

**SPAIN. PROGRESS REPORT ON CETACEAN RESEARCH, APRIL 2003 TO APRIL 2004,
WITH STATISTICAL DATA FOR THE CALENDAR YEAR 2004**

Compiled by

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This report summarises information obtained from:

- ALNITAK (Marine Environment Research and Education Centre).
- AMBAR (Society for the Study and Conservation of Marine Fauna).
- ANSE (Asociación de Naturalistas del Sureste).
- AZTI (Technical Fisheries and Food Institute)
- CEMMA (Coordinadora para o Estudio dos Mamíferos Mariños).
- CEPESMA (Coordinadora para el Estudio y Protección de Especies Marinas).
- CIRCE (Conservation, Information and Research on Cetaceans).
- CRAM (Fundació per a la Conservació i la Recuperació d'Animals Marins).
- CREMA (Aula del Mar de Málaga)
- DGP-BALEARS (Direcció General de Pesca, Conselleria d'Agricultura i Pesca, Govern de les Illes Balears).
- DELPHIS (Ecologistas en Acción).
- EIBE (Euskal Izurde eta Balezaleen Elkarte).
- FUN.MAR (Fundación Marineland).
- GOBCAN (Dirección General del Medio Natural, Viceconsejería de Medio Ambiente, Gobierno de Canarias).
- GRAMM (Grupo para el Estudio y Conservación de Reptiles, Aves y Mamíferos Marinos de Melilla).
- GRUMM (Group of Study and Conservation of Marine Mammals, University of Barcelona).
- GRAMPUS (Colectivo para el Estudio y Conservación del Medio Marino).
- GREC (Groupe de Recherche sur les Cétacés).
- IEO (Instituto Español de Oceanografía, Ministerio de Educación y Ciencia)
- MIMAM – Dirección General para la Biodiversidad, Ministerio de Medio Ambiente.
- OCEANIDE (Asociación Medioambiental Oceanide).
- PROMAR (Programa de Recuperación de Fauna Marina de Almería).
- SEC (Sociedad Española de Cetáceos).
- SECAC (Sociedad para el Estudio de Cetáceos en el Archipiélago Canario).
- SECEM (Sociedad Española para el Estudio y Conservación de los Mamíferos).
- TC (Tenerife Conservación).
- TT (Turmares Tarifa).
- ULL (University of La Laguna, Tenerife. Department of Animal Biology of the Faculty of Biology. Department of Acoustic and Vibrations of the Faculty of Physics.).
- ULP GC (University of Las Palmas de Gran Canaria, Department of Anatomic Pathology of the Faculty of Veterinary).
- UV (University of Valencia, Department of Animal Biology & Cavanilles Institute of Biodiversity).

(In this report are not included all Spanish research organizations on cetaceans due to they did not reply in time to the questionnaire).

1. Species and stocks studied

Common name	Scientific name	Area/stock(s)	Items referred to
Minke whale	<i>Balaenoptera acutorostrata</i>	North Spain, Canary Islands	2.1.1, 4.3, 6.2, 6.3, 7.1, 7.2, 8
Sei whale	<i>Balaenoptera borealis</i>	North Spain, Canary Islands	2.1.1
Bryde's whale	<i>Balaenoptera edeni</i>	Canary Islands	2.1.1, 6.3
Fin whale	<i>Balaenoptera physalus</i>	Spanish Mediterranean, Spanish North Atlantic, 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, 7.2, 8, 9
Common dolphin	<i>Delphinus delphis</i>	Spanish Mediterranean, Spanish North Atlantic, Canary Islands, Mauritania	2.1.1, 2.1.2, 2.2, 3.1.1, 4.1, 4.2, 4.3, 4.4, 5, 6.2, 7.1, 7.2, 8, 9
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	Canary Islands	2.1.1, 3.1.1, 3.1.2, 3.1.3, 4, 7.1, 7.2
Long-finned pilot whale	<i>Globicephala melas</i>	Spanish Mediterranean, North 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, 8
Risso's dolphin	<i>Grampus griseus</i>	Spanish Mediterranean, North Spain, Canary Islands	2.1.1, 2.1.2, 2.2, 3.1.1, 4.1, 4.3, 6.2, 7.1, 7.2, 8
Northern bottlenose whale	<i>Hyperoodon ampullatus</i>	Spanish Mediterranean, North Spain	2.1.1
Pygmy sperm whale	<i>Kogia breviceps</i>	Canary Islands	2.1.1., 4.2, 4.3, 6.6, 7.1, 7.2
Dwarf sperm whale	<i>Kogia simus</i>	Canary Islands	4.2, 7.1, 7.2
Humpback whale	<i>Megaptera novaeangliae</i>	Spanish Mediterranean, Canary Islands	2.1.1, 2.1.2., 6.3
Sowerby's beaked whale	<i>Mesoplodon bidens</i>	North Spain	2.1.1, 3.1.1
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	Canary Islands	2.1, 2.2., 3.1.1., 3.1.3., 3.2, 4.3, 6.3, 7.1

Gervai's beaked whale	<i>Mesoplodon europaeus</i>	Canary Islands	2.1, 4.3, 6.3, 7.1
Orca	<i>Orcinus orca</i>	Spanish Mediterranean, North Spain, Canary Islands	2.1.1, 2.1.2, 2.2, 3.1.1, 4.3, 6.2, 6.3, 7.2
Harbour porpoise	<i>Phocoena phocoena</i>	Spanish Mediterranean, North Spain, Bay of Fundy/SW Greenland	2.1.1, 2.2, 4.3, 5, 6.2, 7.1, 7.2, 8
Sperm whale	<i>Physeter macrocephalus</i>	Spanish Mediterranean, Spanish North Atlantic, 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, 8, 9
False killer whale	<i>Pseudorca crassidens</i>	Canary Islands	2.1.1, 7.2
Striped dolphin	<i>Stenella coeruleoalba</i>	Spanish Mediterranean, North Spain, Canary Islands	2.1.1, 2.1.2, 2.2, 4.1, 4.3, 4.4, 5, 6.2, 7.1, 7.2, 8, 9
Spotted dolphin	<i>Stenella frontalis</i>	Canary Islands	2.1.1, 2.1.2, 3.1.1, 4.3
Spotted dolphin	<i>Stenella attenuata</i>	Panama	5
Rough-toothed dolphin	<i>Steno bredanensis</i>	Canary Islands	2.1.1, 2.1.2
Bottlenose dolphin	<i>Tursiops truncatus</i>	Spanish Mediterranean, Spanish North Atlantic, Canary Islands, Florida	2.1.1, 2.1.2, 2.2, 3.1.1, 4.1, 4.2, 4.3, 4.4, 5, 6.2, 7.1, 7.2, 8, 9
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	Spanish Mediterranean, North Spain, Canary Islands	2.1.1, 2.1.2, 2.2, 3.1.1, 4.3, 6.2, 6.3, 7.1, 8

2. Sightings data

2.1 Field work

2.1.1 SYSTEMATIC

SPANISH MEDITERRANEAN:

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 use modelling. Model-based abundance estimates are being carried out also for several species. Opportunistic sightings were done as well in 1990 and 1991.

