

PORTUGAL - Progress report on cetacean research, January 2008 to December 2008, with statistical data for the calendar year 2008.

SEQUEIRA, MARINA

Instituto da Conservação da Natureza e da Biodiversidade, Reserva Natural do Estuário do Sado, Praça da República, 2900-587 Setúbal, PORTUGAL sequeiram@icnb.pt

This report summarises information obtained from:

Name of agency/institute	Abbreviation (use in rest of report)	Contact e-mail address
Museu da Baleia	MB	luisfreitas@museudabaleia.org
Nova Atlantis Foundation	NA	oceanwatch@gmail.com
Centre of the Institute of Marine Research of the University of the Azores / Department of Oceanography and Fisheries of the University of the Azores	IMAR-DOP/UAç	monica@uac.pt rprieto@uac.pt
Regional Environment Directorate – Azores Government	DRA	sara.vf.santos@azores.gov.pt
Sociedade Portuguesa de Vida Selvagem (Wildlife Portuguese Society)	SPVS	marisa.ferreira@socpvs.com

1. SPECIES AND STOCKS STUDIED

IWC common name	IWC recommended scientific	Area/stock(s)	Items referred to
Common minke whale	<i>Balaenoptera acutorostrata</i>	NE Atlantic: Azores, mainland Portugal	8
Sei whale	<i>Balaenoptera borealis</i>	NE Atlantic: Azores	2.1.1.; 2.1.2.; 2.2.; 3.1.1.; 3.1.3.; 3.2.; 4.1.
Bryde's whale	<i>Balaenoptera brydei</i>	NE Atlantic - Madeira	2.1.1.; 2.1.2.; 2.2.; 3.1.1.
Blue whale	<i>Balaenoptera musculus</i>	NE Atlantic: Azores	2.1.1.; 2.1.2.; 3.1.1.; 3.2.; 4.1.
Fin whale	<i>Balaenoptera physalus</i>	NE Atlantic: Azores	2.1.1.; 2.1.2.; 2.2.; 3.1.1.; 3.2.; 4.1.
Humpback whale	<i>Megaptera novaeangliae</i>	NE Atlantic: Azores	2.1.1.; 2.2.
Sperm whale	<i>Physeter macrocephalus</i>	NE Atlantic: Madeira, Azores	2.1.1.; 2.1.2.; 2.2.; 3.1.1.; 3.1.3.; 3.2.; 4.3.; 4.4.; 8
Pigmy sperm whale	<i>Kogia breviceps</i>	NE Atlantic: Madeira	2.1.1.; 2.2.
Harbour porpoise	<i>Phocoena phocoena</i>	NE Atlantic: mainland Portugal	2.1.1.; 4.3.; 7.3.2.; 8
Risso's dolphin	<i>Grampus griseus</i>	NE Atlantic: Azores, mainland Portugal	2.1.1.; 2.1.2.; 2.2.; 3.1.1.; 4.1.; 4.3.; 8
Common bottlenose dolphin	<i>Tursiops truncatus</i>	NE Atlantic: Madeira, Azores, mainland Portugal	2.1.1.; 2.1.2.; 2.2.; 3.1.1.; 3.2.; 4.3.; 7.3.2.; 8
Atlantic spotted dolphin	<i>Stenella frontalis</i>	NE Atlantic: Madeira, Azores	2.1.1.; 2.1.2.; 2.2.
Striped dolphin	<i>Stenella coeruleoalba</i>	NE Atlantic: Madeira, Azores, mainland Portugal	2.1.1.; 2.1.2.; 2.2.; 4.3.; 8
Common dolphin	<i>Delphinus delphis</i>	NE Atlantic: Azores, mainland Portugal	2.1.1.; 2.1.2.; 2.2.; 4.3.; 4.4.; 7.3.2.; 8
False killer whale	<i>Pseudorca crassidens</i>	NE Atlantic: Azores	2.1.1.
Killer whale	<i>Orcinus orca</i>	NE Atlantic: Azores, mainland Portugal	2.1.1.; 2.1.2.; 2.2.; 4.3.; 8
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	NE Atlantic: Madeira, Azores	2.1.1.; 2.1.2.; 2.2.; 3.1.1.; 3.1.3.; 8
Long-finned pilot whale	<i>Globicephala melas</i>	NE Atlantic: mainland Portugal	2.1.1.; 8
Sowerby's Beaked Whale	<i>Mesoplodon bidens</i>	NE Atlantic: Azores	2.1.1.
Blainville beaked whale	<i>Mesoplodon densirostris</i>	NE Atlantic - Madeira	2.1.1.; 2.2.; 3.1.1.
Cuvier's beaked whale	<i>Mesoplodon europaeus</i>	NE Atlantic - Madeira	2.1.1.; 2.2.
Cuvier's Beaked Whale	<i>Ziphius cavirostris</i>	NE Atlantic: Azores, mainland Portugal	2.1.1.; 2.2.; 8
Northern bottlenose whale	<i>Hyperoodon ampullatus</i>	NE Atlantic: Azores	2.1.1.; 2.1.2.; 2.2.

