

Spain. Progress report on cetacean research, May 2006 to March 2007, with statistical data for the calendar year 2006

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1. SPECIES AND STOCKS STUDIED

IWC common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Habour porpoise	<i>Phocoena phocoena</i>	Basque Country, Andalucía	4.3, 6.3, 7.3, 8
Bottlenose dolphin	<i>Tursiops truncatus</i>	Basque Country, W. Atlantic, Gibraltar Straits, Andalucía, Mediterranean Sea Sarasota Bay, Florida, USA	2.1.1,2.1.2,2.2,3.1.1, 4.3,4.4,5, 6.3, 7.3, 8,5, 9,10
S. beaked common dolphin	<i>Delphinus delphis</i>	Basque Country, Gibraltar Straits, South Spain, Mediterranean Sea	2.1.1, 4.3, 5, 6.3, 7.3, 810
White beaked common dolphin	<i>Lagenorhynchus acutus</i>	N. E. Atlantic	7
Stripped dolphin	<i>Stenella coeruleoalba</i>	Basque Country, Gibraltar Straits, Andalucía, Mediterranean Sea	2.1.1, 4.3, 6.3, 7.3, 8
Long Finned Pilot Whales	<i>Globicephala melas</i>	Basque Country, Gibraltar Straits, Andalucía, Mediterranean Sea	2.1.1,2.2,3.1.1,4.1, 4.3, 6.3, 7.3, 8

Pygmy sperm whale	<i>Kogia breviceps</i>	Basque Country	4.3
False killer whale	<i>Pseudorca crassidens</i>	Atlantic	7
Killer whale	<i>Orcinus orca</i>	Gibraltar Straits	2.1.1,4.1,
Risso's dolphin	<i>Grampus griseus</i>	Andalucía, Mediterranean Sea	4.3, 6.3, 7.3, 8
Cuvier's beaked Whale	<i>Ziphius cavirostris</i>	Andalucía, Mediterranean Sea	2.1.1,4.3, 6.3, 7.3, 8
Beaked whale	<i>Mesoplodon sp.</i>	Basque Country	4.3
Minke whale	<i>Balaenoptera acutorostrata</i>	Andalucía	4.3, 6.3, 7.3, 8
Fin whale	<i>Balaenoptera physalus</i>	Gibraltar Straits , Andalucía, Mediterranean Sea	2.1.1,2.1.2, 4.3, 6.3, 7.3, 8
Sperm whale	<i>Physeter macrocephalus</i>	Gibraltar Straits, Andalucía, Mediterranean Sea	2.1.1,4.1, 4.3, 6.3, 7.3, 8,9, 10

2. SIGHTINGS DATA

2.1 Field work

2.1.1 Systematic

ALNITAK

Target species	Date	Area	No. of sightings	Contact person/institute and references
All present	17-06 to 29-09 2006	Northern Alborán Sea	207	Ana Cañadas - ALNITAK
All present	17-28/11/2006	Northern Alborán Sea	23	Ana Cañadas - ALNITAK
All present	17-28/01/2007	Northern Alborán Sea	72	Ana Cañadas - ALNITAK

AMBAR

MONITORING PROGRAM: Since 2000 AMBAR is collaborating with the BDRP (Biscay Dolphin Research Program), in a monitoring survey program in the Bay of Biscay and English Channel, with the ferry "Pride of Bilbao". In 2006, 357 sightings during 8 dedicated surveys have been collected (April to November): *Tursiops truncatus* 21, *Delphinus delphis* 88, *Stenella coeruleoalba* 35, unidentified dolphin 23, *Grampus griseus* 3, *Phocoena phocoena* 74, *Globicephala melas* 17, *Ziphius cavirostris* 3, unidentified beaked whale 4, *Balaenoptera physalus* 54, *Balaenoptera acutorostrata* 14, unidentified rorqual 17, *Lagenorhynchus albirostris* 1 and *Physeter macrocephalus* 3.

LAND BASED PROJECT: AMBAR has carried out systematic land based surveys from Matxitxako cape during 2006 twice per month. During this project 17 sightings have been made; 15 common dolphins, 1 bottlenose dolphin and 1 minke whale.

INTERNATIONAL PROJECTS: AMBAR has collaborated with ORCA Organization during July of 2006 in a research project focused on distribution, photo-id and diving behaviour of Cuvier's beaked whale in Torrelavega (Southern Bay of Biscay).

