

**OMAN PROGRESS REPORT ON CETACEAN RESEARCH, April 2003 TO May 2004, WITH  
STATISTICAL DATA FOR THE 2003/2004 SEASON**

Compiled by: Oman Whale and Dolphin Research Group<sup>1</sup>  
Ministry of Agriculture and Fisheries, Sultanate of Oman<sup>2</sup>

This report summarises information obtained from: The Oman Whale and Dolphin Research Group (see above).

**1. Species and stocks studied**

Common name	Scientific name	Area/stock(s)	Items referred to
Bryde's whale	<i>Balaenoptera brydei</i>	Arabian Sea and Gulf of Oman	2.2, 4.3
Humpback whale	<i>Megaptera novaeangliae</i>	Arabian Sea and Gulf of Oman	2.2, 3.1.1, 3.2, 4.1
Sperm whale	<i>Physeter macrocephalus</i>	Arabian Sea and Gulf of Oman	4.3, 6.2
Dwarf sperm whale	<i>Kogia sima</i>	Arabian Sea and Gulf of Oman	
False killer whale	<i>Pseudorca crassidens</i>	Arabian Sea and Gulf of Oman	4.3
Indo-Pacific hump-back dolphin	<i>Sousa chinensis</i>	Arabian Sea and Gulf of Oman	2.2, 4.1, 4.3, 7
Rough-toothed dolphin	<i>Steno bredanensis</i>	Arabian Sea and Gulf of Oman	4.3, 7
Risso's dolphin	<i>Grampus griseus</i>	Arabian Sea and Gulf of Oman	
Bottlenose dolphin	<i>Tursiops sp.</i>	Arabian Sea and Gulf of Oman	2.2, 4.1, 4.3, 7
Spinner dolphin	<i>Stenella longirostris</i>	Arabian Sea and Gulf of Oman	2.2, 4.3, 7
Common dolphin	<i>Delphinus capensis</i>	Arabian Sea and Gulf of Oman	2.2, 4.1, 4.3, 7

**2. Sightings data**

*2.1 Field work*

**2.1.1 SYSTEMATIC**

Dates	Survey area	Survey type	Reports/references
Fortnightly from April 2003-October 2003	Muscat Capital area	Small boat	
15-17 May 2003	Dhofar/Hasik Bay	Small boat	
20 – 23 July 2003	Muscat/Capital area	Beach	
3 March – 17 April 2003	Dhofar region and Hallaniyats	Large boat (combined with eco-tourism venture)	

**2.1.2 OPPORTUNISTIC, PLATFORMS OF OPPORTUNITY**

Researchers responded to a limited number of stranding reports, involving common and spinner dolphins.

*2.2 Analyses/development of techniques*

Sightings data collected during systematic surveys between January 2000 and October 2003 have been analysed for trends in relative abundance and depth/slope associations. These will be published in a PhD Thesis in August 2004 and are available upon request from the Oman Whale and Dolphin Research Group.

<sup>1</sup> P.O. Box 2531, CPO 111, Muscat, Oman

<sup>2</sup> P.O. Box 467, Muscat 113, Sultanate of Oman

### 3. Marking data

#### 3.1 Field work

##### 3.1.1 NATURAL MARKING DATA

No natural marking data was collected in 2003 further to that reported in the 2002/2003 country progress report (SC/55/Country Progress Report Oman). Data for the first half of 2004 are presented below:

Species	Feature	Area/Stock	year	No. indivs. photographed	Catalogued?	Catalog total	Contact person/organisation
<i>Megaptera novaeangliae</i>	Fluke	Arabian Sea/Gulf of Oman	2004	3	Y	37	Oman Whale and Dolphin Research Group
<i>Megaptera novaeangliae</i>	Right dorsal fin	Arabian Sea/Gulf of Oman	2004	2	Y	42	Oman Whale and Dolphin Research Group
<i>Megaptera novaeangliae</i>	Left dorsal fin	Arabian Sea/Gulf of Oman	2004	3	Y	41	Oman Whale and Dolphin Research Group

##### 3.1.2. ARTIFICIAL MARKING DATA

No artificial marking has been undertaken.

##### 3.1.3 TELEMETRY DATA

No telemetry studies have been undertaken.