2. SIGHTINGS DATA

2.1 Field work

2.1.1 Systematic

MADEIRA

Nautical and aerial visual surveys were carried out on a monthly basis around the islands of Madeira, Porto Santo and Desertas, following defined sectors (South, North and/or East and West of the islands). The area predefined to cover the sectors for nautical and aerial surveys was 4066 and 6393 km², respectively. Both surveys followed “Equal Spaced Zig-Zag” transects generated by Distance4 software and data was recorded with Logger2000 software. Nautical surveys used the research vessel “Ziphius” (6kts average speed) up to 12nm offshore, while aerial surveys used an helicopter (100kts average speed and 500ft high) up to 20nm offshore, always with a minimum of 3 observers. The total effort was 27 days at sea for nautical surveys and 12 flights for aerial surveys.

Target species	Date	Area	No. of sightings	Contact person/institute and references
Sperm whale	21 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	22 Jan 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	06 May 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	12 May 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	14 May 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Short-finned pilot whale	09 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	11 Jan 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	03 Mar 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	06 May 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	18 Sep 2008	Madeira	4	Luís Freitas / MB; (Alves et al, 2009)
	06 Oct 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Common bottlenose dolphin	21 Oct 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	11 Jan 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	17 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	14 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	20 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	21 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	03 Mar 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	06 May 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	12 Jun 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	13 Jun 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	28 Jul 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	18 Sep 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	06 Oct 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	14 May 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
21 Oct 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)	
Atlantic spotted dolphin	08 Jan 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	09 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	11 Jan 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	16 Jan 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	17 Jan 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	14 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	20 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
21 Feb 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)	

Target species	Date	Area	No. of sightings	Contact person/institute and references
Atlantic spotted dolphin	16 Apr 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	07 May 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	02 Jun 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	12 Jun 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	13 Jun 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	09 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	10 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	18 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	06 Oct 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	27 Jul 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	05 Aug 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	13 Oct 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
Common dolphin	09 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	11 Jan 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	16 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	04 Feb 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	14 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	19 Feb 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	20 Feb 2008	Madeira	5	Luís Freitas / MB; (Alves et al, 2009)
	21 Feb 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	03 Mar 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	16 Apr 2008	Madeira	6	Luís Freitas / MB; (Alves et al, 2009)
	21 Apr 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	15 Apr 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	14 May 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	21 Jul 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	25 Jul 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Bryde's whale	08 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	16 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	17 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	12 Jun 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Cuvier's beaked whale	06 May 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Blainville's beaked whale	23 Apr 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Stripped dolphin	17 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	19 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	20 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	21 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	16 Apr 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	19 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	14 May 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	05 Dec 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Pygmy sperm whale	22 Apr 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Mesoplodon sp	22 Apr 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	06 May 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Balaenoptera sp	16 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	03 Mar 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)

Target species	Date	Area	No. of sightings	Contact person/institute and references
Balaenoptera sp	13 Jun 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	09 Sep 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	10 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	19 Sep 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	25 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	21 Oct 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Delphinidae	11 Jan 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	17 Jan 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	04 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	19 Feb 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	20 Feb 2008	Madeira	3	Luís Freitas / MB; (Alves et al, 2009)
	21 Feb 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	03 Mar 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	16 Apr 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	22 Apr 2008	Madeira	2	Luís Freitas / MB; (Alves et al, 2009)
	06 May 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	10 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	19 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	26 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	07 Oct 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	25 Jul 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	05 Dec 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
Ziphiidae	12 Aug 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)
	18 Sep 2008	Madeira	1	Luís Freitas / MB; (Alves et al, 2009)

MAINLAND PORTUGAL

Target species	Date	Area	No. of sightings	Contact person/institute and references
Common dolphin	8-15 Aug 2008	Northern Portugal (vessel effort)	20	José Vingada / SPVS
Harbour porpoise	8-15 Aug 2008	Northern Portugal (vessel effort)	2	José Vingada / SPVS
Common bottlenose dolphin	8-15 Aug 2008	Northern Portugal (vessel effort)	20	José Vingada / SPVS
Common dolphin	July/December/2008	Northern and Central (land based observations)	9	José Vingada / SPVS
Harbour porpoise	July/December/2008	Northern and Central (land based observations)	14	José Vingada / SPVS
Common bottlenose dolphin	July/December/2008	Northern and Central (land based observations)	9	José Vingada / SPVS