IEO

A systematic boat survey has been started by placing 3 marine mammal and seabird observers on board its spring acoustic cruise. The methodology is the same than the one applied by CRMM in the French acoustic cruise and on the same R/V. It is expected to obtain data on the distribution and relative abundance of marine mammals along the Galician and Cantabrian coasts (contact: M. Begoña Santos: m.b.santos@vi.ieo.es).

UNIVERSITY OF VALENCIA

Shipboard surveys are being carried out since 2003 in the coast of Alicante, gulf of Valencia and around Columbretes Island Marine Reserve (Castellón) to collect data on distribution, behaviour and photo-identification of *Tursiops truncatus*, *Stenella coeruleoalba* and *Grampus griseus*.

Target species	Date	Area	No. of sightings	Contact person/institute and references
Striped dolphin	26/10/06	Spanish Mediterranean	3	UV
Cuvier's beaked whale	28/10/06	Spanish Mediterranean	1	UV
Bottlenose dolphin	28/10/06	Spanish Mediterranean	1	UV
Striped dolphin	12/01/07	Spanish Mediterranean	1	UV
Long finned pilot whale	12/01/07	Spanish Mediterranean	2	UV
Striped dolphin	18/01/07	Spanish Mediterranean	2	UV

CIRCE

Target species	Date	Area	No. of sightings	Contact person/institute and references
Long Finned Pilot Whales	1/1/2006 1/1/2007	Gibraltar Straits	60	R. de Stephanis./CIRCE
Bottlenose dolphin	1/1/2006 1/1/2007	Gibraltar Straits	50	R. de Stephanis./CIRCE
Sperm whale	1/1/2006 1/1/2007	Gibraltar Straits	40	R. de Stephanis./CIRCE
Fin whale	1/1/2006 1/1/2007	Gibraltar Straits	5	R. de Stephanis./CIRCE
Killer whale	1/1/2006 1/1/2007	Gibraltar Straits	18	R. de Stephanis./CIRCE
Striped dolphin	1/1/2006 1/1/2007	Gibraltar Straits	12	R. de Stephanis./CIRCE
Common dolphin	1/1/2006 1/1/2007	Gibraltar Straits	5	R. de Stephanis./CIRCE

DIRECCIÓN GENERAL DE PESCA- ISLAS BALEARES

Target species	Date	Area	No. of sightings	Contact person/institute and references
Bottlenose dolphin	January - December 2006	Southwest coast of Majorca	19	J.M.Brotons (D.G.Pesca and A. Tursiops)
Sperm whale	1-31 July 2006	Balearic Sea	9	L. Rendell (U. St. Andrews)

2.1.2 Opportunistic, platforms of opportunity

AMBAR

During 2006 AMBAR has collected 12 opportunistic sightings from sport fishing boats; 9 common dolphins and 3 bottlenose dolphin.

UNIVERSITY OF VALENCIA

The University of Valencia collects data on opportunistic sightings made by tourism ships, fishing ships, maritime authorities and coastal observations by rangers of Coastal Natural Parks.

Primary species	Area	Data type/method	Collected by	Platform	Contact person/institute and refs
Bottlenose dolphin	Alicante Area	sightings	Rangers	From Coast	UV
Bottlenose dolphin	Gulf of Valencia	sightings	Maritime authorities	Boat	UV
Fin whale	Gulf of Valencia	sightings	Maritime authorities	Boat	UV

2.2 Analyses/development of techniques

ALNITAK

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Common dolphin	1992 - 2005	Northern Alborán Sea	Spatial modelling of dedicated surveys with line transect data collection	Distribution; habitat use; abundance	Ana Cañadas, ALNITAK; Cañadas 2006
Bottlenose dolphin	1992 - 2003	Northern Alborán Sea	Spatial modelling of dedicated surveys with line transect data collection	Distribution; habitat use; abundance	Ana Cañadas, ALNITAK; Cañadas and Hammond 2006

CIRCE

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Long Finned Pilot Whales	1/1/2006-1/1/1/2007	Gibraltar Straits	Mark and capture	Abundance	P. Verborgh/CIRCE
Long Finned Pilot Whale	1/1/2006-1/1/1/2007	Gibraltar Straits	Photo-id	Social Structure	R. de Stephanis/CIRCE
Long Finned Pilot Whale	1/1/2006-1/1/1/2007	Gibraltar Straits	Stable Isotops	Diet	R. de Stephanis/CIRCE
Bottlenose dolphin	1/1/2006-1/1/1/200	Gibraltar Straits	Mark and capture	Abundance	S. Perez/CIRCE

