

# México. Progress report on cetacean research, January 2007 to March 2008, with statistical data for the *calendar year 2007*.

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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
Vaquita	<i>Phocoena sinus</i>	Upper Gulf of California	2.1.1; 2.2; 9
Humpback whale	<i>Megaptera novaeangliae</i>	Marias Islands, Los Cabos, BCS/North Pacific and Gulf of Mexico	2.1.1; 2.2; 3.1.1; 4.1; 8.
Blue whale	<i>Balaenoptera musculus</i>	North Pacific	2.1.1, 2.1.2, 2.2; 3.1.1, 4.1; 4.4; 8
Fin whale	<i>Balaenoptera physalus</i>	Gulf of California and North Pacific	2.1.1; 2.1.2; 3.1.1; 4.1; 8
Gary whale	<i>Eschrichtius robustus</i>	San Ignacio Lagoon and E.N. Pacific	2.1.1; 2.2; 3.1.1; 4.1; 11.1; 11.2
Common bottlenose dolphin	<i>Tursiops truncatus</i>	N. Pacific and Gulf of Mexico	2.1.1; 2.2; 3.1.1; 3.1.3; 4.1 4.3; 7.3.2; 8; 9
Common dolphin	<i>Delphinus delphis</i>	N. Pacific and Gulf of Mexico	2.1.1; 2.2
Long-beaked common dolphin	<i>Delphinus capensis</i>	N. Pacific	8
Spotted dolphin	<i>Stenella attenuata</i>	Gulf of Mexico	2.1.1; 2.2
Spinner dolphin	<i>Stenella longirostris</i>	Gulf of Mexico	2.1.1; 2.2
Rough-toothed dolphin	<i>Steno bredanensis</i>	Gulf of Mexico	2.1.1; 2.2; 3.1.1

Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	N. Pacific	2.1.1; 2.2
Pilot whale	<i>Globicephala macrorhynchus</i>	Gulf of Mexico	2.1.1; 2.2
False killer whale	<i>Pseudorca crassidens</i>	Gulf of Mexico	2.1.1; 2.2
Killer whale	<i>Orcinus orca</i>	N. Pacific	2.1.1; 2.2
Risso's dolphin	<i>Grampus griseus</i>	N. Pacific	2.1.1; 2.2
Sperm whale	<i>Physeter macrocephalus</i>	N. Pacific and Gulf of Mexico	2.2.1; 2.1.2; 3.1.1; 4.3; 4.4; 8

## 2. SIGHTINGS DATA

### 2.1 Field work

#### 2.1.1 Systematic

Give brief details of **systematic** surveys, when and where held and references to cruise reports if applicable. A summary table of sightings may be included (e.g. see below).

#### UABCS/INE

Gray Whale surveys:

Twelve complete census surveys of the lagoon to determine whale abundance and distribution were conducted during the period February 5 and March 30, 2007. The surveys were conducted by following a standard survey transect and observer methodology to allow comparison with previous survey counts. For each survey a standard transect line was followed using a 7-m boats powered by an outboard motor, travelling at an estimated speed of 11 km/hr. The transect line ran along an imaginary line drawn through the lagoons deep water areas (i.e., > 2.0 m deep) from the breaker line at the lagoon entrance to Isla Garzas at the north end of the lagoon. Each survey required about 2.5 to 3.0 hr to complete. Surveys were aborted when sea conditions exceeded Beaufort 3 sea state (winds greater than 18 km/hr and consistent white caps).