AZORES

Target species	Date	Area	No. of sightings	Contact person/institute and references
Atlantic spotted dolphin	From: 2000-2005 April-October. 2005-present: Year round in field	Pico island and adjacent waters of Faial and S. Jorge islands	Average 100 boat based survey days per annual year, daily land based surveys from several fixed look out points, using 25-80 binoculars. LAND: Approx 5000 sightings, all species, from land during 2003-2008, more data to be analysed.	K. Hartman / NA
Fin whale				
Sei whale				
Humpback whale				
Sperm whale				
Common bottlenose dolphin				

Risso's dolphin			OCEAN: Approx. 1000 sightings of Risso's dolphins, including photo Id , spatial and behavioural data collection. (2003-present): Approx. 1000 sightings of all other species listed, mainly common bottlenose dolphins, pilot whales, sperm whales, beaked whales and baleen whale species.	
Long finned pilot whale				
Short finned pilot whale				
Sowerby's Beaked whale				
Northern bottlenose whale				
Killer whale				
False killer whale				

2.1.2 Opportunistic, platforms of opportunity

MADEIRA

Primary species	Area	Data type/method	Collected by	Platform	Location of archive (if applicable)	Contact person/institute and refs
Sperm Whale	Madeira	Photo-id; sightings/ random transects	whalewatching operator	whalewatching vessel		Luís Freitas / MB
Short-finned pilot whale	Madeira	Photo-id; sightings/ random transects	whalewatching operator	whalewatching vessel		Luís Freitas / MB
Common bottlenose dolphin	Madeira	Photo-id; sightings/ random transects	whalewatching operator	whalewatching vessel		Luís Freitas / MB
Atlantic spotted dolphin	Madeira	Sightings/ random transects	whalewatching operator	whalewatching vessel		Luís Freitas / MB
Common dolphin	Madeira	Sightings/ Random transects	whalewatching operator	whalewatching vessel		Luís Freitas / MB
Ziphiidae	Madeira	Photo-id; sightings/ random transects	whalewatching operator	whalewatching vessel		Luís Freitas / MB
Bryde's whale	Madeira	Photo-id; sightings/ random transects	whalewatching operator	whalewatching vessel		Luís Freitas / MB

AZORES

IMAR-DOP/UAç The Azores Fisheries Observer Program (POPA) was created in 1998 to guarantee the “dolphin safe” certification to the tuna fishery and its products. Trained observers collect information on the activity of the vessel, fishing effort and captures, sightings of cetaceans, seabirds and turtles, and interaction of these animals with fishing activity. Observers are required to conduct concentrated lookouts for each taxonomic group separately, outside the fishing periods. Cetacean surveying is only done when the vessel is travelling or searching for tunas. Data from 2008 is still being introduced into the database and being corrected.

Primary species	Area	Data type/method	Collected by	Platform	Location of archive (if applicable)	Contact person/institute and refs
All species	Azorean EEZ	sightings	Trained observers	Fishing boats		M. Machete (IMAR-DOP/UAç); annual reports available at http://www.horta.uac.pt/projectos/popa/info.htm

2.2 Analyses/development of techniques

MADEIRA

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Sperm whale	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Photo-id; sightings	Luis Freitas / MB (Alves et al, 2009)
Short-finned pilot whale	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Photo-id; sightings Tagging VHF/TDR	Luis Freitas / MB (Alves et al, 2009)
Common bottlenose dolphin	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Photo-id; sightings	Luis Freitas / MB (Alves et al, 2009)
Atlantic spotted dolphin	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Sightings	Luis Freitas / MB (Alves et al, 2009)

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Common dolphin	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Sightings	Luis Freitas / MB (Alves et al, 2009)
Stripped dolphin	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Sightings	Luis Freitas / MB (Alves et al, 2009)
Blainville beaked whale	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Photo-id; sightings	Luis Freitas / MB (Alves et al, 2009)
Bryde's whale	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Photo-id; sightings	Luis Freitas / MB (Alves et al, 2009)
Cuvier's beaked whale	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Sightings	Luis Freitas / MB (Alves et al, 2009)
Pygmy sperm whale	See Table 2.1.1 for Madeira	Madeira	Predetermined transects / dedicated effort	Sightings	Luis Freitas / MB (Alves et al, 2009)

AZORES

Target species	Date	Area	Methods/effort	Parameters/factors measured	Contact person/institute and refs
Common bottlenose dolphin, Common dolphin, Atlantic spotted dolphin, Striped dolphin	1999-2004	Azores	Sighting data	Spatial and temporal distribution, habitat preferences	M.A. Silva / IMAR-DOP/UAç; (Quérouil <i>et al.</i> , 2008)
Sei whale, Fin whale, Blue whale	1998-2008	Azores	Sighting data	Spatial and temporal distribution, relative abundance	M.A. Silva / IMAR-DOP/UAç; (Bacelar, 2008)
All species	2000-2004	Azores	Sighting data collected from whale-watching operators	Occurrence and distribution	M.J. Cruz / IMAR-DOP/UAç; (Cruz, 2008)
All species listed on Table 2.1.1. (Azores, data by NA)		Coastal waters of Pico island and adjacent waters of Faial and S. Jorge islands.	Photo ID; Acoustic recordings, Polecam underwater, Video recordings; Land based surveys, Land and sea transects; Focal group and animals follows; Genetic DNA sampling for Risso's dolphin	Population sizes: Temporal residency patterns: Social structure: Spatial occurrence Genetic structure; Behavioural patterns; Anthropogenic influences; Determination of cetacean hotspots for breeding, nursing within the Central Group	K. Hartman / NA