ANSE: in collaboration with the SEC are carrying out dedicated shipboard surveys since 2003 in the coastal waters of Murcia in the framework of the Life Nature project (LIFE02NAT/E/8610: "Conservation of Cetaceans and Turtles in Andalucía and Murcia").

CIRCE: Dedicated shipboard surveys are being carried out since 2000 in the Strait of Gibraltar 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*, *Physeter macrocephalus* and *Balaenoptera physalus*. 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, habitat use and density. Opportunistic sightings were done as well in 1998 and 1999.

GREC: From 1999 to 2003, the team of Groupe de Recherche sur les Cétacés spent a total of 45 days of survey in waters of Minorca and Majorca and showed the local presence of sperm whale nursery groups. A total of 29 sightings was obtained with a mean school size of 3.54 individuals, numerous acoustic recordings; additionally some sloughed skin samples were collected and analysed. Preliminary analysis of photo-identification data showed no resightings between years, but site fidelity over a single survey period.

GRUMM, University of Barcelona: Studies focused on the biology and ecology of marine mammals, with particular emphasis on: i) surveys on distribution and population estimates using aerial surveys and photo identification; ii) interactions with fisheries; iii) population biology, particularly studying reproductive parameters, growth and lifespan; and iv) nutritive condition, particularly through lipid analysis.

DGP-BALEARIS: In order to know how fishermen and dolphins are developed to the interactions between bottlenose dolphins in the Balearic Islands, the DGP (Fisheries Department of the Regional Government of Balearic Islands) makes periodic surveys to do photo-identification and to follow the dolphins and relate their activity to the fisheries.

UNIVERSITY OF VALENCIA: A dedicated line transect aerial survey was conducted in 2003 collected data on all cetaceans species and marine turtles. Shipboard surveys are being carried out since 2003 in the coast of Alicante to collect data on behaviour and photo-identification of *Tursiops truncatus* and *Delphinus delphis*.

CANARY ISLANDS:

SECAC: A survey programme named CETOC was carried out for the Regional Government of the Canary Islands from 1999 to 2002 around the Western Islands of the Canary Islands (Gran Canaria, Fuerteventura and Lanzarote), within the framework of the Project “Realización de Diversos Estudios Científicos y Asistencias Técnicas Relacionadas con las Poblaciones de Cetáceos en la Provincia de Las Palmas”. A Life-Nature project was carried out previously focusing on the cetacean populations from these islands. The spatio-temporal distribution, relative frequency and minimum estimate of population size have been studied during 197 days of field work during (9030 nmi), with a total of 357 sightings. Some methods used were photo-identification and collection of biopsy samples.

TENERIFE CONSERVACIÓN: A survey around the Eastern Islands of the Canary Islands (Tenerife, La Pama, Gomera and El Hierro) was carried out for the Government of the Canary Islands from October 2001 to September 2002, within the framework of the Project “Realización de Diversos Estudios Científicos y Asistencias Técnicas Relacionadas con las Poblaciones de Cetáceos en la Provincia de Santa Cruz de Tenerife”. The spatio-temporal distribution, relative frequency and minimum estimate of population size have been studied, during 122 days of field work (2070 nmi), with a total of 344 sightings. Some methods used were photo-identification and distance sampling.

LA LAGUNA UNIVERSITY: Two surveys were carried out around the most eastern island of the Canary Islands: El Hierro, in 2003, plus a third one in March 2004, funded by Woods Hole Oceanographic Institution (Massachusetts) and with the collaboration of the Canaries Government. The survey was centred on beaked whales, using photo-ID applied to capture-recapture methods for a long term research on abundance estimation. A total of 71 *Ziphiidae* sightings were collected with focal follows of each sighting up to 9 hours. Presence/absence of any other cetacean species was recorded.

NORTHERN SPAIN:

AMBAR: Since 2000 AMBAR is collaborating with the BDRP (Biscay Dolphin Research Program), which consists in a monitoring survey program in the Bay of Biscay and English Channel, with the ferry “Pride of Bilbao” technical support. Up to date, 23 different species of cetaceans have been recorded in Bay of Biscay waters. Since 2002 AMBAR is developing land based sighting and dedicated shipboard survey projects subsidized by the Department of Territorial Planning and Environment of the Basque Government. AMBAR is also collecting opportunistic sightings from sport fishing boats and other ships.

Land based sightings project (2002-2004): a total of 500 hours of observation in 7 different points along the Basque Country coast during which 82 sightings of 7 different species were recorded mainly bottlenose and common dolphins.

Shipboard sightings (2003-2004): a total of 1200 nautical miles on-effort sailing in the Basque Country coastal waters (South Bay of Biscay) during which a total of 77 sightings of 10 different sightings have been recorded (20% *Ziphius cavirostris*, 18% *Globicephala melas*, 17% *Delphinus delphis*, 14% *Tursiops truncatus*, 6.5% , *Stenella coeruleoalba*, 1.3% *Lagenorhynchus acutus*, 1.3% *Globicephala macrorhynchus*, 1.3% , *Grampus griseus*, 1.3% *Balaenoptera physalus*, 1.3% *Physeter macrocephalus*, 8% unidentified dolphins, 9% beaked whales).

CEMMA: Observations from coast: They were carried out 1317,5 hours of observation in 906 observation points with a result of 79,7 hours of sightings and 155 sightings records and a half relationship of an sighting every 5,8 hours of observation.

Observations from sea: They were carried out a total of 33 specific shipments in different ships during those that 992,4 km was travelled carrying out a prospecting of 2008,8 km² in a coastal area of about 3.100 km² what supposes 30% of the platform of Galicia. They were carried out 150,9 hours of observation effort being 12,4 hours of sighting (8,2%) and a total of 44 sightings that you/they implied to 405 animals, with a stocking of 1,37 sightings for shipment and a rate of encounter of 0,044 sightings for travelled km and a relative density of 0,40 cetaceans for travelled km. Complementarily to the 199 systematic opportunistic sightings has been gathered as much from coast and as in the sea. The total number of sightings is of 454 corresponding proportionally to the following species: *Globicephala melas* (0,4%), *Orcinus orca* (0,5%), *Phocoena phocoena* (2,3%), *Delphinus delphis* (7,7%), *Tursiops truncatus* (85,6), *non identified delphinids* (3,3%). Most of them were coastal herds of *Tursiops truncatus*.