Target species	Date	Area	No. of sightings	Contact person/institute and references
Vaquita	Feb, Apr, Jul, Nov and Dec/07	Upper Gulf of California	10 (acoustic encounters)	L. Rojas-Bracho (INE)
Humpback whale	2-8/03/07 and 7-19/03/08	Marias Islands Mexican Pacific	166	L. Rojas-Bracho (INE)
Common bottlenose dolphin	March 2005 to March 2008	From Tamiahua to Veracruz	Over 79	A. Serrano (LAMM)
Common dolphin	April 2006	Veracruz	3	A. Serrano (LAMM)
Spotted dolphin	June 2006	Tamiahua to Tuxpan	3	A. Serrano (LAMM)
Spinner dolphin	June 2006	Tuxpan	2	A. Serrano (LAMM)
Rough-toothed dolphin	May 2007	Nautla	1	A. Serrano (LAMM)
Pilot whale	April 2005	Veracruz	1	A. Serrano (LAMM)
False killer whale	March 2008	Veracruz	1	A. Serrano (LAMM)
Blue Whale	Jan 18- June 2/07	Gulf of California	Over 100	D. Gendron (CICIMAR-IPN)
Fin Whale	Jan 18- June 2/07	Gulf of California	Over 15	D. Gendron (CICIMAR-IPN)
Sperm whale	Jan 18- Sept 20/07	Gulf of California	10	D. Gendron (CICIMAR-IPN)
Common bottlenose dolphin	Oct/02 to Sep-03	Alvarado Veracruz	53	E. Morteo (LabMMar); Del Castillo (In prep)
Common bottlenose dolphin	Jul/02 to Ago/03	Nautla Veracruz	23	E. Morteo (LabMMar); Ramírez <i>et al.</i> (2005)

Common bottlenose dolphin	Feb/06 to Mar/08	Veracruz, Veracruz	45	E. Morteo (LabMMar); Morteo and Hernández (In press)
Common Bottlenose dolphin	Feb/06 to Mar/08	Alvarado, Veracruz	143	E. Morteo/LabMMar; Morteo (2007b)
Common bottlenose dolphin	Mar/06 to Mar/08	Terminos Lagoon, Campeche		E. Morteo (LabMMar)
Rough-toothed dolphin	27/05/03	Nautla, Veracruz	1	E. Morteo (LabMMar)
Rough-toothed dolphin	23/03/07	Veracruz, Veracruz	1	E. Morteo (LabMMar)
Gray whale	13/12/06-11/05/07	Ensenada, Baja California	601	G. Heckel (CICESE)
Blue whale	13/12/06-11/05/07	Ensenada, Baja California	5	G. Heckel (CICESE)
Fin whale	13/12/06-11/05/07	Ensenada, Baja California	1	G. Heckel (CICESE)
Humpback whale	13/12/06-11/05/07	Ensenada, Baja California	2	G. Heckel (CICESE)
Common dolphin ( <i>Delphinus</i> sp.)	13/12/06-11/05/07	Ensenada, Baja California	84	G. Heckel (CICESE)
Risso's dolphin	13/12/06-11/05/07	Ensenada, Baja California	7	G. Heckel (CICESE)
Pacific white-sided dolphin	13/12/06-11/05/07	Ensenada, Baja California	86	G. Heckel (CICESE)
Common bottlenose dolphin	13/12/06-11/05/07	Ensenada, Baja California	85	G. Heckel (CICESE)
Killer whale	13/12/06-11/05/07	Ensenada, Baja California	1	G. Heckel (CICESE)
Common bottlenose dolphin	19-22/03/07	Terminos Lagoon, Campeche	19	C. Bazúa-Durán (UNAM)
Common bottlenose dolphin	31/07/07-03/08/07	Terminos Lagoon, Campeche	21	C. Bazúa-Durán (UNAM)
Common bottlenose dolphin	27-30/10/07	Terminos Lagoon, Campeche	18	C. Bazúa-Durán (UNAM)
Gray whale	05/02/07 to 30/03/07	San Ignacio Lagoon, Baja California Sur	1062	J. Urbán (UABCS) A. Gómez Gallardo (UABCS)
Humpback whale	Feb, Mar and Apr/07	Los Cabos, Baja California Sur	167	J. Urbán (UABCS)
Fin whale	Jan-Dec/07	Gulf of California	100	J. Urbán (UABCS)

### 2.1.2 Opportunistic, platforms of opportunity

In 2004, the Committee **agreed** that details on the data collected by whalewatching vessels and other opportunistic platforms should be included (IWC, 2005b). Opportunistic platforms are those primarily engaged in non-research activities, such as whalewatching boats, cruise ships, ferries and Coast Guard vessels. Give brief details of work carried out, with references where appropriate. Please give the primary responsibility of the person collecting the data (e.g. vessel crew, naturalist or dedicated observer). Identify one or more types of data collected (separate by species, area and organisation). Types of data may include: sightings (e.g. count, time and location), survey effort, environmental data, photo-ID, animal behaviour or other (please specify). Use an asterisk to identify types of data contributed to a separate archive (such as a regional photo-ID catalogue), and

provide the location of that archive in last column. Please make separate entries for each species, area and/or institution.