#### 3.2 Analyses/development of techniques

A preliminary analysis of mark-recapture data for humpback whales (see table above) has revealed a significant number of re-sights of identified individuals. This is briefly discussed in SC/55/010. These analyses have not yet been updated with 2004 data.

Between April and December 2003, the Oman humpback whale Photo-ID catalogue was compared with those from Antongil Bay Madagascar, Mayotte and Geyser (Comoros Archipelago)<sup>3</sup> and Tanzania<sup>4</sup>. No individual matches were found.

### 4. Tissue/biological samples collected

#### 4.1 Sloughed skin samples

Due to permitting issues and unavailability of researchers, no biopsying was undertaken between April 2003 and April 2004. A limited number of sloughed skin samples were collected:

Species	Area/Stock	Collected 2003/2004	Biopsy/Sloughed skin	No. analysed	Total holdings	Contact person/name
<i>Megaptera novaeangliae</i>	Arabian Sea/Gulf of Oman	1	Sloughed skin	N	50 (incl. previous biopsies)	OWDRG
<i>Balaenoptera musculus</i>	Arabian Sea	3	Sloughed skin	N	3	OWDRG

<sup>3</sup> Cetacean Research and Conservation Program. Wildlife Conservation Society and the American Museum of Natural History

<sup>4</sup> Per Berggren

#### 4.2 Samples from directed catches or bycatches

Although entanglement in fishing gear has been implicated as the cause of mortality in some of the beach-cast specimens examined, there is no systematic by-catch monitoring programme in place in Oman. By-catch is regularly recorded only on foreign-operated commercial trawlers. Actual by-catch statistics from these trawlers are not available at this time. Samples taken from all beach-cast specimens are summarised in the table in section 4.3.

#### 4.3 Samples from stranded animals

Species	Area/Stock	2003/2004 total indiv.	Sample types	Analysed ?	Contact organisation
<i>Balaenoptera sp.</i>	Arabian Sea/ Gulf of Oman	1	Connective tissue	N	OWDRG/ ONHM
<i>Sousa chinensis</i>	Arabian Sea/ Gulf of Oman	1	Skin, muscle	N	OWDRG/ ONHM
<i>Tursiops sp.</i>	Arabian Sea/ Gulf of Oman	1	Skin, muscle	N	OWDRG/ ONHM
<i>Stenella longirostris</i>	Arabian Sea/ Gulf of Oman	2	Skin, muscle	N	OWDRG/ ONHM
<i>Unidentified whale</i>	Arabian Sea/ Gulf of Oman	1	Dried connective tissue	N	OWDRG/ ONHM

#### 4.4 Analyses/development of techniques

None of the samples collected in the 2003/2004 season are yet undergoing analysis. Samples collected in previous seasons and currently undergoing analyses are summarised below:

Species	Date(s)	Number of specimens	Type of sample/specimen	Type of analysis
<i>Megaptera novaeangliae</i>	ongoing	49	Sloughed skin and biopsies	Genetic
<i>Balaenoptera sp.</i>	ongoing	52	Sloughed skin and tissue from beach-cast and floating specimens	Genetic
<i>Sousa chinensis</i>	ongoing	50	Biopsies and tissue from beach cast specimens	Genetic
<i>Delphinus capensis</i>	ongoing	36	Biopsies and tissue from beach cast specimens	Genetic

The above samples, with the exception of *Delphinus capensis*, are undergoing genetic analysis by Dr. H. Rosenbaum of the American Museum of Natural History. Some preliminary results were presented in the 2002 Scientific Committee meeting (SC/54/H4, SC/54/SM34). The most recent results are presented in Rosenbaum et al. 2004. *Delphinus capensis* samples are undergoing analyses by K. Robertson of the Southwest Science and Fisheries Center.

Please see SC/54/04 for a complete listing of all samples collected and held up through March 2002.

## 5. Pollution studies

None

## 6. Statistics for large cetaceans

### 6.1 Direct catches

None

### 6.2 Other non-natural mortality for the calendar year 2003/4 Season

One beach-cast whale specimen was found during this period, but its state of decomposition was too advanced to determine the cause of death.

