# ARGENTINA. Progress report on cetacean research, April 2006 to March 2007, with statistical data for the *calendar year* 2006 or season 2006/07.

## COMPILED BY

# SECRETARIA DE AMBIENTE Y DESARROLLO SUSTENTABLE JEFATURA DE GABINETE DE MINISTROS DE LA NACIÓN ARGENTINA

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# 1. SPECIES AND STOCKS STUDIED

## **AMMA**

Common name	IWC recommended scientific name	Area / stock(s)	Items referred to:
Commerson's dolphin	Cephalorhynchus commersonii	Tierra del Fuego	2.1.2, 4.1, 4.3, 5, 7.3.3, 7.4, 9, 11.1, 11.2
Peale's dolphin	Lagenorhynchus australis	Tierra del Fuego	7.4, 11.1
Hourglass dolphin	Lagenorhynchus cruciger	Tierra del Fuego	7.4, 11.1
Dusky dolphin	Lagenorhynchus obscurus	Tierra del Fuego	7.4
Southern right whale dolphin	- I issodelinis neronii		7.4
Bottlenose dolphin	Tursiops sp.	Tierra del Fuego	7.4
Common dolphin	Delphinus sp.	Tierra del Fuego	7.4
Risso's dolphin	Grampus griseus	Tierra del Fuego	9
Long-finned pilot whale	Globicephala melas	Tierra del Fuego	7.3.1, 7.4

False killer whale	Pseudorca crassidens	Tierra del Fuego	9
Killer whale	Orcinus orca	Tierra del Fuego	6.3, 9
Spectacled porpoise	Phocoena dioptrica	Tierra del Fuego	7.3.3, 7.4, 11.1, 11.2
Burmeister's porpoise	Phocoena spinipinnis	Tierra del Fuego	7.3.3, 4.2, 7.4, 11.1, 11.2
Shepherd's beaked whale	Tasmacetus shepherdi	Tierra del Fuego	7.4
Andrew's beaked whale	Mesoplodon bowdoini	Tierra del Fuego	7.4
Gray's beaked whale	Mesoplodon grayi	Tierra del Fuego	7.4
Strap-toothed whale	Mesoplodon layardii	Tierra del Fuego	7.4
Cuvier's beaked whale	Ziphius cavirostris	Tierra del Fuego	7.4, 9
Sperm whale	Physeter macrocephalus	Tierra del Fuego	6.3
Dwarf minke whale	Balaenoptera acutorostrata sp.	Tierra del Fuego	4.3, 10
Antarctic minke whale	Balaenoptera bonaerensis	Tierra del Fuego	6.3
Sei whale	Balaenoptera borealis	Tierra del Fuego	6.3

# AQUAMARINA

IWC common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Franciscana dolphin	Pontoporia blainvillei	Coastal Buenos Aires	2.1.1, 2.2, 3.1.3, 3.2, 4.2, 4.3, 4.4, 5, 7.3.2,
Burmeister's porpoise	Phocoena spinnipinnis	Coastal Buenos Aires	2.1.2, 4.2, 4.3, 8
Bottlenose dolphin	Tursiops truncatus	Coastal Buenos Aires	2.1.2, 4.3, 8
Southern Right whale	Eubalaena australis	Peninsula Valdes, Patagonia	2.1.2
Long-finned Pilot whale	Globicephala melas	Coastal Buenos Aires	4.3, 8
False killer whale	Pseudorca crassidens	Coastal Buenos Aires	4.3, 8

# **CETHUS**

IWC common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Southern right whale	Eubalaena australis	Southern Patagonia	2.1.1; 2.2; 9
Sei whale	Balaenoptera borealis	Southern Patagonia	2.1.2
Peale's dolphin	Lagenorhynchus australis	Southern Patagonia	3.1.1;3.2;4.1;9
Commerson's dolphin	Cephalorhynchus commersonii	Southern Patagonia	3.1.1;3.2;4.1;4.3;4.4;8;9;11.1
Orca	Orcinus orca	Northern Patagonia	2.1.2;3.1.1
Unidentified Beaked whale		Southern Patagoonia	4.3;8

