

Data and sample collection from stranded or bycaught cetaceans, manatees or turtles



Gianna Minton, PhD



Why do whales and dolphins strand?



Single stranding





© Oman Whale and
Dolphin Research
Group

Single stranding can
be caused by:

- entanglement in fishing gear
- old age, illness (parasites)
- ingestion of debris
- other human induced mortality – e.g. ship strikes/propeller wounds



From: Read 1999, Porpoises, World Life Library



Plastic bags from the stomach of a dead minke whale are making the news in the UK. British newspaper [Daily Mail](#) has a story on a whale found dead in the English Channel back in 2002. The animal was initially thought to die from natural causes but an autopsy revealed 2 lbs of plastic bags clogging the stomach. If the whales consume enough bags, their stomachs become full, they stop eating and they starve.

From: http://scienceblogs.com/deepseanews/2008/03/guts_full_of_rubbish.php

Multiple/Mass stranding

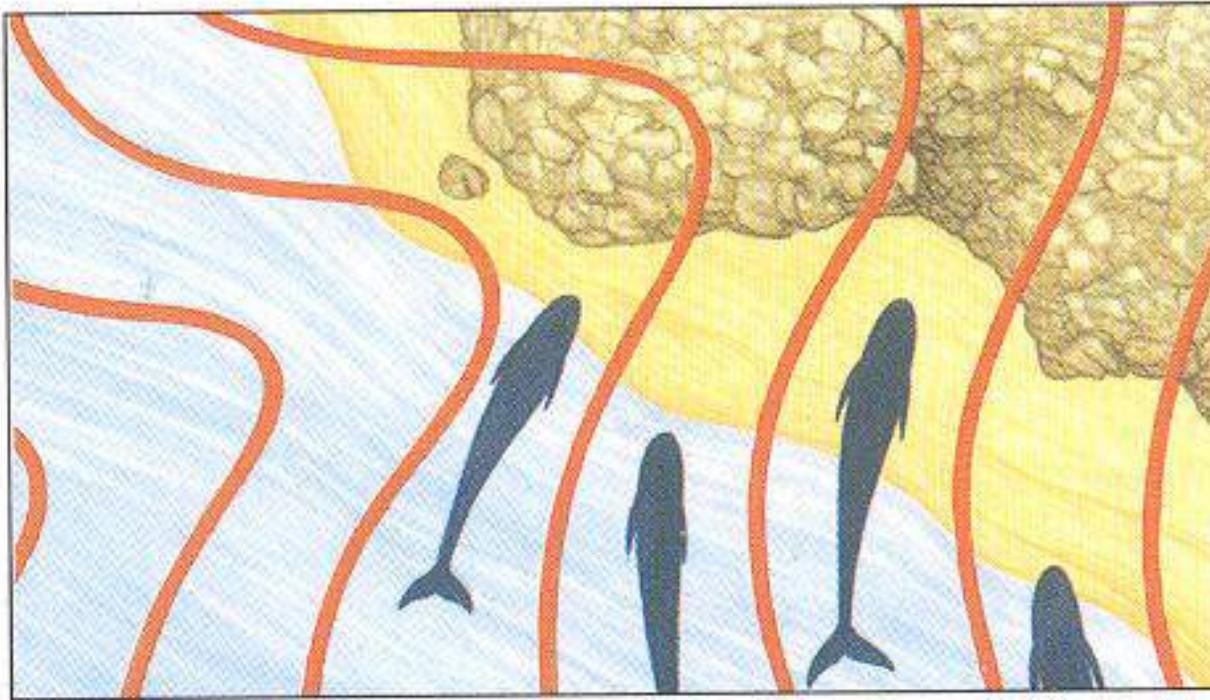


http://www.smh.com.au/ffximage/2004/11/30/whales_wideweb__430x279.jpg



Mass stranding can be caused by:

- Shallow sloping coastline
- Disorientation or illness (e.g. morbillivirus or *Toxoplasma gondii* (brain lesions)) in one member of highly social group.
- Contaminants or toxins from harmful algal blooms
- Magnetic anomalies
- killer whales/predators
- Acoustic disturbance – e.g naval sonar



MAGNETIC FIELDS

Cetaceans may have an extra sense called “biomagnetism”, which enables them to detect variations in the earth’s magnetic field. They may use the magnetic field, like a map, to navigate. The field is always changing so, occasionally, they could become confused and swim towards the shore.

From: Carwardine, 1995, Whales Dolphins and Porpoises, Dorling Kindersley



http://img.thesun.co.uk/multimedia/archive/00491/SNN2219A-682_491629a.jpg

Why collect data from smelly dead things?