EIBE: Shipboard surveys are conducted since 2003 in the adjacent waters of the Basque country. Data on behaviour and photo-identification are also collected. Target species are *Tursiops truncatus*, *Delphinus delphis*, *Stenella coeruleoalba*, *Globicephala melas*, *Globicephala macrorhynchus*, *Grampus griseus*, *Physeter macrocephalus*,

Balaenoptera acutorostrata, *ziphius cavirostris*, *Hiperoodon ampullatus* and *Mesoplodon sp.*. Data on 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 use modelling. Opportunistic sightings were done as well in 2003.

2.1.2 OPPORTUNISTIC SHIGHTINGS, PLATFORMS OF OPPORTUNITY

NORTH-WESTERN MEDITERRANEAN (CATALONIA):

Data on opportunistic sightings made by coastal police, volunteer skippers of collaborating vessels, fishing ships and maritime authorities are being collected by Fundació CRAM. The data set of opportunistic sightings compiled in this area comprises 46 sightings. Fundació CRAM has started a research program on the most common species in this area of the Northwestern Mediterranean: *Stenella coeruleoalba*, *Tursiops truncatus*, *Grampus griseus* and *Balaenoptera physalus*.

NORTH-WESTERN MEDITERRANEAN (BALEARIC SEA):

Data on opportunistic sightings made by skippers of collaborating vessels, fishing ships, commercial vessels, by volunteers and organisations are being collected by GRUMM and included in its data base.

ALBORAN SEA AND STRAIT OF GIBRALTAR:

Data on opportunistic sightings made by skippers of collaborating vessels, fishing ships, maritime authorities, whale-watching boats and coastal observations by volunteers and organisations are being collected by ALNITAK, CIRCE and SEC. The data set of opportunistic sightings compiled in this area includes more than 4000 sightings.

TURMARES TARIFA: TURMARES is carrying out several programs focused in educational purposes, and research projects on habitat use and distribution of cetaceans in the Strait of Gibraltar Area.

VALENCIA REGION:

The University of Valencia collect data on opportunistic sightings made by tourism ships, fishing ships, maritime authorities and coastal observations by rangers of the principal islands.

BAY OF BISCAY - BASQUE COUNTRY COAST:

Data on opportunistic sightings made by skippers of collaborating vessels, fishing ships, maritime authorities, and coastal observations by volunteers and organisations are being collected by AMBAR. The data set of opportunistic sightings compiled in this area comprises about 200 sightings.

GALICIA (NW SPAIN):

A program of seasonal opportunistic sightings on board passage ships was carried out between the coast and the Atlantic Islands (Cíes and Ons), from June to September. Data on opportunistic sightings made by skippers of collaborating vessels and coastal observations by volunteers of CEMMA were also recorded, with a total of 307 records.

Opportunistic cetacean observations were carried out during transects for red tides monitoring in the Galician rías. (IEO).

CANARY ISLANDS:

ULL: Presence of any cetacean species was recorded during the two surveys dedicated to the study of the family *Ziphiidae*. Sighting data is collected also from the diving centres and fishermen from El Hierro.

2.2 Analyses/development of techniques

ALNITAK has performed habitat selection models for the 7 most abundant odontocetes in the Alboran Sea and Strait of Gibraltar: bottlenose dolphin, common dolphin, striped dolphin, long-finned pilot whales, Risso's dolphins, sperm whales and beaked whales. The aim was identifying the habitats of special interest for the species, which were proposed as marine protected areas to the Central Government. A total of 23,032 nmi (42,655 km) were surveyed on effort from 1992 to April 2004, encountering a total of 3,215 groups of cetaceans (on effort) of at least

12 species. Parallel socio-economic study was carried out in these areas and the potential threats of anthropogenic factors were analysed. The presence/absence of cetaceans, as well as group size for some species, was analysed in relation to geographical and environmental variables such as latitude, longitude, depth, slope and sea surface temperature. Further analyses are being carried out including more variables and applying the model-based method of estimation of abundance for several species (Hedley *et al.* 1999). Photo-identification is used as well by ALNITAK as a means of tracking groups and individuals, both spatially and temporally, of the most common species.

AMBAR has focused the research on the most common species: *Tursiops truncatus* (mainly), *Delphinus delphis*, *Stenella coeruleoalba*, *Globicephala melas*, *Ziphius cavirostris* and *Balaenoptera physalus*, of Southern Bay of Biscay. The data have been analysed in order to obtain relative abundance and spatio-temporal patterns of distribution. AMBAR is using the photo-identification technique especially for bottlenose dolphin, pilot whale and Cuvier's beaked whale.

CIRCE is coordinating different analysis on the data collected in the Strait of Gibraltar: mark-recapture models and social structure analysis with photo-identification methodologies. Habitat use and spatial-temporal analysis regarding distribution of the animals has also been carried out. Competition among different species has also been analysed.

CEMMA: The results of the annual sightings are analysed for the calculation of relative densities, distribution and he/she is considered the populational size. He is considered the size of the populations for the first time based on the work of monitorization on board of the years 1998-2000 (López *et al.* 2004).

EIBE has developed a preliminary study to determine the diversity and distribution of cetaceans in summer in the adjacent waters of the geographic territory of The Basque Country in the Bay of Biscay. Shipboard visual surveys were conducted, during spring and summer 2003, sailing a total of 1082,25 miles with correct observation effort, covering 7.532,32 Km². Ten different species were encountered in a total of 31 sightings and the distribution of all the species with respect to the depth was examined. Further work is being carried out, through photo-identification, to apply mark-recapture models and to analyse the social structure. Habitat use and spatial-temporal analysis regarding distribution of the animals are also being analysed.

GRUMM, University of Barcelona: In the summer of 2002, within the frame work of the LIFE 2000/NAT/E/7303 project aimed to promote seventeen SCIs (Sites of Communitarian Interest) in the Balearic Islands, it was initiated a survey to assess population abundance and identity, conservation problems, and local movements of bottlenose dolphins (*Tursiops truncatus*). The goal of these studies is producing an action plan for the conservation of the species in the waters of the Balearic Islands.

UV has carried out aerial surveys during several years, using the transect line methodology to estimate the absolute abundance and the spatio-temporal patterns of abundance and distribution of all cetacean species presented in the area: *Tursiops truncatus*, *Delphinus delphis*, *Stenella coeruleoalba*, *Globicephala melas*, *Grampus griseus*, *Physeter macrocephalus*, *Balaenoptera physalus* and beaked whales. Recently shipboard surveys are being carried out using the photo-identification technique especially for bottlenose dolphin and common dolphin.

ULL is analysing the seasonal and spatial distribution of sightings of the different species of the family Ziphiidae off El Hierro island in relation to depth and slope.