Primary species	Area	Data type/method	Collected by	Platform	Location of archive (if applicable)	Contact person/institute and refs
Blue whale	Gulf of California	Photo-id*; sightings	CICIMAR	CICIMAR boat	CICIMAR-IPN	D. Gendron (CICIMAR-IPN)
Fin whale	Gulf of California	Photo-id*; sightings	CICIMAR	CICIMAR boat	CICIMAR-IPN	D. Gendron (CICIMAR-IPN)
Sperm whale	Gulf of California	Photo-id*; sightings	CICIMAR	CICIMAR boat	CICIMAR-IPN	D. Gendron (CICIMAR-IPN)

## 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
Vaquita	Feb, Apr, Jul, Nov and Dec/07	Upper Gulf of California	Passive acoustic surveys in fixed stations	Distribution, movements, population trends	L. Rojas-Bracho, INE
Humpback whale	2-8/03/07 and 7-9/03/08	Marias Islands Mexican Pacific	Shore-based observations Theodolite tracking, Photo-identification surveys	Distribution, movements, breathing rates, relative abundance (No. animals/effort hour)	L. Rojas-Bracho, INE
Common bottlenose dolphin	March 2005 to March 2008	From Tamiahua to Veracruz	Line transects/Boat based surveys/aerial surveys	Distribution; sighting frequency; abundance; home range; social organization; photo-identification	A. Serrano, LAMM
Common dolphin	April 2006	Veracruz	Line transects/Boat based surveys/aerial surveys	Distribution; sighting frequency; abundance	A. Serrano, LAMM
Spotted dolphin	June 2006	Tamiahua to Tuxpan	Line transects/Boat based surveys/aerial surveys	Distribution; sighting frequency; abundance	A. Serrano, LAMM
Spinner dolphin	June 2006	Tuxpan	Line transects/Boat based surveys/aerial surveys	Distribution; sighting frequency; abundance	A. Serrano, LAMM
Rough-toothed dolphin	May 2007	Nautla	Line transects/Boat based surveys/aerial surveys	Distribution; sighting frequency; abundance	A. Serrano, LAMM
Pilot whale	April 2005	Veracruz	Line transects /aerial surveys	Distribution; sighting frequency	A. Serrano, LAMM
False killer whale	March 2008	Veracruz	Line transects/Boat based surveys/	Distribution; sighting frequency; abundance	A. Serrano, LAMM
Common bottlenose dolphin	Oct/02 to Sep/003	Alvarado Veracruz	Line transects/Boat based surveys	Distribution; sighting frequency; abundance; home range; social organization; photo-identification	E. Morteo, LabMMar; Del Castillo (In prep.)
Common bottlenose dolphin	Jul/02 to Ago/03	Nautla Veracruz	Line transects/Boat based surveys	Distribution; sighting frequency; abundance; home range; social organization; photo-identification	E. Morteo, LabMMar; Ramírez <i>et al.</i> (2005)
Common bottlenose dolphin	Feb 2006 to Mar 2008	Veracruz, Veracruz	Line transects/Boat based surveys	Distribution; sighting frequency; abundance; home range; social organization; photo-identification, genetic flow and structure	E. Morteo, LabMMar; Motrteo and Hernández (In press)

