

**OMAN PROGRESS REPORT ON CETACEAN RESEARCH,  
APRIL 2002-MARCH 2003.**

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

**1. Species and stocks studied**

Common name	Scientific name	Area/stock(s)	Items referred to
Bryde's whale	<i>Balaenoptera edeni</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 simus</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 plumbea</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 fieldwork*

Dates	Survey area	Survey type	Reports/references
Weekly throughout year	Capital area	Small boat	
24-26 June 2002	Dhofar/Hasik Bay	Small boat	
24 October – 22 November 2002	Gulf of Masirah/Dhofar coast	Small-boat and beach	SC/55/O10
20 – 23 January 2003	Muscat/Capital area	Beach	
24 February – 19 March 2003	Gulf of Masirah/Dhofar coast	Small boat and beach	SC/55/O10

*2.1.2. Opportunistic fieldwork*

Small boat surveys were carried out opportunistically (sometimes in conjunction with commercial dolphin watching tours) in the Muscat area throughout the year. Researchers also responded to stranding reports, involving a sperm whale and some dolphins. Furthermore, cetacean observations were systematically recorded during six weeks of seismic surveys off the Batinah and al Wusta coast in the Gulf of Oman (Anon 2002). Data and samples were also collected opportunistically during fieldwork/surveys focusing on other taxa or issues.

<sup>1</sup> P.O. Box 467, Muscat 113, Sultanate of Oman

<sup>2</sup> P.O. Box 2531, CPO 111, Muscat, Oman

## 2.2 Analysis/development of techniques

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	Tissue from dead specimen at sea	Genetic
<i>Sousa chinensis</i>	ongoing	40	Biopsies and tissue from beach cast specimens	Genetic

The above samples are all undergoing genetic analysis by Dr. Howard 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). These analyses will be expanded to include new samples collected in 2002 and 2003.

## 3. Marking data

### 3.1 Field work

#### 3.1.1 Natural marking data

Species	Feature	Area/Stock	year	No. indivs. photographed	Catalogued?	Catalog total	Contact person/organisation
<i>Megaptera novaeangliae</i>	Fluke	Arabian Sea/Gulf of Oman	2002	31	Y		Oman Whale and Dolphin Research Group
<i>Megaptera novaeangliae</i>	Fluke	Arabian Sea/Gulf of Oman	2003	4	Y	42	
<i>Megaptera novaeangliae</i>	Right dorsal fin	Arabian Sea/Gulf of Oman	2002	22	Y		Oman Whale and Dolphin Research Group
<i>Megaptera novaeangliae</i>	Right dorsal fin	Arabian Sea/Gulf of Oman	2003	5	Y	38	
<i>Megaptera novaeangliae</i>	Left dorsal fin	Arabian Sea/Gulf of Oman	2002	23	Y		Oman Whale and Dolphin Research Group
<i>Megaptera novaeangliae</i>	Left dorsal fin	Arabian Sea/Gulf of Oman	2003	4	Y	36	

#### 3.1.2 Artificial marking data

No artificial marking has been undertaken.

#### 3.1.3. Telemetry data

No telemetry data has been undertaken.

## 3.2 Analyses

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.

#### 4. Tissue/biological samples collected

##### 4.1 Biopsy samples

Species	Area/Stock	Collected 2002/2003	Biopsy/ Sloughed skin	No. analysed	Total holdings	Contact person/name
<i>Megaptera novaeangliae</i>	Arabian Sea/Gulf of Oman	20	Biopsy	ongoing	37	OWDRG*
<i>Megaptera novaeangliae</i>	Arabian Sea/Gulf of Oman	2	Sloughed skin	ongoing	12	OWDRG*
<i>Sousa chinensis</i>	Arabian Sea	12	Biopsy	ongoing	12	OWDRG
<i>Tursiops sp.</i>	Arabian Sea/Gulf of Oman	4	Biopsy	0	4	OWDRG
<i>Delphinus capensis</i>	Arabian Sea/Gulf of Oman	6	Biopsy	0	6	OWDRG

##### 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 by-catch monitoring programme in place in Oman. Samples taken from all beach-cast specimens are summarised in the table in section 4.3.

