

Peru. Progress report on cetacean research, March 2004 to December 2006, with statistical data for the season 2004/2006.

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1. SPECIES AND STOCKS STUDIED

A tabular format is most appropriate. Please indicate where in the report the species is mentioned and use IWC recommended names (see IWC, 2006, Annex L). For subsequent items, common names are preferred. e.g.:

IWC common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Blue whale	<i>Balaenoptera musculus</i>	Peruvian sea, South East Pacific	2.1.2, 11
Humpback whale	<i>Megaptera novaeangliae</i>	Peruvian sea, South East Pacific	2.1.1, 2.1.2, 2.2.3.1.1
Sei Whale	<i>Balaenoptera borealis</i>	Peruvian sea, South East Pacific	2.1.2
Fin whale	<i>Balaenoptera physalus</i>	Peruvian sea, South East Pacific	2.1.2
Sperm whale	<i>Physeter macrocephalus</i>	Peruvian sea, South East Pacific	2.1.2
Bottle nose dolphin	<i>Tursiops truncatus</i>	Peruvian sea, South East Pacific	3.1.1, 4, 7.3.2, 11
Dusking dolphin	<i>Lagenorhynchus obscurus</i>	Peruvian sea, South East Pacific	4, 7.3.2, 11
Long beak common dolphin	<i>Delphinus capensis</i>	Peruvian sea, South East Pacific	2.1.2.4, 7.2, 7.3.2, 11
Common dolphin	<i>Delphinus delphis</i>	Peruvian sea, South East Pacific	2.1.2, 11
False killer whale	<i>Pseudorca crassidens</i>	Peruvian sea, South East Pacific	2.1.2, 11
Burmeister's porpoise	<i>Phocoena spinipinnis</i>	Peruvian sea, South East Pacific	2.1.2.4, 7.3.2, 11
Pygmy killer whale	<i>Feressa attenuata</i>	Peruvian sea, South East Pacific	2.1.2, 11
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	Peruvian sea, South East Pacific	11
Long-finned pilot whale	<i>Globicephala melas</i>	Peruvian sea, South East Pacific	11
Pilot whale	<i>Globicephala spp</i>	Peruvian sea, South East Pacific	2.1.2.4, 7.3.2
Pantropical spotted dolphin	<i>Stenella attenuata</i>	Peruvian sea, South East Pacific	11
Striped dolphin	<i>Stenella coeruleoalba</i>	Peruvian sea, South East Pacific	11
Southern right whale dolphin	<i>Lisodelphis peronii</i>	Peruvian sea, South East Pacific	11
Melon-headed whale	<i>Peponocephala electra</i>	Peruvian sea, South East Pacific	4.3., 8, 11
Rough-toothed dolphin	<i>Steno bredadensis</i>	Peruvian sea, South East Pacific	11
Risso's dolphin	<i>Grampus griseus</i>	Peruvian sea, South East Pacific	2.1.2, 11
Dwarf sperm whale	<i>Kogia simus</i>	Peruvian sea, South East Pacific	11
Pygmy sperm whale	<i>Kogia breviceps</i>	Peruvian sea, South East Pacific	4.3., 8, 11
Pygmy beaked whale	<i>Mesoplodon peruvianus</i>	Peruvian sea, South East Pacific	11
Gray's beaked whale	<i>Mesoplodon grayi</i>	Peruvian sea, South East Pacific	11
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	Peruvian sea, South East Pacific	2.1.2, 11
Killer whale	<i>Orcinus orca</i>	Peruvian sea, South East Pacific	11

2. SIGHTINGS DATA

2.1 Field work

2.1.1 Systematic

Sightings from a fixed platform were made at Lobos de Tierra Island in the Peruvian sea, looking for Humpback Whales in this potential breeding area off northern Peru.