3. Marking data

3.1 Field work

3.1.1 NATURAL MARKING DATA

Species	Feature	Area/stock	Calendar year/season/ no. photographed	Catalogued (Y/N)	Catalogue total	Contact person/institute
Fin whale	dorsal fin / body	Alboran Sea	1994-1997 / all seasons	N	20+	Ana Cañadas / ALNITAK
		Southern Bay Biscay	2002-2003 / summer	N	4+	J.A. Vázquez / AMBAR
		Strait of Gibraltar	1998-2002 / all seasons	Y	5	Renaud de Stephanis / CIRCE
		Balearic Islands	2002-2003 / spring- summer	N		Joan Gonzalvo/GRUMM
Rorqual	dorsal fin	Canary Islands		N		
Common dolphin	dorsal fin	Alboran Sea	1992-1993 / summer	Y	120+	Ana Cañadas / ALNITAK
		Alboran Sea	1992-2004 / all seasons	N	10,000+	Ana Cañadas / ALNITAK
		Strait of Gibraltar	1998-2002 / all seasons	Y	50	Renaud de Stephanis / CIRCE

Common dolphin	dorsal fin	Southern Bay Biscay	2003 /summer	N	50	Juanma Salazar/EIBE
		Galicia	2002-2003	Y	20	Alfredo López / CEMMA
Short-finned pilot whale	dorsal fin	Canary Islands	Sep 99-nov 2002 / 840 photos	Y	222	Vidal Martín / SECAC GOBCAN
		Southern Bay Biscay	2003 /summer/	Y	4	J.A. Vázquez / AMBAR
		Southern Bay Biscay	2003 /summer/	Y	10	Juanma Salazar/EIBE
		Canarias	2003 / spring & autumn	N		Francisca Díaz / ULL
		Canary Islands	Dic 2001- sept 2002	N		M.Carrillo / TC
Long-finned pilot whale	dorsal fin	Alboran Sea	1991-2001 / all seasons	Y	250+	Ana Cañadas / ALNITAK
		Alboran Sea	2002-2004 / all seasons	N		Ana Cañadas / ALNITAK
		Strait of Gibraltar	1998-2002 / all seasons	Y	250+	Renaud de Stephanis / CIRCE
		Southern Bay Biscay	2003 /summer/	Y	25+	Juanma Salazar/EIBE
		Southern Bay Biscay	2002-2003 / summer /	N	200+	J.A. Vázquez / AMBAR
		Balearic Islands	2002-2003 / spring-summer	N		Joan Gonzalvo/GRUMM
Risso's dolphin	dorsal fin/body	Alboran Sea	1992-1996 / June to September /	Y	250+	Ana Cañadas / ALNITAK
		Alboran Sea	1997-2004 / all seasons	N		Ana Cañadas / ALNITAK
		Canary Islands	Sep 99-nov 2002	Y	250	Vidal Martín / SECAC
		Canary Islands		N		Vidal Martín / SECAC
		Southern Bay Biscay	2003 /summer/	Y	3	Juanma Salazar/EIBE
		Southern Bay Biscay	2003 / summer /	Y	2	J.A. Vázquez / AMBAR
Northern bottlenose whale	Dorsal fin	Balearic Islands	2002-2003 / spring-summer	N		Joan Gonzalvo/GRUMM
Sowerby's beaked whale	dorsal fin/body	Southern Bay Biscay	2002 / summer	Y	2	J.A. Vázquez / AMBAR
Blainville's beaked whale	dorsal fin/body	Canary Islands	2003 / spring & autumn	Y	18 to 31	Natacha Aguilar / ULL
Killer whale	Dorsal fin/Saddle patch	Strait of Gibraltar	1998-2002 / all seasons	Y	33	Renaud de Stephanis / CIRCE
Sperm whale	flukes	Alboran Sea	1992-1998 / all seasons	Y	10+	Ana Cañadas / ALNITAK
			1999-2003 / all seasons	N	10+	Ana Cañadas / ALNITAK
		Strait of Gibraltar	1998-2002 / all seasons	Y	22	Renaud de Stephanis / CIRCE
Striped dolphin	Dorsal fin	South-east Bay of Biscay	2003 /summer	N	20+	Juanma Salazar/EIBE
Spotted dolphin		Canary Islands				
Bottlenose dolphin	dorsal fin	Alboran Sea	1992- march 2001 / all seasons /	Y	165	Ana Cañadas / ALNITAK
		Alboran Sea	2001-2004 / all seasons	N		Ana Cañadas / ALNITAK
		Valencia Region	2003-2004/ all seasons	N		Juan Antonio Raga / UV
		Southern Bay Biscay	2002-2003 / summer	Y	22+	J.A. Vázquez / AMBAR
		Southern Bay Biscay	2003 summer/ 2004	N	200+	J.A. Vázquez / AMBAR
		Southern Bay Biscay	2003 /summer/	Y	30+	Juanma Salazar/EIBE
		Strait of Gibraltar	1998-2002 / all seasons /	Y	150	Renaud de Stephanis / CIRCE
		Galicia	2002-2003	Y	50	Alfredo López / CEMMA
		Balearic Islands	2002	Y	36	José M ^a Brotons / DGP-BALEARS
		Balearic Islands	2002-2003 / spring-summer	Y	150+	Joan Gonzalvo/GRUMM
		Canary Islands	2003 / spring - autumn	N		Francisca Díaz / ULL
		Canary Islands	Sep 99-nov 2002	Y	150	Vidal Martín / SECAC GOBCAN
		Canary Islands	Dic 2001- sept 2002	Y		M.Carrillo / TC
Cuvier's beaked whale	Dorsal fin/body	Southern Bay Biscay	2002-2003 / summer /	N	20+	J.A. Vázquez / AMBAR
		Southern Bay Biscay	2003 /summer/	N	4	Juanma Salazar/EIBE
		Canary Islands	2003 / spring & autumn	Y	5 to 9	Natacha Aguilar / ULL
Humpback whale		Galician	2003	Y	1	CEMMA

3.1.2. ARTIFICIAL MARKING DATA

3.1.3 TELEMETRY DATA

Species	Tag type	No. successfully deployed	Maximum time transmitting	Contact person/institute
Blainville's beaked whale	DTAG (WHOI)	2	16	Natacha Aguilar / ULL
Short-finned pilot whale	DTAG (WHOI)	26	9	Natacha Aguilar / ULL

3.2 Analyses/development of techniques

ULL and WHOI (Mark Johnson, Peter Tyack) are collaborating in the analysis of the diving pattern, movements and vocalizations of Blainville's beaked whale and short finned pilot whale. The analysis includes distribution of time at different depths, energetic expenditure during the dives related to speed, drag and fluking pattern of the swimming animal, behavioural ecology of feeding strategies at depth as indicated by the sounds related to foraging, and vocal repertoire of the species.