DIRECCIÓN GENERAL DE PESCA- ISLAS BALEARES

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Bottlenose dolphin	1-12/06	Southwest coast of Mallorca	Capture-recapture	Population estimation, behaviour, social	J.M.Brotons (D.G.Pesca and A. Turisano)

		Majorca		behaviour, social structure, home range.	A. Tursiops)
Sperm whale	1-31/7/06	Balearic Sea	Capture-recapture	Population estimation, acoustics, social structure	L. Rendell (University of St. Andrews)

3. MARKING DATA

3.1 Field work

3.1.1 Natural marking data

ALNITAK

Species	Feature	Area/stock	No. photo-id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
Common dolphin	dorsal fin	Alboran Sea	+3000 pictures (2006)	N		Ana Cañadas / ALNITAK
Long-finned pilot whale	dorsal fin	Alboran Sea	+800 pictures (2006)	N		Ana Cañadas / ALNITAK
Bottlenose dolphin	dorsal fin	Alboran Sea	+1500 pictures (2006)	N		Ana Cañadas / ALNITAK

CIRCE

Species	Feature	Area/stock	No. photo-id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
Long Finned Pilot Whales	Dorsal fin	Gibraltar Straits	232	Y	232	P. Verborgh/CIRCE
Bottlenose dolphin	Dorsal fin	Gibraltar Straits	450	Y	450	S. Perez/CIRCE

DIRECCIÓN GENERAL DE PESCA- ISLAS BALEARES

Species	Feature	Area/stock	No. photo-id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
Bottlenose dolphin	Dorsal fin	Southwest coast of	60	Y	124	J.M.Brotos (D.G.Pesca and A.
Sperm whale	Flukes	Balearic Sea	8	Y	47	L. Rendell (University of St.

4. TISSUE/BIOLOGICAL SAMPLES COLLECTED

4.1 Biopsy samples (summary only)

ALNITAK

Species	Area/stock	Calendar year/season - no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Common dolphin	Alborán Sea	22	Y			Ana Cañadas / ALNITAK
Striped dolphin	Alborán Sea	3	Y			Ana Cañadas / ALNITAK
Sperm whale	Alborán Sea	5 (sloughed skin)	Y			Ana Cañadas / ALNITAK

CIRCE

Species	Area/stock	Calendar year/ season - no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Long Finned Pilot Whales	Gibraltar Straits	2006	Y	64	64	R. de Stephanis/CIRCE
Killer whale	Gibraltar Straits	2006	Y	10	10	R. de Stephanis/CIRCE
Sperm Whale	Gibraltar Straits	2006	y	5	5	R. de Stephanis/CIRCE

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

None

4.3 Samples from stranded animals

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Striped dolphin	Alborán Sea	skin	1	1		Ana Cañadas / ALNITAK
Harbour porpoise	Basque Country	Skin	2	Y		P. Cermeño / AMBAR
Bottlenose dolphin	Basque Country	Complete necropsy	1	Y		P. Cermeño / AMBAR
Bottlenose dolphin	Balearic Sea	Skin, blubber, tooth	2	Y		J.M.Brotos (D.G.Pesca and A.
Common dolphin	Basque Country	Complete necropsy (2)	4	Y (2)		P. Cermeño / AMBAR
Common dolphin	Gulf of Valencia	Skin, gonads, stomach	1	Y	1	UV
Common dolphin	N.E. Atlantic	Skin,blubber, muscle	1	y		S. Lens/IEO
Striped dolphin	Gulf of Valencia	Skin, blubber, stomach Hemimandibula	7	Y		UV
Striped dolphin	South Spain	Skin, Muscle, Liver, Kidney, Brain, Bone	1	Y		J. L. Mons, CREMA
White beaked dolphin	Northern Spanish coast	Skin,blubber, muscle	1	Y		S. Lens/IEO
Long fined pilot whale	Basque Country		1	N		P. Cermeño / AMBAR
Long finned pilot whale	Gulf of Valencia	Skin, gonads, digestive	1	Y	1	UV
Long fined pilot whale	South Spain	Skin, Muscle, Liver, Kidney, Brain, Bone	1	Y		J. L. Mons, CREMA
Risso's dolphin	South Spain	Skin, Muscle, Liver, Kidney, Brain, Bone	1	Y		J. L. Mons, CREMA

Beaked Whale (<i>Mesoplodon</i> sp)	Basque Country	Complete necropsy, Skin	1	Y		P. Cermeño / AMBAR
Fin whale	Gulf of Valencia	Skin, blubber, baleen	1	Y		UV

4.4 Analyses/development of techniques AMBAR

When possible, standard procedures (histology) for identifying possible pathology have been applied to organ samples. Skin samples have been stored for future genetic analysis.