# ICB

IWC common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Southern right whale	Eubalaena australis	SW Atlantic, N Patagonia	2.1.1; 3.1.1; 4.1; 4.3; 4.4; 8; 9; 11.1; 11.2
Humpback whale	Megaptera novaeangliae	SW Atlantic, N Patagonia	4.3; 8

Aerial surveys of southern right whales off the coast of Peninsula Valdes, Argentina were conducted on September 26 and 27, 2006. The purpose of the surveys was to document the presence and distribution of right whales in 2006 by photographing the callosity patterns on heads of whales and by recording the location of each whale encountered along the perimeter of the Peninsula.

Total whales counted: 451 (including 162 calves). Final results of photo-identification not yet available.

# MACN-CONICET

Common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Franciscana	Pontoporia blainvillei	Southern Buenos Aires Coast, Argentina.	3.1.1, 4.2, 4.4, 5, 7.3.3, 9, 11.1
Burmeister's porpoise	Phocoena spinipinnis	Southern Buenos Aires Coast, Argentina.	3.1.1, 4.2, 4.3, 4.4, 5, 8.
Common dolphin	Delphinus delphis	Southern Buenos Aires Coast, Argentina.	3.1.1, 4.2, 4.4, 5, 7.3.3.
Ballenas Picudas de Hector,	Mesoplodon hectori	Southwestern Atlantic Ocean	8, 9, 11.1
Humpback Whale	Megaptera novaengliae	Southwestern Atlantic Ocean	8

# 2. SIGHTINGS DATA

# 2.1 Field work

## 2.1.1 Systematic

# **AQUAMARINA**

Target species	Date	Area	No. of sightings	Contact person/institute and references
Franciscana dolphin	March 2006 to February 2007	Coastal Buenos Aires, Bahia Samborombon, Cabo San Antonio, Bahia San Blas, Rio Negro	97	P. Bordino / AquaMarina-CECIM

## **CETHUS**

Target species	Date	Area	No. of sightings	Contact person/institute and references
Southern Right whales	May - September 2006	Southern Patagonia	43	СТН

## **ICB**

Target species	Date	Area	No. of sightings	Contact person/institute and references
Southern right whale	September 26 and 27, 2006	Peninsula Valdes, Argentina	451	V. Rowntree: ICB-WCI/OA and University of Utah - rowntree@biology.utah.edu

# 2.1.2 Opportunistic, platforms of opportunity

# **AMMA**

Since 1975, sighting forms have been distributed to scientific and fishing vessels, Beagle Channel catamarans and Antarctic cruise ships leaving from Ushuaia, resulting in hundreds of opportunistic sightings. Shore-based sightings are also noted by our team and others. A new English-Spanish sighting form and guide is being devised to be put aboard all Antarctic cruise ships leaving our area.

# AQUAMARINA

Primary species	Area	Data type/method	Collected by	Platform	Contact person/institute and refs
Burmeister's porpoise	Coastal Buenos Aires	Position, group size, behaviour / Boat surveys	P. Bordino	Fishing boats and vessels	P. Bordino / AquaMarina- CECIM
Bottlenose dolphin	Coastal Buenos Aires	Position, group size, behaviour / Boat surveys	P. Bordino	Fishing boats and vessels	P. Bordino / AquaMarina- CECIM
Southern Right whale	Peninsula Valdes	Position, behaviour / Boat surveys	A. Fazio	Whale-watching vessels	A. Fazio / AquaMarina-CECIM

## **CETHUS**

Sightings of Sei whale were obtained from May to September 2006 along the coast of Southern Patagonia. SC/59/to be determined

Sightings of killer whales were obtained during March - April 2006 through observations carried out at Peninsula Valdés from land-based whale watching.