4. Tissue/biological samples collected

4.1 Biopsy samples (+skin swabbing + slaughtered skin)

Calendar year 2003-2004

Species	Area/stock	Calendar year/ season no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Common dolphin	South Spain	2000-2004	Y		40+ (skin swabbing)	Ana Cañadas / ALNITAK
Bottlenose dolphin	South Spain	2002-2004	Y		1 (skin swabbing)	Ana Cañadas / ALNITAK
Blainville's beaked whale	Canary Islands	2003/autumn	Y	0	4(swabbing skin)	Natacha Aguilar / ULL
Short-finned pilot whale	Canary Islands	2003/spring & autumn	Y	11	11(skin swabbing)	Natacha Aguilar / ULL S. Hidebrandt/ ULPGC
Striped dolphin	Balearic Islands	2003/summer 12	Y			Alex Aguilar / GRUMM

Previous years

Species	Area/stock	Calendar year/ season no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Fin whale	Mediterranean	2001-2002	Y		20 Biopsies	Christophe Guinet / CEBC-CNRS
Common dolphin	South Spain	2001-2002	Y		4 (skin swabbing)	Renaud de Stephanis / CIRCE
	Basque Country (N Spain)	2002	N	3	6	P. Cermeño / AMBAR
	Canary Islands		Y	28	28	S. Hidebrandt/ ULPGC
Long-finned pilot whale	Basque Country (N Spain)	2002	N	2	2	P. Cermeño / AMBAR
Sperm whale	South Spain	2000-2002	Y		12 (slaughtered skin)	Ana Cañadas / ALNITAK
	South Spain	2001-2002	Y		9 (slaughtered skin)	Renaud de Stephanis / CIRCE
Striped dolphin	South Spain	2001-2002	Y		7 (skin swabbing)	Renaud de Stephanis / CIRCE
	Basque Country (N Spain)	2002	N	5	5	P. Cermeño / AMBAR
Bottlenose dolphin	Basque Country (N Spain)	2002	N	2	3	P. Cermeño / AMBAR

4.2 Samples from directed catches or bycatches

Calendar year 2003-2004

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Common dolphin	Galicia (N Spain)	36	Y	Various	Alfredo López / CEMMA S. Lens /IEO
	NW Spain	41	Y	Skin, blubber, teeth	Alex Aguilar / GRUMM
Harbour porpoise	Galicia (N Spain)	3	Y	Various	Alfredo López / CEMMA

* e.g. liver, skin, blubber, etc.

Previous years 2002

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Common dolphin	Basque Country (N Spain)	1	N	Various	P. Cermeño / AMBAR
Bottlenose dolphin	Canary Islands	2	Y	All, complete- Bycatch necropsy	A.Fernández / ULPGC
	Balearic Islands (E Spain)	3	Y	Various	G. Fernández / FUN. MAR
Dwarf sperm whale	Canary Islands	1	Y	All, complete- Bycatch necropsy	A.Fernández / ULPGC
Pygmy sperm whale	Canary Islands	1	Y	All, complete- Bycatch necropsy	A.Fernández / ULPGC
Fin whale	Balearic Islands (E Spain)	1	Y	Various	G. Fernández / FUN. MAR

4.3 Samples from stranded animals

Calendar year 2003-2004

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Minke whale	Galicia (N Spain)	2	Y	Complete necropsy	Alfredo López / CEMMA
	Andalucía (S Spain)		Y	Complete necropsy	JoséLuis Mons Checa / CREMA
Fin whales	Galicia (N Spain)	1	Y	Complete necropsy	Alfredo López / CEMMA
	Valencia Region (E Spain)	1	Y	Various	Juan Antonio Raga / UV
Common dolphin	Almería (S Spain)	25	Y	Complete necropsy	F. Toledano / PROMAR
	Andalucía (S Spain)		Y	Complete necropsy	JoséLuis Mons Checa / CREMA
	Valencia Region (E Spain)	2	Y	Complete necropsy	Juan Antonio Raga / UV
	Galicia (N Spain)	107	Y	Complete necropsy	Alfredo López / CEMMA
	Asturias (N Spain)	5	Y	Complete necropsy	Luis Laría / CEPESMA
	Basque Country (N Spain)	8	Y	Stomach, teeth, gonads, skin	Pablo Cermeño / AMBAR
	Canary Islands	1	Y	Complete necropsy	A.Fernández/ ULPGC
Long-finned pilot whale	Galicia (N Spain)	4	Y	Complete necropsy	Alfredo López / CEMMA
	Basque Country (N Spain)	2	Y	Stomach, teeth	Pablo Cermeño / AMBAR
	Asturias (N Spain)	5	Y	Complete necropsy	Luis Laría / CEPESMA
	Almería (S Spain)	3	Y	Complete necropsy	F. Toledano / PROMAR
	Valencia Region (E Spain)	1	Y	Various	Juan Antonio Raga / UV
Short-finned pilot whale	Canary Islands	2	Y	Complete necropsy	A.Fernández/ ULPGC
Risso's dolphin	Galicia (N Spain)	2	Y	Complete necropsy	Alfredo López / CEMMA
	Asturias (N Spain)	1	Y	Complete necropsy	Luis Laría / CEPESMA
	Catalonia (NE Spain)	2	Y	Various	Manel Gazo / Fundació CRAM

