

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

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Basque Society of Whales and Dolphins Conservation	EIBE	<a href="mailto:enara@eibeh.org">enara@eibeh.org</a>
Conservation Information and Research on Cetaceans	CIRCE	<a href="mailto:renaud@stephanis.org">renaud@stephanis.org</a>
Fundación para la Conservación y Recuperación de Animales Marinos	Fundación CRAM	<a href="mailto:bio@cram.org">bio@cram.org</a>
Foundation for the Protection of the Atlantic Cetaceans	FPCA	A. Ruano, <a href="mailto:stenella@terra.es">stenella@terra.es</a>
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Sociedad para el estudio de los cetáceos en el Archipiélago Canario	SECAC	V. Martín
Sociedad Tenerife Conservación	TENECON	M. Carrillo, <a href="mailto:cetaceos@canariasconservacion.org">cetaceos@canariasconservacion.org</a>
Turmares Tarifa S.L.	TURMARES	<a href="mailto:eandreu@turmares.com">eandreu@turmares.com</a>
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### 1. SPECIES AND STOCKS STUDIED

IWC common name	IWC recommended scientific	Area/stock(s)	Items referred to
Baleen whales	<i>Balaenoptera sp.</i>	Northern Spain	2.1.1; 2.1.2; 6.3
Minke whale	<i>Balaenoptera acutorostrata</i>	Northern Spain, Canary Islands	2.1.1; 3.1; 4.3; 6.2; 6.3; 7.1; 8
Sei whale	<i>Balaenoptera borealis</i>	Canary Islands	4.3
Fin whale	<i>Balaenoptera physalus</i>	Spanish Mediterranean, Northern Spain, Canary Islands	2.1.1; 2.1.2; 2.2; 3.1.1; 3.1.3; 4.1; 4.3; 4.4; 6.2; 6.3; 7.1; 8
Sperm whale	<i>Physeter macrocephalus</i>	Spanish Mediterranean, Northern Spain, Canary Islands	2.1.1; 2.1.2; 2.2; 3.1.1; 4.1; 4.3; 4.4; 6.2; 6.3; 7.1; 7.3; 8
Pygmy sperm whale	<i>Kogia breviceps</i>	Canary Islands	4.3
Dwarf sperm whale	<i>Kogia sima</i>	Canary Islands	4.3
Killer whale	<i>Orcinus orca</i>	Spanish Mediterranean	2.1.1
Short Finned Pilot Whales	<i>Globicephala macrorhynchus</i>	Northern Spain	3.1
Long-finned pilot whale	<i>Globicephala melas</i>	Spanish Mediterranean, Northern Spain	2.1.1; 2.1.2; 2.2; 3.1.1; 4.1; 4.2; 4.3; 4.4; 6.2; 7.1; 7.2; 7.3; 8
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	Spanish Mediterranean, Northern Spain, Canary Islands	2.1.1; 2.1.2; 2.2; 3.1.1; 4.3; 6.2; 6.3; 7.1; 7.3; 8
Beaked whale	<i>Mesoplodon sp.</i>	Northern Spain	3.1

Sowerby's beaked whale	<i>Mesoplodon bidens</i>	Canary Islands	4.3
Blainville beaked whale	<i>Mesoplodon densirostris</i>	Canary Islands	2.1.1; 3.1.1
Rough-toothed dolphin	<i>Steno bredanensis</i>	Canary Islands	2.1.1; 2.2; 3.1.1; 4.1;
Risso's dolphin	<i>Grampus griseus</i>	Spanish Mediterranean, Northern Spain, Canary	2.1.1; 2.1.2; 2.2; 3.1.1; 4.3; 6.2 7.1, 7.2, 7.3, 8
Bottlenose dolphin	<i>Tursiops truncatus</i>	Spanish Mediterranean, Northern Spain, Canary Islands	2.1.1; 2.1.2; 2.2; 3.1.1; 4.1; 4.2; 4.3; 4.4; 6.2; 7.1; 7.2; 7.3, 8
Fraser's dolphin	<i>Lagenodelphis hosei</i>	Canary Islands	4.3
Striped dolphin	<i>Stenella coeruleoalba</i>	Spanish Mediterranean, Northern Spain, Canary Islands	2.1.1; 2.1.2; 2.2; 3.1; 4.1; 4.3; 4.4; 6.2; 7.1; 7.2; 7.3; 8
Spotted dolphin	<i>Stenella frontalis</i>	Canary Islands	4.3, 7.1
Common dolphin	<i>Delphinus delphis</i>	Spanish Mediterranean, Northern Spain, Canary Islands	2.1.1; 2.1.2; 2.2; 3.1.1; 4.1; 4.2; 4.3; 4.4; 6.2; 7.1; 7.2; 7.3; 8
Harbour porpoise	<i>Phocoena phocoena</i>	Northern Spain	3.1.1

## 2. SIGHTINGS DATA

### 2.1 Field work

#### 2.1.1 Systematic

#### SPANISH MEDITERRANEAN

ALNITAK: Ship-based surveys are being carried out since 1992 in the northern section of the Alborán Sea and the Gulf of Vera, to collect data on abundance, distribution, habitat preferences and photo-identification.