# 2.2 Analyses/development of techniques

## **AOUAMARINA**

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Franciscana dolphin	March 2006 to February 2007	Coastal Buenos Aires, Bahia Samborombon, Cabo San Antonio, Bahia San Blas	Line transect survey	Abundance, sighting rate, distribution	P. Bordino / AquaMarina-CECIM

Target species	Date	Area	Methods/effort	Parameters/ factors measured	Contact person/institute; refs
Southern Right whales	May – September 2006	Southern Patagonia	Scanning methods	Distribution; sighting frequency	СТН

# 3. MARKING DATA

# 3.1 Field work

# 3.1.1 Natural marking data

# CETHUS

Species	Feature	Area/stock	No. photo- id'd	Catalogue (Y/N)	Catalogue total	Contact person/institute; refs
Commerson's dolphin	dorsal fin and along the back and sides of the body	Southern Patagonia	6	Y	79	СТН
Peale's dolphin	dorsal fin and body scars	Southern Patagonia	0	Y	14	СТН
Killer whales	Dorsal fin and body scars	Northern Patagonia	0	Y	21	СТН

# ICB

Species	Feature	Area/stock	Calendar year/season/no, photographed	Catalogued (Y/N)	Catalogue total	Contact person/institute
Southern right whale	callosity pattern	SW Atlantic, N Patagonia	2006/spring/45 1	Y	Approx. 2,000 individuals, currently under analysis	WCI/OA and University

# MACN - CONICET

Species	Feature	Area/stock	Calendar year/season/ no. photographed	Catalogued (Y/N)	Catalogue total	Contact person/institute
Franciscana	Dorsal fin, flippers, fluke and body scars	Southern Buenos Aires Coast, Argentina.	1998-2006 / august – april	Y	38	Luis Cappozzo / María Fernanda Negri/ María Victoria Panebianco - MACN
Burmeister's porpoise	Dorsal fin, flippers, fluke and body scars	Southern Buenos Aires Coast, Argentina.	1998-2006 / august – april	Y	2	Luis Cappozzo / María Fernanda Negri - MACN
Common dolphin	Dorsal fin, flippers, fluke and body scars	Southern Buenos Aires Coast, Argentina.	2004-2006 / august – april	Y	1	Luis Cappozzo - MACN

# 3.1.3 Telemetry data

# AQUAMARINA

Species	Tag type	No. successfully deployed	Maximum time transmitting	Contact person/institute; refs
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Franciscana	Satellite	4	8 months	P. Bordino / AquaMarina-CECIM; Bordino and
dolphin				Wells 2006
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## 3.2 Analyses/development of techniques

#### **AOUAMARINA**

A capture/release, tagging and tracking component was carried out in two consecutive years to document the population structure, movement patterns, and home range in Franciscana dolphins. Three female and one male franciscana dolphins were captured, tagged with satellite transmitters, and released in Bahia Samborombon in March 2006. A preliminary analysis showed a reduced small home range (less than 30km) and residential pattern. New capture/release tagging is planned in Bahia San Blas for March 2007.

#### **CETHUS**

- 1) Use of habitat at different months, tide and times of the day by Commerson's dolphins are studied at Southern Patagonia using GIS software are plotted to determine the habitat use.
- 2) Photo identification technique is being developed for both species Commerson's dolphins and Peale's dolphins in the different study areas, using marks, scars, and pigmentation patterns.

## 4. TISSUE/BIOLOGICAL SAMPLES COLLECTED

## 4.1 Biopsy samples (summary only)

#### AMMA

As part of our cooperative study of DNA of Commerson's dolphins in the southernmost part of its range, biopsy samples were collected by Chilean scientists in waters of the Chilean section of Tierra del Fuego.

#### **CETHUS**

Species	Area/stock	Calendar year/ season - no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Commerson's dolphin	Southern Patagonia	2006-2007	Y	14	14	СТН
Peale's dolphin	Suthern Patagonia	2006-2007	Y	0	1	СТН

### **ICB**

Species	Area/stock	Calendar year/ season/ no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Southern Right Whale	SW Atlantic, N Patagonia	2006 / spring / 56 skin and blubber samples	Y	53 genetic analyses (mtDNA); 50 stable carbon and nitrogen isotope analyses	306	Luciano Valenzuela / Instituto de Conservacion de Ballenas and University of Utah

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

#### **AMMA**

Since 1975 we have patrolled beaches, collected and studied small cetaceans incidentally taken in gillnets set from the shore along the northeastern coasts of Tierra del Fuego, which have a large tidal range (to 11m). All the specimens listed below (see Statistics) have been photographed, measured and all the normal samples taken (skin, blubber, muscle, liver, teeth, stomach contents, parasites, etc.) when possible, and the skeleton preserved. I. Cassens has studied DNA samples from Burmeister's porpoises.