Target species	Date	Area	No. of sightings	Contact person/institute and references
Humpback whale	11/2004	Lobos de Tierra Island, Peruvian sea/South East Pacific	17 (185 hrs. observed)	IMARPE, <i>unpublished</i>
Humpback whale	05,07,08,10/2005	Lobos de Tierra Island, Peruvian sea/South East Pacific	90 (754 hrs. observed)	IMARPE, <i>unpublished</i>
Humpback whale	22/06/2006 – 01/07/2006	Lobos de Tierra Island, Peruvian sea/South East Pacific	42 (185 hrs. observed)	IMARPE, <i>unpublished</i>

2.1.2 Opportunistic, platforms of opportunity

IMARPE

Sighting data was collected during 03 surveys conducted by IMARPE between 2005 and 2006. The surveys were designed for the assessment of the population of Peruvian anchovy (*Engraulis ringens*) and other pelagic resources. During these surveys, one scientific observer was allocated aboard the *R.V. Olaya* (with the observation deck at 10 meters above the water line), recording every 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 a platform of opportunity, the ship did not approach or follow a cetacean sighting.

Primary species	Area	Data type/method	Collected by	Platform	Contact person/institute and refs
Blue whale	Peruvian sea, South East Pacific	sightings	Scientist observer	RV Olaya	Elisa Goya/IMARPE
Humpback whale	Peruvian sea, South East Pacific	sightings	Scientist observer	RV Olaya	Elisa Goya/IMARPE
Sperm whale	Peruvian sea, South East Pacific	sightings	Scientist observer	RV Olaya	Elisa Goya/IMARPE
Fin whale	Peruvian sea, South East Pacific	sightings	Scientist observer	RV Olaya	Elisa Goya/IMARPE
Sei whale	Peruvian sea, South East Pacific	sightings	Scientist observer	RV Olaya	Elisa Goya/IMARPE
Small cetaceans	Peruvian sea, South East Pacific	sightings	Scientist observer	RV Olaya	Elisa Goya/IMARPE

2.2 Analyses/development of techniques

Give brief details of any analyses of data carried out, with references where appropriate. A summary table of sightings and associated effort may be included (see below).

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Humpback Whale	11/2004	Lobos de Tierra Island/ South East Pacific	Continuous visual scans and hourly rapid cetacean counts/185 hrs.	Sighting rates (individuals/hours)	IMARPE

Humpback Whale	05,07,08,10/2005	Lobos de Tierra Island/ South East Pacific	Continuous visual scans and hourly rapid cetacean counts/754 hrs.	Sighting rates (individuals/hours)	IMARPE
Humpback Whale	22/06/2006 – 01/07/2006	Lobos de Tierra Island/ South East Pacific	Continuous visual scans and hourly rapid cetacean counts/185 hrs.	Sighting rates (individuals/hours)	IMARPE
Cetaceans	22/02-31/03/05	Peruvian sea, South East Pacific	Line transect survey/1911 nm, 1 observer.	Distribution; relative abundance, sighting frequency	IMARPE
Cetaceans	21/02-14/04/06	Peruvian sea, South East Pacific	Line transect survey/1512 nm, 1 observer.	Distribution; relative abundance, sighting frequency	IMARPE
Cetaceans	08-26/11-01-23/12/06	Peruvian sea, South East Pacific	Line transect survey/1907 nm, 1 observer.	Distribution; relative abundance, sighting frequency	IMARPE

3. MARKING DATA

3.1 Field work

3.1.1 Natural marking data

Species	Feature	Area/stock	No. photo-id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
Tursiops truncatus	Dorsal fin	Peruvian sea, South East Pacific	70	Y	70	ACOREMA
Humpback whale	Fluke	Peruvian sea, South East Pacific	9	Y	9	IMARPE, SC/59/SH12

3.1.2. Artificial marking data

3.1.3 Telemetry data

3.2 Analyses/development of techniques

4. TISSUE/BIOLOGICAL SAMPLES COLLECTED

4.1 Biopsy samples (summary only)

Species	Area/stock	Calendar year/season - no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Pygmy sperm whale	Peruvian sea, South East Pacific	Aug05	Y	0	1	ACOREMA
Melon-headed whale	Peruvian sea, South East Pacific	Mar05	Y	0	1	ACOREMA
Small Cetaceans	Peruvian sea, South East Pacific	Mar05-Oct06	Y	0	98	PD

4.2 Samples from directed catches (commercial, aboriginal and scientific permits) or bycatches

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Small Cetaceans	Peruvian sea, South East Pacific	Skin	98	Y	0	PD