Target species	Date	Area	No. of sightings	Contact person/institute and references
Fin whale	17-06 to 26-09 2007, 11- 22/11/2007, 12- 23/01/2007	Northern Alborán Sea	5	Ana Cañadas - ALNITAK
Bottlenose dolphin	17-06 to 26-09 2007, 11- 22/11/2007, 12- 23/01/2007	Northern Alborán Sea	21	Ana Cañadas - ALNITAK
Cuvier's beaked whale	17-06 to 26-09 2007, 11- 22/11/2007, 12- 23/01/2007	Northern Alborán Sea	2	Ana Cañadas - ALNITAK
Long-finned pilot whale	17-06 to 26-09 2007, 11- 22/11/2007, 12- 23/01/2007	Northern Alborán Sea	53	Ana Cañadas - ALNITAK
Risso's dolphin	17-06 to 26-09 2007, 11- 22/11/2007, 12- 23/01/2007	Northern Alborán Sea	6	Ana Cañadas - ALNITAK
Striped dolphin	17-06 to 26-09 2007, 11- 22/11/2007, 12- 23/01/2007	Northern Alborán Sea	84	Ana Cañadas - ALNITAK
Short-beaked common dolphin	17-06 to 26-09 2007, 11- 22/11/2007, 12- 23/01/2007	Northern Alborán Sea	78	Ana Cañadas - ALNITAK

CIRCE: Ship transects are being conducted all year around in the Strait of Gibraltar to collect data on abundance, distribution, habitat preferences and photo-identification.

Target species	Date	Area	No. of sightings	Contact person/institute and references
Fin whale	2007	Strait of Gibraltar	10	Renaud de Stephanis/CIRCE

Sperm whale	2007	Strait of Gibraltar	153	Renaud de Stephanis/CIRCE
Killer whale	2007	Strait of Gibraltar	24	Renaud de Stephanis/CIRCE
Long-finned pilot whale	2007	Strait of Gibraltar	98	Renaud de Stephanis/CIRCE
Bottlenose dolphin	2007	Strait of Gibraltar	102	Renaud de Stephanis/CIRCE
Striped dolphin	2007	Strait of Gibraltar	45	Renaud de Stephanis/CIRCE
Short-beaked common dolphin	2007	Strait of Gibraltar	30	Renaud de Stephanis/CIRCE

#### Fundación CRAM:

Target species	Date	Area	No. of sightings	Contact person/institute and references
Bottlenose dolphin	2007	Le Danois Bank	3	Fundación CRAM
Common dolphin	2007	Le Danois Bank	2	Fundación CRAM

#### OCE:

Target species	Date	Area	No. of sightings	Contact person/institute and references
Sperm whale	2007	Gulf of Valencia	13	M. Castellote (OCE)
Long finned pilot whale	2007	Off Columbretes	2	M. Castellote (OCE);
Striped dolphin	2007	Off Columbretes	8	M. Castellote (OCE);
Striped dolphin	2007	Ibiza Channel	2	M. Castellote (OCE);

Monthly 12-hour shipboard surveys are being carried out since 2006 in collaboration with “Consellería de Medioambiente de la Comunidad Valenciana” and “ICByBE, Universidad de Valencia” in three main areas: 1- off Columbretes archipelago, 2- Gulf of Valencia and 3-Ibiza Channel, to collect data on distribution and relative abundance of all cetacean species. Dual-mode visual and acoustic line transect survey methods are applied. Data presented here are exclusively based in acoustic detections (visual data is submitted by ICByBE, Universidad de Valencia). One extensive survey of 5-day duration is organized once a year, starting in 2007, covering the continental shelf region of the whole Valencia Community (550 nm). Same methodology is applied to this survey. Monthly 24-hour shipboard surveys are being carried out since 2006 in collaboration with “Servicio Marítimo de la Guardia Civil” in Ibiza Channel to collect data on distribution and relative abundance of all cetacean species. Dual-mode visual and acoustic line transect survey methods are applied.

#### TURMARES:

Target species	Date	Area	No. of sightings	Contact person/institute and references
Fin whale	01-05 to 25-09 2007	Strait of Gibraltar	16	Ezequiel Andréu - TURMARES
Sperm whale	01-05 to 25-09 2007	Strait of Gibraltar	157	Ezequiel Andréu - TURMARES
Killer whale	01-05 to 25-09 2007	Strait of Gibraltar	36	Ezequiel Andréu - TURMARES
Long-finned pilot whale	01-05 to 25-09 2007	Strait of Gibraltar	252	Ezequiel Andréu - TURMARES
Bottlenose dolphin	01-05 to 25-09 2007	Strait of Gibraltar	236	Ezequiel Andréu - TURMARES
Striped dolphin	01-05 to 25-09 2007	Strait of Gibraltar	147	Ezequiel Andréu - TURMARES
Short-beaked common dolphin	01-05 to 25-09 2007	Strait of Gibraltar	93	Ezequiel Andréu - TURMARES

Data are collected from whale watching companies.

UV: One day surveys are being carried out in the coast of Alicante, Gulf of Valencia and around Columbretes Island Marine Reserve (Castellón) to collect data on distribution, behaviour and photo-identification

Target species	Date	Area	No. of sightings	Contact person/institute and references
Fin whale	01/04/07-31/03/08	Spanish Mediterranean	3	UV
Sperm whale	01/04/07-31/03/08	Spanish Mediterranean	1	UV
Pilot whale	01/04/07-31/03/08	Spanish Mediterranean	3	UV
Cuvier's beaked whale	01/04/07-31/03/08	Spanish Mediterranean	1	UV
Bottlenose dolphin	01/04/07-31/03/08	Spanish Mediterranean	2	UV
Striped dolphin	01/04/07-31/03/08	Spanish Mediterranean	35	UV
Common dolphin	01/04/07-31/03/08	Spanish Mediterranean	1	UV

### **NORTHERN SPAIN AND BAY OF BISCAY**

AZTI-Tecnia:

Target species	Date	Area	No. of sightings	Contact person/institute and references
All present	30/06/07-15/07/07	Bay of Biscay	289	A.Uriarte (AZTI-Tecnia)

EIBE: Since 2003 shipboard surveys are being conducted in the adjacent waters of the Basque country. Data on behaviour and photo-identification are also collected. Data on marine birds, fishing activities, maritime traffic, debris pollution and meteorological and oceanographic variables are collected, in order to complement the analysis of cetacean distribution and habitat modelling. Since 2003 opportunistic sightings are also being made.