## **AQUAMARINA**

Species	Area/stock	Tissue type(s)	No.	Archived	No.	Contact person/institute
			collected	(Y/N)	analysed	

Franciscana dolphin	Coastal Buenos Aires/FM4	Muscle, gonads, adrenal glands, liver, lung, blubber, teeth, skeletons	78	Y	78	P. Bordino / AquaMarina- CECIM
Burmeister's porpoise	Coastal Buenos Aires	Muscle, gonads, adrenal glands, liver, lung, blubber, teeth, skeletons	1	Y	0	P. Bordino / AquaMarina- CECIM

## **MACN - CONICET**

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)	Contact person/institute
Franciscana	Southern Buenos Aires Coast, Argentina.	1998-2006 / august – april	Y	Skin, blubber and muscle samples, stomach content, intestine, gonads, kidney, liver, melon, pancreas, spleen, teeth, skeleton.	Luis Cappozzo / María Fernanda Negri / María Victoria Panebianco - MACN
Burmeister's porpoise	Southern Buenos Aires Coast, Argentina.	1998-2006 / august – april	Y	Skin, blubber and muscle samples, stomach content, intestine, gonads, kidney, liver, melon, pancreas, spleen, lung, heart, teeth, skeleton.	Luis Cappozzo / Maria Fernanda Negri - MACN
Common dolphin	Southern Buenos Aires Coast, Argentina.	2004-2006 / august – april	Y	Skin, blubber and muscle samples, stomach content, intestine, skeleton, gonads, kidney, liver, melon, pancreas, spleen, lung, heart, teeth, skeleton.	Luis Cappozzo - MACN

# 4.3 Samples from stranded animals

#### AMMA

As stated above, all possible samples are taken from stranded specimens. If a specimen is in advanced stage of decomposition, at least skin, cartilage, teeth and skeletal remains are collected. In addition to our own specimens, in 2004, at the invitation of the Museo Martín Gusinde of Puerto Williams, Chile, we measured, took skin, blubber, baleen and pelvic bone samples from the three dwarf minke whales stranded on Isla Navarino on the south coast of the Beagle Channel (Acevedo *et al.* 2006).

# AQUAMARINA

Species	Area/stock	Tissue type(s)*	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Franciscana dolphin	Coastal Buenos Aires/FM4	Muscle, gonads, adrenal glands, liver, lung, blubber, teeth, skeletons	78	Y	78	P. Bordino / AquaMarina- CECIM
Burmeister's porpoise	Coastal Buenos Aires	Muscle, gonads, adrenal glands, liver, lung, blubber, teeth, skeletons	1	Y	0	P. Bordino / AquaMarina- CECIM

# **CETHUS**

Species	Area/stock	Tissue type(s)	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
Commerson's dolphin	Buenos Aires province	Skin, blubber,	1	Y	1	СТН
Unidentified Beaked whale	Southern Patagonia	Skin, blubber	1	Y	1	СТН

# **ICB**

Species	Area/stock	Tissue type(s)	No. collected	Archived (Y/N)	No. analysed	Contact person/institute
				` ′	•	