##### 4.3 Samples from stranded/beach-cast animals

Species	Area/Stock	2002/2003 total indiv.	Sample types	Analyse d?	Contact organisation
<i>Balaenoptera sp.</i>	Arabian Sea/ Gulf of Oman	2	Skin, muscle	ongoing	OWDRG/ ONHM*
<i>Physeter macrocephalus</i>	Arabian Sea/ Gulf of Oman	1	Skin, muscle	N	OWDRG/ ONHM
<i>Pseudorca crassidens</i>	Arabian Sea/ Gulf of Oman	1	Skin, muscle, stomach contents	N	OWDRG/ ONHM
<i>Sousa chinensis</i>	Arabian Sea/ Gulf of Oman	8	Skin, muscle, stomach contents	ongoing	WCS/OWDRG/ ONHM
<i>Tursiops sp.</i>	Arabian Sea/ Gulf of Oman	6	Skin, muscle, liver, kidney, blood, stomach contents	N	OWDRG/ ONHM
<i>Stenella longirostris</i>	Arabian Sea/ Gulf of Oman	1	Skin, muscle, stomach contents	N	OWDRG/ ONHM
<i>Delphinus capensis</i>	Arabian Sea/ Gulf of Oman	1	Skin, muscle, stomach contents	N	OWDRG/ ONHM

\*ONHM = Oman Natural History Museum

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

There have been no documented direct catches of large cetaceans in Omani waters between April 2002 and March 2001.

### 6.2 Other non-natural mortality from March 2001- March 2002.

Species	Area	Cause of mortality	Evidence
<i>Balaenoptera sp.</i>	Arabian Sea	Entanglement in gill nets	Photographs of floating whale wrapped from head to tail stock in gill net
<i>Physeter macrocephalus</i>	Gulf of Oman	Unknown – possible ship strike	Broken jaw and cranial damage

### 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 Directed catch and by-catch from April 2002-March 2001

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).

Of the 20 beach cast small cetaceans examined in the period between April 2002 and March 2003, 17 were of a stranding state 4 or higher, making it difficult to determine the cause of death. Two of the 20 specimens still had rope or net attached to the body. A third specimen had its flukes removed. An additional report was received from a third party (confirmed with a photograph) of a common dolphin entangled in a gill net near shore.

## 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 plumbea* (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

- Anon. (2002) Block 18 and Block 41 Offshore Oman 3D Seismic Survey, April-June 2002. Environmental Observation Report (unpublished report submitted to the Ministry of Regional Municipalities and Water Resources).
- 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., 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:

- Baldwin, R.M. 1995a. New Discoveries in the Arabian Gulf. *Sonar* 13: 7
- Baldwin, R. (1998a). Humpback Whales (*Megaptera novaeangliae*) of the Sultanate of Oman. Document SC/50/CAWS21 presented at International Whaling Commission. Pp 8
- Baldwin, R. (1998b). "A note on sightings of sperm whales off the coasts of the Sultanate of Oman and the United Arab Emirates, October 1994 to October 1997". Document SC/50/CAWS22, presented at International Whaling Commission. Pp 8.
- Baldwin, R.M., Gallagher, M.D. and Van Waerebeek, K. 1999. A review of cetaceans from waters off the Arabian Peninsula. In: *Oman's Natural History*, eds. Fisher, M., Spalton, A. and Gazanfar, S., Backhuys Publishers, Leiden. Pp. 161-189.
- Baldwin, R., Minton, G. and Collins, T. 2000. Whales and Dolphins of the Arabian Peninsula. Paper presented to The Second Arab International Conference and Exhibition on Environmental Biotechnology (Coastal Habitats), April 2000. Abstracts: pp. 39.
- Baldwin, R.M. & Salm, R.V. (1994). *Whales and Dolphins along the Coast of Oman*. Muscat Printing Press, Muscat, Oman. 65pp.
- Baldwin, R., Van Waerebeek, K., Gallagher, M. 1998. A review of small cetaceans from waters off the Arabian Peninsula. IWC/SC/50/SM6
- Baldwin, R., Collins, T., Van Waerebeek, K. and Minton, G. 2002. Indo-Pacific humpback dolphin (*Sousa plumbea*). Status report, Arabian Region. SC/54/SM6
- Collins, T., Minton, G., Baldwin, R., Van Waerebeek, K., Hywel-Davies, A., Cockcroft, V. 2002. A preliminary analysis of beach cast cetaceans from Oman. IWC/54/O4.
- Gallagher, M.D. 1991b. Strandings of Sperm whales (*Physeter macrocephalus*) on the shores of Oman, Eastern Arabia. *UNEP Marine Mammal Tech Rep* 3: 241-245.
- Gallagher, M.D. & van Bree P.J.H. (1978). On a dwarf sperm whale *Kogia simus* (Owen, 1866) from the Sultanate of Oman. *Zeitschrift für Säugetierkunde* 45: 53-57.
- Minton, G., Collins, T. and Baldwin, R.M. 2001. A note on recent observations of humpback whales (*Megaptera novaeangliae*) and other cetaceans from the Sultanate of Oman. IWC Document SC/53/013. pp 4.
- Minton, G., Collins, T., Findlay, K., Baldwin, R., Rosenbaum, H., Kennedy, F., Cockcroft, V. (2002). Preliminary investigations of Humpback whale distribution and habitat use off the coast of Oman. IWC SC/54/H3, Presented to the International Whaling Commission. 20pp.
- Oman Whale and Dolphin Research Group. 2002. Saif Sareea II Joint Military Operations, Sultanate of Oman, Marine Life Surveys and Environmental Monitoring. Unpublished report for Oman's Ministry of Regional Municipalities, Environment and Water Resources and The British Foreign and Commonwealth Office.
- Papastavrou, V. (1990). Oman's Desert Whale Song. *Sonar*. Vol 3. p18.
- Papastavrou, V. & Salm, R.V (1991). A note on the recent sightings of cetaceans in Oman: Ra's Suwadi to Rakhyut. *UNEP, Marine Mammal Technical Report* 3: 211-218.

- Papastavrou, V. & Van Waerebeek, K. (1998). A Note on the Occurrence of Humpback Whales (*Megaptera novaeangliae*) in Tropical and Subtropical Areas: The Upwelling Link. Document SC/48/039 presented to the International Whaling Commission, 4pp.
- Van Waerebeek, K., Gallagher, M., Baldwin, R., Papastavrou, V. and Al-Lawati, S.M., (1999), Morphology and distribution of the spinner dolphin, *Stenella longirostris*, rough-toothed dolphin, *Steno bredanensis* and melon-headed whale, *Peponocephala electra*, from waters off the Sultanate of Oman, Journal of Cetacean Research and Management, 1(2): 167-177.

## 11.2 Unpublished Literature

- Baldwin, R.M. (1997). *Records of Wildlife and Observed Operational Impacts on Wildlife. Seismic Survey, Block 22, Oman*. Environmental Observation Report 1. Unpublished report for Triton Oman Inc., Oman. 76 pp
- Baldwin, R.M. & Collins, T.Q.C. (2000). *Records of Wildlife and Observed Operational Impacts on Wildlife. Seismic Survey, Block 40, Musandam, Oman*. Environmental Observation Report 1. Unpublished report for Triton Oman Resources Inc., Oman. 55 pp.
- Minton, G.M. & Collins, T.Q.C. (2000). Cetacean Observations during the Hallaniyat 2000 Expedition (unpublished report to Ministry of Regional Municipalities and Environment, Oman).
- Oman Whale and Dolphin Research Group. 2002. Saif Sareea II Joint Military Operations, Sultanate of Oman, Marine Life Surveys and Environmental Monitoring. Unpublished report for Oman's Ministry of Regional Municipalities, Environment and Water Resources and The British Foreign and Commonwealth Office.