Target species	Date	Area	No. of sightings	Contact person/institute and references
Minke whale	20/08/2007 to 20/02/2008	Basque Country and SE Bay of Biscay	2	Enara Marcos./EIBE
Long finned pilot whales	20/08/2007 to 20/02/2008	Basque Country and SE Bay of Biscay	10	Enara Marcos./EIBE
Cuvier's beaked whale	20/08/2007 to 20/02/2008	Basque Country and SE Bay of Biscay	2	Enara Marcos./EIBE
Bottlenose dolphin	20/08/2007 to 20/02/2008	Basque Country and SE Bay of Biscay	7	Enara Marcos./EIBE
Stripped dolphin	20/08/2007 to 20/02/2008	Basque Country and SE Bay of Biscay	4	Enara Marcos./EIBE
Common dolphin	20/08/2007 to 20/02/2008	Basque Country and SE Bay of Biscay	20	Enara Marcos./EIBE

FPCA: In 2007 shipboard surveys were conducted in coastal Asturian waters (Cantabrian Sea). A total of 1,656 Km. were shipped covering 3,200 Km<sup>2</sup>. During the study period a total of 33 sightings of 6 different species were recorded; 31 sightings corresponding to small cetaceans. Data on sea birds are also collected in order to complement the analysis of cetacean distribution. Opportunistic sightings are being compiled since 1991.

Target species	Date	Area	No. of sightings	Contact person/institute and references
Minke whale	2007	Cantabrian Sea	1	Arturo Ruano Alvarez, FPCA
Long-finned pilot whale	2007	Cantabrian Sea	4	Arturo Ruano Alvarez, FPCA
Cuvier's beaked whale	2007	Cantabrian Sea	1	Arturo Ruano Alvarez, FPCA
Bottlenose dolphin	2007	Cantabrian Sea	11	Arturo Ruano Alvarez, FPCA
Stripped dolphin	2007	Cantabrian Sea	4	Arturo Ruano Alvarez, FPCA
Short beaked common dolphin	2007	Cantabrian Sea	12	Arturo Ruano Alvarez, FPCA

IEO: Between the 17<sup>th</sup> July and 1<sup>st</sup> of August 2007 the IEO carried out, as part of the CODA (*Cetacean Offshore Distribution and Abundance in the European Atlantic*) project, a sighting survey covering Block area 3: from the Galician coasts to approximately the 200n mile limit. The objectives of the project are to obtain abundance

estimates of cetaceans and model habitat preference of selected species using satellite data. The provisional number of sightings made from the primary platform in Block 3 is listed in the following table.

Target species	Date	Area	No. of sightings	Contact person/institute and references
Fin whale	17/07-01/08	NW Iberian Peninsula	104	S. Lens/IEO
Sei whale	17/07-01/08	NW Iberian Peninsula	13	S. Lens/IEO
Unidentified whale	17/07-01/08	NW Iberian Peninsula	8	S. Lens/IEO
Sperm whale	17/07-01/08	NW Iberian Peninsula	10	S. Lens/IEO
Long-finned pilot whale	17/07-01/08	NW Iberian Peninsula	2	S. Lens/IEO
Bottlenose dolphin	17/07-01/08	NW Iberian Peninsula	1	S. Lens/IEO
Common dolphin	17/07-01/08	NW Iberian Peninsula	8	S. Lens/IEO
Striped dolphin	17/07-01/08	NW Iberian Peninsula	7	S. Lens/IEO
Common or striped dolphin	17/07-01/08	NW Iberian Peninsula	6	S. Lens/IEO
Unidentified dolphin	17/07-01/08	NW Iberian Peninsula	8	S. Lens/IEO

As part of the marine mammal and seabird observer program that the IEO carries out onboard their acoustic surveys to estimate pelagic fish abundance, 3 observers are placed on the spring and autumn acoustic surveys. In 2007, 2 surveys took place, one in spring covering the Galician and Cantabrian Sea shelf waters and one in autumn covering the shelf and slope waters of the Bay of Biscay. Cetacean sightings are listed in the table below. The methodology used is the same than the one applied by CRMM in the French acoustic cruise and on the same R/V (contact: M. Begoña Santos: [m.b.santos@vi.ieo.es](mailto:m.b.santos@vi.ieo.es)).

Target species	Date	Area	No. of sightings	Contact person/institute and references
Fin whale	17/09 to 17/10/2007	Cantabrian Sea and Bay of Biscay	10	Begoña Santos/IEO
Minke whale	17/09 to 17/10/2007	Cantabrian Sea and Bay of Biscay	1	Begoña Santos/IEO
Unidentified fin whale	27/03 to 23/04/2007	Galicia and the Cantabrian Sea	1	Begoña Santos/IEO
Sperm whale	17/09 to 17/10/2007	Cantabrian Sea and Bay of Biscay	2	Begoña Santos/IEO
Long finned pilot whale	27/03 to 23/04/2007	Galicia and the Cantabrian Sea	6	Begoña Santos/ IEO
Sowerby's Beaked whale	17/09 to 17/10/2007	Cantabrian Sea and Bay of Biscay	1	Begoña Santos/IEO
Common dolphin	17/09 to 17/10/2007	Cantabrian Sea and Bay of Biscay	26	Begoña Santos/IEO
Bottlenose dolphin	27/03 to 23/04/2007	Galicia and the Cantabrian Sea	9	Begoña Santos/IEO
Bottlenose dolphin	17/09 to 17/10/2007	Cantabrian Sea and Bay of Biscay	2	Begoña Santos/IEO
Common dolphin	27/03 to 23/04/2007	Galicia and the Cantabrian Sea	11	Begoña Santos /IEO
Harbour porpoise	27/03 to 23/04/2007	Galicia and the Cantabrian Sea	1	Begoña Santos /IEO
Unidentified dolphin	27/03 to 23/04/2007	Galicia and the Cantabrian Sea	5	Begoña Santos/IEO

