

# PERU PROGRESS REPORT ON CETACEAN RESEARCH, MARCH 1995 TO MARCH 2004 WITH STATISTICAL DATA FOR 1997-2002

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## 1. Species and stocks studied

Common name	Scientific name	Area/stock(s)	Items referred to
Sperm whale	<i>Physeter macrocephalus</i>	Peruvian sea	2.1.2; 4.3;
Humpback whale	<i>Megaptera novaeangliae</i>	Peruvian sea	2.1.2; 3.1.1
Bryde's whale	<i>Balaenoptera edeni</i>	Peruvian sea	4.3
Blue whale	<i>Balaenoptera musculus</i>	Peruvian sea	4.3
Other Balaenopterids	<i>Balaenoptera spp.</i>	Peruvian sea	2.1.2
Killer whale	<i>Orcinus orca</i>	Peruvian sea	2.1.2
Long-beaked common dolphin	<i>Delphinus capensis</i>	Peruvian sea	4.2; 7.1; 9
Southern right whale	<i>Eubalaena australis</i>	Peruvian sea	2.1.2
Striped dolphin	<i>Stenella coeruleoalba</i>	SE Pacific	2.1.2
Other small cetaceans		Peruvian sea	2.1.2, 7.1

## 2. Sightings data

### 2.1 Field work

#### 2.1.1 SYSTEMATIC

#### 2.1.2 OPPORTUNISTIC, PLATFORMS OF OPPORTUNITY

##### IMARPE

Sighting data were collected during 23 surveys conducted by IMARPE between 1995 and 2004. There were three kinds of surveys: 1) Pelagic surveys designed for the evaluation of the population of Peruvian anchovy (*Engraulis ringens*) and other pelagic resources, 2). Demersal surveys, designed to evaluate the hake (*Merluccius gayi*) population off northern Peru and 3). Oceanographic surveys, designed to monitor oceanic conditions. During these surveys observers were allocated aboard two research vessels: the *R.V. Humboldt* (with the observation deck at 15 meters above the water line) and the *R.V. Olaya* (with the observation deck at 10 meters above the water line), recording each species and number of individuals sighted. The data collection consisted of visual scanning along the track line during the daylight hours (0600 – 1800 h.) using 10x50 binoculars. Because surveying was conducted from platforms of opportunity, the ships did not approach or follow any cetaceans.

Surveys conducted by Peruvian Sea Research Institute (IMARPE) between 1995 and 2004 with on board observers.

Number	Miles observed (nm)	Date	Survey	Platform
1	904.9	95/04-05	Oceanographic	Humboldt
2	2 094.0	95/11-12	Oceanographic	Humboldt
3	876.5	96/03	Oceanographic	Humboldt
4	1 347.0	96/05-06	Oceanographic	Humboldt
5	1 739.0	96/08-10	Demersal	Humboldt
6	1 420.7	96/11-12	Oceanographic	Humboldt
7	842.6	97/05-06	Demersal	Humboldt

8	1 467.4	97/06-07	Oceanographic	Humboldt
9	1 512.5	97/09-10	Pelagic	Humboldt
10	2 019.0	98/03-05	Pelagic	Humboldt
11	1 577.3	98/08-09	Pelagic	Humboldt
12	984.0	99/05	Oceanographic	Olaya
13	744.8	99/07	Pelagic	Humboldt
14	645.0	2000/05	Oceanographic	Humboldt
15	417.9	00/09	Other	Humboldt
16	1 299.0	00/10-11	Pelagic	Olaya
17	2 126.0	01/03-04	Pelagic	Olaya
18	2 063.0	01/07-08	Pelagic	Olaya
19	4 378.0	01/10-11	Pelagic	Humboldt - Olaya
20	1 341.0	02/02-03	Pelagic	Olaya
21	3 607.0	02/10-11	Pelagic	Humboldt - Olaya
22	2 203.0	03/02-04	Pelagic	Olaya
23	2 370.0	0402-03	Pelagic	Olaya

The species sighted most frequently were Humpback whale, Blue whale, other Balaenopterids, and several species of small cetaceans (Bello et al. 1998, Márquez y Arias-Shreiber 2001, Ontón et al., 1997, Sánchez et al. 1998a., Sánchez et al. 1998b.)

### Sperm whales

Thirty-eight sightings of sperm whales (*Physeter macrocephalus*) were recorded off Peru (3° S - 18° S) during 21 visual surveys conducted from platforms of opportunity between 1995 and 2002, with a search effort of 33,406.6 nautical miles of observation. Two main areas of concentration were detected: northern Peru (19 sightings, summer-autumn) and southern Peru (16 sightings, winter-spring) (García-Godos, 2003).

### Killer whales

Six sightings of killer whales were registered between August and September, five from them occurred during El Niño 1997-98. The pod size ranged between 1 and 8 whales (mean = 3.8, n = 11), some of them with one or two calves. Forty-five percent of the sightings occurred between 12°S y 15°S off central Peru. The sea surface temperature suggests that these killer whales belong to non-resident oceanic populations, maybe from the Eastern Tropical Pacific (García-Godos and Santillán, 2002).