3. MARKING DATA

3.1 Field work

3.1.1 Natural marking data

MADEIRA

Species	Feature	Area/stock	No. photo-id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
Sperm Whale	Fluke	Madeira	1	Y	35	Luís Freitas / MB; (Alves et al, 2009)
Short-finned pilot whale	Dorsal fin	Madeira	94	Y	436	Luís Freitas / MB; (Alves et al, 2009)
Common bottlenose dolphins	Dorsal fin	Madeira	18	Y	170	Luís Freitas / MB; (Alves et al, 2009)
Bryde's whale	Dorsal fin	Madeira	11	Y	27	Luís Freitas / MB; (Alves et al, 2009)
Blainville beaked whale	Dorsal fin; body marks	Madeira	1	Y	12	Luís Freitas / MB; (Alves et al, 2009)

AZORES

Species	Feature	Area/stock	No. photo-id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
Risso's dolphin	Dorsal fin	Azores	+ 50	Y	+200	M.A. Silva (IMAR-DOP/UAç)
Sperm whale	Fluke	Azores	+50	Y	+320	M.A. Silva (IMAR-DOP/UAç)
Common bottlenose dolphin	Dorsal fin	Azores	+50	Y	+1000	M.A. Silva (IMAR-DOP/UAç)
Sei whale	Pigmentation /dorsal fin	Azores: Pico and Faial Islands	+20	A stranding	46	M.A. Silva (IMAR-DOP/UAç)
Fin whale	Pigmentation /dorsal fin	Azores: Pico and Faial Islands	+20	Y	52	M.A. Silva (IMAR-DOP/UAç)
Blue whale	Pigmentation /dorsal fin	Azores: Pico and Faial Islands	+10	Y	43	M.A. Silva (IMAR-DOP/UAç)

3.1.2. Artificial marking data

None reported

3.1.3 Telemetry data

MADEIRA

Species	Tag type	No. successfully deployed	Maximum time transmitting	Contact person/institute; refs
Short-finned pilot whale	TDR/ VHF Radio with suction-cup	1	5h 06min	Luís Freitas / MB; (Alves et al, 2009)

AZORES

IMAR-DOP/UAç During 2008, there were 36 days of field work dedicated to tagging sperm whales with suction-cup attached VHF/TDR tags and to tagging sei whales with satellite tags. Between 26 of May and 7 June, researchers from IMAR-DOP/UAç attached satellite tags to 7 sei whales encountered around the islands of Faial and Pico, Azores. The transmitters were attached using an ARTS airgun (Aerial Rocket Transmitter System) at 8 bar pressure at distances of ~7m. Three of the transmitters malfunctioned of unknown causes.

Species	Tag type	No. successfully deployed	Maximum time transmitting	Contact person/institute; refs
Sei whale	Satellite/ SPOT5	4	105 days	R. Prieto (IMAR-DOP/UAç)
Sperm whale	Radio / TDR (MK9)	2	4 hours	M.A. Silva (IMAR-DOP/UAç); (Sá, 2008)

3.2 Analyses/development of techniques

AZORES

Target species	Date	Area	Methods/effort	Parameters/factors measured	Contact person/institute and refs
Common bottlenose dolphin	1999-2004	Azores	Photo-id data	Residence patterns, home ranges, population structure	M.A. Silva (IMAR-DOP/UAç); (Silva <i>et al.</i> , 2008)
Sei whale, Fin whale, Blue whale	1998-2008	Azores	Photo-id data	Residence patterns	M.A. Silva (IMAR-DOP/UAç); (Bacelar, 2008)
Sperm whale, Fin whale	2005-2008	Azores	TDR data	Diving pattern	M.A. Silva (IMAR-DOP/UAç); (Sá, 2008)

4. TISSUE/BIOLOGICAL SAMPLES COLLECTED

4.1 Biopsy samples (summary only)

AZORES

Species	Area/stock	Calendar year/ season - no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Blue whale	Azores	2008/Spring-Summer - 4	Y	0	5	M.A. Silva / IMAR-DOP/UAç
Fin whale	Azores	2008/Spring-Summer - 3	Y	0	7	M.A. Silva / IMAR-DOP/UAç
Sei whale	Azores	2008/Spring-Summer - 9	Y	0	12	M.A. Silva / IMAR-DOP/UAç
Risso's dolphin	Azores	December 2008 - 3	Y	0	3	K. Hartman / NA

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

No direct catches were recorded in Madeira, Azores or mainland Portugal.