## CANARY ISLANDS

SECAC: Different surveys along the coast of the Canary Archipelago have been regularly carried out since 1999, with long term studies mainly focused on the western islands waters (Life-Nature project, 1999-2001, and a project for the Regional Government 2002-2003): Gran Canaria (on going project on *Grampus griseus*.), and La Gomera (since 2004 to 2006, LIFE project LIFE03NAT/E/000062). Moreover, SECAC conducted a study in Fuerteventura and Lanzarote (study for the Regional Government focused on beaked whales, since 2003) and an Interreg IIIB project, EMECETUS (2006-2008), in collaboration with Madeira, along the coast of the Canary Islands, focusing on distribution, movement and use of habitat of *Tursiops truncatus*, *Stenella frontalis*, *Globicephala macrorhynchus*, *Physeter macrocephalus*. Dedicated aerial surveys, sailing and motor boats and rubber dinghy have been used to carry out studies mainly on the following species: *Tursiops truncatus*, *Mesoplodon densirostris*, *Mesoplodon europaeus*, *Ziphius cavirostris*, *Globicephala macrorhynchus*, *Grampus griseus*, *Steno bredanensis*, *Stenella frontalis*, *Physeter macrocephalus*, *Balaenoptera physalus* and *Balaenoptera edeni*. Data on distribution, photo-identification, surface and diving behaviour with TDR's (Time and Dive Recorder device) and biopsy samples for genetic analysis have been collected, together with data on sea turtles, marine birds, fishing activities, maritime traffic, and meteorological and oceanographic variables in order to complement the analysis of cetacean distribution and habitat use.

TENECON: Dedicated shipboard surveys were carried out during July, August, and September 2007 in Tenerife Island. Data on dynamic population and photo-identification are also collected. Target species were *Globicephala macrorhynchus*, *Tursiops truncatus*, and *Mesoplodon densirostris*. Data on sea turtles, marine bird, farming, fishing activities, marine traffic and debris pollution were also collected in order to analysed the conservation status of the coast of Tenerife island.

Target species	Date	Area	N° sightings	Source
Short-finned pilot whale	12/07- 25/09	Canary Islands	45	Manuel Carrillo / TENECON
Blainville beaked whale	12/07- 25/09	Canary Islands	1	Manuel Carrillo / TENECON
Bottlenose dolphin	12/07- 25/09	Canary Islands	22	Manuel Carrillo / TENECON

### 2.1.2 Opportunistic, platforms of opportunity

## SPANISH MEDITERRANEAN

UV: 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	Location of archive (if applicable)	Contact person/institute and refs
Bottlenose dolphin	Columbretes Natural Reserve	Sighting	Rangers	From Coast /Boat	UV	Reserva Natural Illes Columbretes
Bottlenose dolphin	Serra Gelada Natural Reserve	Sighting	Rangers	Boat	UV	Parc Natural Serra Gelada
Striped dolphin	Columbretes Natural Reserve	Sighting	Rangers	From Coast/Boat	UV	Reserva Natural Illes Columbretes

### OCE:

Primary species	Area	Data type/method	Collected by	Platform	Location of archive (if applicable)	Contact person/institute and refs
Long finned pilot whale	Alborán Sea	Sighting	M. Castellote	MAPA Ranger's vessel		M. Castellote (OCE);
Bottlenose dolphin	Columbretes Marine Reserve	Sighting	M. Castellote	Columbretes charter vessel		M. Castellote (OCE);
Striped dolphin	Alborán Sea	Sighting	M. Castellote	MAPA Ranger's vessel		M. Castellote (OCE);

**TURMARES:**

Primary species	Area	Data type/method	Collected by	Platform	Location of archive (if applicable)	Contact person/institute and refs
Fin whale	Strait of Gibraltar	Photo-ID*; sighting; survey effort; environmental data; animal behaviour	crew	whalewatching vessels	*Turmares Tarifa S.L.	Ezequiel Andréu, Turmares Tarifa S.L. <a href="mailto:turmares@turmares.com">turmares@turmares.com</a>
Sperm whale	Strait of Gibraltar	Photo-ID*; sightings; survey effort; environmental data; animal behaviour	crew	whalewatching vessels	*Turmares Tarifa S.L.	Ezequiel Andréu, Turmares Tarifa S.L. <a href="mailto:turmares@turmares.com">turmares@turmares.com</a>
Killer whale	Strait of Gibraltar	Photo-ID*; sightings; survey effort; environmental data; animal behaviour	crew	whalewatching vessels	*Turmares Tarifa S.L.	Ezequiel Andréu, Turmares Tarifa S.L. <a href="mailto:turmares@turmares.com">turmares@turmares.com</a>
Pilot whale	Strait of Gibraltar	Photo-ID*; sighting; survey effort; environmental data; animal behaviour	crew	whalewatching vessels	*Turmares Tarifa S.L.	Ezequiel Andréu, Turmares Tarifa S.L. <a href="mailto:turmares@turmares.com">turmares@turmares.com</a>
Bottlenose dolphin	Strait of Gibraltar	Photo-ID*; sightings; survey effort; environmental data; animal behaviour	crew	whalewatching vessels	*Turmares Tarifa S.L.	Ezequiel Andréu, Turmares Tarifa S.L. <a href="mailto:turmares@turmares.com">turmares@turmares.com</a>
Striped dolphin	Strait of Gibraltar	Sighting; survey effort; environmental data; animal behaviour	crew	whalewatching vessels	*Turmares Tarifa S.L.	Ezequiel Andréu, Turmares Tarifa S.L. <a href="mailto:turmares@turmares.com">turmares@turmares.com</a>
Common dolphin	Strait of Gibraltar	Sighting; survey effort; environmental data; animal behaviour	crew	whalewatching vessels	*Turmares Tarifa S.L.	Ezequiel Andréu, Turmares Tarifa S.L. <a href="mailto:turmares@turmares.com">turmares@turmares.com</a>

