

# Marine wildlife stranding and mortality database annual reports 2012

## II. Cetacean and Pinniped

Prepared by: Threatened Species Unit, Department of Environment and Heritage Protection

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ISSN (1449-194X)

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### **Citation**

Meager, J.J. (2013) Marine wildlife stranding and mortality database annual report 2012. II. Cetacean and Pinniped. Conservation Technical and Data Report 2013 2:1-38.

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September 2013

## Foreword

The Department of Environment and Heritage Protection (EHP) monitors cetacean and pinniped mortality along the Queensland coast via StrandNet, the marine wildlife strandings and mortality database. StrandNet records sick, injured, incapacitated or dead wildlife in Queensland from reports received by the Department of National Parks, Recreation, Sport and Racing (NPRSR), EHP, the Great Barrier Reef Marine Park Authority (GBRMPA) and the Department of Agriculture, Fisheries and Forestry (DAFF), in addition to those received directly from the public and rehabilitation facilities. This annual report has been published as part of EHP's Conservation Technical and Data Report series. Any request to access these data for research purposes should be made in writing to the StrandNet Coordinator, email: [strand.data@ehp.qld.gov.au](mailto:strand.data@ehp.qld.gov.au).

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## List of acronyms and abbreviations

AMMC	Australian Marine Mammal Centre
AZWH	Australia Zoo Wildlife Hospital
COD	Cause of Death
CwIth	Commonwealth
EPBC 1999	<i>Environment Protection and Biodiversity Conservation Act 1999 (CwIth)</i>
DAFF	Department of Agriculture, Fisheries and Forestry
NPRSR	Department of National Parks Recreation Sport and Racing
DPA	Dugong Protection Area
EHP	Department of Environment and Heritage Protection
ESP	EcoScience Precinct, Dutton Park, Brisbane
GBRMPA	Great Barrier Reef Marine Park Authority
IWC	International Whaling Commission
JCU	James Cook University
OLR	Ordinary Least Squares
Qld	Queensland
QBFP	Queensland Boating and Fisheries Patrol
QSCP	Queensland Shark Control Program
SOCI	Species of Conservation Interest
UQ	University of Queensland
UWW	Underwater World

## General summary

This report summarises whale, dolphin (cetaceans) and pinniped (seals) strandings and mortalities in Queensland waters during 2012. A total of 82 cases were recorded, including 55 deaths and 27 that were either rescued or left alive to natural processes. This was less than the 86 whales, dolphins and seals recorded in 2011, but more than was recorded in 2010 (62 cases), 2009 (69 cases) or 2008 (74 cases).

As in earlier years, most strandings and mortalities occurred in southern Queensland, in a region from Hervey Bay to the New South Wales border. Thirteen different species were recorded, including two seal species (New Zealand fur seal, *Arctocephalus forsteri*; Subantarctic fur seal, *Arctocephalus tropicalis*). Dolphins (Indo-Pacific humpback dolphin, *Sousa chinensis*; short-beaked common dolphin, *Delphinus delphis* and bottlenose dolphin *Tursiops* sp.) and humpback whales (*Megaptera novaeangliae*) accounted for most (66%) of records.

Of the 27 cases of animals that were either rescued or left alive to natural processes; three were seals and the remaining 24 were whales or dolphins. Of these 24 whales or dolphins, two cases were thought to have been because of vessel interactions, four were entangled in ropes, 6 had fishing-line entanglement and/or fishing hooks embedded, and 7 interacted with gear in the Queensland Shark Control Program (QSCP). It was not known why the remaining whales, dolphins and seals stranded.

The cause of death was identifiable in 13 of the 55 mortalities. Of these cases, 8 were because of the QSCP, two were attributed to natural processes, one was attributed to an interaction with a vessel, one was caused by commercial netting and one was attributed to recreational fishing.

Over the long term, the annual number of marine mammal strandings and mortalities in StrandNet has increased since comprehensive recording started in 1996. There is no apparent underlying cause to this increase and it is occurring in a number of different species. Possible explanations are currently under investigation.

# Introduction

Strandings programs provide important data on marine mammal populations that can be difficult and expensive to survey in their natural environments (Maldini *et al.* 2005; Pyenson 2011). Long-term strandings programs are also informative of long-term trends of marine mammal mortality (Truchon *et al.* 2013), and are fundamental in detecting unusual marine-mammal stranding or mortality events which may serve as indicators of larger environmental issues or threats to human health (Norman *et al.* 2012). Where strandings programs are supplemented with a carcass salvage program and necropsies, they can also be a useful tool to monitor sources of mortality and the effectiveness of existing conservation management (Mannocci *et al.* 2012).

A diverse range of marine mammals are found in Queensland waters, including cetaceans (dolphins and whales), pinnipeds (seals) and one sirenian (the dugong). All native marine mammals in Queensland are protected by the *Nature Conservation Act 1992* (Qld). The subantarctic fur seal, *Arctocephalus tropicalis*; the humpback whale, *Megaptera novaeangliae* and the dugong, *Dugong dugon* are currently listed as vulnerable by the *Nature Conservation (Wildlife) Regulation 2006* (Qld) under the *Nature Conservation Act 1992* (Qld). Indo-Pacific humpback dolphin, *Sousa chinensis* and the Australian snubfin, *Orcaella heinsohni* are listed as near-threatened by the *Nature Conservation (Wildlife) Regulation 2006* (Qld) under the *Nature Conservation Act 1992* (Qld).

The Nature Conservation (Whales and Dolphins) Conservation Plan 1997 (Qld) was implemented to safeguard the continuing recovery of the eastern Australian humpback whale population, and to improve conservation management of dolphins in Queensland waters. Recently, the *Nature Conservation and Other Legislation Amendment and Repeal Regulation (No. 1.) 2013* (Qld). Amended marine-mammal approach distances for vessels for greater consistency with national guidelines, and introduced a range of special management provisions for marine mammals.

Within state and Commonwealth waters, the *Marine Parks Act 2004* (Qld) and the *Great Barrier Reef Marine Park Act 1975* (Cwlth) provide the capacity for spatial protection measures for marine mammals. State marine parks include the Moreton Bay Marine Park, the Great Sandy Marine Park and the Great Barrier Reef Coast Marine Park. Marine mammals in Queensland are also protected by a series of management arrangements specific to the East Coast Inshore Fin Fish Fishery, and the two-tiered Dugong Protection Area (DPA) system. DPAs were declared under the *Fisheries Act 1994* (Qld) by the *Fisheries Amendment Regulation (No. 11) 1997* (Qld), and has restrictions on the type, size and locations of nets, and requirements for net attendance.

Monitoring the incidence of marine mammals that are sick, injured, incapacitated or dead provides a measure of the effectiveness of the above legislation for maintaining sustainable marine mammal populations. StrandNet is the database where these data are recorded for Queensland waters. This report presents a summary of cetacean and pinniped strandings and mortality data recorded in 2012. Dugong records for this time period are discussed elsewhere (Flint and Limpus, in review).

## Methods

StrandNet is an Oracle database that summarises all records of sick, injured, incapacitated or dead marine wildlife reported to the Department of Environment and Heritage Protection (EHP). EHP has managed StrandNet since March 2012, when the Department of Environment and Resource Management (DERM) was divided into five new departments.

The term 'stranding' is here used to include sick, injured, incapacitated or dead marine wildlife which were washed ashore or encountered at sea; in addition to animals which were entangled in fishing nets/synthetic debris or rescued from a situation where they would have died had they not been rescued (Geraci and Loundsbury 1993).

In 2012, most cetacean and pinniped strandings were reported by staff from Department of National Parks Recreation Sport and Racing (NPRSR) and the Great Barrier Reef Marine Park Authority (GBRMPA). Other records were received from Sea World, Underwater World (UWW) or directly from the public, including records reported via the state-wide stranding telephone hotline (1300 264 625). Officers from NPRSR, EHP or GBRMPA inspected carcasses that were accessible.

Records of marine mammal entanglement and incidental catch (bycatch) in the Queensland Shark Control Program (QSCP) were received from the Queensland Boating and Fisheries Patrol (QBFP), of the Department of Agriculture, Fisheries and Forestry (DAFF). Records from interactions with the QSCP were also received directly from the public, Sea World, NPRSR and other sources. Net strikes, where net damage occurred but no animal was sighted, were not recorded in StrandNet. A review of the records in StrandNet from the QSCP is currently underway. As such, major data edits have taken place for the QSCP data prior to 2012.

Records were lodged in StrandNet by registered users via a web-based interface and each stranding record was assigned a unique identification number, prefixed by 'W' for marine mammals, unless the animal had been assigned a pre-existing tag number. A record that could not be confirmed as a cetacean or pinniped, or where there was insufficient



evidence to establish whether the stranding occurred at the time and location reported, was entered into StrandNet as an unconfirmed record (coded as '???'). Additional details that were recorded include the coordinates, location details and date of the report; the sex, life-history stage, size and condition of the animal, and the fate of the animal or carcass. Where available, photos were attached to the record.

Records were then verified by a regional stranding coordinator. This process was overseen by the state-wide Stranding Coordinator to ensure that records were accurate, complete and consistent. Species identification and the cause of death were established by trained staff examining the carcass and/or photographic records, or by necropsy. Only carcasses that were readily accessible to NPRSR, GBRMPA or EHP staff and that were not showing signs of advanced decomposition were necropsied, either by regional veterinary surgeons, at the University of Queensland (UQ) or James Cook University (JCU). Necropsy reports were then uploaded to StrandNet and the cause of death (COD) was recorded. The level of certainty to the COD assignment was also recorded. Where there was evidence for the most probable cause of death, the COD was recorded as 'confirmed'. In cases where there was limited evidence and considerable uncertainty, the COD was recorded as 'suspected'. Where there was no evidence, the COD was recorded as 'unknown'.

It is recognised that StrandNet represents only a proportion of stranded and dead cetaceans and pinnipeds occurring in Queensland. The number of carcasses or debilitated animals that reach the shoreline depends on factors such as currents, wind and carcass buoyancy, and losses to scavengers (Peltier *et al.* 2012). This also means that a carcass or debilitated animal may drift substantial distances before stranding.