	Basque Country (N Spain)	1	Y	Stomach, teeth	Pablo Cermeño / AMBAR
	Canary Islands	1	Y	Complete necropsy	A.Fernández/ ULPGC
	Andalucía (S Spain)		Y	Complete necropsy	JoséLuis Mons Checa / CREMA
	Almería (S Spain)	3	Y	Complete necropsy	F. Toledano / PROMAR
	Valencia Region (E Spain)	1	Y	Complete necropsy	Juan Antonio Raga / UV
Pygmy sperm whale	Galicia (N Spain)	1	Y	Complete necropsy	Alfredo López / CEMMA
Dwarf sperm whale	Canary Islands	1	Y	Complete necropsy	A.Fernández/ ULPGC
Blainville's beaked whale	Canary Islands	1	Y	Complete necropsy	A.Fernández/ ULPGC
Gervais' beaked whale	Canary Islands	1	Y	Complete necropsy	A.Fernández/ ULPGC
Harbour porpoise	Galicia (N Spain)	11	Y	Complete necropsy	Alfredo López / CEMMA
	Andalucía (S Spain)		Y	Complete necropsy	JoséLuis Mons Checa / CREMA
Sperm whale	Asturias (N Spain)	1	Y	Complete necropsy	Luis Laría / CEPESMA
	Canary Islands	2	Y	Complete necropsy	A.Fernández/ ULPGC
	Galicia (N Spain)	3	Y	Complete necropsy	Alfredo López / CEMMA
Striped dolphin	Galicia (N Spain)	13	Y	Complete necropsy	Alfredo López / CEMMA
	Asturias (N Spain)	5	Y	Complete necropsy	Luis Laría / CEPESMA
	Basque Country (N Spain)	5	Y	Stomach, teeth	Pablo Cermeño / AMBAR
	Catalonia (NE Spain)	15	Y	Complete necropsy	Manel Gazo / Fundació CRAM
	Balearic Islands	6	Y	Skin, blubber, teeth	Alex Aguilar / GRUMM
	Valencia Region (E Spain)	36	Y	Complete necropsy	Juan Antonio Raga / UV
	Almería (S Spain)	24	Y	Complete necropsy	F. Toledano / PROMAR
	Andalucía (S Spain)		Y	Complete necropsy	JoséLuis Mons Checa / CREMA
	Canary Islands	1	Y	Complete necropsy	A.Fernández/ ULPGC
Spotted dolphin	Canary Islands	1	Y	Complete necropsy	A.Fernández/ ULPGC
False killer whale	Galicia (N Spain)	7	Y	Complete necropsy	Alfredo López / CEMMA
Bottlenose dolphin	Andalucía (S Spain)		Y	Complete necropsy	JoséLuis Mons Checa / CREMA
	Galicia (N Spain)	8	Y	Complete necropsy	Alfredo López / CEMMA
	Asturias (N Spain)	2	Y	Complete necropsy	Luis Laría / CEPESMA
	Basque Country (N Spain)	5	Y	Stomach, teeth, gonads, skin	Pablo Cermeño / AMBAR
	Catalonia (NE Spain)	4	Y	Various	Manel Gazo / Fundació CRAM
	Valencia Region (E Spain)	7	Y	Complete necropsy	Juan Antonio Raga / UV
	Balearic Islands	3	Y	Skin, blubber, teeth	Alex Aguilar / GRUMM
	Canary Islands	2	Y	Complete necropsy	A.Fernández/ ULPGC
Unidentified dolphin	Galicia (N Spain)	18	Y		Alfredo López / CEMMA
	Almería (S Spain)	21	Y		F. Toledano / PROMAR
	Basque Country (N Spain)	2	Y		Pablo Cermeño / AMBAR
	Asturias (N Spain)	2	Y		Luis Laría / CEPESMA
Cuvier's beaked whale	Basque Country (N Spain)	2	Y	Stomach, teeth, gonads, skin	Pablo Cermeño / AMBAR
	Canary Islands	1	Y	Complete necropsy	A.Fernández/ ULPGC

* e.g. liver, skin, blubber, etc.

Previous years: 2002

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Minke whale	Asturias (N Spain)	1	Y	Complete necropsy	Luis Laría / CEPESMA
	Gulf of Cádiz		Y	Various	GRAMPUS-SECEM
	Gulf of Cádiz	1	Y	Skin, blubber	GRAMPUS-SECEM
Common dolphin	Gulf of Cádiz	1	Y	Various	GRAMPUS-SECEM
Long-finned pilot whale	Valencia (E Spain)	1	Y	Complete necropsy	Antonio Raga/ UV
	Andalucía (S Spain)		Y	Complete necropsy	JoséLuis Mons Checa / CREMA
	Balearic Islands	1			Gloria Fernández / FUN. MAR
	Valencia (E Spain)	3	Y	Complete necropsy	Antonio Raga/ UV
Harbour porpoise	Asturias (N Spain)	2	Y	Complete necropsy	Luis Laría / CEPESMA
	Gulf of Cádiz		Y	Various	GRAMPUS-SECEM

	Valencia (E Spain)	1	Y	Complete necropsy	Antonio Raga/ UV
Striped dolphin	Canary Islands	5	Y	Complete necropsy	A.Fernández/ ULPGC
	Gulf of Cádiz	4	Y	Various	GRAMPUS-SECEM
	Valencia (E Spain)	11	Y	Complete necropsy	Antonio Raga/ UV
	Balearic Islands	8			Gloria Fernández / FUN. MAR
Bottlenose dolphin	Gulf of Cádiz	5	Y	Various	GRAMPUS-SECEM
	Valencia (E Spain)	3	Y	Complete necropsy	Antonio Raga/ UV
	Balearic Islands	4			Gloria Fernández / FUN. MAR
Unidentified dolphin	Balearic Islands	1			Gloria Fernández / FUN. MAR
Cuvier's beaked whale	Asturias (N Spain)	2	Y	Complete necropsy	Luis Laría / CEPESMA
	Galicia (N Spain)	2	Y	Complete necropsy	Alfredo López / CEMMA

4.4 Analyses/development of techniques

ALNITAK: Genetic analysis is being carried out from *Delphinus delphis* tissue samples (from strandings and by-catches), which was contributed by research teams throughout the Black Sea, Mediterranean Sea and Eastern North Atlantic. The aim of this study is to establish the identification of the common dolphin population in the Mediterranean Region and to establish the degree of genetic isolation or genetic flow from the Atlantic Ocean. This study is being carried out in collaboration with the University of Durham (UK). Biopsy samples from bottlenose dolphins have been collected in 2004 in order to perform stable isotopes and genetic analysis. This study is being carried out in collaboration with the University Autónoma of Madrid.

AMBAR: Stomach contents have been preserved in order to analyse diets from the different species: common dolphins (6), bottlenose dolphins (2), striped dolphins (5), long-finned pilot whales (2). 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. Teeth will be analyzed to estimate the age, using standard techniques. Samples of parasites were collected in order to study their interactions. Skin samples have been collected for bottlenose dolphin (2) and harbour porpoise (1) to future genetic analysis. Standard procedures (histology) for identifying possible pathology have been applied to organ samples.

CEMMA: Stomach contents have been analysed for all the species listed in the table. 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. Teeth and gonads will be analysed to estimate the age and reproductive status using standard techniques. Samples of parasites were collected in order to study their interactions. Other samples are taken and conserved in biological bank of samples for later studies.

CIRCE: The samples have been sent as follows: Striped dolphins are to the University of Valencia, common dolphins samples are sent to Alnitak, sperm whale samples are sent to the University of Durham. For fin whale samples, stable isotopes were used as an indicator of fin whale diet and distribution. Benthaleb, I., *et al.*, analyses completed; fatty acid were used as an indicator of fin whale diet. Mazaud, P., *et al.*, analyses completed; mercury in fin whale baleen plates will be used as an indicator of fin whales movements. F. Caurant et al.

Fundació CRAM : From all carcasses from which a complete necropsy was carried out, tissue samples were collected in order to perform histology analyses. Teeth will be analyzed to estimate the age, using standard techniques. Gastrointestinal contents were collected in order to obtain and study parasites. Skin samples have been collected for all the stranded animals in order to conduct future genetic analysis.