**NORTHERN SPAIN AND BAY OF BISCAY**

AZTI-Tecnalia: Data on opportunistic sightings made by fishing ships, coast guards and oceanographic surveys are being collected.

Primary species	Area	Data type/method	Collected by	Platform	Location of archive (if applicable)	Contact person/institute and refs
Unident. whale	Bay of Biscay	Sighting	Crew	Oceanographic survey		A.Uriarte (AZTI-Tecnalia)
Long finned pilot whale	Bay of Biscay	Sighting	Crew	Oceanographic survey		A.Uriarte (AZTI-Tecnalia)
Bottlenose dolphin	Bay of Biscay	Sighting	Crew	Oceanographic survey		A.Uriarte (AZTI-Tecnalia)
Unident. dolphin	Bay of Biscay	Sighting	Crew	Oceanographic survey		A.Uriarte (AZTI-Tecnalia)
Common dolphin	Bay of Biscay	Sighting	Crew	Oceanographic survey		A.Uriarte (AZTI-Tecnalia)

## 2.2 Analyses/development of techniques

### SPANISH MEDITERRANEAN

#### ALNITAK:

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Sperm whale	1992 - 2004	Northern Alborán Sea	Spatial modelling of dedicated surveys with line transect data collection	Distribution; habitat use	Ana Cañadas, ALNITAK; Cañadas et al 2005
Long-finned pilot whale	1992 - 2006	Northern Alborán Sea	Spatial modelling of dedicated surveys with line transect data collection	Distribution; habitat use; abundance	Ana Cañadas, ALNITAK; Cañadas et al 2005; Jewell 2007
Cuvier's beaked whales	1992 - 2004	Northern Alborán Sea	Spatial modelling of dedicated surveys with line transect data collection	Distribution; habitat use	Ana Cañadas, ALNITAK; Cañadas et al 2005
Risso's dolphin	1992 - 2004	Northern Alborán Sea	Spatial modelling of dedicated surveys with line transect data collection	Distribution; habitat use	Ana Cañadas, ALNITAK; Cañadas et al 2005
Bottlenose dolphin	1992 - 2006	Northern Alborán Sea	Spatial modelling of dedicated surveys with line transect data collection	Distribution; habitat use; abundance	Ana Cañadas, ALNITAK; Cañadas et al 2005; Cañadas and Hammond 2006, Harris 2007
Striped dolphin	1992 - 2004	Northern Alborán Sea	Spatial modelling of dedicated surveys with line transect data collection	Distribution; habitat use	Ana Cañadas, ALNITAK; Cañadas et al 2005
Common dolphin	1992 - 2006	Northern Alborán Sea	Spatial modelling of dedicated surveys with line transect data collection	Distribution; habitat use; abundance	Ana Cañadas, ALNITAK; Cañadas et al 2005; Cañadas and Hammond in press

#### OCE:

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Fin whale	2006-2007	Alborán Sea	Acoustic survey	Calling whale density, seasonality	M. Castellote (OCE); Castellote <i>et al.</i> 2008

### NORTHERN SPAIN AND BAY OF BISCAY

#### EIBE:

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Long-finned pilot whale	2003-2008	Basque Country and SE Bay of Biscay	Spatial modelling of dedicated surveys with aleatoric transect data collection	Distribution; abundance	Enara Marcos, EIBE
Bottlenose dolphin	2003-2008	Basque Country and SE Bay of Biscay	Spatial modelling of dedicated surveys with aleatoric transect data collection	Distribution; abundance	Enara Marcos, EIBE

### CANARY ISLANDS

SECAC: Photo-identification is used to estimate the relative abundance, movement and social structure of different species. Habitat use and spatial-temporal analysis regarding the distribution of the animals, surface and diving behaviour (TDR's) have also been carried out. Data on oceanographic variables and skin samples for genetics are also collected.

### 3. MARKING DATA

#### 3.1 Field work

##### 3.1.1 Natural marking data

#### SPANISH MEDITERRANEAN

##### ALNITAK:

Species	Feature	Area/stock	No. photo-id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
Long-finned pilot whale	dorsal fin	Alboran Sea	+800 pictures (2007)	N	(in process)	Ana Cañadas / ALNITAK
Risso's dolphin	Dorsal fin	Alborán Sea	+20 pictures (2007)	N	(in process)	Ana Cañadas / ALNITAK
Bottlenose dolphin	dorsal fin	Alboran Sea	+500 pictures (2007)	N		Ana Cañadas / ALNITAK
Common dolphin	dorsal fin	Alboran Sea	+3000 pictures (2007)	N		Ana Cañadas / ALNITAK