IEO

IEO has carried out diet analysis through the examination of stomach contents of all marine mammal species stranded and by-caught in Galicia and the Canary Islands. In addition, dietary information is also gathered from the analysis of the stable isotopes of muscle and skin samples of *Tursiops truncatus* stranded and by-caught in Galicia and their main prey (contact: M. Begoña Santos: m.b.santos@vi.ieo.es and Ruth Fernández: ruthfernandez@uvigo.es). Heavy metal values have been evaluated from kidney and liver samples of *Tursiops truncatus* stranded and by-caught in Galicia (contact: Ruth Fernández: ruthfernandez@uvigo.es).

5. POLLUTION STUDIES

The University of Barcelona has continued studies on the effects of PCBs and other organochlorines on common dolphins from NW Spain (Tornero et al., 2006), bottlenose dolphins from the Iberian Peninsula (Borrell et al. 2006; Borrell and Aguilar, 2007) and bottlenose dolphins from Sarasota Bay, Florida (Hall et al., 2006).

6. STATISTICS FOR LARGE CETACEANS

6.1 Corrections to earlier years' statistics for large whales

None

6.2 Direct catches of large whales (commercial, aboriginal and scientific permits) for the calendar year 2006

None

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)

None

6.3.2 Fishery bycatch of large whales

Whale species	Sex	No.	Date	Location	Fate	Targeted fish	Gear	How observe	Source or contact
Sperm whale	--	1	18/05/06	Soller (39° 47' N-2° 41' E)	D	Tuna, swordfish.	GND	M	Cons. M. Ambiente
Sperm whale	--	1	18/05/06	Soller (39° 47' N-2° 41' E)	D	Tuna, swordfish.	GND	M	Cons. M. Ambiente
Sperm Whale	--	1	18/05/06	Soller (39° 47' N-2° 41' E)	D	Tuna, swordfish.	GND	M	Cons. M. Ambiente

Comments: Entangled in gear

7. STATISTICS FOR SMALL CETACEANS

7.1 Corrections to earlier years' statistics for small cetaceans

None

7.2 Direct catches of small cetaceans for the calendar year 2006

Not applicable.

7.3 Anthropogenic mortality of small cetaceans for the calendar year 2006

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
Cuvier's beaked Whale		1	28/5/07	36,72948N - 4,10257W	D	Gear not knowon	NK	M	J. L. Mons, CREMA

7.3.2 Fishery bycatch of small cetaceans

Species	Sex	No.	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Bottlenose dolphin	--	1	02/05/06	Mahon (39°52'N-4°18'W)	D		NK	DA	Cons. M. Ambiente
Common dolphin		1	21-7-06	36,44N-3,53W	D		NK	M	J. L. Mons, CREMA
Common dolphin		1	21-7-06	36,44N-3,53W	D		NK	M	J. L. Mons, CREMA
Common dolphin		1	28-6-06	36,30N-4,54W	D		NK	M	J. L. Mons, CREMA
Common dolphin		1	28-6-06	36,30N-4,54W	D		NK	M	J. L. Mons, CREMA
Common dolphin		1	21-3-06	36,43N-4,25W	D		NK	M	J. L. Mons, CREMA
Common dolphin		1	1-3-06	3,66N-4,63W	D		NK	M	J. L. Mons, CREMA
Common dolphin		1	28-2-06	36,30N-4,54W	D		NK	M	J. L. Mons, CREMA
Common dolphin		1	27-2-06	36,30N-4,54W	D		NK	M	J. L. Mons, CREMA
Common dolphin		1	12-2-06	36,43N-4,25W	D		NK	M	J. L. Mons, CREMA
Botlenose dolphin		1	25-6-06	36,32N-6,18W	D		NK	M	J. L. Mons, CREMA
Unid. dolphin		1	25-3-06	36,32N-6,18W	D		NK	M	J. L. Mons, CREMA
Unid. dolphin		1	9-3-06	36,32N-6,18W	D		NK	M	J. L. Mons, CREMA
Striped dolphin		1	4-2-06	36,43N-4,25W	D		NK	M	J. L. Mons, CREMA
White beaked dolphin	F	1	30-1-06	45,00N-5,00W	D	Various	TX	F	S. Lens/IEO

8. STRANDINGS

UNIVERSITY OF VALENCIA

Data on parasites and causes of death have been collected for all the species listed. Teeth and gonads were also collected to estimate the age and reproductive status using standard techniques. Stomach contents have been analysed for the analysis of the diet. Other samples are taken and conserved in biological bank of samples for later studies. Animals with no samples collected have been removed by the beach cleaner service due to their high degree of decomposition.