ULL: The samples were collected from the loose skin left in the suction cups and bodies of the DTags, they were sent to ULPGC for analysis of sex of the short finned pilot whales.

UV: Data on parasites and causes of death have been collected for all the species listed in the table. 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.

5. Pollution studies

GRAMPUS AND SECEM: Pollution studies to determine heavy metals in cetaceans from the Gulf of Cadiz are being carried out.

CEMMA: Pollution studies to determine POPs and heavy metals in cetaceans from the Galician coast in the BIO CET project.

GRUMM, University of Barcelona: Studies on pollution monitoring and effects, particularly focusing on organochlorine compounds, were conducted on: i) *Stenella coeruleoalba*, *Tursiops truncatus* and *Delphinus delphis* from Mediterranean and North Atlantic waters; ii) *Stenella attenuata* from Panama; iii) *Tursiops truncatus* from Sarasota (in collaboration with the Chicago Zoological Society and Alterra-Marine and Coastal Zone Research); iv) *Phocoena phocoena* from SW Greenland (in collaboration with the Danish Institute for Fisheries Research, the Greenland Institute of Natural Resources and Age Dynamics); and v) *Phocoena phocoena* from the Bay of Fundy (in collaboration with Duke University and Alterra-Marine and Coastal Zone Research). Special attention has been paid to the validation of the use of retinoids as biomarkers of pollutant exposure in odontocetes. Some of these studies were carried out under the umbrella of the IWC Pollution 2000+ project.

6. Statistics for large cetaceans

6.1 Direct catches (commercial, aboriginal and scientific permits) for the calendar year 2003

6.2 Other non-natural mortality for the calendar year 2003-2004

Species	Area/stock	Males	Females	Total	Cause	Methodology
Sperm whale	Canaries, E. N. Atlantic	1	0	1	Anthropogenic interaction	Post-mortem
	Canaries, E. N. Atlantic	1	0	1	Ship strike	Port mortem
Minke whale	Andalucía (South Spain)		2	2	Fishing interaction	Post mortem
Fin whale	Andalucía (South Spain)		1	1	Fishing interaction	Post mortem

Other non-natural mortality for the calendar year 2002

Species	Area/stock	Males	Females	Total	Cause	Methodology
Killer whale	North Spain			1	Shot	Necropsy
Sperm whale	South Spain			3	Collision with ship	
	Canary Islands		1	1	Collision with ship	Port mortem
Minke whale	South Spain			2	Fishing interaction	
Fin whale	Balearic Islands (E Spain)			1	Fishing interaction	
Blainville's beaked whale	Canary Islands			1	Military Manouvres	
Gervais' beaked whale	Canary Islands			1	Military Manouvres	
Cuvier's beaked whale	Canary Islands			9	Military Manouvres	
	Canary Islands			1	Collision with ship	
Beaked whale	South Spain			1	Collision with ship	

6.3 Earlier years' statistics

7. Statistics for small cetaceans

7.1 For the calendar year 2003

Species	Area/stock	Directed catch		Incidental mortality			Live-capture
		Reported	Est. total	Reported	Est. total	Source*	Reported
Common dolphin	Galicía (N Spain)			36		Gillnet /trawl	
	Andalucía (S Spain)			6	77	Fishing interaction	
	Indian Ocean			1		Longline	
Striped dolphin	Asturies			1		Fishing interaction	

	Malaga (S Spain)			6	53	Fishing interaction	
	Catalonia (NE Spain)			5		Fishing interaction	
	South Spain			4		Fishing interaction	
Bottlenose dolphin	Asturies			1		Fishing interaction	
	South Spain			1	8	Fishing interaction	
	Valencia Region (E Spain)			1		Fishing interaction	
Atlantic white-sided dolphin	NE Atlantic			1		Trawl	
Unidentified dolphin	South Spain			3	52	Fishing interaction	
False killer whale	Indian Ocean			1		Longline	
Harbour porpoise	Galicia (N Spain)			3		Gillnet (G)	

For the calendar year 2002

Species	Area/stock	Directed catch		Incidental mortality			Live-capture
		Reported	Est. total	Reported	Est. total	Source*	Reported
Common dolphin	Galicia (N Spain)			2		Gillnet (G)	
	South Spain			6		Fishing interaction / collision with ship	
Short-finned pilot whale	Canarias			1		Collision with ship	
Long-finned pilot whale	South Spain			4		Fishing interaction	
Pygmy sperm whale	Canarias			1		Collision with ship	
Dwarf sperm whale	Canarias			1		Fishing interaction	
Strped dolphin	South Spain			12		Fishing interaction	
Bottlenose dophlin	Canarias			3		Fishing interaction	
	South Spain			1		Fishing interaction	
	Baleares (E Spain)			3		Fishing interaction	
Unidentified dolphin	South Spain			1		Fishing interaction	

This table summarises the incidental captures by gears diagnosed as by-catches (i.e. marks of gears, etc) 2003-2004

Species	Area/stock	Incidental mortality			Live-capture
		Diagnosed	Est. total	Source	Reported
Common dolphin	Galicia (N Spain)	34		*	CEMMA
Bottlenose dolphin					
					CEMMA
Harbour porpoise	Galicia (N Spain)	3		*	
Striped dolphin	South Spain	4			PROMAR

*Most of them are animals with marks of gears, cuts in the fins, etc. Other have marks of ropes.

7.2 Earlier years' statistics

Since 1992 to nowadays, in Valencia Region it has been detected that the 7,4 % of strandings presented clear signals of mortality by human interactions. The no-natural causes of mortality are due to several causes as collision with boats, 0,26% (mainly *Balaenoptera physalus* and *Physeter macrocephalus*); interaction with fishing activities, 2,11% on beaches (mainly *Stenella coeruleoalba*, *Tursiops truncatus*, *Delphinus delphis*, and lesser *Physeter macrocephalus*), species inside the nets, 1,05%, and others, 0,53%; mortality by firearms shoots, 0,26%; and other unknown causes, 3,16%.

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, TENERIFE CONSERVACION and ULPGC in Canarias.

9. Other studies and analyses

Other studies

Iberian Peninsula and Balearic Islands:

ALNITAK, with funding from the Spanish Ministry for the Environment, carried out the Southern Section (waters of Andalucía, both in the Mediterranean and the Atlantic) of the “Program for the Identification of the areas of Special Interest for the Conservation of Cetaceans in Spanish Mediterranean waters” between 2000 and 2002, including genetic analysis of the common dolphin populations, the development of habitat selection models for 7 odontocete species, the analysis of the socio-economic factors and potential anthropogenic threats in the area, and the proposal of a series of marine protected areas (3 SAC, 1 SPAMI and 1 Oceanic Area). Since July 2002, ALNITAK is participating in a European Commission funded Life project entitled “Conservation of cetaceans in Murcia and Andalucía” (LIFE02NAT/E/8610), which will run until July 2006. Within this project, ALNITAK coordinates the monitoring actions, including model-based abundance estimates for bottlenose dolphins and other cetaceans species, and the development of a long-term monitoring programme.