4.3 Samples from stranded animals

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Pygmy sperm whale	Peruvian sea, South East Pacific	Testicle, parasites	1	Y	0	ACOREMA
Melon-headed whale	Peruvian sea, South East Pacific	Skin, parasites	1	Y	0	ACOREMA

4.4 Analyses/development of techniques

5. POLLUTION STUDIES

6. STATISTICS FOR LARGE CETACEANS

6.1 Corrections to earlier years' statistics for large whales

6.2 Direct catches of large whales (commercial, aboriginal and scientific permits) for the calendar year 20XX or the season 20XX/XX

6.3 Anthropogenic mortality of large whales for the calendar year 20XX or the season 20XX/XX

6.3.1 Observed or reported ship strikes of large whales (including non-fatal events)

6.3.2 Fishery bycatch of large whales

7. STATISTICS FOR SMALL CETACEANS

Information showed in 7.2 and 7.3.2 are preliminary results from the first 19 months of on-board observer's data based in two ports in Peru. Data was collected by PD, from longline and gillnet vessels.

7.1 Corrections to earlier years' statistics for small cetaceans

7.2 Direct catches of small cetaceans for the season 2005/2006 (march/05-oct/06)

Species	Type of catch	Area/stock	Males	Females	Total landed	Struck and lost
Long-beaked common dolphin	Harpooning	Peruvian sea, South East Pacific	80%	20%	13	

7.3 Anthropogenic mortality of small cetaceans for the season 2004/06

The 2% of Industrial Purse seine fleet, in average, has been sampled by IMARPE, for the period indicated above. There are reports for small cetacean incidental mortality but the data are still in process.

7.3.1 Observed or reported ship strikes of small cetaceans (including non fatal events)

7.3.2 Fishery bycatch of small cetaceans

Indicate fate of whale (R = released alive, D = discarded dead or seriously injured, K = kept for sale or specimen), targeted fish species (e.g. tuna, herring, etc.)

Please indicate how observed: M = dedicated marine mammal observer, F = Fishery onboard observer, V = vessel logbook, A = anecdotal, DA = documented anecdotal, photos, etc.

Species	Sex	No	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Long-beaked common dolphin		63	Mar 05-Oct 06	E. Pacific	*	Sharks	GN	F	PD
Dusky dolphin		32	Mar 05-Oct 06	E. Pacific	*	Sharks	GN	F	PD
Burmeister's porpoise		12	Mar 05-Oct 06	E. Pacific	*	Sharks	GN	F	PD
Common bottlenose dolphin		18	Mar 05-Oct 06	E. Pacific	*	Sharks	GN	F	PD
Pilot whale		1	Mar 05-Oct 06	E. Pacific	*	Sharks	GN	F	PD

*Comments: Entangled in gear, some of them alive. Mostly used as bait or for human consumption, some of them were discarded dead.

8. STRANDINGS

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Pygmy sperm whale	1	1	ACOREMA	acorema@terra.com.pe
Melon head whale	1	1	ACOREMA	acorema@terra.com.pe

9. OTHER STUDIES AND ANALYSES

10. LITERATURE CITED

11. PUBLICATIONS

Please follow the official IWC style guide for references (<http://www.iwcoffice.org/publications/styleguide.htm>).

Cassens, I., Van Waerebeek, K., Best P. B., Tzika A., Van Helden A. L., Crespo E. A. and Milinkovitch M. C. 2005. Evidence for male dispersal along the coasts but no migration in pelagic waters in dusky dolphins (*Lagenorhynchus obscurus*). *Molecular Ecology* 14: 107–121.

Guerrero-Ruiz, M., García-Godos, I. and Urbán, J. 2005. Match of a killer whale (*Orcinus orca*) between Peruvian and Mexican Waters. *Aquatic Mammals* 31(4): 438-441.

Montes, D., Chavera A., Van Bresse, M., Perales R., Falcón, N. and Van Waerebeek, K. Descripción y evaluación anatómica de lesiones óseas cráneo-mandibulares en cetáceos Odontocetos del Mar Peruano. *Rev Inv Vet Perú* 2004; 15 (1):13-24

Paolo Sanino, G., Van Waerebeek K., Van Bresse, M.-F. and Pastene, L. A. 2005. A preliminary note on population structure in eastern South Pacific common bottlenose dolphins, *Tursiops truncatus*. *J. Cetacean Res. Manage.* 7(1):65–70.