Common bottlenose dolphin	Feb 2006 to Mar 2008	Alvarado, Veracruz	Line transects/Boat based surveys	Distribution; sighting frequency; abundance; home range; social organization; photo-identification, genetic flow and structure	E. Morteo, LabMMar; Morteo (2007b)
Common bottlenose dolphin	Mar 2006 to Mar 2008	Terminos Lagoon, Campeche	Line transects/Boat based surveys	Photo-identification, genetic flow and structure	E. Morteo, LabMMar
Rough-toothed dolphin	May 2003	Nautla, Veracruz	Line transects/Boat based surveys	Distribution; sighting frequency; abundance	E. Morteo, LabMMar.
Rough-toothed dolphin	May 2007	Veracruz, Veracruz	Line transects/Boat based surveys	Distribution; sighting frequency; abundance	E. Morteo, LabMMar.
Gray whale	13/12/06-11/05/07	Ensenada, Baja California	Shore-based observations Theodolite tracking	Sighting frequency, relative abundance (No. animals/effort hour), distribution. Only gray whales: swimming speed, breathing rates, tracks.	G. Heckel, CICESE
Blue whale	13/12/06-11/05/07	Ensenada, Baja California	Shore-based observations Theodolite tracking	Sighting frequency, relative abundance (No. animals/effort hour), distribution. Only gray whales: swimming speed, breathing rates, tracks.	G. Heckel, CICESE
Fin whale	13/12/06-11/05/07	Ensenada, Baja California	Shore-based observations Theodolite tracking	Sighting frequency, relative abundance (No. animals/effort hour), distribution. Only gray whales: swimming speed, breathing rates, tracks.	G. Heckel, CICESE
Humpback whale	13/12/06-11/05/07	Ensenada, Baja California	Shore-based observations Theodolite tracking	Sighting frequency, relative abundance (No. animals/effort hour), distribution. Only gray whales: swimming speed, breathing rates, tracks.	G. Heckel, CICESE
Common dolphin ( <i>Delphinus</i> sp.)	13/12/06-11/05/07	Ensenada, Baja California	Shore-based observations Theodolite tracking	Sighting frequency, relative abundance (No. animals/effort hour), distribution. Only gray whales: swimming speed, breathing rates, tracks.	G. Heckel, CICESE
Risso's dolphin	13/12/06-11/05/07	Ensenada, Baja California	Shore-based observations Theodolite tracking	Sighting frequency, relative abundance (No. animals/effort hour), distribution. Only gray whales: swimming speed, breathing rates, tracks.	G. Heckel, CICESE
Pacific white-sided dolphin	13/12/06-11/05/07	Ensenada, Baja California	Shore-based observations Theodolite tracking	Sighting frequency, relative abundance (No. animals/effort hour), distribution. Only gray whales: swimming speed, breathing rates, tracks.	G. Heckel, CICESE
Common bottlenose dolphin	13/12/06-11/05/07	Ensenada, Baja California	Shore-based observations Theodolite tracking	Sighting frequency, relative abundance (No. animals/effort hour), distribution. Only gray whales: swimming speed, breathing rates, tracks.	G. Heckel, CICESE

Killer whale	13/12/06-11/05/07	Ensenada, Baja California	Shore-based observations Theodolite tracking	Sighting frequency, relative abundance (No. animals/effort hour), distribution. Only gray whales: swimming speed, breathing rates, tracks.	G. Heckel, CICESE
Common bottlenose dolphin	19-22/03/07	Terminos Lagoon, Campeche	Line transect survey	Distribution; Photo-ID; environmental data; acoustic recordings; biopsy sampling	C. Bazúa-Durán, UNAM
Common bottlenose dolphin	31/07/07-03/08/07	Terminos Lagoon, Campeche	Line transect survey	Distribution; environmental data; acoustic recordings; skin sampling	C. Bazúa-Durán, UNAM
Common bottlenose dolphin	27-30/10/07	Terminos Lagoon, Campeche	Line transect survey	Distribution; environmental data; acoustic recordings; skin sampling	C. Bazúa-Durán, UNAM
Gray whale	05/02/07 to 30/03/07	San Ignacio Lagoon, Baja California Sur	Census, transects survey, photo id, blow analysis, and sounds recording.	Abundance; census and photo-id.  Distribution; sightings location (GIS).  Health assessment; blows metabolites and body condition.  Residence, site fidelity, movements, migration, birth rates; mark-recapture with photo id.  Vocalizations.	J. Urbán (UABCS) A. Gómez Gallardo (UABCS) L. Rojas-Bracho (INE)
Humpback whale	Feb, Mar and Apr/07	Los Cabos, Baja California Sur	Transects survey, photo-id, and biopsy samples.	Abundance/mark-recapture with photo id.  Distribution/sightings location (GIS).  Anthropogenic impacts/dorsal fin, flukes and peduncles scars. Blubber.  Movements and migration/mark-recapture with photo-id.  Genetics	J. Urbán (UABCS)
Fin whale	Jan-Dec/07	Gulf of California	Transects survey, photo-id, and biopsy samples.	Abundance and movements /mark-recapture with photo id.  Distribution/sightings location (GIS).  Genetics/pollution	J. Urbán (UABCS) L. Rojas-Bracho (INE)

