include issues such as direct disturbance possibly from seismic and/or defence operations, collisions with large vessels (one recorded off northern Tasmania), and entanglement in fishing gear (Bannister et al. 1996). In addition, competition with commercial fisheries, particularly species such as anchovy, may also affect these animals (Bannister et al. 1996).

Threat Abatement and Recovery

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Bannister and colleagues (1996) recommend the following actions be taken to better understand the threats to Bryde's Whales:

- Determine the distribution and monitor abundance of Bryde's Whales in Australian waters, with particular emphasis on the areas off Western Australia and Queensland. This should be done via a series of aerial surveys and, perhaps, a vessel-based sighting program to monitor numbers. There should be consideration to pool existing sightings and strandings data to locate possible concentration areas.
- Reporting and salvage of Bryde's Whale specimens incidentally caught or stranded; and ensuring specimens are made available to appropriate scientific museums to enable collection of life history data and tissue samples for genetic analysis.
- Determine nursery/calving areas to assess importance of Australian waters for reproduction, particularly for the offshore form of Bryde's Whale that tends to be more migratory, and implement relevant management protocols.
- Determine the main feeding grounds of Bryde's Whales and whether there may be any impact of threats outside Australian waters.
- Determine the taxonomic relationships of the coastal and offshore forms of Bryde's Whales and then compare these with other major localities in Southern Hemisphere.
- Ensuring adequate protection of species and resources in Australian and nearby waters.

Disentanglement workshops have also been recommended, particularly for offshore fishers and suitable action plans developed. Projects currently initiated to address these threats include a requirement to report all incidental catches made within the Australian Exclusive Economic Zone (Bannister et al. 1996).

Mitigation Approach

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Management Documentation

Top

The Action Plan for Australian Cetaceans (Bannister et al. 1996) and the Review of the Conservation Status of Australia's Smaller Whales and Dolphins (Ross 2006) provide brief overviews of Bryde's Whale and some management recommendations for the species. In addition, Industry Guidelines on the Interaction between offshore seismic exploration and whales (DEW 2007h), and Australian National Guidelines for Whale and Dolphin Watching (DEH 2005c) have been published.

Species Profile References

Top

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