Although StrandNet has systematically recorded marine mammal strandings and mortalities from Cairns to the Queensland–New South Wales border since 1996, coverage is less comprehensive in sparsely populated areas of the Gulf of Carpentaria, Torres Strait and eastern Cape York Peninsula. It is also acknowledged that fisheries bycatch records in StrandNet may be incomplete. Marine mammals can be unintentionally caught as bycatch in nets or other gear associated with fisheries activities. Since 2002, it has been a Commonwealth and state obligation for commercial fishers to report interactions with all protected species including marine mammals in their Species of Conservation Interest (SOCI) logbook. Where available, bycatch records in the Fisheries Queensland annual fisheries updates ([http://www.daff.qld.gov.au/28\\_10916.htm](http://www.daff.qld.gov.au/28_10916.htm)) were checked against records in StrandNet.

As a member of the International Whaling Commission (IWC), Australia is required to provide an annual scientific progress report summarising all activities in relation to cetaceans in Australian waters. This report has been submitted for 2012.

## Results

### Amendments to previous strandings reports

Changes to cetacean records between 2008 and 2011 (Meager *et al.* 2012):

- One record has been subsequently received for 2011:
  - W228207. 19/06/2011. Point Lookout, North Stradbroke Island. Vessel strike causing extensive vessel damage. The whale was suspected to have died, but the carcass was not recovered. Source: NPRSR.
- Incidental catches of pantropical spotted dolphin (*Stenella attenuata*) in 2008 (n= 3) were erroneously recorded as pygmy killer whales (*Feresa attenuata*) in StrandNet. These catches were reported correctly in the IWC61 (Australian report to the IWC Scientific Committee, 2009).
- Not all the QSCP data was recorded in StrandNet for years prior to 2011. Work to rectify this situation is ongoing.

### Number, distribution and species composition of strandings

Overall, 82 records were received for Queensland in 2012. No unconfirmed reports were received. Long-term seasonal and annual trends in strandings and mortality are summarised by Figure 1. Broad-scale patterns in species composition over time and space are summarised by Figures 2 and 3.

Species composition:

- 11 species of cetaceans were recorded (Table 1).
- Two species of seals were recorded (Table 1): three New Zealand fur seals, *Arctocephalus forsteri*<sup>1</sup> and one subantarctic fur seal.

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<sup>1</sup> The Society of Marine Mammalogy Committee of Taxonomy has recently recommended changing the scientific name of the New Zealand fur seal, *Arctocephalus australis forsteri* to *Arctophoca australis forsteri*, and the name of the subantarctic fur seal, *Arctocephalus tropicalis* to *Arctophoca tropicalis*. It was recommended that *Arctocephalus pusillus doriferus* (Australian fur seal) remains the same. The new names are not used here because at the time of writing, no decision had been made by the Queensland Museum.

- Humpback whales, short-beaked common dolphin (*Delphinus delphis*); humpback dolphins, bottlenose dolphins, (*Tursiops* spp.) accounted for the majority of records (66% or 54 records).

Marine mammals of special conservation concern reported in 2012:

- Subantarctic fur seal. Vulnerable [Nature Conservation (Wildlife) Amendment Regulation (No. 1) 2009 (Qld)]. Vulnerable. *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC 1999).
- Snubfin dolphin. Near threatened [Nature Conservation (Wildlife) Amendment Regulation (No. 1) 2010 (Qld)]. Migratory *EPBC 1999*.
- Indo-Pacific humpback dolphin. Near threatened [Nature Conservation (Wildlife) Amendment Regulation (No. 1) 2010 (Qld)]. Migratory *EPBC 1999*.
- Sperm whale (*Physeter macrocephalus*). Migratory *EPBC 1999*.
- Spinner dolphin (*Stenella longirostris*). Migratory *EPBC 1999*.
- Humpback whale. Vulnerable [Nature Conservation (Wildlife) Amendment Regulation (No. 1) 2009 (Qld)]. *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC 1999).

## Annual trend since 1996

Overall, the annual number of marine mammal strandings and mortalities in StrandNet has increased since 1996 (Figure 4). When only cases of cetacean mortality from unidentified or natural causes are analysed separately, a significant positive trend remained (Figure 5). Pinniped reports were too infrequent for statistical analysis.

## Strandings and mortality from natural causes

### Predation

- Snubfin dolphin
  - W229731. 5/09/2012. Karumba, Gulf of Carpentaria. Post-mortem examination by Dr Isabel Beasley, JCU. Photos examined by Dr Colin Simpfendorfer, JCU. Carcass in good condition, stomach full of prey. Damage suggests pre and post-mortem shark attack. No necropsy performed. Adult female. Sources: NPRSR, EHP and JCU.

### Unidentified natural causes

- New Zealand fur seal
  - QA4852. 4/08/2012. Teewah, Rainbow Beach. Examined by Underwater World (UWW) and NPRSR staff. The seal was assessed as dehydrated and emaciated with a wound resembling a cookie-cutter shark bite. Treatment progressed for five days, and the seal was assessed as fit for release on 16/08/2012. Normal behaviour was observed after it was released on the beach, but it died quickly upon entering the water. The necropsy by Dr Luke Ross (Manly Road Veterinary Hospital) suggested ileus (disruption of propulsive gut activity), but no cause was apparent. Sources: NPRSR and UWW.

## Anthropogenic causes of strandings and mortality

### Vessel strike/propeller damage

- Snubfin dolphin
  - Mortality. W229260. 5/07/2012. Whitsunday Passage. Collision between a NPRSR vessel and a snubfin dolphin while operating in heavy seas. The incident report was completed and it was suspected that the dolphin died as a consequence of the collision. Unknown sex and age class. No photos are available. The dolphin was identified by NPRSR officers experienced in identifying tropical dolphins. Source: NPRSR.
- Unidentified whale
  - Presumed escaped unaided. W229555. 25/07/2012. Moreton Bay, South Passage Bar. 5.5 m vessel struck a whale. Blood was seen in the water and the vessel sustained damage. It was thought that the animal survived. Left *in situ* to natural processes. Unknown sex and age class. Source: NPRSR.
- Humpback whales
  - Presumed escaped unaided. W229742. 22/09/2012. Caloundra, Sunshine Coast. Unconfirmed report from a member of the public of a whale hit by a container ship. No further reports received. Unknown if live or dead. Unknown sex and age class. Left *in situ* to natural processes. Source: NPRSR.

## Entanglement in ropes

- Humpback whales
  - Presumed escaped unaided. W229741. 11/09/2012. Jumpinpin Bar, Moreton Bay. Whale sighted with rope around body. Sea World and NPRSR could not relocate animal. Thought to have been immature, sex not determined. Left *in situ* to natural processes. Source: NPRSR.
  - Presumed escaped unaided. W229575. 16/07/2012. 6 nm south-east of Gold Coast seaway. Rope in mouth and around tail. No rescue teams available to respond. Immature. Sex unknown. Left *in situ* to natural processes. Source: NPRSR.
  - Rescued. W229574. 22/08/2012. 4-5 nm east of Jumpinpin Bar, Moreton Bay. Entangled in a crab pot float line. Laceration on tail from rope. Freed by rescue team. Immature. Sex unknown. Left *in situ* to natural processes. Source: NPRSR.
- Unidentified dolphin
  - Presumed escaped unaided. W228205. 22/02/2012. Nobbys Beach, Gold Coast. Sighted with rope around tail flukes by a member of the public and reported to QBFP. Age and sex unknown. Left *in situ* to natural processes. Source: NPRSR.

## Queensland Shark Control Program (QSCP)

- Short-beaked common dolphin
  - Mortality. W230024. 13/09/2012. Main Beach, Gold Coast. Entangled in net. Adult female. Source: DAFF.
  - Mortality. W230025. 25/08/2012. Main Beach, Gold Coast. Entangled in net. Adult male. Source: DAFF.
  - Mortality. W228201. 23/01/2012. Kirra, Gold Coast. Entangled in net. Adult male. Source: DAFF.
  - Mortality. W228203. 29/02/2012. Wurtulla, Sunshine Coast. Entangled in net. Immature male. Source: DAFF
  - Mortality. W229244. 7/04/2012. Coolangatta, Gold Coast. Entangled in net. Necropsy performed by Dr David Blyde, Sea World. Immature male. Source: DAFF.
  - Mortality. W229243. 3/04/2012. Noosa, Sunshine Coast. Entangled in net. Adult female. Source: DAFF
  - Mortality. W230026. 15/08/2012. Mermaid Beach, Gold Coast. Entangled in net. Adult male. Sperm samples sent to Sea World. Source: DAFF.
  - Rescued. W228202. 9/01/2012. Elkhorn Avenue, Gold Coast. Caught on drumline. Adult male. Released *in situ*. Source: DAFF.
- Humpback whales
  - Rescued. W230027. 4/10/2012. Kurrawa Beach, Gold Coast. Entangled in net and released alive *in situ*. Immature. Sex unknown. Source: DAFF.
  - Rescued. W229673. 5/07/2012. Main Beach, Gold Coast. Entangled in net and released alive *in situ*. Immature. Sex unknown. Source: DAFF.
  - Rescued. W230028. 22/08/2012. Point Lookout, North Stradbroke Island. Entangled in drumline. Rescued by a member of public and released alive *in situ*. Immature. Sex unknown. Source: DAFF.
  - Escaped unaided. W229674. 19/07/12. North Burleigh, Gold Coast Swam away with drumline gear attached, gear later to have been found discarded. Immature (8 m length) of unknown sex. Source: QBFP. Note that this record was lodged in StrandNet after submission of the IWC65 report, and will be included in the IWC66 report.
  - Escaped unaided. W229751. 10/10/2012. Amity Point, North Stradbroke Island. Swam away with drumline gear attached. Observed to free itself shortly after being reported. Unknown sex and age class. Source: NPRSR.
- Spinner dolphin
  - Mortality. W230031. 08/08/2012. Kurrawa Beach, Gold Coast. Entangled in net. Adult. Unknown sex and age class. Source: DAFF.
- Indo-Pacific humpback dolphin
  - Rescued. W230030. 10/12/2012. Farnborough Beach, Yeppoon. Caught on drumline. Unknown sex and age class (1.8 m length). Released alive *in situ*. Source: DAFF.