##### TURMARES:

Species	Feature	Area/stock	No. photo-id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
Fin whale	Dorsal fin	Strait of Gibraltar	+455 pictures (2007)	N	5	Juanma Salazar/CIRCE
Sperm whale	Flukes	Strait of Gibraltar	+1140 pictures (2007)	Y	30	Renaud de Stephanis/CIRCE
Killer whale	Dorsal fin, saddle patch	Strait of Gibraltar/Gulf of Cadiz	+4500 pictures (2007)	Y	42	Ruth Esteban/CIRCE
Long-finned pilot whale	Dorsal fin	Strait of Gibraltar	+15000 pictures (2007)	Y	280	Philippe Verborgh/CIRCE
Bottlenose dolphin	Dorsal fin	Strait of Gibraltar	+4500 pictures (2007)	Y	320	Philippe Verborgh/CIRCE

#### NORTHERN SPAIN AND BAY OF BISCAY

##### EIBE:

Species	Feature	Area/stock	No. photo-id'd	Catalogued (Y/N)	Catalogue total	Contact person/institute
Minke whale	Dorsal fin	South-east Bay of Biscay	2008	Y	2	Enara Marcos/EIBE
Fin whale	Dorsal fin	Bay of Biscay	2004 /summer	Y	5	Enara Marcos/EIBE
Sperm whale	Dorsal fin	South-east Bay of Biscay	2003-2006	Y	7	Enara Marcos/EIBE
Short-finned pilot whale	Dorsal fin	South-east Bay of Biscay	2003 /summer/	Y	10	Enara Marcos/EIBE
Long-finned pilot whale	Dorsal fin	South-east Bay of Biscay	2003-2008 /all season	Y	140+	Enara Marcos/EIBE
Cuvier's beaked whale	Dorsal fin	South-east Bay of Biscay	2003-2008 /all season	N	9	Enara Marcos/EIBE
Northern bottlenose whale	Dorsal fin	South-east Bay of Biscay	2003-2004 /all season	N	2	Enara Marcos/EIBE
Risso's dolphin	Dorsal fin	South-east Bay of Biscay	2003 /summer/	Y	3	Enara Marcos/EIBE
Bottlenose dolphin	Dorsal fin	South-east Bay of Biscay	2003-2008 /all season	Y	194	Enara Marcos/EIBE
Striped dolphin	Dorsal fin	South-east Bay of Biscay	2003-2008 /all season	N	30+	Enara Marcos/EIBE

Common dolphin	Dorsal fin	South-east Bay of Biscay	2003-2008 /all season	N	200+	Enara Marcos/EIBE
Harbour porpoise	Dorsal fin	South-east Bay of Biscay	2005	Y	2	Enara Marcos/EIBE

## **CANARY ISLANDS**

### **SECAC:**

Species	Feature	Area/stock	No. photo-id'd	Catalogued (Y/N)	Catalogue total	Contact person/institute
Sperm whale	Fluke	Canary Islands	2005-2007/all season	N		V. Martín/SECAC
Short-finned pilot	Dorsal	Canary Islands	1999-2007/all	Y	854	V. Martín/SECAC
Cuvier's beaked whale	Dorsal fin/body	Canary Islands	2003-2007/all season/72	N		V. Martín/SECAC
Blainville's beaked whale	Dorsal fin/body	Canary Islands	2003-2007/all season/80	Y	15	V. Martín/SECAC
Bottlenose dolphin	Dorsal fin	Canary Island	2004-2007/968	Y	300	V. Martín/SECAC
Risso's dolphin	Dorsal fin/body	Canary Islands	1999-2005	Y	90	V. Martín/SECAC
Rough-toothed dolphin	Dorsal Fin	Canary Islands	1999-2006	Y	300	V. Martín/SECAC

### **TENECON:**

Species	Feature	Area/stock	no. photo-id'd	Catalogued (Y/N)	Catalogue total	Contact person/institute
Blainville beaked whale	Dorsal fin	Canary Islands	9	N		Manuel Carrillo/TENECON
Short-finned pilot whale	Dorsal fin	Canary Islands	8	N	268	Manuel Carrillo/TENECON
Bottlenose dolphin	Dorsal fin	Canary Islands	10	N	147	Manuel Carrillo/TENECON

### *3.1.2. Artificial marking data*

None

### *3.1.3 Telemetry data*

None

## **3.2 Analyses/development of techniques**

None

## **4. TISSUE/BIOLOGICAL SAMPLES COLLECTED**

### **4.1 Biopsy samples**

Species	Area/stock	Year/season - no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Fin whale	Strait of Gibraltar	2007/4	Y	No	7	Renaud de Stephanis/CIRCE
Sperm whale	Strait of Gibraltar	2007/5	Y	No	7	Renaud de Stephanis/CIRCE
Killer whale	Strait of Gibraltar	2007/7	Y	No	14	Renaud de Stephanis/CIRCE
Long-finned pilot whale	Strait of Gibraltar	2007/10	Y	10	73	Renaud de Stephanis/CIRCE
Long-finned pilot whale	Alboran Sea	2007/17	Y	No	17	Renaud de Stephanis/CIRCE
Long-finned pilot whale	Gulf of Biscay	2007/27	Y	No	27	Renaud de Stephanis/CIRCE

Striped dolphin	Strait of Gibraltar	2007/10	Y	No	23	Renaud de Stephanis/CIRCE
Bottlenose dolphin	Strait of Gibraltar	2007/3	Y	No	50	Renaud de Stephanis/CIRCE
Common dolphin	Strait of Gibraltar	2007/10	Y	No	18	Renaud de Stephanis/CIRCE

### 4.3 Samples from stranded animals

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 study of the diet. Other samples are taken and conserved in biological tissue bank for later studies. Animals with no samples collected have been removed by the beach cleaner service due to their high degree of decomposition.