### Other species

A new case (second for Peru) of a mother/calf pair southern right whale was documented from shore at 16°13'S, 73°42'W (Van Waerebeek *et al.*, 1998). An unusually large group (best estimate, 150) of Burmeister's porpoises was reported from central Peru. The mode and median group size for 27 confirmed sightings in the SE Pacific is 2 (Van Waerebeek *et al.*, 2002).

## 3. Marking data

### 3.1 Field work

#### 3.1.1 NATURAL MARKING DATA

#### 3.1.2. ARTIFICIAL MARKING DATA

#### 3.1.3 TELEMETRY DATA

## 4. Tissue/biological samples collected

### 4.2 Samples from directed catches or bycatches

Tissue sampling of bycaught common dolphins (primarily *D. capensis*) in Peruvian ports was authorised by the Ministerio de la Producción (permit no. 206-2003-PRODUCE/DNEPP, 15 July 2003), to be implemented by the Peruvian NGO Asociación Pro Delphinus. Molecular genetic analysis of these samples forms part of a comprehensive research plan on *Delphinus* spp. in Pacific South America (Van Waerebeek, 2000).

### 4.3 Samples from stranded animals

Species	Area/stock	Total	Year	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Sperm whale	Northern Peru	1	2003	Y	Skin	IMARPE
Bryde's whale	Central Peru	1	2000	Y	Skeleton	IMARPE
Blue whale	Central Peru	1	1997	Y	Skeleton, baleen	IMARPE, CEPEC

#### 4.4 Analyses/development of techniques

Phylogeographic analysis using DNA sequences of the mitochondrial cytochrome b gene indicates that SE Pacific dusky dolphins should be considered a management unit separate from Atlantic dusky dolphin stocks (Cassens *et al.*, 2003). This confirms an earlier morphological study (Van Waerebeek, 1993).

### 5. Pollution studies

None.

### 6. Statistics for large cetaceans

#### 6.1 Direct catches

No direct catches are allowed.

#### 6.2 Other non-natural mortality for the calendar year 1995-2003

Species	Area/stock	Males	Females	Total	Cause	Methodology
Sperm whale	Central Peru	1		1	Ship strike	Post mortem
Humpback whale	Northern Peru	1		1	Gill net	Direct observation

### 7. Statistics for small cetaceans

#### 7.1 For the period 1997-2002

Species	Area/stock	Directed catch		Incidental mortality		
		Reported	Est. total	Reported*	Est. total	Source**
<i>Delphinus sp.</i>	Peruvian Sea			176(220)		Industrial Purse seine
<i>Tursiops truncatus</i>	Peruvian Sea			259(308)		Industrial Purse seine
<i>Lagenorhynchus obscurus</i>	Peruvian Sea			6		Industrial Purse seine
<i>Phocoena spinnipinis</i>	Peruvian Sea			1		Industrial Purse seine
Indeterminate small cetacean	Peruvian Sea			85		Industrial Purse seine

\*The number in brackets includes not accurately identified dolphins by observers.

\*\* Reported mortality is based on a 2% average of sampled fleet for the period indicated above.

Artisanal fisheries (gillnets, drifnets, longlines, beach-seining, etc.) generate an important amount of small cetacean bycatch, but it's difficult to determine which has the highest impact or to estimate a total mortality. For further reference on artisanal fisheries and small cetaceans interactions see Van Waerebeek *et al.* (1999, 2002).

#### 7.2 Earlier years' statistics

References reviewed in Van Waerebeek *et al.* (1997).

### 8. Strandings

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### 9. Other studies and analyses

The stranding of at least six humpback whales was reported on northern Peru between October and November 2003, which is considered as a mass stranding regarding the low frequency of these events in the Peruvian coast. The cause of this mass stranding remains unknown, but some clues suggest the effects of intoxication by red tides or toxic and harmful algal blooms. During the same year, at least two strandings of sperm whales were recorded in central and southern Peru. (ACOREMA, 2004).

The occurrence of striped dolphins in coastal Peru, Ecuador and Chile was reviewed (Van Waerebeek, *et al.*, 1998). Various studies investigated the epidemiology of viral, bacterial and non-infectious diseases in Peruvian

small cetaceans (Van Bressem and Van Waerebeek, 1996; Van Bressem *et al.*, 1996, 1998, 2000, 2001). First papers reporting final results of an IWC-supported (July 2002) comprehensive study on the biology of common dolphins from Pacific South America (see Van Waerebeek, 2000) are presented at the 56<sup>th</sup> IWC SC Meeting in Sorrento. Results include analyses of the diet and pathology of *D. capensis* based on hundreds of specimens (García-Godos *et al.*, 2004; Van Bressem *et al.*, 2004). Papers documenting other aspects are in preparation.

## 10. Literature cited

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- Also, see item 10.

### 11.2 Unpublished literature

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