- Stranded or bycaught whales and dolphins provide a wealth of data – almost free of any expense or logistical effort
- Boat surveys are expensive, logistically difficult, and time intensive.
- Taking samples from live animals is invasive, and sometimes impossible.
- Land-based and aerial surveys do not allow you to get close to animals

Smelly dead animals can help us learn:

- Which species of dolphins occur in our area
- Causes of mortality – possible threats
- What dolphins like to eat
- Unique characteristics of dolphins or whales in our area (isolated populations or new (sub)species)

Skeletal material (particularly skulls) can be used for morphometric analyses to compare populations. They are also good for educational display.



Genetic samples can be used to clarify population identities and identify new species or sub-species.

**WWF** *for a living planet*

myWWF Sign in | Sign up | Help

Who We Are | What We Do | Take Action! | News | Facts | FAQ | search

Home > Who We Are > WWF Country Offices > Australia > Projects

Australia

- > About
- > Problems
- > Solutions
- > News & Publications
- > Projects
- > Great Barrier Reef

Discovering Australia's snubfin dolphin

Project details

Geographical location:

Asia/Pacific > Australia/New-Zealand > Australia

Summary



A new species of dolphin was found in Australia's northern waters in 2005. The discovery of the Australian snubfin – previously thought to be an Irrawaddy dolphin – is extremely rare, particularly when many species today are heading towards extinction. Unlike other dolphin species found in Australia, the snubfin has a rounded forehead and a very small, "snubby" dorsal fin. Like many dolphin species, they are threatened by habitat destruction and accidental entanglement in fishing gear.

A WWF-supported project aims to get a better understanding of the ecology of this relatively unknown species in order improve coastal dolphin conservation in northern Australia.

Background


Coastal dolphins are the most threatened dolphins worldwide (Thomson et al 2000) and knowledge

Project data

Started: 1, Mar 2008
Planned end date: 30, Jun 2011
Executant: [Samantha Vine](#)
Managing Office: WWF Australia
Address: WWF Australia / GPO Box 528 Sydney NSW 2001 / Australia /  +61 2 9281 5515 
Status: active
Modified: 1, Feb 2009
Published: 9, Feb 2009

More Info

- ◆ [Snubfin dolphin fact sheet](#)

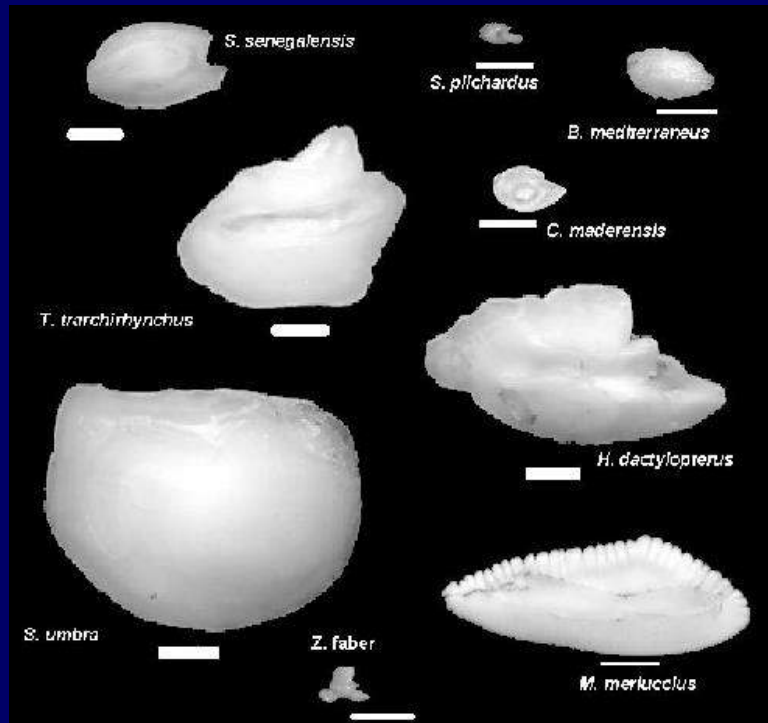


Australasian snubfin

Stomach contents can provide information on dolphin diets



Dolphin prey species can be identified from fish otoliths (ear bones) and squid/cuttlefish beaks



<http://carlsafina.files.wordpress.com/>

From: [lwww.cmima.csic.es/aforo/imagenes/divulga/figura3.png](http://www.cmima.csic.es/aforo/imagenes/divulga/figura3.png)

What to have ready at all times





Surgical gloves and masks



15m measuring tape (non metal)