### SPANISH MEDITERRANEAN

#### Fundación CRAM:

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Fin whale	Catalonian coast	Complete necropsy	2	Y	0	Fundación CRAM
Risso's dolphin	Catalonian coast	Complete necropsy	3	Y	2	Fundación CRAM
Bottlenose dolphin	Catalonian coast	Complete necropsy	4	Y	1	Fundación CRAM
Striped dolphin	Catalonian coast	Complete necropsy	66	Y	17	Fundación CRAM
Common dolphin	Catalonian coast	Complete necropsy	1	Y	1	Fundación CRAM

#### UV:

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Fin whale	Spanish Mediterranean	Skin	1	Y	0	<a href="mailto:Toni.raga@uv.es">Toni.raga@uv.es</a>
Sperm whale	Spanish Mediterranean	Skin	1	Y	0	<a href="mailto:Toni.raga@uv.es">Toni.raga@uv.es</a>
Long finned pilot whale	Spanish Mediterranean	Complete necropsy	3	Y	1	<a href="mailto:Toni.raga@uv.es">Toni.raga@uv.es</a>
Cuvier's beaked whale	Spanish Mediterranean	Complete necropsy	1	Y	1	<a href="mailto:Toni.raga@uv.es">Toni.raga@uv.es</a>
Risso's dolphin	Spanish Mediterranean	Complete necropsy	1	Y	1	<a href="mailto:Toni.raga@uv.es">Toni.raga@uv.es</a>
Striped dolphin	Spanish Mediterranean	Complete necropsy	21	Y	15	<a href="mailto:Toni.raga@uv.es">Toni.raga@uv.es</a>

### CANARY ISLANDS

Species	Area/stock	Tissue type(s)*	N. collected	Archived (Y/N)	No. analysed	Contact person/institute
Fin whale	Canary Islands	Skin. Complete necropsy	1	Y		V. Martín/SECAC A. Fernández/ULPGC
Sei whale	Canary Islands	Skin. Complete necropsy	1	Y		V. Martín/SECAC A. Fernández/ULPGC
Sperm whale	Canary Island.	Skin, bubbler teeth, muscle, kidney, liver	3	Y		V. Martín/SECAC M. Carrillo/TENECON

Pygmy sperm whale	Canary Islands.	Skin, bubbler, ovary, bubbler, muscle	4	Y		V. Martín/SECAC M. Carrillo/TENECON
Dwarf sperm whale	Canary Island.	Skin, bubbler, muscle, kidney, liver, skeleton	1	Y		M. Carrillo/TENECON
Short-finned pilot whale	Canary Islands. Tenerife	Skin, bubbler, muscle, kidney, liver, skull.	3	Y		M. Carrillo/ TENECON A. Fernández/ULPGC
Sowerby´s beaked whale	Canary Islands	Skin, bubbler, muscle, skeleton.	1	Y		V. Martín/SECAC A. Fernández/ULPGC
Bottlenose dolphin	Canary Island, Tenerife	Skin, bubbler, muscle, liver, skeleton. Complete necropsy	1	Y		M. Carrillo/TENECON A. Fernández/ULPGC
Common dolphin	Canary Islands	Skin, bubbler, muscle, kidney, liver, skull, Stomach, bubbler, testicle, skeleton. Complete necropsy	4	Y		V. Martín/SECAC M. Carrillo/TENECON A. Fernández/ULPGC
Fraser dolphin	Canary Islands. La Gomera	Skin, bubbler, muscle, kidney, liver, skeleton	1	Y		M. Carrillo/TENECON
Striped dolphin	Canary Island. Tenerife	Skin, bubbler, muscle, skull, kidney, liver, skeleton. Complete necropsy	11	Y		V. Martín/SECAC M. Carrillo/TENECON A. Fernández/ULPGC
Atlantic spotted dolphin	Canary Islands. Tenerife	Skin, stomach, testicle, bubbler, muscle, kidney, liver, skull, skeleton. Complete necropsy	7	Y		V. Martín/SECAC M. Carrillo/TENECON A. Fernández/ULPGC

#### 4.4 Analyses/development of techniques

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. B. Santos: [m.b.santos@vi.ieo.es](mailto:m.b.santos@vi.ieo.es) and R. Fernández: [ruthfernandez@uvigo.es](mailto:ruthfernandez@uvigo.es)). Heavy metal values have been evaluated from kidney and liver samples of *T. truncatus* stranded and by-caught in Galicia (contact Ruth Fernández). Analyses are also being carried out on the life history and interactions with fisheries of other small cetaceans along the Galician coast (contact F. Read: [fionaread@iim.csic.es](mailto:fionaread@iim.csic.es) and S. Goetz: [sabine.goetz@vi.ieo.es](mailto:sabine.goetz@vi.ieo.es))

CRAM-UAB: Histological standard procedures to identify possible pathologies have been applied to organ samples. Skin samples have been stored for future genetic analysis and teeth have been collected for age studies. Moreover, immuno-histochemical tests have been used to identify morbillivirus in lungs, lymphnodes and CNS. Other samples are taken and preserved in a tissue bank for later studies. Animals with no samples collected have been removed by the beach cleaner service due to their high degree of decomposition.

SECAC: Genetic analysis has been carried out from biopsy samples of different cetacean species. The samples from *Physeter macrocephalus*, *Mesoplodon bidens* and *Stenella frontalis*, have been used also for comparison with cetacean populations from Archipelago of Azores and Madeira (Interreg IIIB project, EMECETUS, 2006-2008). Stomach contents have been collected from stranded animals. Diet analysis includes identification of fish and cephalopod remains, count and measurement of “hard parts” (fish otoliths and cephalopod mandibles), and estimation of original prey size using published regressions.