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Fin whale	1		UV	Toni.raga@uv.es
Common dolphin	1		UV	Toni.raga@uv.es
Long finned pilot whale	2	1	UV	Toni.raga@uv.es
Risso's dolphin	1		UV	Toni.raga@uv.es
Sperm whale	1		UV	Toni.raga@uv.es
Striped dolphin	14		UV	Toni.raga@uv.es

CREMA

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Striped dolphin	68	53	J. L. Mons, CREMA	crema@auladelmar.info
Common dolphin	58	52	J. L. Mons, CREMA	crema@auladelmar.info
Long finned pilot whale	12	3	J. L. Mons, CREMA	crema@auladelmar.info
Risso's dolphin	3	1	J. L. Mons, CREMA	crema@auladelmar.info
Bottlenose dolphin	8	6	J. L. Mons, CREMA	crema@auladelmar.info
Fin whale	3	3	J. L. Mons, CREMA	crema@auladelmar.info
Minke whale	1	1	J. L. Mons, CREMA	crema@auladelmar.info
Cuvier's beaked Whale	5	5	J. L. Mons, CREMA	crema@auladelmar.info
Sperm whale	1	1	J. L. Mons, CREMA	crema@auladelmar.info
Killer whale	1	1	J. L. Mons, CREMA	crema@auladelmar.info
Harbour porpoise	1	1	J. L. Mons, CREMA	crema@auladelmar.info

DIRECCIÓN GENERAL DE PESCA- ISLAS BALEARES

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Sperm whale	6	--	Consellería Medioambiente	http://www.caib.es/root/index.do
Bottlenose dolphin	5	1	Consellería Medioambiente	http://www.caib.es/root/index.do

9. OTHER STUDIES AND ANALYSES

ALNITAK

Dedicated shipboard surveys are being carried out since 1992 in the Alboran Sea region and contiguous waters of south-eastern Spain. Data on acoustics, behaviour and photo-identification are also collected. Target species are *Tursiops truncatus*, *Delphinus delphis*, *Stenella coeruleoalba*, *Globicephala melas*, *Grampus griseus*, *Physeter macrocephalus*, *Balaenoptera physalus* and beaked whales. Data on sea turtles, marine birds, fishing activities, maritime traffic, debris pollution and meteorological and oceanographic variables are also collected in order to complement the analysis of cetacean distribution and habitat preference modelling. Model-based abundance estimates are being carried out also for several species. Opportunistic sightings were done as well in 1990 and 1991. Model-based abundance estimates for bottlenose dolphins and for common dolphins were obtained in the Alborán Sea and adjacent Gulf of Vera, using spatial modelling. Photo-identification is also used as a means of tracking groups and individuals, both spatially and temporally, of the most common species. Data on oceanographic variables, skin samples for genetics and acoustic recordings are also collected.

IEO

Incidental catches of cetaceans were monitored in different Spanish fisheries. Observer's schemes were in operation in the trawl fishery in the SW Atlantic (721 hauls observed), NAFO (660 hauls observed), Hatton bank (374 hauls), Svalbard (104 hauls observed) and Reijkanes Ridge (42 hauls). The longline fishery for swordfish was also monitored in the Atlantic (161 sets) and Indian Oceans (49 sets). A total of 594 hauls were observed in a programme to monitor discards and incidental catches in the trawl fishery in ICES Areas VII, VIII and IX. Observers collected as well information on incidental catches in an experimental trawl fishing operation in ICES area VIIIc (224 sets monitored) and in a longline experimental fishing in the Indian Ocean (83 sets observed).

UNIVERSITY OF BARCELONA

The University of Barcelona has studied population substructure of Mediterranean and bottlenose dolphins through genetic analysis (Natoli et al., 2006) as well as organochlorine compounds and stable isotopes (Borrell et al., 2006).

The University of Barcelona has completed a study on the catch and mode of operation of the open-boat sperm whale fishery conducted by European and American vessels during the 19th century in the Gibraltar Straits ground (Aguilar and Borrell, 2007).

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11.2 Unpublished literature

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