4.3 Samples from stranded animals

MADEIRA

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Common bottlenose dolphin	Madeira	Skin, blubber, muscle, heart, lung, thyroid, thymus, liver, kidney, Reproductive system, stomach, bone	2	Y	8	Luís Freitas / MB (Alves et al, 2009)
Sperm whale	Madeira	Skin, bone	1	Y	0	Luís Freitas / MB (Alves et al, 2009)

AZORES

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Risso's dolphin	Azores	Skin/bBlubber/Muscle	1	Y	0	M.A. Silva (IMAR-DOP/UAç)

MAINLAND PORTUGAL

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Common dolphin	Mainland Portugal	Skin	61	Y	0	Marisa Ferreira/SPVS
		Blubber*	49		17	
		Muscle*	56		17	
		Liver*	44		17	
		Kidney*	44		17	
		Lung*	38		0	
		Teeth*	56		0	
		Reproductive organs*	45		0	
		Several organs (histology)	33		0	
		Stomach contents*	42		0	
* samples will be analysed in the years 2009/2010						
Harbour porpoise	Mainland Portugal	Skin	9	Y		Marisa Ferreira/SPVS
		Blubber*	9		3	
		Muscle*	9		3	
		Liver*	9		3	
		Kidney*	9		3	
		Lung*	9			
		Teeth*	9			
		Reproductive organs*	9			
		Several organs (histology)	7			
		Stomach contents*	6			
* samples will be analysed in the years 2009/2010						

Striped dolphin	Mainland Portugal	Skin	2	Y	0	Marisa Ferreira/SPVS
		Blubber*	2		0	
		Muscle*	2		0	
		Liver*	2		0	
		Kidney*	2		0	
		Lung*	2		0	
		Teeth*	2		0	
		Reproductive organs*	2		0	
		Several organs (histology)	2		0	
		Stomach contents*	0		0	
* samples will be analysed in the years 2009/2010						
Common minke whale	Mainland Portugal	Skin	1	Y	0	Marisa Ferreira/SPVS
		Blubber	1		0	
		Muscle	1		0	
Common bottlenose dolphin	Mainland Portugal	Skin	2	Y	1	Marisa Ferreira/SPVS
		Blubber	2		0	
		Muscle	2		0	
		Liver	2		0	
		Kidney	2		0	
		Lung	2		0	
		Teeth	2		0	
		Reproductive organs	1		0	
		Several organs (histology)	2		0	
		Stomach contents	1		0	
Unidentified Ziphiidae	Mainland Portugal	muscle	1	Y	0	Marisa Ferreira/SPVS
		skull	1		0	
Cuvier beaked whale	Mainland Portugal	muscle	1	Y	0	Marisa Ferreira/SPVS
Killer whale	Mainland Portugal	muscle	1	Y	0	Marisa Ferreira/SPVS
		teeth	1		0	

4.4 Analyses/development of techniques

MADEIRA

Analyses included laboratory exams such as histopathology and microbiology.

AZORES

Target species	Date	Area	Methods/effort	Parameters/factors measured	Contact person/institute and refs
Sperm whale	2002-2004	Azores	Fatty acid analysis	Population structure	M.A. Silva (IMAR-DOP/UAç); (Walton <i>et al.</i> , 2008)

MAINLAND PORTUGAL

Population genetic analyses were conducted on common dolphin populations inhabiting Portuguese mainland coast. Tissue samples were collected from stranding animals along the Portuguese mainland coast, comprising a total of 45 (35 from the northern and central coasts and 10 from the southern coast). 630 bp of the mitochondrial DNA (mtDNA) control region and 1121 bp of the mtDNA cytochrome *b* gene were PCR amplified and sequenced. Measures of genetic diversity obtained were within the range described for other cetacean species and no significant genetic differentiation was observed, thus meaning that a single common dolphin population inhabits Portuguese mainland coast (Amaral *et al.* 2007). These samples have been included in a broader phylogeographic study, including *D. delphis* from the Atlantic, the Pacific and Indian Oceans, *D. capensis* from the Pacific and *D. capensis tropicalis* from the Indian Ocean. Preliminary results of this study, which was based in sequences from the mitochondrial cytochrome *b* gene, indicate that two different groups/populations exist in the Northeast Atlantic, with common dolphins off the Portuguese mainland coast included in both groups. These preliminary results also seem to indicate that the current taxonomy within the genus *Delphinus* is not verified in genealogical lineages, and this has important implications for stock management and conservation policies. Further analyses are currently being conducted in order to clarify taxonomic status of common dolphin populations across their geographical distribution (Amaral *et al.*, in prep).

5. POLLUTION STUDIES

MADEIRA

During systematic surveys, conducted by the MB, sightings of persistent litter were recorded.