## Fisheries interactions

- Bottlenose dolphin
  - Mortality. W230012. 22/11/2012. Sunshine Coast. Approximately 500 m east of Currimundi beach. Entanglement in an anchored gill net targeting mackerel and shark. Approximately 1.8 m in length. Unknown sex and age. Reported by fisher. Source: NPRSR.
- Indo-Pacific bottlenose dolphin (*Tursiops aduncus*)

- Mortality. W229268. 17/07/2012. Double Island Point. Fishing line entangled and hook embedded deep inside mouth. Damage to jaw indicated struggling. Photos of the hook and fishing tackle indicated that it was incidentally caught in a recreational fishery (Dave Kruetz, Ocean Watch, pers. comm.). Adult female. Unknown age class. Source: NPRSR.
- Presumed escaped unaided. W230016. 25/11/2012. Peel Island, Moreton Bay. Fishing line entangled around dorsal fin, cutting in by 2-3 cm, and damage to tail flukes. Repeatedly reported that it was taking fish from fishermen in boats. Left *in situ* to natural processes. Unknown sex and age. Source: NPRSR.
- Presumed escaped unaided. W230017. 25/11/2012. Harry Atkinsons Artificial Reef, Moreton Bay. Fishing line around tail flukes. Left *in situ* to natural processes. No photos available. Insufficient information to determine if this is the same report as W230016. Unknown sex and age class. Source: NPRSR.
- Presumed escaped unaided. W229744. 23/09/2012. 5 km east of Gold Coast seaway. Fishing line and large sinker entangled around dorsal fin. Left *in situ* to natural processes. Unknown sex and age class. Source: NPRSR.
- Rescued. W230021. 06/11/2012. Tangalooma Resort, Moreton Island. Four gang hooks embedded in jaw. Dolphin attended feeding at Tangalooma Resort, and the hooks were removed by staff at Tangalooma Resort. Adult female. Old dolphin. Source: NPRSR.
- Unidentified dolphins
  - Presumed escaped unaided. W228204. 24/03/2012. Amity Point, North Stradbroke Island. Fishing line entangled around flipper. Left *in situ* to natural processes. Unknown sex and age class. Source: NPRSR.
  - Presumed escaped unaided. W229240. 24/04/2012. Harry Atkinsons Reef, Moreton Bay. Fishing line entangled around flukes. Left *in situ* to natural processes. Unknown sex and age class. Source: NPRSR.

## Rescued, natural escape and/or rehabilitated animals

In total, 27 cetaceans were recorded as alive, after they were either rescued or left *in situ* to natural processes. Three pinnipeds were rescued and remain in captivity. One successful release in the wild following rehabilitation was recorded in 2012 (W229257, Sea World). Successful rescues included:

- Indo-Pacific bottlenose dolphin
  - Rescued via rehabilitation. W229257. 06/06/2012. Stranded on sand bar north of Wavebreak Island, Gold Coast. Good body condition but sunburn on dorsal aspect of torso. Taken to Sea World and treated with cortisone and antibiotics. Swimming freely but with one eye closed. Normal results from blood test, negative for toxoplasmosis, leptospirosis and morbillivirus. Force fed and kept for six days and released in good health in the Broadwater adjacent to Sea World on 12/06/2012. Adult female (1.96 m in length). Sources: NPRSR and Sea World.
- Bottlenose dolphin (*Tursiops* sp.)
  - Rescued. W229254. 20/06/2012. Rainbow Beach. Beach stranded, presumably after chasing prey. Assisted back out to sea by a member of the public. Unknown sex and age class. Source: member of the public.
- Pygmy killer whale
  - Rescued. W229749. 19/10/2012. Moore Park. Feeding scar from shark evident. Stranded on the beach. Supported by six members of the public in one meter of water before NPRSR staff arrived. Initially lethargic but started to move tail again after 30 minutes and then moving seawards. Observed for 20 minutes and breathed normally. Unknown sex, length or age class. Sources: NPRSR and members of the public.
- New Zealand fur seal
  - Rescued via rehabilitation. W230064. 11/08/2012. Kirra Beach, Gold Coast. Large, unhealed wound on neck. Rescued by Sea World. Considered to be unsuitable for release because of the long duration of rehabilitation. Resides permanently at Sea World and has been named 'Mickey'. Source: Sea World.
  - Rescued via rehabilitation. W230062. 4/08/2012. Surfers Paradise, Gold Coast. Rescued by Sea World staff. Vision difficulties. Cookie-cutter shark bites. Eye operation to remove cataract fragmentation. Considered unsuitable for release by Sea World staff. Reside permanently at Sea World and has been named 'Saturday'. Source: Sea World.
- Subantarctic fur seal
  - Rescued via rehabilitation, W230059. 6/08/2012. Eastern Beach, Moreton Island. Rescued by NPRSR and sent to Sea World. The animal was weak, had seizures and needed to be force fed for two weeks. Considered unsuitable for release by Sea World staff. Resides permanently at Sea World and has been named 'Forest'. Source: Sea World.

## Necropsies or post mortems

- Pygmy sperm whale (*Kogia breviceps*)
  - W229258. 28/06/2012. Moore Park Beach, Bundaberg. Beach washed adult. Necropsied by Dr Graham Stutchbury, retired veterinary surgeon. No cause of death found. No histopathology analysis.
- Snubfin dolphin
  - W229731. 5/09/2012. Karumba, Gulf of Carpentaria. Post-mortem examination by Dr Isabel Beasley, JCU. Stomach contents examined. Old female with a full stomach. A bloody cut from a shark inflicted wound suggested a pre-mortem attack. Suspected mortality from a shark attack. No histopathology analysis undertaken.
- Short-beaked common dolphin
  - Mortality. W229244. 13/09/2012. Main Beach, Gold Coast. Necropsied by Dr David Blyde, Sea World. Cause of death attributed to drowning in a shark control net. Stomach contents examined. Adult sized male (1.95 m long and 92 kg), but not sexually mature. No histopathology analysis.
- New Zealand fur seal
  - QA4852. 04/08/2012. Double Island Point. Unsuccessful release by UWW. Necropsied a few hours after death by Dr Luke Ross, Manly Road Veterinary Hospital. Stomach contents examined. Cause of death undetermined. No histopathology analysis reported.

## Biopsies/biological samples taken from stranded or dead cetaceans

- Humpback whales
  - W229252. 5/06/2012. Eastern Beach, Fraser Island. Samples taken by NPRSR. Baleen and blubber samples sent to Queensland Museum. Immature male.
  - W229733. 14/07/2012. Eastern Beach, Fraser Island. Samples taken by NPRSR. Baleen and blubber samples sent to Queensland Museum. Immature male.
  - W229266. 15/07/2012. Eastern Beach, Fraser Island. Samples taken by NPRSR. Baleen and blubber samples sent to Queensland Museum. Immature female.
  - W229552. 2/08/2012. Emu Park, Yeppoon. Samples taken by NPRSR. Skin and blubber samples sent to Susan Bengston-Nash at Griffith University. Sample archived at Griffith University.
- Short-beaked common dolphin
  - W230026. 15/08/2012. Mermaid Beach, Gold Coast. Entangled in SCP net. Sperm samples taken by Sea World. Adult male.
- Indo-Pacific humpback dolphin
  - W229769. 2/11/2012. Sandstone Point. Skull sent to Queensland Museum (Q229769).
- Snubfin dolphin
  - W229731. 5/09/2012. Karumba, Gulf of Carpentaria. Skin sample collected by Dr Isabel Beasley (JCU). Skull and skeleton currently being prepared for the Museum of Tropical Queensland.
- Sperm whale
  - W229754. 25/10/2012. Eastern Beach, North Stradbroke Island. Samples taken by NPRSR. Genetic (skin) sample archived at the Queensland Museum, duplicate genetic sample stored in tissue archive in the EHP genetic tissue archive (AMMC, Australian Antarctic Division, Hobart). Histopathology (formalin fixed) and blubber samples (frozen) archived at EHP Ecosciences Precinct. Immature. Unsexed.
- Pygmy sperm whale
  - W230029. 5/11/2012. Great Keppel Island. Samples taken by a member of the public. Genetic (skin) sample archived at the Queensland Museum, duplicate sample stored in the EHP genetic tissue archive. Muscle sample (in ethanol) archived at EHP Ecosciences Precinct. Two teeth taken to Queensland Museum.
- Dwarf minke whale (*Balaenoptera acutorostrata*)
  - W229267. 23/07/2012. Moreton Island. Samples taken by NPRSR and EHP. Histopathology sample of a lesion fixed in formalin and archived at ESP. Frozen blubber sample stored at EHP Ecosciences Precinct. Genetic (skin) sample archived at the Queensland Museum, duplicate genetic sample stored in the EHP genetic tissue archive.

## Marine parks and dugong protection areas

Marine parks and Dugong Protected Areas overlap either partially or completely in some regions. These cases are also discussed above.

### Moreton Bay Marine Park

- Indo-Pacific bottlenose dolphins
  - Stranding. W230021. Details above.
  - Stranding. W230016. Details above.
- Bottlenose dolphins
  - One stranding from an unidentified cause (W229247).
  - One case of fishing line entanglement (W230017, details above).
  - Four unexplained mortalities (W229259, W229570, W229573 and W229736).
- Indo-Pacific humpback dolphins
  - Four unexplained mortalities (W229264, W229569, W229740 and W229769).
- Unidentified baleen whale (W229555): suspected vessel strike, escaped unaided. Details above.
- Sperm whale (*Physeter macrocephalus*) (W229754). Unidentified mortality.
- Humpback whales
  - One rescued from entanglement in a QSCP drumline (W230028). Details above.
  - One unconfirmed report on an interaction with a container ship (W229742). Details above.
  - One observed to free itself from a QSCP drumline (W229751).
  - One unexplained mortality (W229568).
- Unidentified dolphins
  - Two with fishing-line entanglement (W228204, W229240. Details above).
  - Four died of unexplained causes (W229267, W228204, W229571 and W229572).