G 4 D'1. 11	CITY A.1 .1 37	G1: (60)	104			3.6 1 171 . / 337/1 11/0
Southern Right whale	SW Atlantic, N	Skin (68)	184	У	63	Marcela Uhart / Wildlife
	Patagonia	baleen(39)	samples			Conservation Society and
		blubber(24)	from 11			Victoria Rowntree / ICB-
		muscle(10)	whales			WCI/OA and University of Utah
		liver(9)				
		kidney(8)				
		lung(13)				
		brain(1)				
		urine(1)				
		ovary(2)				
		spleen(1)				
		stomach &				
		intestinal				
		content(4)				
		Lymph				
		node(1)				
		nouc(1)				
		Swabs(3)				
		cyamids				
Hymmhaalt ryhala	CW Atlantia M	Clrim(O)	16		1	Marcela Uhart / Wildlife
Humpback whale	SW Atlantic, N	Skin(8)		У	1	
	Patagonia	Blubber(1),	samples			Conservation Society and
		muscle(2),	from one			Victoria Rowntree / ICB-
		kidney(2),	whale			WCI/OA and University of Utah
		lung(4),				
		barnacles,				
		internal				
		parasites				

#### MACN - CONICET

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)	Contact person/institute
Burmeister's porpoise	Southern Buenos Aires Coast, Argentina.	1998-2006 / august – april	Y	Skin, blubber and muscle samples, stomach content, intestine, gonads, kidney, liver, melon, pancreas, spleen, lung, heart, teeth, skeleton.	Luis Cappozzo – María Fernanda Negri - MACN

# 4.4 Analyses/development of techniques

#### **AOUAMARINA**

Mithochondrial and nuclear DNA analysis, as well as histopathology studies were carried out on samples from Franciscana dolphins. Analysis of age structure of by-caught and stranded franciscana dolphins are being developed. DNA studies from Burmeister's porpoises are still in revision.

## **CETHUS**

Diet of stranded cetaceans of Southern Patagonia.

Studies on skull measurements of Commerson's dolphins from Southern Patagonia.

Genetic assessment on population structure of Commerson's dolphins in Southern Patagonia is being carried out (Fundación Cethus & Conservation Genetics Laboratory, San Francisco State University). New biopsy sampling techniques for small cetaceans is developing.

#### **ICE**

Biopsy samples are being used for the following analyses:

Genetics: Sequencing of mtDNA control region to reveal different haplotypes and estimate genetic diversity, population genetic structure and gene flow in the Península Valdés southern right whales. DNA fingerprinting using microsatellite loci for individual identification, paternity assessment, estimation of population structure, gene flow and assessment of social systems.

Stable Isotopes analyses: <sup>13</sup>C and <sup>15</sup>N isotope ratios of the skin to estimate trophic level and geographic location of feeding areas of right whales.

Samples from necropsies are being used to assess the health condition of the Península Valdés right whale population.

# MACN - CONICET

We are currently currying out studies related to age determination, parasites, trophic ecology, reproductive biology, physical and sexual maturity, and contaminants of the Franciscana by-caught in differents fishing gears of artisanal fisheries of Southern Buenos Aires Province.

In addition, DNA studies are being conducting, preliminary, on southern stocks of this species of small cetacean, in order to contribute to he dicrimination of Franciscana stocks along its distribution.

We, also, obtained tissue samples from Common Dolphin and Burmeister's Porpoise for potential studies on the same areas.

## 5. POLLUTION STUDIES

#### **AMMA**

Over the last 20 years, samples of blubber, liver and/or kidney have been collected, when possible, and frozen for pollution studies. These will be analysed by Dr. O. Amino of CADIC.

# **AQUAMARINA**

Several tissue samples of by-caught franciscana dolphins were collected to identify potential contaminants, especially PCBs, and to evaluate the potential as a sentinel species. Analysis is still on going.

## MACN - CONICET

During the last two years, we have determined the concentration of the following heavy metals from liver of Franciscanas: Fe, Zn, Cu, Cr, Pb and Cd.

The analyses were carried out with the support of the Chemestry Laboratory of the IADO (Instituto Argentino de Oceanografía, CONICET).

At the moment, we continued determining heavy metals of new samples with the objective to include other metals in the analysis, and to study samples of other tissues, despite of liver.

We, also, obtained tissue samples from Common Dolphin and Burmeister's Porpoise for potential studies on the same areas.