### 3. MARKING DATA

#### 3.1 Field work

##### 3.1.1 Natural marking data

Provide this in the form of a table, e.g.

Species	Feature	Area/stock	No. photo-id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
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Humpback whale	Flukes	Marias Islands Mexican Pacific	Over 42	Y	Over 50	L. Rojas-Bracho, INE
Common bottlenose dolphin	Dorsal fin	Gulf of Mexico	300	Y	800	A. Serrano, LAMM
Blue Whale	Flank, flukes	NE Pacific	100	Y	550	D. Gendron, CICIMAR-IPN
Fin Whale	Chevron, dorsal	Gulf of California	15	Y	15	D. Gendron, CICIMAR-IPN
Sperm Whale	Flukes	NPacific	12	Y	837	D. Gendron, CICIMAR-IPN
Common bottlenose dolphin	Dorsal fin	Gulf of Mexico	109	Y	370	E. Morteo, LabMMar
Rough-toothed dolphin	Dorsal fin	Gulf of Mexico	11	Y	30	E. Morteo/LabMMar
Common bottlenose dolphin	Dorsal fin	Terminos Lagoon, Campeche	N.A.	Y	N.A.	C. Bazúa-Durán (UNAM)
Gray Whale	Dorsal back	San Ignacio Lagoon, Baja California Sur	743	Y	3522	J. Urbán (UABCS) A. Gómez (UABCS)
Humpback whale	Flukes	Los Cabos, Baja California Sur	185	Y	591 (2004-2007)	J. Urbán (UABCS)
Humpback whale	Dorsal fin	Los Cabos, Baja California Sur	102	Y	300 (2004-2007)	J. Urbán (UABCS)
Fin Whale	Dorsal fin	Gulf of California	50	Y	184 (2004-2005)	J. Urbán (UABCS)

It would be useful to include the numbers by features recorded for some species e.g. humpback whales, where more than one is commonly used (e.g. flukes, lateral/dorsal fin). This would enable the Secretariat to maintain a directory for information purposes.

### 3.1.2. Artificial marking data

This would include such things as Discovery marks (especially recovery information) or external artificial tags.

### 3.1.3 Telemetry data

Include both satellite and radio-tags. A table is an appropriate way to summarise the data, e.g.:

Species	Tag type	No. successfully deployed	Maximum time transmitting	Contact person/institute; refs
Common bottlenose dolphin	Satellite	0		A. Serrano, LAMM

## 3.2 Analyses/development of techniques

Give brief details of any analyses of marking data carried out (e.g. times/distances to resightings, biological parameters, etc.) with references where appropriate.

### UABCS

Gray Whale: With the same year recaptures information we are estimating the duration of stay of gray whales in San Ignacio Lagoon. With several years recapture information of mothers with calves we are estimating the reproduction rate (in years) of female gray whales. With several years recapture information of all gray whales we are estimating the phylogeny for San Ignacio Lagoon. By the analysis of the specific characteristics in the photographs we are doing a health assessment for the San Ignacio Lagoon of gray whales.