### Great Sandy Marine Park

- Indo-Pacific bottlenose dolphins
  - Mortality. Incidentally caught in a recreational line fishery. W229268.
  - Unexplained mortality (W229557).
- Bottlenose dolphin
  - Stranded from natural causes. Rescued. (W229254, details above).
- Indo-Pacific humpback dolphins
  - Two unexplained mortalities (W229668 and W229241).
- Melon-headed whale
  - One unexplained mortality (W229551).
- Humpback whales
  - One unexplained stranding (W229252).
  - Three unexplained mortalities (W229733, W229266 and W229746).
- Dwarf minke whale
  - Two unexplained mortalities (W229248 and W229556).
- Short-beaked common dolphin
  - One unexplained mortality (W229249).
- Pygmy killer whale
  - One unexplained stranding. Rescued by members of the public (W229749. Details above).
- Pygmy sperm whale

- One unexplained mortality (W229258. Necropsy performed. Details above).

#### Great Barrier Reef Coast Marine Park or Great Barrier Reef Marine Park

- Unidentified baleen whale
  - One unexplained mortality (W229559).
- Humpback whale
  - Two unexplained mortalities (W229552 and W229554).
  - Escaped unaided. Mother and calf observed near Hook Island on 31/08/12. Mother was floating and breathing. Notice to Mariners issued to warn vessels to keep clear. No other action taken (W229732).
- Snubfin dolphin
  - Vessel strike. Presumed mortality (W229260, details above).
- Indo-Pacific humpback dolphins
  - One caught on a QSCP drumline and released alive (W230030, details above).
- Indo-Pacific bottlenose dolphin
  - Unexplained mortality (W228210).
- Unidentified *Kogia* sp (either pygmy sperm whale or dwarf sperm whale, *Kogia sima*)
  - Unexplained mortality (W229251).

#### Dugong protection areas

- Six unexplained mortalities occurred in DPAs in 2012:
  - Newry Region. (DPA A 05): One humpback whale (W229554)
  - Ince Bay (DPA A 06): One *Kogia* sp.(W229251)
  - Hervey Bay-Great Sandy region (DPA A10): One Indo-Pacific humpback dolphin (W229241) and one Indo-Pacific bottlenose dolphin (W228557).
  - Rodds Bay region (DPA B 09): one Indo-Pacific humpback dolphin (W228209) and one unidentified dolphin (W229727).

## Discussion

In general, strandings and mortality of cetaceans and pinnipeds in 2012 followed the same spatio-temporal trends as in earlier years in the Queensland Marine Wildlife Mortality and Strandings Program. A distinct peak in mortality and stranding rates occurred in late winter (July-August, 43% of records), and the majority of records were for cetaceans and pinnipeds in southern Queensland (78%, 64 of 82 cases or between Woodgate and Coolangatta).

Eleven species of cetaceans and two species of pinniped were recorded in 2012, all of which have previously been reported in StrandNet. One species, the Subantarctic fur seal is considered rare in Queensland waters and has not been recorded in StrandNet since 1999 (Haines *et al.* 2000).

As in earlier reports, species composition was dominated by humpback whales, Indo-Pacific bottlenose dolphins and Indo-Pacific humpback dolphins. Short-beaked common dolphins were also frequent. The east coast (E1) population of humpback whales is considered to be in recovery mode since the cessation of the whaling industry in 1960's, and is thought to be rebuilding at around 11% per annum (Paterson *et al.* 1994; Noad *et al.* 2011). Little is known of long-term trends of dolphin populations in Queensland, but the Indo-Pacific humpback dolphin is considered to be of special conservation priority because of small, isolated populations. While the number of strandings and mortalities reported in 2012 is less than that of 2011, it remains elevated compared to earlier years in the program.

Records of short-beaked common dolphins in 2012 were mostly those caught in the QSCP (8 of 10 records). Little is known of the population structure, movements and abundance of short-beaked common dolphins in Queensland. Recent research suggests local population structure at the scale of <1000 km along the New South Wales coast (Möller *et al.* 2010) and at a scale of >1500 km in southern Australian populations (Bilgmann *et al.* 2008). Short-beaked common dolphins are often caught as bycatch in pelagic fisheries in the Pacific, which has been related to their behaviour of following pelagic fish schools (Bjørge *et al.* 1994).

The long-term trend of increasing numbers of annual records of strandings and mortality has been highlighted in previous reports, and has continued. The reasons why this is occurring are not analysed in detail in the current data

report, but two facts have emerged: (1) the increase is not directly attributable to a human-related cause because natural and unexplained mortalities are also increasing (Figures 4 and 5), and (2) the increase is not attributable to a single species, because a similar trend is apparent for both inshore dolphins and humpback whales (Figure 2).

## Strandings and mortalities directly attributable to human activities

As in earlier years, interactions with fisheries and vessels were the main sources of mortalities and injuries to cetaceans which were directly caused by human activities in 2012. Three interactions with vessels were reported in 2012, which was within the range of other years in StrandNet. Two reports were based on observations by the skipper of the vessels and the third was a report received by a member of the public from the shore.

Incidental catch (bycatch) in the QSCP in 2012 was the lowest in 10 years, but remained the largest single known cause of direct anthropogenic mortality to cetaceans. In terms of bycatch from commercial fisheries reported to StrandNet in 2012, one dolphin drowned in a net, and one humpback whale was entangled in rope associated with a spanner crab pot and was freed by a rescue team. An additional two humpback whales were sighted with rope entanglement, but the source of these ropes was uncertain. Recreational fishing entanglement was comparatively high in 2012, particularly of entanglements of bottlenose dolphins in Moreton Bay. In total, 7 records were received of dolphins with fishing line entanglement and/or fishing hooks embedded, and 6 of these were for dolphins within Moreton Bay or in adjacent waters. The remaining dolphin was reported at Rainbow Beach, and was assumed to have died as a result of line and hook entanglement. Three of the seven were identified as Indo-Pacific bottlenose dolphins. Although photos were not available for all of these animals, most bottlenose dolphins within Moreton Bay are likely to be Indo-Pacific bottlenose dolphins (Hale *et al.* 2000; Ansmann *et al.* 2012; Ansmann *et al.* 2013).

It has often been reported in StrandNet records that dolphins which are entangled in fishing line or fishing gear approach fishing boats, presumably to obtain food. Whether dolphins that approach boats are more likely to be subsequently entangled by fishing gear, or whether dolphins that are entangled become more reliant on food from fishers, has not been examined, but the former scenario is probably more likely. Research on bottlenose dolphins overseas has shown that the survival of dolphins entangled in recreational fishing gear depends on factors such as the severity and location of entanglement, or where hooks are embedded (Wells *et al.* 1998).

It is acknowledged that natural phenomena, such as floods, predator attacks, disease and starvation may make marine mammals more prone to impacts from human activities and *vice versa*. For example, elevated dugong bycatch in the QSCP after a cyclone in the 1970's was attributed to increased movements in search of food (Heinsohn and Spain 1974), and the immunosuppressive effects of environmental contaminants may affect disease vulnerability (Van Bresseem *et al.* 2009). Such synergistic effects are outside the scope of the present report and can only realistically be addressed with detailed necropsies and dedicated research.

## Species of special conservation concern

In the Moreton Bay region, four cases of Indo-Pacific humpback dolphins were recorded, compared to three in 2011 and an annual average of one (maximum of two) in the 15 years prior to 2011. The size of population within Moreton Bay is unknown and has not been quantitatively assessed since 1987, when the population was estimated to be 119 individuals (95% CI: 81-166; August 1985 to February 1987, Corkeron *et al.* 1997). Three cases were reported for the Gladstone region in 2012, compared to five cases in 2011. An additional two cases were reported for the Hervey Bay region in 2012.

Two cases of Australian snubfin dolphins were recorded in StrandNet in 2012, compared to four in 2011. Like Indo-Pacific humpback dolphins, snubfin dolphins have small, localised sub-populations which are not considered to be able to sustain high levels of anthropogenic mortality (Parra 2006; Parra *et al.* 2006). Long-term population trends for this species are unknown.

Eighteen humpback whales were recorded in StrandNet in 2012, compared to 20 in 2011, nine in 2010 and 18 in 2009. The annual increase in humpback whales records since 1996 (Ordinary Least Squares, OLS, regression;  $b \pm$  standard error =  $0.96 \pm 0.17$ ,  $r^2 = 0.67$ ; or approximately 11% per annum) is very similar to the estimated annual increase of the stock between 1987 and 2004 ( $10.6 \pm 0.5\%$ , 95% confidence interval, Noad *et al.* 2011). Assuming that (a) StrandNet reporting effort has been constant since 1996, and (b) the 1987-2004 population increase reported by Noad *et al.* (2011) is representative of the period from 2004 to 2012, the increase in humpback whales records in StrandNet is likely to be largely because of the stock rebuilding.



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Table 1. Species composition of cetacean and pinniped stranding strandings in Queensland in 2012.

Taxonomic group	Species	Common name	Total	% Occurrence
Baleen whale	<i>Megaptera novaeangliae</i>	humpback whale	18	22
Dolphin	<i>Delphinus delphis</i>	Short-beaked common dolphin	10	12.2
Dolphin	<i>Sousa chinensis</i>	Indo-Pacific humpback dolphin	10	12.2
Dolphin	<i>Tursiops</i> sp.	Unidentified bottlenose dolphin	9	11
Dolphin	Unidentified dolphin		8	9.8
Dolphin	<i>Tursiops aduncus</i>	Indo-Pacific bottlenose dolphin	7	8.6
Seal	<i>Arctocephalus forsteri</i>	southern fur seal	3	3.7
Baleen whale	<i>Balaenoptera acutorostrata</i>	dwarf minke whale	3	3.7
Whale	<i>Kogia breviceps</i>	pygmy sperm whale	2	2.5
Whale	<i>Kogia</i> sp.	unidentified <i>Kogia</i> sp.	2	2.5
Dolphin	<i>Orcaella heinsohni</i>	snubfin dolphin	2	2.5
Dolphin	<i>Peponocephala electra</i>	Melon-headed whale	2	2.5
Whale	Unidentified whale		2	2.5
Seal	<i>Arctocephalus tropicalis</i>	Subantarctic fur seal	1	1.3
Dolphin	<i>Feresa attenuata</i>	pygmy killer whale	1	1.3
Toothed whale	<i>Physeter macrocephalus</i>	sperm whale	1	1.3
Dolphin	<i>Stenella longirostris</i>	spinner dolphin	1	1.3
	<b>Grand Total</b>		82	

Table 2. Cetacean and pinniped strandings and mortalities by geographical location in Queensland, 2012.