#### 7. STATISTICS FOR SMALL CETACEANS

# 7.1 AMMA

Bycatch

Dolphin Species	Sex	Year	Location	Cause	Det.	Source or contact
62 Commerson's dolphin	misc.	2000-01	North coast TF	shore-based nets	RNP, LGB	RNP, LGB
6 Spectacled porpoise	2F 4U	2000-01	North coast TF	shore-based nets?	RNP, LGB	RNP, LGB
1 Burmeister's porpoise	1F, feto	2000-01	North coast TF	shore-based nets?	RNP	RNP
27 Commerson's dolphin	misc.	2001-02	North coast TF	shore-based nets	RNP, LGB	RNP, LGB
4 Spectacled porpoise	1M 3U	2001-02	North coast TF	shore-based nets?	RNP, LGB	RNP, LGB
40 Commerson's dolphin	misc.	2002-03	North coast TF	shore-based nets	RNP, LGB	RNP, LGB
5 Spectacled porpoise	1F 5U	2002-03	North coast TF	shore-based nets?	RNP, LGB	RNP, LGB
16 Commerson's dolphin	1M, 15U	2003-04	North coast TF	shore-based nets	RNP	RNP
1 Peale's dolphin	U	2003-04	North coast TF	shore-based nets?	RNP	RNP
6 Spectacled porpoise	U	2003-04	North coast TF	shore-based nets?	RNP	RNP
12 Commerson's dolphin	1F, 11 U	2004-05	North coast TF	shore-based nets	RNP	RNP
2 Peale's dolphin	U	2004-05	North coast TF	shore-based nets?	RNP	RNP
1 Spectacled porpoise	U	2004-05	North coast TF	shore-based nets?	RNP	RNP
23 Commerson's dolphin	1F, 23U	2005-06	North coast TF	shore-based nets	RNP, LGB	RNP, LGB
4 Spectacled porpoise	1M, 3U	2005-06	North coast TF	shore-based nets?	RNP, LGB	RNP, LGB

## 7.3.2 Fishery bycatch of small cetaceans

## **AMMA**

Dolphin Species	Sex	Year	Location	Cause	Det.	Source or contact
14 Commerson's dolphin	1F, 10U	2006-07	North coast TF	shore-based nets	RNP, LGB	RNP, LGB
6 Spectacled porpoise	1M, 1F	2006-07	North coast TF	shore-based nets?	RNP, LGB	RNP, LGB
1 Burmeister's porpoise	U	2006-07	North coast TF	shore-based nets?	RNP	RNP

Note: These numbers and those in former years represent specimens collected by us; the actual number of animals that died is much higher. In 2006-07 there were only two expeditions to the fishing areas.

# AQUAMARINA

Species	Sex	No.	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Franciscana dolphin	F	49	Aug 06 to Feb 07	Bahia Samborombo n, Cabo San Antonio	D	White croacker, Weak fish	GN	F	P. Bordino, AquaMarina CECIM
Franciscana dolphin	M	31	Aug 06 to Feb 07	Bahia Samborombo n, Cabo San Antonio	D	White croacker, Weak fish	GN	F	P. Bordino, AquaMarina CECIM
Comments: E	ntangled	in gear,	cut off and sank			•			•

# MACN - CONICET

Species	Sex	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Franciscana	6 F, 3 M, 37 U	October 2006 - March 2007	Southern Buenos Aires Coast, Argentina.		Shrimp, sharks, some fish species.	GNS, TM	reported	Luis Cappozzo / María Fernanda Negri / María Victoria Panebianco - MACN
Common dolphin	М		Southern Buenos Aires Coast, Argentina.		sharks, some fish species.	GNS	reported	Luis Cappozzo - MACN

# 8. STRANDINGS

# AMMA

Strandings, especially along the northeastern coast of Tierra del Fuego, with its sandy beaches, high tidal range and wide, shallow continental shelf have been monitored regularly since 1975. The skeletal material is held in the Museo Acatushún and several other museums. A number of projects are underway concerning these specimens (see below).