## 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
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Common bottlenose dolphin	Gulf of Mexico	2	Y	1	1	A. Serrano, LAMM
Blue whale	NE Pacific	2007/56	Y	56	0	D. Gendron, CICIMAR-IPN
Fin whale	Gulf of California	2007/15	Y	0	15	D. Gendron, CICIMAR-IPN
Common bottlenose dolphin	Gulf of Mexico	16	Y	0	19	E. Morteo, LabMMar
Common bottlenose dolphin	Terminos Lagoon, Campeche	2	Y	0	10	C. Bazúa-Durán (UNAM)
Humpback whale	Mexican Pacific	91	Y	0	485 (2004-2007)	J. Urbán (UABCS)
Fin Whale	Gulf of California	25	Y	0	220 (2004-2007)	J. Urbán (UABCS)

#### 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

#### 4.3 Samples from stranded animals

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Sperm whale	Gulf of Mexico	Liver, skin, blubber	1	N	1	A. Serrano, LAMM
Common bottlenose dolphin	Gulf of Mexico	Skin, fat, muscle	1	Y	0	E. Morteo, LabMMar

#### 4.4 Analyses/development of techniques

Give brief details of any analyses of data carried out, with references where appropriate.

##### LAMM

Sperm whale. We measured heavy metal concentrations and PCBs concentrations.

##### CICIMAR-IPN

Blue whale: Sex determination, DNA(mt) are completed and other molecular analysis are undergoing. Fatty acids (polar and non-polar) and steroid hormones determination are undergoing.

### 5. POLLUTION STUDIES

Information on available samples should be given in Section 4 although any clarification can be given here. The main purpose of this section is to give brief details of work in progress or completed analyses, with references where appropriate.

##### LAMM

Sperm whale (stranded). We measured heavy metal concentrations and PCBs concentrations.



## 6. STATISTICS FOR LARGE CETACEANS

### 6.1 Corrections to earlier years' statistics for large whales

This is the correct place to include any corrections to statistics presented in earlier years. It is also appropriate to include references to studies that utilise time series of data here.

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

Please summarise the information here in the form of a table. However, it must be noted that this summary is not considered to fulfil the obligation to supply data to the Commission as specified in the Schedule.

Species	Type of catch	Area/stock	Males	Females	Total landed	Struck and lost

### 6.3 Anthropogenic mortality of large whales for the calendar year 2007 or the season 2008/03

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

The inclusion of this data was agreed by the Committee in 2004 (IWC, 2005a). If available, please use Latitude and Longitude for location or else specify as much detail as possible. Please indicate type of vessel, e.g. High-speed Ferry (HSF), Large Cargo (LC), Military (M), Fishing Vessel (FV), Passenger Carrying Excursion (PC), Other (O). Fate: Indicate if the whale swam away (X), appeared seriously injured (I), killed (D). Example given.

Whale species	Sex	No.	Date	Location	Vessel type	Speed	Fate	How observed	Contact person/ institute and refs
Humpback whale	NA.	1	26/2/08	23°107.691'N; 106°24.240'W	R	Sierra	GN	A	Oscar Guzón/Onca Explorations SA de CV oscarguzon@oncaexplorations.com
Comments: Float line inside mouth, cut off right side (floaters) and pulled out from left side, gillnet kept as evidence. Photos and video available									

#### 6.3.2 Fishery bycatch of large whales

The inclusion of this data was agreed by the Committee in 2004 (IWC, 2005a). If available, please use Latitude and Longitude for location. 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.). The Committee also agreed that types of fishing gear involved in bycatch should be documented (IWC, 2005a). **Please use the internationally recognised standard gear description codes from FAO (given in Appendix 1)**, although more detail can be supplied if known. More detailed information and illustrations of the different types of fishing gear can be found on the FAO/FIGIS website<sup>1</sup>. Please also include any instances of entanglement in shark exclusion nets, which are another important source of bycatch. Please indicate how observed: M = records collected as part of a planned cetacean monitoring programme, F = records collected by onboard fishery monitoring scheme, V = records collected by fishermen through vessel logbooks, A = anecdotal reports from any reliable source, with a further distinction of DA if the latter were documented (e.g. photos, rescue teams etc.).

Whale species	Sex	No.	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Humpback Whale	F	1	17/3/06	54°14'N; 29°43'W	D	Thunnus	LLD	F	J Urbán; jurban@uabc s.mx
Comments: Entangled in gear, cut off and sank.									