Hunting knife or butcher's
knife and knife sharpening
stones



Fine-tipped permanent
marking pens



5-10ml leak-proof sample vials filled with DMSO or 90% ethanol



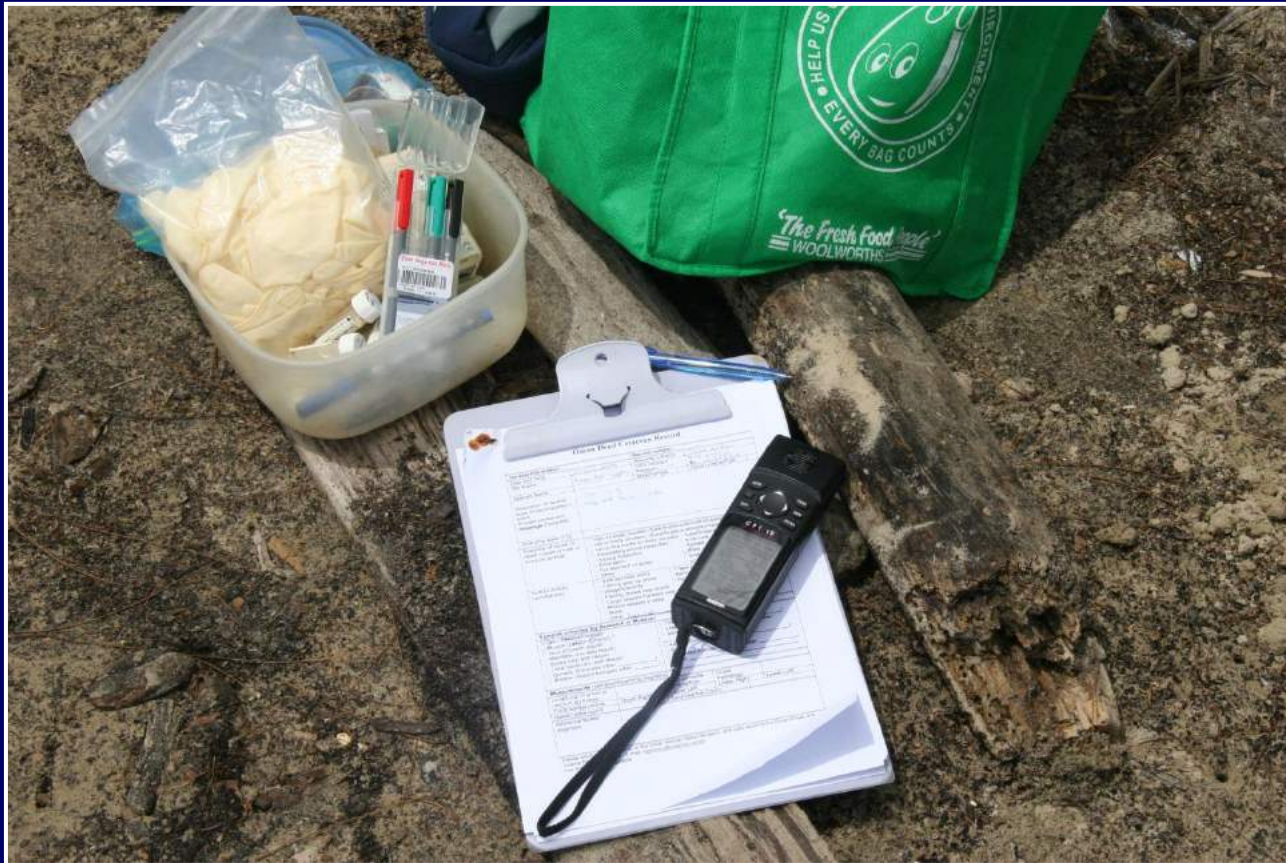
Scalpels with sterile disposable blades



A fine-mesh sieve, ziploc bags of various sizes, and leak-proof containers of different sizes

Also useful:

- A big shovel/spade
- Big plastic garbage bags
- Labels made of card or waterproof paper



- Datasheets on clipboard
- pens and pencils
- GPS
- CAMERA!!!

Completing your data forms

1. Surveying the scene

Before touching or moving anything, take note of:

- Structure and layout of beach/coastline at site
- Human activities in the area – on or offshore – fishing boats? Villages? Nets? Traps? Industry?
- Any evidence of algal blooms/red tides or other species stranded (e.g. fish)

2. The importance of labeling

Complete a label with the animal's unique ID
(e.g. **SET-23-09-08-01**)

SET = Sette Cama

23-09-08 = 23 September 2008

01 = 1st specimen of the day

Use this label for ALL photos and samples taken from this animal. Write this specimen number on a minimum of two of your 5ml sample vials before getting gloves on.