The **SEC** (Spanish Cetacean Society) initiated a Life Nature project (LIFE02NAT/E/8610: “Conservation of Cetaceans and Turtles in Andalucía and Murcia”) in 2002 (finishing in 2006). This project includes the development of a monitoring plan for the species (harbour porpoise, bottlenose dolphin and loggerhead turtle), the development of management plans for the areas, and public awareness. The monitoring program is carried out in collaboration among ALNITAK, CIRCÉ and ANSE.

AMBAR, with funding from the Environmental Department of the Basque Country Government, carried out a socio-ethological study of the resident bottlenose dolphin in the bay of San Sebastian in 2002.

In order to respond to the necessity of viable solution for the interaction between fishing activities and the population of bottlenose dolphins, the **DGP-BALEARS** began a project in October 2000. The study was structured in four parts: 1) continue control of artisanal fishing boats, 2) photo-identification of different schools of dolphins, 3) analysis of the strandings and 4) interviews to fishermen.

AZTI. Data on the distribution and relative density of cetaceans and on anthropogenic and environmental factors are being compiled to make a catalogue of areas of special interest for the conservation of cetaceans. (BIZKAIZET Project). The 2004 meeting of the ICES Working Group on Marine Mammal Ecology was hosted by AZTI in Pasajes (Spain). In coincidence with this meeting a “I Regional Meeting on Cetacean Populations in the Bay of Biscay” had taken place. The study of the interactions between fishing activities and cetaceans is being carried out with the participation in the UE funded NECESSITY (Nephrops and Cetacean Species Selection Information and Technology) project.

CEMMA, with funding from the Environmental Department of the Galicia Country Government, carried out a ecological study of the resident bottlenose dolphin in the Galician coast between 2003-2005. The agreement with the government allows to carry out works of attendance to strandings and fauna recovery. Routinely they are carried out diet studies, age, reproduction and pathology. It has started a biological bank of samples to be able to take to end genetics studies and pollutants. An acoustic pursuit of cetaceans is also developed by means of TP0Ds.

CREMA collects information and take samples of stranded animals in the region of Andalucía (south Spain). This centre collaborates with other research centres, taking samples of common, striped and bottlenose dolphins in the southern Spanish coast. In 2002, 124 strandings were recorded.

In 1993 the Marineland Foundation (**FUN. MAR**) started the establishment of a stranding network. For this purpose, a contract was signed with the Balearic Government.

GRAMPUS-SECEM take stomachs of stranded animals for food habits studies in cetaceans from the Gulf of Cadiz.

GRUMM, University of Barcelona: Studies on population genetics were carried on: i) Mediterranean and Atlantic populations of *Tursiops truncatus* (in collaboration with the University of Durham); ii) Mauritanian population of *Delphinus* spp. (in collaboration with the University of Durham); Mediterranean and Atlantic populations of *Balaenoptera physalus* (in collaboration with the University of California at Berkeley). Studies on isotopic signature were carried out on: I) Mediterranean and Atlantic populations of *Tursiops truncatus*, *Delphinus delphis* and *Stenella coeruleoalba*; North Atlantic population of *Physeter macrocephalus* (in collaboration with the Copenhagen Zoologisk Museum and Age Dynamics).

IEO. Incidental catches of cetaceans were monitored in different long distance Spanish fisheries. Observer's schemes were in operation in the trawl fishery in the SW Atlantic (865 hauls observed), NAFO (531 hauls observed), Svalbard (114 hauls) as well as in Hatton Bank (400 hauls) and Reikjanes Ridge (84 hauls). The long line fishery for swordfish was also monitored in the Atlantic, Pacific and Indian Oceans (174, 93 and 486 sets respectively). A programme to monitor discards and incidental catches in the trawl fishery in ICES areas started in 2003. A total of 200 and 588 hauls were observed in areas IXa and VII respectively. Observers collected as well information on incidental catches and sightings of cetaceans in some experimental fisheries.

Canary Islands:

Canarias has 10 SACs approved for bottlenose dolphins. Case has been opened for the designation of the 'Parque Natural Marino de las Ballenas' (Natural Marine Park for Whales). Case has been opened as well for the development of the Biodiversity law.

There exists a law regulating the whale-watching activities since 2000, and a new law is being developed. Certificates of whale-watching touristic guide operator have been implemented. Since 1996, vigilance is carried out over the whale watching operations by the local authorities. In 2002, a socio-economic study of the whale-watching activities was done by the SEC for the Dirección General del Medio Natural del Gobierno de Canarias (**GOBCAN**). A public awareness campaign (with respect to the authorizations and code of conduct) and an international workshop about the whale watching activities have also been carried out.

Since the mass stranding of beaked whales occurring on the 24th September 2002 coinciding with military maneuvers, several investigations have been carried out by the Commission created for this purpose: SECAC performed a study on all information available about beaked whales in the Canary Islands, including the previous 8 mass strandings, and is doing studies on the distribution of beaked whales in Fuerteventura and Lanzarote. The **ULPGC** (Dept. of Anatomía Patológica) is carrying out detailed investigations on the pathology of the stranded animals, studying the causes of death from the pathological point of view. The ULL (University of La Laguna) is studying the acoustic factors associated to the mass stranding. The Hydrographic Institute of the Spanish Navy is studying the oceanographic factors that could have had effects on the stranding. For this purpose, two ship-board campaigns were carried out on board Navy ships.

A study has been carried out by "Association Tanay" on the interactions (threats and effects) between bottlenose dolphins and aquaculture plants in SW Tenerife, within the area proposed for the 'Parque Natural Marino de las ballenas', and with high levels of whale-watching activities.

SECAC and **TC** are continue with their studies on the populations of bottlenose dolphin and short-finned pilot whales in the SACs of Tenerife and Gran Canaria. A study on the possible endemic character of the oceanic form of Atlantic spotted dolphin in Canarias is also being performed by SECAC.

ULPGC – Department of Anatomic Pathology. This group has been carried out a systematic study with the following aims. To determine the pathology and the possible cause/s of the stranding and death of the stranded cetaceans in the Canary Islands. Around 30-40 necropsies are performed every year and the corresponding pathological, microbiological, parasitological and toxicological, etc. studies are also carried out. Special emphasis is focused on anthropogenic effects on the lesions found in stranded animals (collisions, fishing interaction, acoustic trauma, etc.).

North African Coast:

The **GRAMM** has been working since 2002 collecting information on sightings and strandings along the southern coasts of the Alboran Sea (Melilla and coasts of Morocco).

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