Species	GOC	Qld (east coast in 1° latitudinal blocks, see Figure 4 for geographical overview)																				Total
		9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
<b>Baleen whales</b>																						
<i>Balaenoptera acutorostrata</i>																	2			1		3
<i>Megaptera novaeangliae</i>												2			1		4	2	7	2		18
<b>Toothed whales</b>																						
<i>Kogia breviceps</i>									1								1					2
<i>Kogia</i> sp.							1					1										2
<i>Feresa attenuata</i>																	1					1
<i>Peponocephala electra</i>																	1	1				2
<i>Physeter macrocephalus</i>																				1		1
Unidentified							1													1		2
<b>Dolphins</b>																						
<i>Delphinus delphis</i>																	1	2	3	4		10
<i>Tursiops</i> sp.																	1	2	6			9
<i>Tursiops aduncus</i>																1	2	1	3			7
<i>Sousa chinensis</i>																3		3		4		10
<i>Stenella longirostris</i>																					1	1
<i>Orcaella heinsohni</i>	1											1										2
Unidentified																1			1	5	1	8
<b>Pinnipeds</b>																						
<i>Arctocephalus forsteri</i>																				1	2	3
<i>Arctocephalus tropicalis</i>																				1		1
<b>Total</b>	1						1		1	1		3	1		6	4	12	10	33	11		82

Table 3. Cetacean and pinniped strandings and mortalities by year and identified sources of mortality (suspected or confirmed) for Queensland, 2001-2012. Numbers in parentheses represent additional animals that were released alive or escaped unaided.

Cause of stranding and mortality	Year											
	2001*	2002*	2003*	2004*	2005*	2006*	2007*	2008*	2009*	2010*	2011*	2012
<i>Natural causes</i>												
Disease and ill health	3	2				4	3	3	4	1	9	
Trapped by natural event		1				(1)	(3)					
Stingray barb	1											
Predation/ predator attack				2	1				(1)		1	1
Other	3								1	2		1
<i>Anthropogenic causes</i>												
Disease			1									
Vessel strike/ fractures			1	3	2	(2)	(3)	(5)	1		(1)	1 (2)
Netting/crabbing/ entanglement in ropes or fishing line	4	1(1)	(2)	3(3)	1	1(5)	(11)	(2)	2 (1)+(1 <sup>†</sup> )		(5)	1(10)
Shark control program	10 (1)	8 (1)	14 (2)	12(7)	21 (9)	21 (6)	21 (4)	25 (8)	14 (7)+(1 <sup>†</sup> )	21 (1)	15 (5)	8 (7)
Ingested foreign material/fishing hooks									1			1
Research												
Undetermined	1	1			2(1)	3	3	(1)	1		2	
<b>Undetermined cause</b>	19(4)	22(6)	15(1)	28(1)	25(5)	20(4)	31(8)	20(10)	31(3)	34(3)	43(4)	42 (8)
<b>Total</b>	<b>41(5)</b>	<b>35(8)+2<sup>?</sup></b>	<b>31(5)+2<sup>?</sup></b>	<b>47(8)+8<sup>?</sup></b>	<b>52(15)+3<sup>?</sup></b>	<b>49(18)+6<sup>?</sup></b>	<b>52(29)+2<sup>?</sup></b>	<b>48(26) +2<sup>?</sup></b>	<b>55(12)+2<sup>†</sup>+3<sup>?</sup></b>	<b>58(4)+6<sup>?</sup></b>	<b>70(15) + 3<sup>?</sup></b>	<b>55 (27)</b>

\*Data for 2001-2011 were taken from Greenland and Limpus (2008) and Meager *et al.* (2012); ?, unconfirmed report; †, second sighting (included elsewhere).

Table 4. Cetacean and pinniped strandings and mortality with identified sources of mortality for Queensland. Numbers in parentheses represent additional animals that were released alive. Only confirmed sightings are included in this table.

Species	Natural causes	Human related				Unidentified causes
		Vessel strike/ fractures	Fisheries-related activity and entanglement*	Shark Control Program	Other/presumed anthropogenic activities	
<i>Megaptera novaeangliae</i>		(1)	(3)	(5)		8 (1)
<i>Balaenoptera acutorostrata</i>						3
<i>Kogia breviceps</i>						2
<i>Kogia</i> sp.						2
<i>Feresa attenuata</i>						(1)
<i>Peponocephala electra</i>						2
<i>Physeter macrocephalus</i>						1
Unidentified whale		(1)				1
<i>Delphinus delphis</i>				7(1)		2
<i>Tursiops aduncus</i>			1 (4)			3 (1)
<i>Tursiops</i> sp.			1			4 (1)
<i>Orcaella heinsohni</i>	1	1				
<i>Sousa chinensis</i>				(1)		9
<i>Stenella longirostris</i>				1		
Unidentified dolphin			(3)			5(1)
<i>Arctocephalus forsteri</i>	1					(2)
<i>Arctocephalus tropicalis</i>						(1)
<b>Total</b>	<b>2</b>	<b>1(2)</b>	<b>2 (10)</b>	<b>8(7)</b>		<b>42(8)</b>

?, unconfirmed report. \*includes commercial netting, crabbing, entanglement in fishing line or ropes, and ingesting hooks.

Table 5. Summary of carcass condition of reported cetacean and pinniped mortalities for Queensland, 2012.

Carcass Condition	Description	Species	Number recorded	Number examined*	Number to necropsy
D1	Alive but subsequently died	<i>A. forsteri</i>	1	-	1
		<i>B. acutorostrata</i>	1	-	-
		<i>M. novaeangliae</i>	2	-	-
D2	Dead, carcass fresh – suitable for pathology or resembling a carcass fresh enough for eating	<i>B. acutorostrata</i>	2	-	-
		<i>D. delphis</i>	7	-	1
		Unidentified dolphin	2	-	-
		<i>K. breviceps</i>	1	-	1
		<i>M. novaeangliae</i>	3	-	-
		<i>P. electra</i>	2	-	-
		<i>S. chinensis</i>	1	-	-
		<i>S. longirostris</i>	1	-	-
		<i>T. aduncus</i>	2	-	-
		<i>Tursiops</i> sp.	2	-	-
		Unidentified whale	1	-	-
D3	Dead, carcass fair – decomposing but internal organs intact	Unidentified dolphin	1	-	-
		<i>M. novaeangliae</i>	3	-	-
		<i>O. heinsohni</i>	1	1	-
		<i>P. macrocephalus</i>	1	-	-
		<i>S. chinensis</i>	5	-	-
		<i>T. aduncus</i>	2	-	-
		<i>Tursiops</i> sp.	3	-	-
D4	Dead, carcass poor – advanced decomposition with internal organs falling apart	<i>D. delphis</i>	2	-	-
		<i>K. breviceps</i>	1	-	-
		<i>Kogia</i> sp.	2	-	-
		<i>S. chinensis</i>	2	-	-
D5	Dead, mummified carcass with skin holding bones together	<i>S. chinensis</i>	1	-	-
D6	Dead, disarticulated bones – no soft tissue remaining	-	-	-	-
D	Dead, not freshly dead, carcass condition not assessed	Unidentified dolphin	1	-	-
<b>Total</b>			<b>53</b>	<b>1</b>	<b>3</b>

\*Number examined refers to the carcasses inspected by trained staff. Note: Carcass conditions D1 to D4 are suitable for reliable assessment of external wounds such as from boat strike and propeller cuts. COD, cause of death.

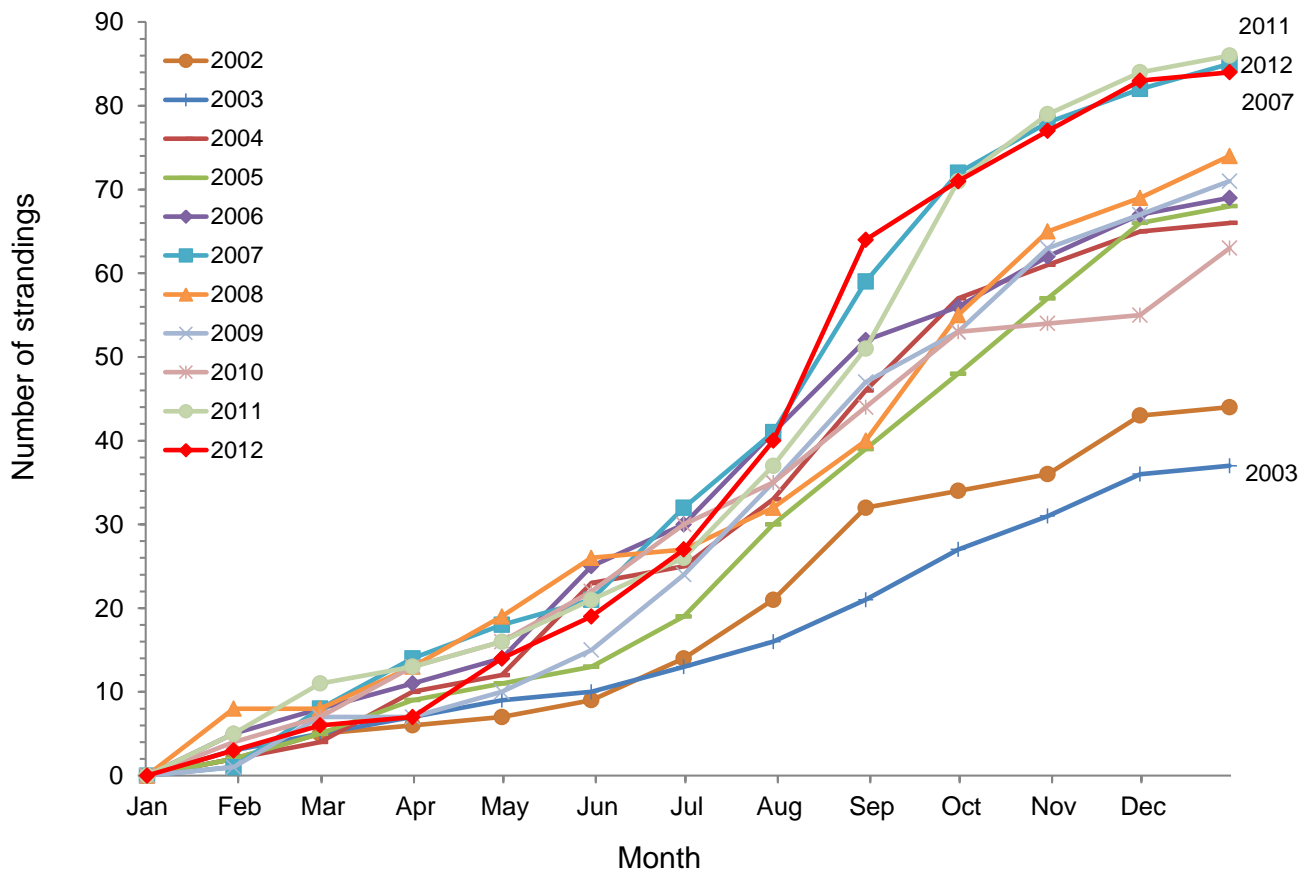


Figure 1. Cumulative cetacean and pinniped strandings and mortalities in Queensland per month and year for the 10 year-period between 2002 and 2012.