What do we want to learn from the stranding?

- Species (or sub-species) Identification
- Cause of mortality
- Sex
- Population affiliation
- Length
- Age
- Diet

3. A Picture is worth a thousand words



Take photos from different angles of different aspects of the stranding



1. The whole stranding, in context

PBC-23-07-08-01



PBC-23-07-08-01



2. The whole animal from different angles – dorsal and ventral



PBC-23-07-08-01

3. The dorsal fin

PBC-23-07-08-01



4. The rostrum/jaw and teeth



5. The pectoral fins/flippers



6. The anal-genital region



7. The tail stock and flukes

Rough-toothed
dolphin, Oman Jan
2002

© Oman Whale and
Dolphin Research
Group

8. Any distinctive injuries or damage



Rope or net cuts or scars

© Oman Whale and Dolphin Research Group



Net or rope on animal



Butchering/flensing



propeller cuts
or scars



Bites

State of decomposition

Fresh (Stranding code 2)



Decomposition has begun (stranding code 3)



© Oman Whale and
Dolphin Research
Group

Advanced Decomposition (stranding code 4)



Mummified carcass or skeleton (stranding code 5)



© Oman Whale and
Dolphin Research
Group

Measurements



Tooth count:

Start from the back and count each row toward front
counts are for each row right, left, top and bottom