Additionally, samples of muscle, liver and blubber from stranded animals have been kept for further analyses of heavy metals.

6. STATISTICS FOR LARGE CETACEANS

6.1 Corrections to earlier years' statistics for large whales

6.2 Direct catches of large whales (commercial, aboriginal and scientific permits) for the calendar year 2008 or the season 2008/09

No direct catches of large whales were recorded in Madeira, Azores and mainland Portugal.

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

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

No ship strikes reported in Madeira, Azores and mainland Portugal.

6.3.2 Fishery bycatch of large whales

No bycatches of large whales reported for Madeira, Azores and mainland Portugal.

7. STATISTICS FOR SMALL CETACEANS

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

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

No ship strikes reported in Madeira, Azores and mainland Portugal.

7.3.2 Fishery bycatch of small cetaceans

MAINLAND PORTUGAL

Species	Sex	No.	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Common dolphin	U	12	06/2008	40°26'N; 08°48'W	3D 9R	<i>Small schooling species</i>	SB	Crew	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: 12 common dolphins encircled in beach seine net. 9 animals were released alive (including 1 calf) and 3 died (1 adult and 2 calves). Final fate of animals released alive unknown.									
Common dolphin	U	1	10/09/2008	40°13'N; 08°58'W	R		GTR	Coast guard	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: animal discovered entangled in trammel nets by coast guard during a survey and released.									
Common dolphin	F	1	26/03/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (monofilament marks on all appendices)									
Common dolphin	M	1	25/02/2008	Central Portuguese coast	D		NK	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: amputation of fluke									
Common dolphin	M	1	15/12/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers; amputation of fluke)									
Common dolphin	F	1	30/10/2008	North Portuguese coast	D		LL	Coast guard	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: animal found alive at 1nm from the coast, surrounded by longlines with hooks. Died during the rescued attempt									

Species	Sex	No.	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Common dolphin	M	1	2/11/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers)									
Common dolphin	M	1	3/11/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers, amputation of fluke); undigested fish on stomach									
Common dolphin	M	1	5/11/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers)									
Common dolphin	F	1	8/11/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers; amputation of fluke)									
Common dolphin	M	1	8/11/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers); undigested fish on stomach									
Common dolphin	M	1	24/11/2008	Central Portuguese coast	D		NK	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers and trunk, rope around tailstock); undigested fish on stomach									
Common dolphin	M	1	29/11/2008	Central Portuguese coast	D		NK	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers and trunk); linear cut on body trunk									
Common dolphin	M	1	29/11/2008	Central Portuguese coast	D		NK	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: rope around tailstock; undigested fish on stomach									
Common dolphin	F	1	27/10/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers); undigested fish on stomach									
Common dolphin	F	1	27/10/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers and body trunk); undigested fish on stomach									
Common dolphin	M	1	22/10/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers)									
Common dolphin	F	1	17/2/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers); amputated fluke; undigested fish on stomach									
Common dolphin	F	1	17/2/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers); partial amputation of dorsal fin and fluke									

Species	Sex	No.	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Common dolphin	M	1	29/2/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers); dorsal muscles removed; undigested fish on stomach									
Common dolphin	M	1	5/4/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers); several cuts on body; undigested squid on stomach									
Common dolphin	F	1	23/4/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers)									
Common dolphin	F	1	24/4/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers); partial amputation of fluke									
Common dolphin	F	1	29/4/2008	North Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers)									
Common dolphin	F	1	27/6/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: animal surrounded by nets; undigested squid on stomach									
Common dolphin	1F 1U	2	10/10/2008	Central Portuguese coast	1D 1R	<i>Schooling species</i>	SB	Confirmed by fishing crew	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: 2 animals caught in beach purse seine; 1 animal released alive; 1 dead									
Common dolphin	M	1	1/10/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: external evidences of bycatch (net marks on flippers); cut on dorsal fin									
Harbour porpoise	M	1	27/3/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: net marks on flippers, head and tailstock									
Harbour porpoise	M	1	15/6/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: net marks on jaw and tailstock; haematomas									
Harbour porpoise	M	1	26/6/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: net marks on dorsal fin; amputated fluke									
Harbour porpoise	M	1	27/6/2008	Central Portuguese coast	D		NK	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: net marks on flippers; rope mark on body trunk; nylon filament inside mouth									
Harbour porpoise	F	1	16/11/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: nylon filament attached to cuts on dorsal fin and fluke; monofilament marks around head and flippers									

Species	Sex	No.	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Harbour porpoise	M	1	30/11/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: monofilament marks on flippers and body trunk; undigested prey on stomach									
Common bottlenose dolphin	M	1	7/5/2008	Central Portuguese coast	D		GN	Post mortem analysis	Marisa Ferreira / SPVS marisa.ferreira@socpvs.org
Comments: monofilament net marks on flippers; multifilament rope mark around head									

8. STRANDINGS

MADEIRA

A stranding network established by MB is implemented in Madeira archipelago. This network includes the main entities patrolling the coastline and some sea users that immediately notify the MB when stranding occurs. In 2008 this network was given a name: The Cetacean Stranding Network of the Madeira Archipelago (RACAM - Rede de Arrojamentos de Cetaceos do Arquipélago da Madeira). This allowed us to provide a rapid and better response to the stranded animals. Additionally, during 2008 the MB created a poster about RACAM, to be distributed along many places as possible along the Madeira and Porto Santo Islands.