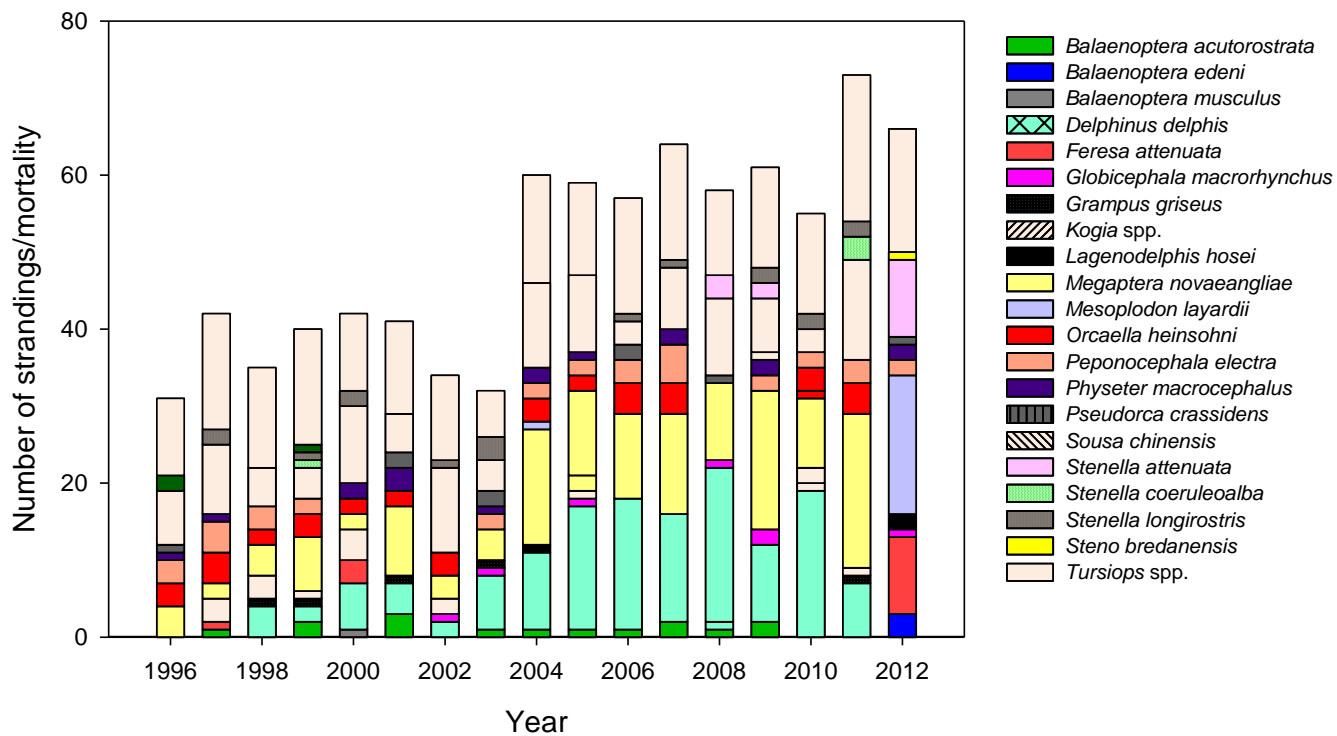


Figure 2. Species composition of strandings and mortalities of cetaceans between 1996 and 2012. Unidentified animals are not included. Bottlenose dolphin species are aggregated into the one category (*Tursiops spp.*).

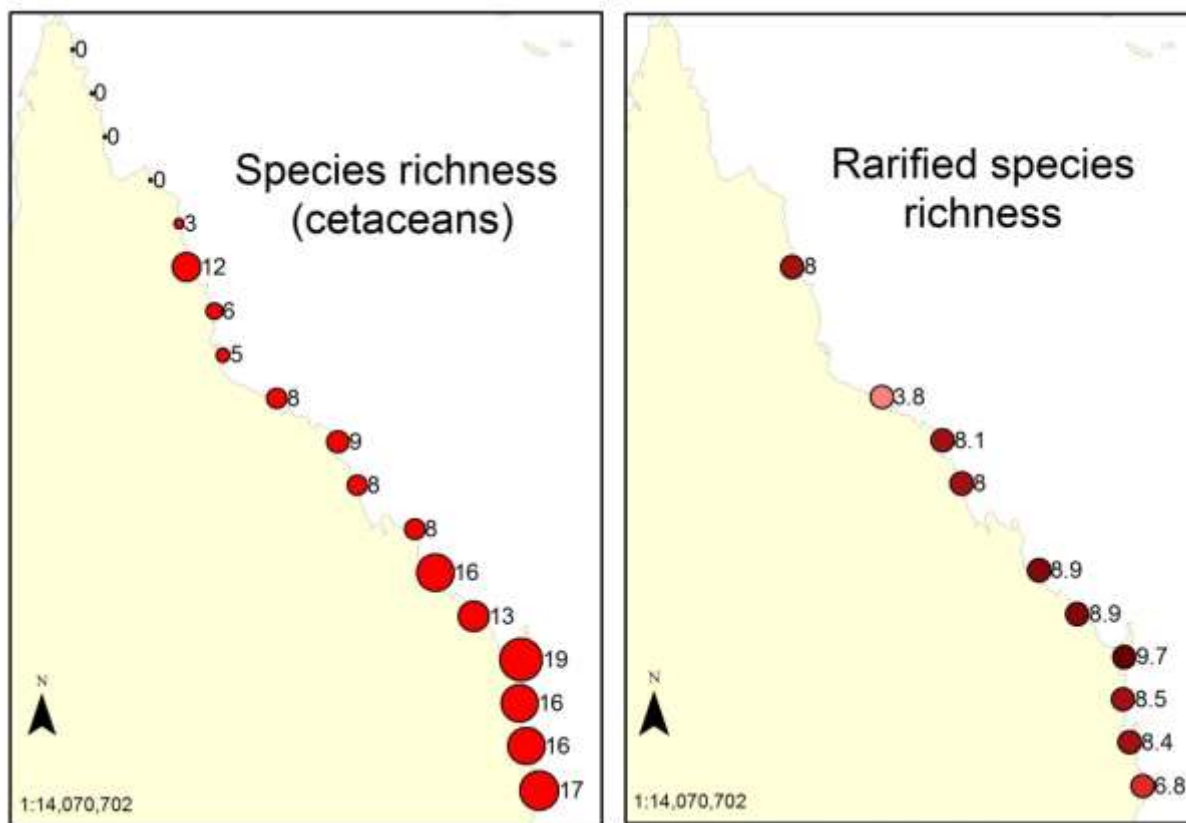


Figure 3. Species richness of cetaceans in StrandNet by latitudinal block along the east coast of Queensland, up to and including data from 2012. The figure on the right shows standardised species richness (rarefied to 21 individuals).