Bottlenose dolphin: 20-27



False killer whale: 8-11



Common dolphin: 40-60

Atlantic humpback dolphin

Illustration made available by Mark Cawardine



Tooth count: 29-38 per row/side



Grand dauphin

From: Jefferson et al. 1994

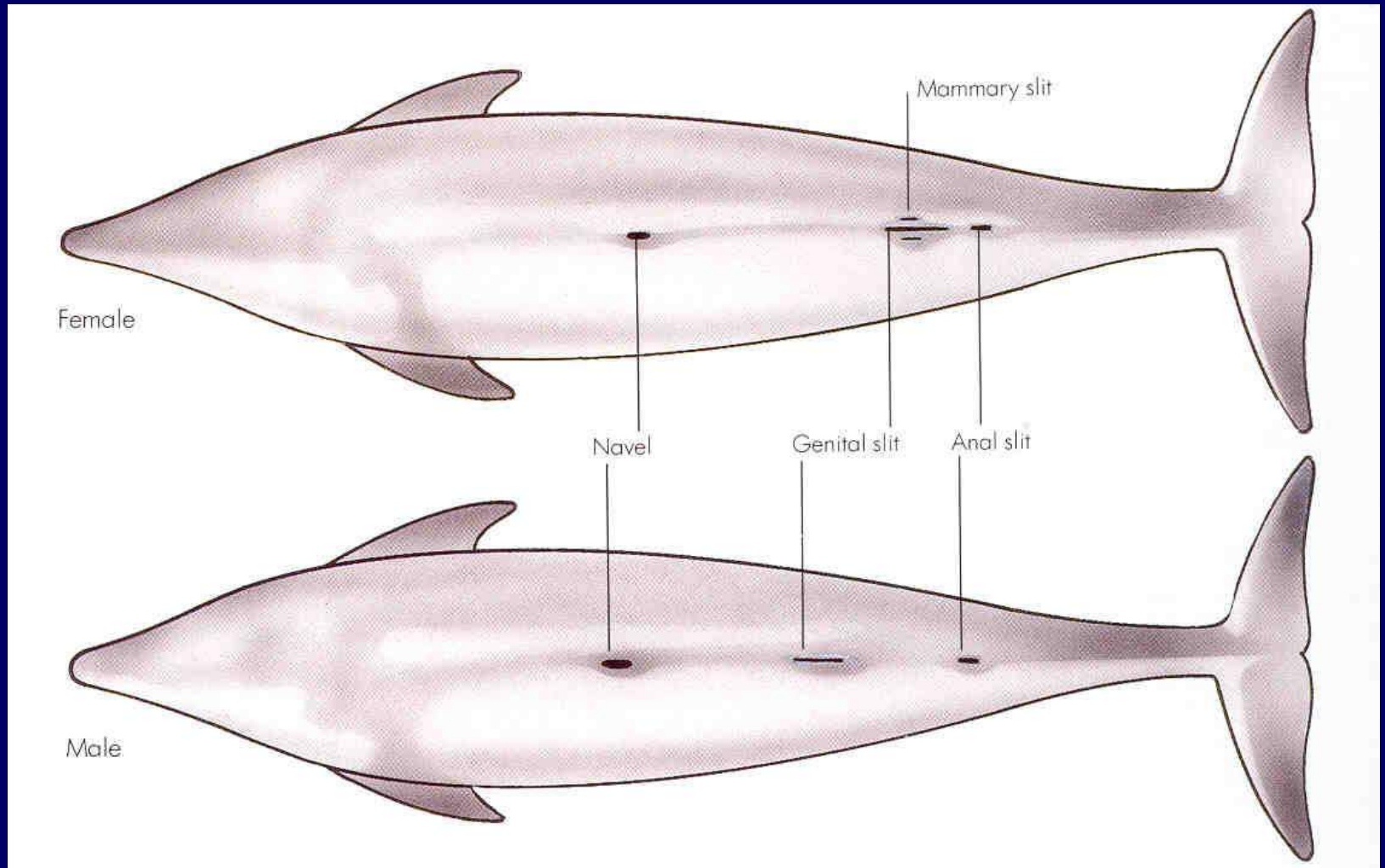
FAO species ID guide



Tooth count: 20-27 per row/side



Sexing



From: Carwardine et al. 1998, Collins Whales and Dolphins

Pictural Guide for Manatee Standard Photos and Measurements

Lucy Keith Diagne, Sea to Shore Alliance

To Determine Gender:

When the manatee is rolled onto its back, note the location of the umbilical, genital and anal openings.

Female Manatee (ventral view):

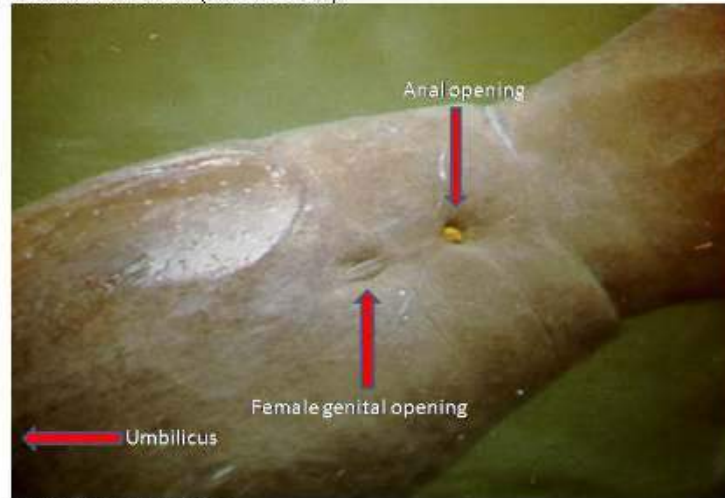


Photo by Bob Bende, USGS

Male Manatee (ventral view):

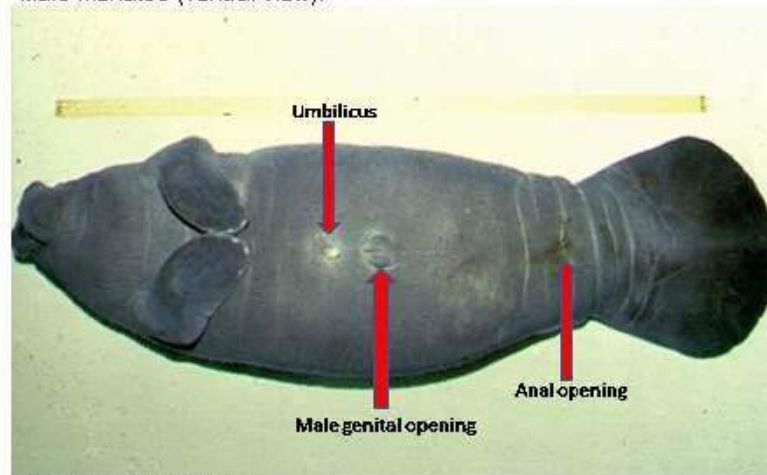


Photo by Bob Bende, USGS

Getting dirty: collecting samples

- 1) Teeth: Collect 8-10 teeth and store dry in a ziploc bag or in 90% ethanol in leak-proof container. LABEL bag/container with specimen ID number



2) skin/tissue sample:
Use sterile scalpel to take small (5mm x5mm) piece of skin or muscle and place carefully into 5 or 10ml sample vial with 90% ethanol or 80% DMSO



Check and re-check all samples and datasheets

- Make sure ALL samples are clearly labeled – if possible, both inside and out
- Check all fields on datasheet – if any not completed – write in “N/A” or “Not done” and explain why