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Common bottlenose dolphin	2	1	Luís Freitas / MB	luisfreitas@museudabaleia.org
Sperm whale	1	-	Luís Freitas / MB	luisfreitas@museudabaleia.org
Unidentified dolphin	1	-	Luís Freitas / MB	luisfreitas@museudabaleia.org

AZORES

Species	No. Strandings	No. Post mortems	Contact Person/Institute	Contact e-mail address
Sperm whale	4*	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Cuvier's beaked whale	1	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Common bottlenose dolphin	1	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Short-finned pilot whale*	2	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Risso's dolphin	1	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Common dolphin	1	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Striped dolphin	3	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Pygmy sperm whale**	1	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Unidentified Mesoplodon	1	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Unidentified small cetaceans	2	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Unidentified baleen whale	1	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt
Unidentified cetacean species	2	0	Sara Santos/DRA	sara.vf.santos@azores.gov.pt

* One individual not identified with certainty; ** Identification uncertain, possibly dwarf sperm whale.

MAINLAND PORTUGAL

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Common dolphin	69	46	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org
Harbour porpoise	10	9	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org
Striped dolphin	2	2	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org
Common bottlenose dolphin	2	2	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org
Killer whale	1	0	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org
Risso's dolphin	2	1	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org
Long finned pilot whale	2	2	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org
Common minke whale	1	0	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org
Cuvier's beaked whale	1	0	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Unidentified beaked whale	2	0	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org
Unidentified odontocetes	7	0	Marisa Ferreira/SPVS	marisa.ferreira@socpvs.org

9. OTHER STUDIES AND ANALYSES

10. LITERATURE CITED

11. PUBLICATIONS

11.1 Published or 'In Press' papers only

Alves, F.; Dinis, A.; Cascão, I.; Freitas, L. (*In press*). Bryde's whale (*Balaenoptera brydei*) stable associations and dive profiles: new insights into foraging behavior. *Marine Mammal Science*.

Amaral, A.R., Sequeira, M., Cedeira-Martínez, J., Coelho, M.M., 2007. New insights on population genetic structure of *Delphinus delphis* from the northeast Atlantic and phylogenetic relationships within the genus inferred from two mitochondrial markers. *Marine Biology* 151, 1967-1976.

Hartman, K.L.; Visser, F. & Hendriks, A.J.E. 2008. Social structure of Risso's dolphins (*Grampus griseus*) at the Azores: a stratified community based on highly associated social units. *Canadian Journal of Zoology*, 86: 294-306.

Hartman, K.L., Visser, F.; and Hendriks A. J. E. 2008. *Social structure of Risso's dolphins (Grampus griseus) at the Azores: a stratified community based on highly associated social units*. *Canadian Journal of Zoology* 86(4): 294-306, April 2008.

Pereira, J.N.D.S.G 2008. Field Notes on Risso's Dolphin (*Grampus griseus*) distribution, social ecology, behaviour, and occurrence in the Azores. *Aquatic Mammals*, 34: 426-435.

Quérouil, S.; Silva, M.A.; Cascão, I., Magalhães, S.; Seabra, M.I.; Machete, M. & Santos, R.S. 2008. Why do dolphins form mixed-species associations in the Azores? *Ethology*, 114: 1183-1194. (DOI: 10.1111/j.1439-0310.2008.01570.x).

Quérouil, S.; L. Freitas; I. Cascão; F. Alves; A. Dinis; R. Prieto; J. A. Matos; D. Mendonça; R. S. Santos (*In press*). High gene flow and low relatedness in common and spotted dolphins inhabiting the pelagic waters of the Northeast Atlantic. *Conservation Genetics*

Silva, M.A.; Prieto, R.; Magalhães, S.; Seabra, M.I.; Santos, R.S. & Hammond, P.S. 2008. Ranging patterns of bottlenose dolphins living in oceanic waters: implications for population structure. *Marine Biology*, 156: 179-192.

Walton, M. J.; Silva, M.A.; Magalhães, S.; Prieto, R. & Santos, R.S. 2008. Fatty acid characterization of lipid fractions from blubber biopsies of sperm whales *Physeter macrocephalus* located around the Azores. *Journal of the Marine Biological Association of the United Kingdom*, 88(6): 1109-1115.