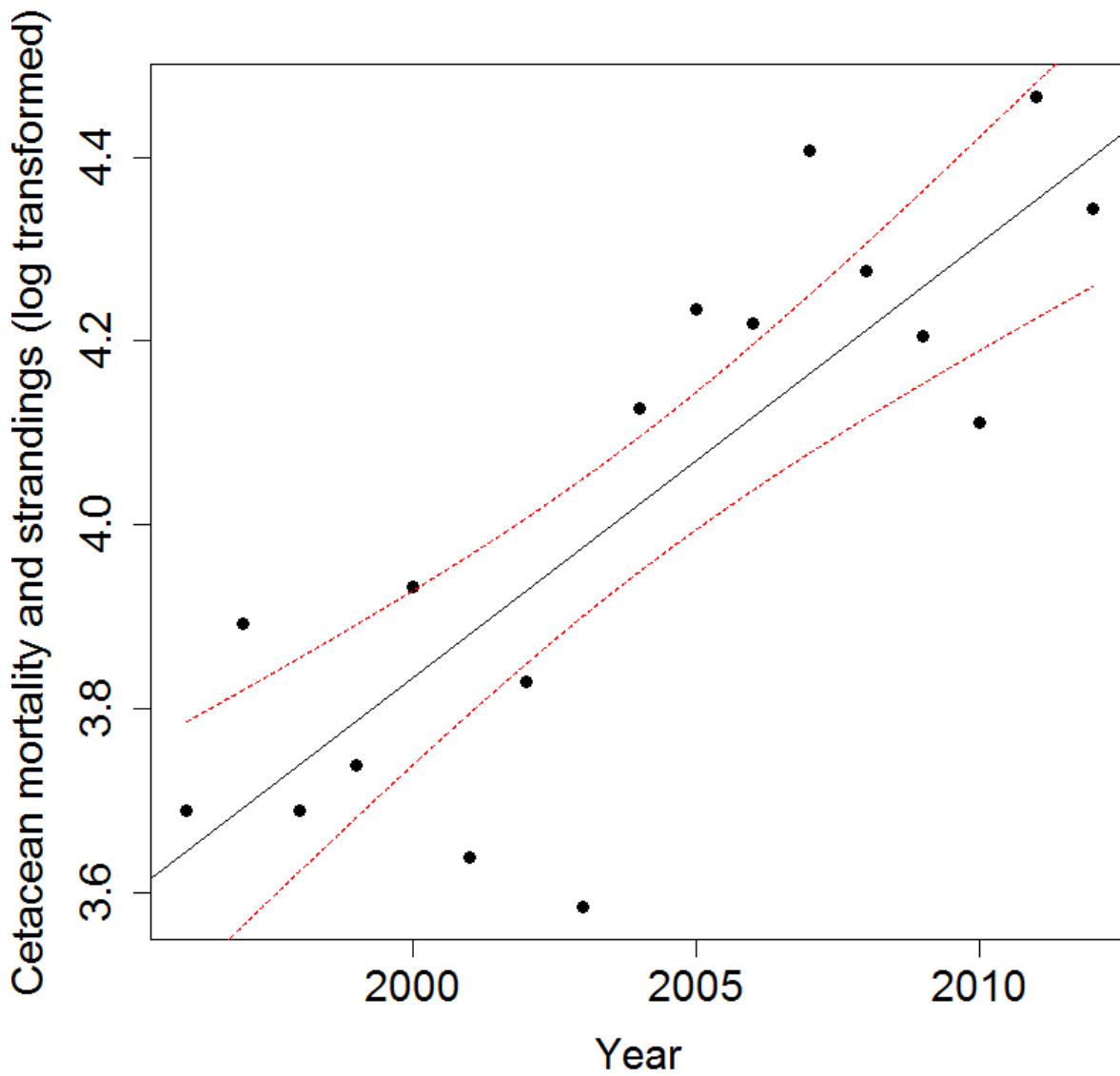


Figure 4. Long-term trend in cetacean mortality and strandings, Ordinary Least Squares (OLS) linear regression with 90% confidence intervals ( $b \pm \text{standard error} = 0.047 \pm 0.0086$ ;  $r^2 = 0.67$ ;  $F = 30.43$ ;  $df = 15$ ,  $p < 0.001$ ).

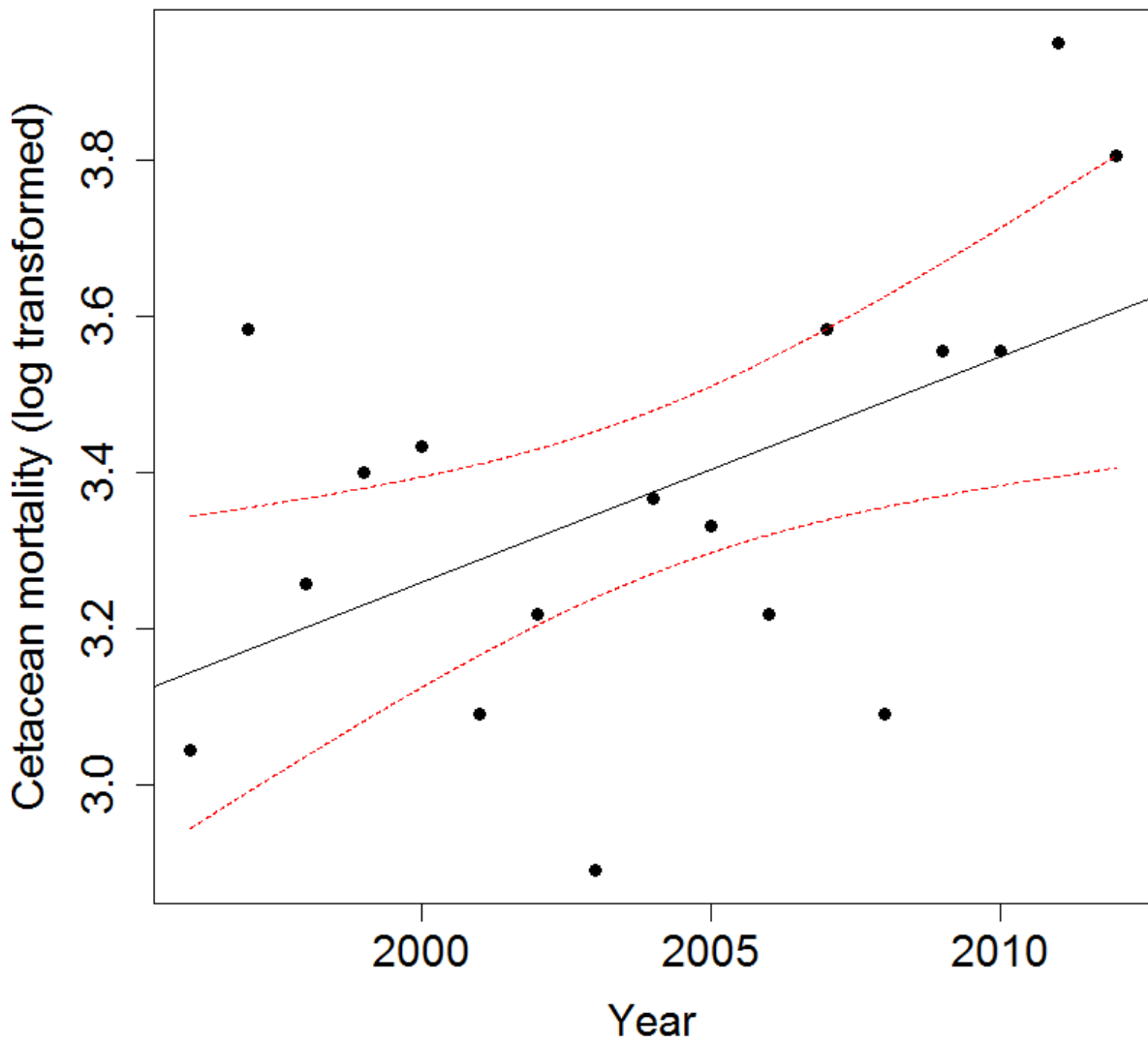


Figure 5. Long-term trend in cetacean mortality from natural or unidentified causes, OLS linear regression with 90 % confidence intervals ( $b \pm \text{standard error} = 0.029 \pm 0.012$ ;  $r^2 = 0.27$ ;  $F = 5.6$ ;  $df = 15$ ,  $p = 0.031$ ).

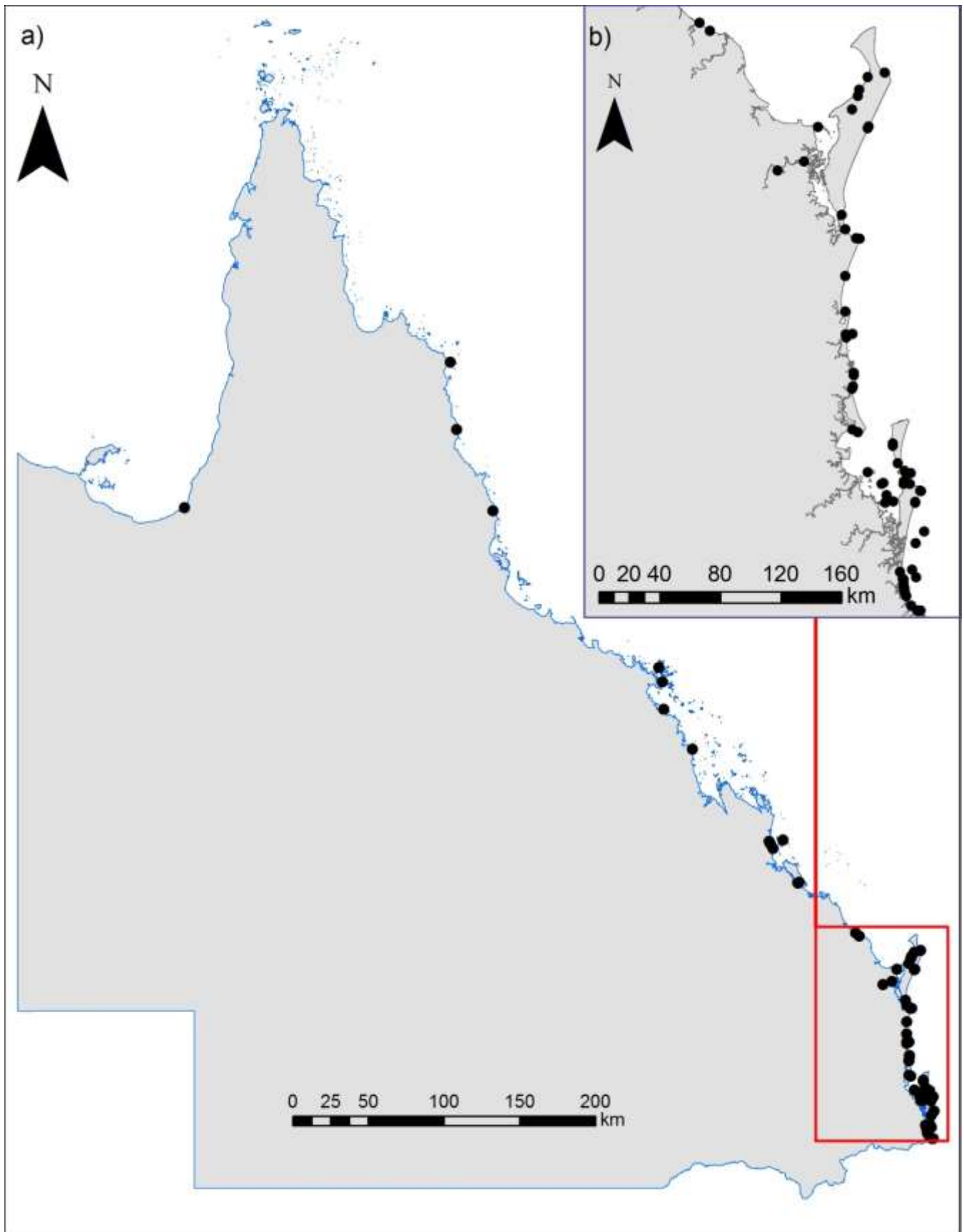


Figure 6. Distribution of cetacean strandings and mortalities in 2012 in (a) Queensland and (b) South East Queensland. Only cases confirmed in the field by a trained person, and later verified by an expert are included. Black circles, cetacean stranding or mortality.