Rosa, S., Milinkovitch, M. C., Van Waerebeek, K., Berck, J., Oporto, J., Alfaro-Shigueto, J., Van Bresse, M.-F., Goodall, N. and Cassens, I. 2005. Population structure of nuclear and mitochondrial DNA variation among South American Burmeister's porpoises (*Phocoena spinipinnis*). *Conservation Genetics* 6:431–443

Van Bresse, M.-F., Van Waerebeek, K., Montes, D., Kennedy, S., Reyes, J. C., Garcia-Godos, I. A., Onton-Silva, K. and Alfaro-Shigueto, J. 2006. Diseases, lesions and malformations in the long-beaked common dolphin *Delphinus capensis* from the Southeast Pacific. *Dis Aquat Org.* 68:149-165

Van Bresse M.-F., Van Waerebeek, K. and Bennett, M. 2006. Orthopoxvirus neutralising antibodies in small cetaceans from the Southeast Pacific. *LAJAM* 5(1): 49-54

11.1 Published or 'In Press' papers only

11.2 Unpublished literature

REFERENCES

Engel, M.H., Marcondes, M.C.C., Castro, C., Forestell, P., Llano, M.E., Rasmussen, K.; Garita, F., Garcia-Godos, I., Baracho, C., Rossi-Santos, M.R., Neves, M. C., Ferreira, S. and Fontes, F. 2007. The Latin American Humpback Whale Photo-identification Network. Work per SC/59/SH12

Appendix 1. FOA fishing descriptions and codes

FAO FISHING GEAR CATEGORIES:		FALLING GEAR	
SURROUNDING NETS		Cast nets	FCN
With purse lines	PS	Falling gear (not specified)	FG
One-boat operated purse seines	PS1	GILLNETS AND ENTANGLING GEAR	
Two-boat operated purse seines	PS2	Set gillnets (anchored)	GNS
Without purse lines (lampara)	LA	Driftnets	GND
SEINE NETS		Encircling gillnets	GNC
Beach seines	SB	Fixed gillnets (on stakes)	GNF
Boat seines	SV	Trammel nets	GTR
Danish seines	SDN	Combined gillnet-trammel nets	GTN
Scottish seines	SSC	Gillnets and entangling gillnets (not specified)	GEN
Pair seines	SPR	Gillnets (not specified)	GN
Seine nets (not specified)	SX	TRAPS	
TRAWLS		Stationary uncovered pounds nets	FPN
Bottom trawls	TBB	Pots	FPO
Beam trawl	OTB	Fyke nets	FYK
Otter trawls (side or stern)	PTB	Stow nets	FSN
Pair trawls	TBN	Barriers, fences, weirs, etc	FWR
Nephrops trawls	TBS	Aerial traps	FAR
Shrimp trawls (not specified)	TM	Traps (not specified)	FIX
Midwater trawls		HOOKS AND LINES	
Otter trawls (side or stern)	OTM	Handlines and pole-lines (hand operated)	LHP
Pair trawls	PTM	Handlines and pole-lines (mechanised)	LHM
Shrimp trawls	TMS	Set longlines	LLS
Midwater trawls (not specified)	TM	Drifting longlines	LLD
Otter twin trawls	OTT	Longlines (not specified)	LL
Otter trawls (not specified)	OT	Trolling lines	LTL
Pair trawls (not specified)	PT	Hooks and lines (not specified)	LX
Other trawls (not specified)	TX	GRAPPLING AND WOUNDING	
DREDGES		Harpoons	HAR
Boat dredges	DRB	HARVESTING MACHINES	
Hand dredges	DRH	Pumps	HMP
LIFT NETS		Mechanised dredges	HMD
Portable lift nets	LPN	Harvesting machines (not specified)	HMX
Boat-operated lift nets	LNB	MISCELLANEOUS GEAR	MIS
Shore operated stationary lift nets	LNS	RECREATIONAL FISHING GEAR	RG
Lift nets (not specified)	LN	GEAR NOT KNOWN OR NOT SPECIFIED	NK
		SHARK CONTROL NETS	NSC
		DERELICT FISHING GEAR	