11.2 Unpublished literature

Alves, F.; S. Magalhães; A. Dinis; M. Silva; R. Ferreira; L. Freitas 2008. Observations of short-finned pilot whales and atlantic spotted dolphins towards dead calves: distinct interspecific social behaviour?. *In: 22nd Conference of the European Cetacean Society, Egmond aan zee, The Netherlands*.

Bacelar, M. 2008. Distribuição e padrão de residência das baleias-de-barbas (família Balaenopteridae) no arquipélago dos Açores. Honours thesis. Universidade dos Açores. 46pp. [In Portuguese] [Available from the library of the University of the Açores].

Cruz, M.J. 2008. Estudo dos cetáceos observados no arquipélago dos Açores, 2000 – 2006. MSc Thesis. Departamento de Biologia, Universidade de Aveiro. 177 pp. [In Portuguese] [Available from the library of the University of Aveiro].

Dinis, A.; I. Cascão; F. Alves; L. Freitas; S. Quérouil 2008. Comparing the epipelagic diet between short-beaked common dolphin and atlantic spotted dolphin in two atlantic oceanic archipelagos. *In: 22nd Conference of the European Cetacean Society, Egmond aan zee, The Netherlands*.

Ferreira, M.; Monteiro, S.; Rodrigues, P.; Mendes, P.; López, A.; Vingada, J.V. 2008. Summer distribution and abundance of cetaceans in northern / central Portugal. 22th Annual Conference of the European Cetacean Society, March 10-12, Egmond aan Zee, The Netherlands.

Ferreira, R.; C. Nicolau; A. Dinis; C. Assis; L. Freitas 2008. Impact assesment of whale-watching boats on cetaceans in Madeira Archipelago (SE North Atlantic) Portugal. *In: 22nd Conference of the European Cetacean Society, Egmond aan zee, The Netherlands.*

Freitas, L.; R. Prieto; F. Alves; M. Silva; A. Dinis; C. Oliveira I. Cascão 2008. Vertical and spatial movements of sperm whale (*Physeter macrocephalus*) in Madeira and Azores archipelagos. *In: 22nd Conference of the European Cetacean Society, Egmond aan zee, The Netherlands.*

Hartman, K.L, Visser, F; and Hendriks A. J. E. 2008 .*Social structure of Risso's dolphins (Grampus griseus) at the Azores: a stratified community based on highly associated social units.* .Proceedings of the 22th Annual Conference of the European Cetacean Society. Egmond aan Zee, The Netherlands, 2008.

Hartman, K.L., Geelhoed, S.C.V. 2009. *Temporal residency patterns of Risso's dolphins (Grampus griseus) off Pico island.* To be submitted soon: Marine Mammal Science.

Monteiro, S.; Ferreira, M.; Fonseca, C.; Souto, L.; López, A.; Vingada, J.V. 2008. Genetic study of common dolphin *Delphinus delphis* in the center/north region of Portugal. 22th Annual Conference of the European Cetacean Society, March 10-12, Egmond aan Zee, The Netherlands.

Nicolau, C.; R. Ferreira; A. Dinis; C. Assis; L. Freitas 2008. Characterization of the whale-watching activity in the Madeira Archipelago (SE North Atlantic) Portugal. *In: 22nd Conference of the European Cetacean Society, Egmond aan zee, Holanda, Março.*

Ribeiro, C.; F. Alves; C. Nicolau; L. Freitas; 2008. Attempt to rescue a pygmy sperm whale (*Kogia breviceps*) stranded live in Madeira island. *In: 22nd Conference of the European Cetacean Society, Egmond aan zee, The Netherlands.*

Sá, T. 2008. Análise do padrão de mergulho e comportamento alimentar de cachalote (*Physeter macrocephalus*) e Baleia-comum (*Balaenoptera physalus*) no arquipélago dos Açores. Honours thesis. Universidade dos Açores. 46pp. [In Portuguese] [Available from the library of the University of the Açores].

Simião, S. Hartman, K. l., Hendriks, A.J.E; Visser, F; and Azevedo J. 2008. *Residency patterns of bottlenose dolphins (Tursiops truncates) off Pico island, Azores.* Proceedings of the 22th Annual Conference of the European Cetacean Society. Egmond aan Zee, The Netherlands, 2008.

Van Geel, N; Visser, F; Hartman, K. l., and Hendriks, A.J.E; and Huisman, J. 2008. *Spatial analyses of cetacean distribution off the south coast of Pico (Azores, Portugal) in relation to water depth and slope gradient.* Proceedings of the 22th Annual Conference of the European Cetacean Society. Egmond aan Zee, The Netherlands.

Visser, F; Hartman, K. l., and Hendriks, A.J.E. 2008. *Stepping stones Azores: Baleen whale feeding ground during migration over North Atlantis Ocean.* Proceedings of the 22th Annual Conference of the European Cetacean Society. Egmond aan Zee, The Netherlands, 2008.