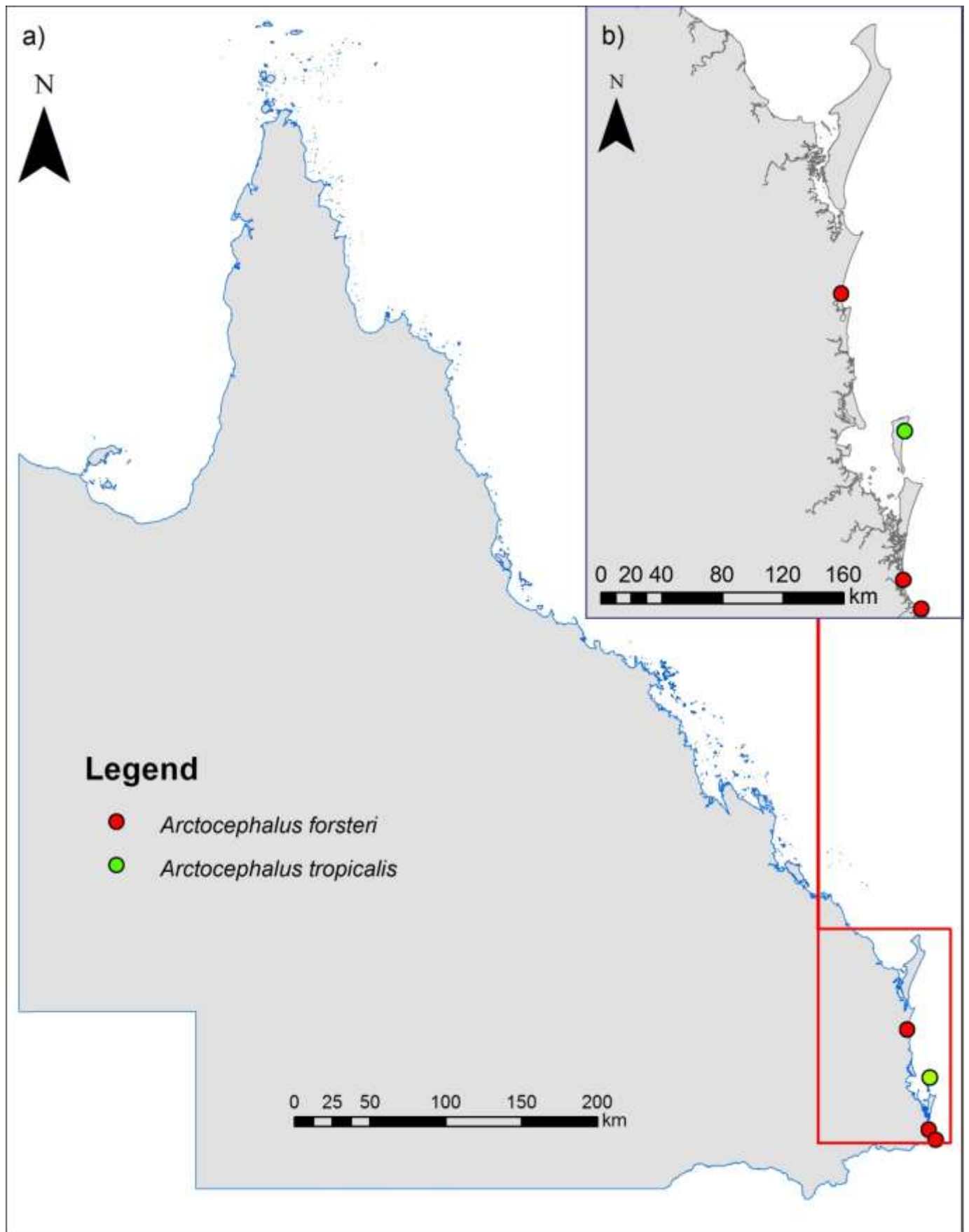


Figure 7. Distribution of pinniped strandings and mortalities in 2012 in (a) Queensland and (b) South East Queensland. Only cases confirmed in the field by a trained person, and later verified by an expert are included.

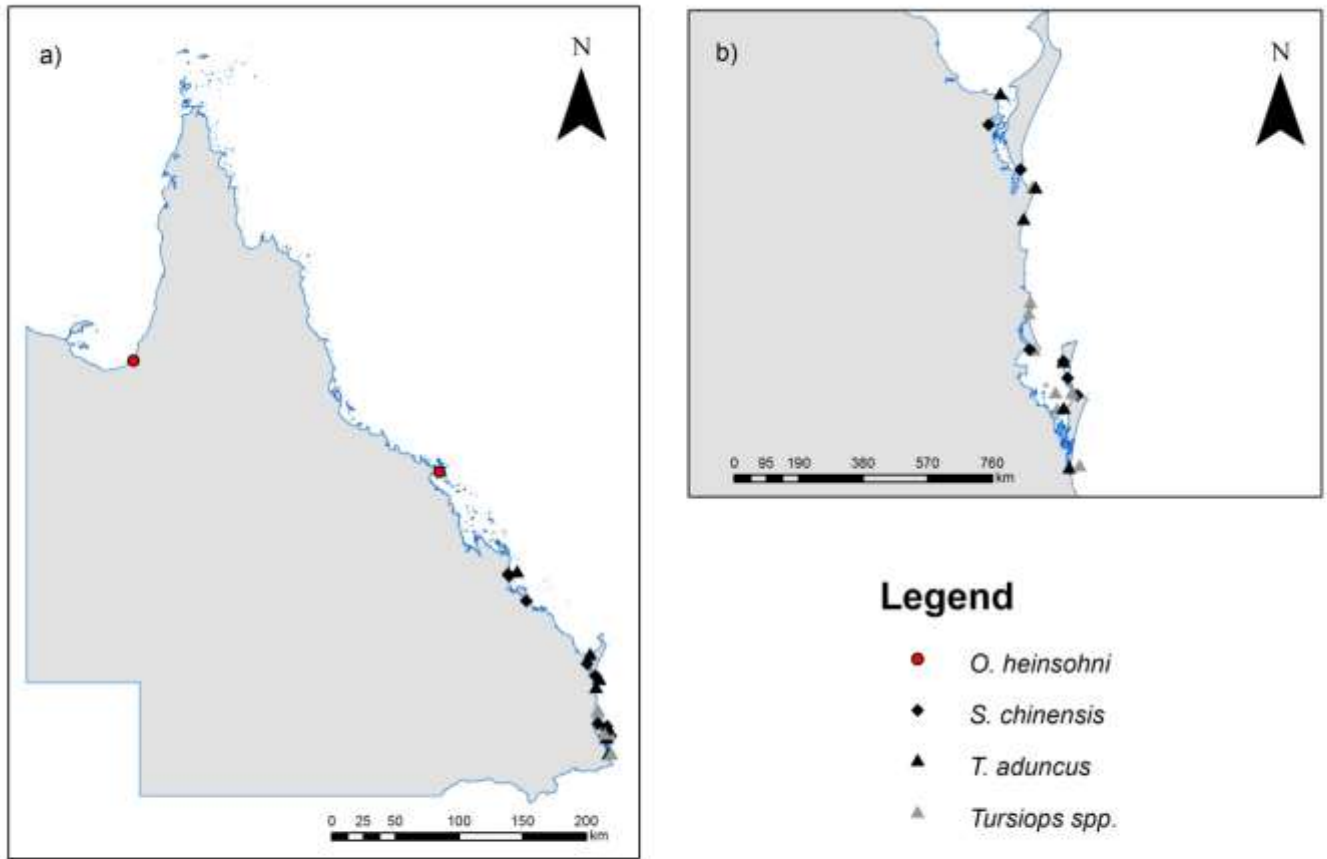


Figure 8. Distribution of inshore dolphin strandings and mortalities in 2012, in (a) Queensland and (b) South East Queensland. Only cases confirmed in the field by a trained person, and later verified by an expert are included.

## Appendix 1: photos

Photos of interesting cases are included in this section. Specific requests for photos of other strandings or mortalities in 2012 should be addressed to the Stranding Coordinator ([strand.data@ehp.qld.gov.au](mailto:strand.data@ehp.qld.gov.au)).



- W230059. Subantarctic fur seal, *Arctocephalus tropicalis*. 6/08/2012. Eastern Beach, Moreton Island.
  - Case history: rescued by NPRSR and sent to Sea World. The animal was weak, had seizures and needed to be force fed for two weeks. Considered unsuitable for release by Sea World staff. Resides permanently at Sea World and has been named 'Forest'.





- W229267. Dwarf minke whale, *Balaenoptera acutorostrata*. 23/07/2012. Eastern Beach, Moreton Island.
  - Case history: beach cast, dead. No necropsy performed. Tissue samples taken and archived.



- W229551. Melon-headed whale, *Peponocephala electra*. 25/06/2012. Fraser Island.
  - Case history: beach cast, dead. Damage to carcass from dingos scavenging. Tissue samples taken.



- W229258. Pygmy sperm whale, *Kogia breviceps*. 28/06/2012. Moore Park, Bundaberg.
  - Case history: beach cast, dead, cause of death unknown. Necropsy undertaken and tissue samples collected.



- W229754. Sperm whale, 25/10/2012. Eastern Beach, North Stradbroke Island. Samples taken by NPRSR.
  - Case history: beach cast, dead, cause of death unknown. No necropsy undertaken. Tissue samples taken and archived. Immature. Unsexed.



- W229268. Indo-Pacific bottlenose, 17/07/2012, Double Island Point.
  - Case history. Beach cast, dead. Fishing line entangled and hook embedded deep inside mouth. Damage to jaw indicated struggling. Photos of the hook and fishing tackle indicated that it was incidentally caught in a recreational fishery (hook identified by Ocean Watch). No necropsy performed. Adult female. Unknown age class.



- W229749. Pygmy killer whale. 19/10/2012. Moore Park.
  - Case history. Feeding scar from shark evident (resembling cookie-cutter shark scar). Stranded on the beach. Supported by six members of the public in one meter of water before NPRSR staff arrived. Initially lethargic but started to move tail again after 30 minutes and then moving seawards. Observed for 20 minutes and breathed normally. Unknown sex, length or age class. Sources: NPRSR and members of the public.

## Appendix 2: cases outside of Queensland

Additional records (outside of Queensland):

- Mortality. W230063. 27/07/2012. New Zealand fur seal (*Arctocephalus forsteri*). Cabarita Beach, New South Wales. The seal was picked up by a member of the public and taken to a vet clinic, where it subsequently died of unknown causes. This incident occurred in New South Wales and is not discussed further in this report.
- No other cases of marine mammals from New South Wales were recorded in StrandNet in 2012.