## 7. STATISTICS FOR SMALL CETACEANS

It was first agreed to include this information in a Commission resolution in 1976 (IWC, 1977, p.31)). Furthermore, in 2005 (IWC, 2006, Annex J) it was agreed that these data should be brought into line with those

<sup>1</sup> [http://www.fao.org/figis/servlet/static?dom=root&xml=tech/gears\\_search.xml](http://www.fao.org/figis/servlet/static?dom=root&xml=tech/gears_search.xml)

reported for large cetaceans. **Therefore, this Section should be completed using the same guidelines as given in Section 6 above, *Statistics for large cetaceans*.**

### 7.1 Corrections to earlier years' statistics for small cetaceans

This would be a place to include any corrections to statistics presented in earlier years. It may also be appropriate to include references to studies that utilise time series of data here.

### 7.2 Direct catches of small cetaceans for the calendar year 20XX or the season 20XX/XX

Species	Type of catch	Area/stock	Males	Females	Total landed	Struck and lost

### 7.3 Anthropogenic mortality of small cetaceans for the calendar year 20XX or the season 20XX/XX

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

Species	Sex	No.	Date	Location	Vessel type	Speed	Fate	How observed	Contact person/ institute and refs

#### 7.3.2 Fishery bycatch of small cetaceans

Species	Sex	No.	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Common bottlenose dolphin	M	1	Apr 10th 2007	Monte Pío, Veracruz	Death by entangl	<i>Mugil sp.</i>	Gillnet	From fishermen's boat	E. Morteo/ LabMMar

## 8. STRANDINGS

Give a paragraph detailing the nature of the strandings reporting process (e.g. completely opportunistic, one or more networks, coastline covered, seasonal coverage). Then complete the following summary table with information where people can go for more details.

### LAMM

We are collaborating with the stranding network of the state of Veracruz. Sperm whale stranding: March 2007, Tamiahua, Veracruz. Humpback whale stranding: January 2005, Tuxpan, Veracruz.

### ICMME

Coast of Ensenada (Todos Santos Bay) covered year-round by Investigación y Conservación de Mamíferos Marinos de Ensenada, A.C. (ICMME=Ensenada Marine Mammal Research and Conservation, a non for profit organization).

### ONCA EXPLORATIONS (Oscar Guzón)

April 19, 2008. A young Minke whale (*B. acutorostrata*) was found stranded alive at around 0800 hrs on Isla de Chivos, near Mazatlan, Sinaloa, Mexico. The stranding was not reported to us until 1130 hrs by Acuario Mazatlán. The report came to Acuario Mazatlan by local newspaper reporters that were called directly by a family who found the stranded whale that morning. The whale was alive when stranded but severely injured as we could notice on the pictures and video taken by the reporters. The only picture available shows a deep injury just in front of dorsal fin, which by its nature could have been the product of a ship strike. Most lateral wounds looked post-mortem. However, we consider this a very limited diagnosis since it is based only on one picture and very low quality videos. Although severely injured, the whale was returned to sea by people on site, which claimed that the whale started swimming slowly until it went out of sight. Considering its condition, we assume the animal probably died later that day.

Species	No.	No. post	Contact person(s)/ Institute(s)	Contact email address(es)

	strandings	mortems		
Sperm whale	2	1	A. Serrano/LAMM	arserrano@uv.mx
Humpback whale	1	0	A. Serrano/LAMM	arserrano@uv.mx
Common bottlenose dolphin	1	1	E. Morteo/LabMMar	emorteo@gmail.com
Fin or blue whale	1	0	G. Heckel/ICMME	<a href="mailto:gheckel@cicese.mx">gheckel@cicese.mx</a>
Common bottlenose dolphin	1	0	G. Heckel/ICMME	<a href="mailto:gheckel@cicese.mx">gheckel@cicese.mx</a>
Long-beaked common dolphin	1	1	G. Heckel/ICMME	<a href="mailto:gheckel@cicese.mx">gheckel@cicese.mx</a>
Minke whale	1	-	Oscar Guzón/Onca Explorations	oscarguzon@oncaexplorations.com

## 9. OTHER STUDIES AND ANALYSES

This is the appropriate place to briefly summarise other aspects of cetacean research relevant to the Scientific Committee, including results of analyses and development of techniques not covered in earlier sections. Give references where appropriate.