### 6.3 Earlier years' statistics

Eight documented cases of live entanglement of humpback whales have been documented, between 1990 and February 2000. In all cases, whales were entangled in anchored gill nets, and in most cases the whales were released. Some beach cast specimens have shown evidence of interaction with fisheries (i.e. ropes around tailstocks or flippers, net scars etc.)

## 7. Statistics for small cetaceans

### 7.1 For the calendar year 2003

There have been no dedicated fisheries observer programmes, and only one dedicated beach survey during this calendar year, which yielded no evidence of fisheries-related mortality. The only confirmed record for 2003 is of one beach-cast humpback dolphin (*Sousa sp.*) that showed signs of incidental interaction with fishing gear.

### 7.2 Earlier years' statistics

Photographic evidence suggests that there is some directed catch of small cetaceans in Oman for use as shark bait. The extent of this practice is unknown.

A proportion of beach-cast small-cetacean specimens show evidence of mortality caused by fisheries interactions (net and rope scars, or nets still wrapped around carcasses). There is no reporting system for by-catch, and the extent is unknown (see SC/54/O4).

## 8. Strandings

At present, there is no organisation officially equipped to deal with live strandings or rehabilitation of stranded or injured cetaceans. In the few documented cases of live strandings, representatives of the Ministry of Agriculture and Fisheries, rangers, fishermen, and members of the OWDRG volunteer research organisation have responded to strandings by attempting to re-float and/or disentangle live animals, and to conduct necropsies or collect samples when these attempts have been unsuccessful.

## 9. Other studies and analyses

In total 40 stomach samples have been collected from: *Balaenoptera sp.*(2), *Physeter macrocephalus* (1), *Pseudorca crassidens* (9), *Sousa chinensis* (9), *Steno bredanensis*(2), *Tursiops sp* (17), *Stenella longirostris*(3) and *Delphinus capensis* (4). These are held by the OWDRG and await formal analysis by OWDRG members with support from Sultan Qaboos University.

In the past three years Oman has experienced rapid growth in commercial dolphin-watching ventures in the capital area. No dedicated whale-watching has yet been developed.

## 10. Literature cited

Collins, T., Minton, G., Baldwin, R., Van Waerebeek, K., Hywel-Davies, A., Cockcroft, V. 2002. A preliminary analysis of beach cast cetaceans from Oman. SC/54/O4.

Minton, G., Collins, T., Findlay, A preliminary note on re-sights of individually identified humpback whales off the coast of Oman. SC/55/010.

Rosenbaum, H.C., Pomilla, C., Leslie, M., Best, P.B.; Collins, T., Engel, T.M., Ersts, P.J., Findlay, K.P. Kotze, P.J.H, Meyer, M., Minton, G., Barendse, J, and Razafindrakoto, Y. (2004) Mitochondrial DNA diversity and population structure of humpback whales from their wintering areas in the Indian and South Atlantic Oceans (Wintering regions A, B C, and X). Document presented to the 56<sup>th</sup> meeting of the International Whaling Commission.

- Rosenbaum, H., Collins, T., Minton, G., Baldwin R., Glaberman, S., Findlay, K.P. and P. Best. 2002. Preliminary review of genetics of humpback whales off the coast of Oman. IWC. SC/54/H4.
- Rosenbaum, H. , Glaberman, S., Jefferson, T., Collins, T., Minton, G, Peddemors, V., Baldwin, R., 2002. Phylogenetic relationships and population structure among *Sousa* spp. based on mtDNA variation, IWC SC/54/SM34

## **11. Publications**

### *11.1 Published or 'In Press' papers only*

Baldwin, R. M., Collins, T. J. Q., Van Waerebeek, K. & Minton, G. 2004. The Indo-Pacific humpback dolphin of the Arabian region: a status review. *Aquatic Mammals* 30(1): 111-124.

Baldwin, R. 2003. *Whales and Dolphins of Arabia*. Ed. Muscat: Mazoon Printing Press L.L.C.

### *11.2 Unpublished literature*

Minton, G. 2004. Ecology and Conservation of Cetaceans in Oman, with particular reference to humpback whales (*Megaptera novaeangliae*). University of London, University Marine Biological Station, Millport.