TENECON: The study of the stomach contents is being carried out in collaboration with Dr.G. Pearce and Dr. B. Santos (Aberdeen University). Osteological studies of Canary Islands cetaceans are being carried out to describe subspecific variations in cranial morphology. Other studies on teeth and compared anatomy are also being carried out (also in collaboration with the University of Aberdeen). The skeleton of a 13,9m long sei whale has been prepared and documented.

ULPGC: The Unit of Histology and Pathology, Institute for Animal Health, School of Veterinary carry out a systematic study to determine the pathology and possible cause/s of stranding and death of cetaceans in the Canary Islands. Histopathological, immunohistochemical, microbiological, parasitological and toxicological studies are being performed. Special emphasis is made on the anthropogenic cause of lesions found in stranded animals (collisions, fishing interaction, military naval exercises and contaminants.).

## 5. POLLUTION STUDIES

TENECON: Tissue samples from 9 specimens are being analysed to study heavy metal content in collaboration with the Department of Marine Sciences and the Department of Toxicology of the University of La Laguna

## 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 2007

Not applicable.

### 6.3 Anthropogenic mortality of large whales for the calendar year 2007

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

Whale species	Sex	No.	Date	Location	Vessel type	Speed	Fate	How observed	Contact person/ institute and refs
Fin whale	U	1	20.04. 2007	Barcelona harbour	M	U		Crew	Fundación CRAM
Fin whale	F	1	2007	Canary Islands	LC	U		Necropsy of the stranded specimen	V. Martín/SECAC A. Fernández/ULPGC
Sowerby's beaked whale	M	1	2007	Canary Islands	U	U		Necropsy of the stranded specimen	A. Fernández/ULPGC
Pygmy sperm whale	U	1	2007	Canary Islands	HSF	U		Necropsy of the stranded specimen	A. Fernández/ULPGC

#### 6.3.2 Fishery bycatch of large whales

None.

## 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 2007

None.

## 7.3 Anthropogenic mortality of small cetaceans for the calendar year 2007

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

None.

### 7.3.2 Fishery bycatch of small cetaceans

Species	Sex	No.	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Striped dolphin		1		Canary Islands	D			Stranded. Necropsy	A. Fernández/ULPGC
Spotted dolphin	2 F 1 M	3		Canary Islands	2 D 1 Live			Stranded. Necropsy	M. Carrillo/TENECON A. Fernández/ULPGC

## 8. STRANDINGS

Several stranding networks and organizations collect information on strandings along the Spanish coasts: CRAMM in Cataluña (North-East Spain), CREMA in Andalucía (South Spain), GRAMPUS – SECEM and OCEANIDE in the Gulf of Cádiz (South Spain), PROMAR in the coasts of Almería (South Spain), GRAMM in the coast of Melilla (North Africa), UV in the coasts of Valencia (eastern Spain), CERCAM in the Balearic Islands (eastern Spain), AMBAR in the Basque Country (North Spain), CEPESMA in the coast of Asturias (North Spain), CEMMA in Galicia (North Spain), Fundación Marineland (FUN. MAR) in the Balearic Islands (eastern Spain) and SECAC, CANARIAS CONSERVACION and ULPGC in Canarias.

## 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 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, long-finned pilot whales, striped dolphins and 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. Abundance estimates based on mark-recapture are being obtained at present for Risso's dolphins. Data on oceanographic variables, skin samples for genetics and acoustic recordings are also collected.

CIRCE: Dedicated surveys are being carried out since 1998 in the Strait of Gibraltar. Since 2005, a special program on long-finned pilot whales is being carried out to identify the different stocks of the species in the Mediterranean Sea and the Gulf of Biscay.

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 (252 hauls observed), NAFO (667 hauls), Hatton Bank (234 hauls), Svalbard (207 hauls) and Reikjanes Ridge (63 hauls). A total 1056 hauls were observed in a programme to monitor discards and incidental catches in the trawl fishery in ICES Areas VII, VIII and IX.

UV: From February to April 07, the number of pilot whales (*Globicephala melas*) stranded on the SE coast of the Iberian Peninsula (Gibraltar Strait, Murcia and Valencia Community) and Balearic Islands was higher than usual. Several diagnostic analyses of tissues from six animals were carried out in order to establish the cause of the mortality. The associated pathologies and molecular evidence were compatible with a morbillivirus infection. Consequently, scientists and competent staff of the Ministry of Environment of Spain convened in Madrid on 16 April 2007 in order to set up an emergency protocol to anticipate any eventual die-off. In addition, standardized

methods for necropsies and tissue sampling, as well as coordination procedures were approved. In July and August of 2007 there was an increase in the number of striped dolphins (*Stenella coeruleoalba*) strandings in Eastern Spain (Valencian region, Mediterranean Sea). Preliminary analyses have confirmed the presence of the DMV (Dolphin Morbillivirus) in the dolphins analysed. (Raga et al, 2008).

SECAC has been conducting an Interreg III-b project in the Archipelagos of Madeira and Azores in order to study the population structure, distribution, movements, and habitat use of sperm whale, short-finned pilot whale, bottlenose dolphin and Atlantic spotted dolphin. This project has been using techniques such as photo-identification, biopsies and VHF/TDR's transmitters as main methodology. SECAC has been conducting studies (CETOC survey) on the possible Canary Islands endemic character of the oceanic form of Atlantic spotted dolphin, bottlenose dolphin, short-finned pilot whales, Risso's dolphin and beaked whales.

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