Attention is drawn to the issues of priority Committee interest, including: management of whaling and Comprehensive Assessment of whale stocks - e.g. current stock size, recent population trends, carrying capacity, productivity and stock identity; effects of environmental change; scientific aspects of sanctuaries; and whalewatching.

### INE

A population dynamics model was developed to infer historical population levels and current status of the vaquita and to make predictions of the population trend under alternative bycatch regimes. The model uses estimates of abundance, bycatch and fishing effort.

### LabMMar

Morteo (2007a) pointed out that human induced mortality for bottlenose dolphins in Mexico is larger due to illegal fishing gear and lack of surveillance by authorities, than that caused by removal with captivity purposes.

Morteo (2007b) assessed the current status of the bottlenose dolphin community at the coastal waters of Alvarado, Veracruz, Mexico; he found that relative (dolphins/h) and absolute abundances (Jolly-Seber) doubled the estimates of 2002-3; however this may be an artifact due to higher accuracy in data acquisition during 2006-7. Photo-Id resulted in 171 different individuals and an average of 123( $\pm$ 63.4) animals present in the area each surveyed date. Some 20.5% of these dolphins showed site fidelity at least in a 4 year period.

Morteo and Hernández (In press) analyzed preliminary results concerning the relationship among bottlenose dolphins, vessels and fishing gear in the Veracruz Reef System. Through the characterization of fishing activities and marine traffic, during a six-month period, the main patterns of human use for the area were identified. These were significantly correlated to dolphin presence in space, but not in time; therefore, vessels and fishing gear showed no evidence of immediate effect on dolphin presence and/or abundance. Nevertheless, a general trend of dolphin evasion towards human activities was found when data was pooled over the study period.

Morteo (In press) reported that 9 animals from Alvarado traveled up to 300 km North-West to Nautla in a maximum of 5 days, and came back in an average of 6.3 weeks. Dolphin-fisheries interactions in Alvarado were observed, but the spatial analysis for density of schools, vessels and fishing gear showed dolphin evasion towards human activities. Photo-image analyses showed that 21% of these dolphins had signs of interactions with predators and 4% with fisheries.

## 10. LITERATURE CITED

Include all references cited in the text here. Please follow the official IWC style guide for references (<http://www.iwcoffice.org/publications/styleguide.htm>).

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

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

Please list all published or 'in press' papers. **It will be appreciated if you can send a pdf or reprint to the Secretariat for the library.**

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Please include information as to where the documents may be obtained **and if possible, pdf versions or reprints for the library.**

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## Appendix 1. FOA fishing descriptions and codes

<b>FAO FISHING GEAR CATEGORIES:</b>		<b>FALLING GEAR</b>	
<b>SURROUNDING NETS</b>		Cast nets	FCN
With purse lines	PS	Falling gear (not specified)	FG
One-boat operated purse seines	PS1	<b>GILLNETS AND ENTANGLING GEAR</b>	
Two-boat operated purse seines	PS2	Set gillnets (anchored)	GNS
Without purse lines (lampara)	LA	Driftnets	GND
<b>SEINE NETS</b>		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	<b>TRAPS</b>	
<b>TRAWLS</b>		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		<b>HOOKS AND LINES</b>	
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	<b>GRAPPLING AND WOUNDING</b>	
<b>DREDGES</b>		Harpoons	HAR
Boat dredges	DRB	<b>HARVESTING MACHINES</b>	
Hand dredges	DRH	Pumps	HMP
<b>LIFT NETS</b>		Mechanised dredges	HMD
Portable lift nets	LPN	Harvesting machines (not specified)	HMX
Boat-operated lift nets	LNB	<b>MISCELLANEOUS GEAR</b>	MIS
Shore operated stationary lift nets	LNS	<b>RECREATIONAL FISHING GEAR</b>	RG
Lift nets (not specified)	LN	<b>GEAR NOT KNOWN OR NOT SPECIFIED</b>	NK
		<b>SHARK CONTROL NETS</b>	NSC
		<b>DERELICT FISHING GEAR</b>	