Dolphin Species	Sex	Year	Location	Cause	Det.	Source or contact
1 Long-finned pilot whale	U	2006-07	Estancia Moat	stranding	RNP	RNP

# Earlier years' statistics

# AMMA

Whale Species	Sex	Year	Location	Cause	Det.	Source or contact
1 Antarctic minke whale	M?	2000-01	Peninsula Páramo	stranding	RNP, LGB	RNP, LGB
1 Antarctic minke whale	M	2003-04	B. San Sebastián	stranding	RNP, LGB	RNP, LGB
1 Baleen whale sin det.	U	2003-04	Ea. Moat E	tangled in lines	RNP	RNP
1 Sei whale	F	2004-05	Ushuaia	Killer whale chase	RNP	RNP
1 Sperm whale	M	2005-06	Cabo San Pablo S	stranding	RNP	RNP

# **AMMA**

# Bycatch

Dolphin Species	Sex	Year	Location	Cause	Det.	Source or contact
62 Commerson's dolphin	misc.	2000-01	North coast TF	shore-based nets	RNP, LGB	RNP, LGB
6 Spectacled porpoise	2F 4U	2000-01	North coast TF	shore-based nets?	RNP, LGB	RNP, LGB
1 Burmeister's	1F, feto	2000-01	North coast TF	shore-based nets?	RNP	RNP

porpoise						
27 Commerson's dolphin	misc.	2001-02	North coast TF	shore-based nets	RNP, LGB	RNP, LGB
4 Spectacled porpoise	1M 3U	2001-02	North coast TF	shore-based nets?	RNP, LGB	RNP, LGB
40 Commerson's dolphin	misc.	2002-03	North coast TF	shore-based nets	RNP, LGB	RNP, LGB
5 Spectacled porpoise	1F 5U	2002-03	North coast TF	shore-based nets?	RNP, LGB	RNP, LGB
16 Commerson's dolphin	1M, 15U	2003-04	North coast TF	shore-based nets	RNP	RNP
1 Peale's dolphin	U	2003-04	North coast TF	shore-based nets?	RNP	RNP
6 Spectacled porpoise	U	2003-04	North coast TF	shore-based nets?	RNP	RNP
12 Commerson's dolphin	1F, 11 U	2004-05	North coast TF	shore-based nets	RNP	RNP
2 Peale's dolphin	U	2004-05	North coast TF	shore-based nets?	RNP	RNP
1 Spectacled porpoise	U	2004-05	North coast TF	shore-based nets?	RNP	RNP
23 Commerson's dolphin	1F, 23U	2005-06	North coast TF	shore-based nets	RNP, LGB	RNP, LGB
4 Spectacled porpoise	1M, 3U	2005-06	North coast TF	shore-based nets?	RNP, LGB	RNP, LGB
Strandings						

Strandings

Dolphin Species	Sex	Year	Location	Cause	Det.	Source or contact
1 Long-finned pilot whale	M	2000-01	North coast TF	stranding	RNP	RNP
1 Dusky dolphin	M	2000-01	Beagle Channel E	ship strike	RNP	RNP
1 Strap-toothed whale	M	2000-01	North coast TF	stranding	LGB	LGB
1 Southern right whale dolphin	U	2000-01	North coast TF	stranding	LGB	LGB
1 Common dolphin sp.	U	2001-02	Ea Fueguina, TF	stranding	RNP	RNP
1 Strap-toothed whale	U	2001-02	North coast TF	stranding	RNP	RNP
1 Hourglass dolphin	M	2001-02	North coast TF	stranding	RNP	RNP
1 Southern right whale dolphin	U	2001-02	North coast TF	stranding	RNP	RNP
1 Cuvier's beaked whale	F	2001-02	Ea. Ines, TF	stranding	RNP	RNP
1 Ziphiid sin det.	U	2001-02	North coast TF	stranding	RNP	RNP
1 Long-finned pilot whale	U	2002-03	Rio Irigoyen, TF	stranding	RNP	RNP
1 Andrew's beaked whale	M	2002-03	North coast TF	stranding	RNP, LGB	RNP, LGB
1 Gray's beaked whale	U	2002-03	North coast TF	stranding	RNP, LGB	RNP, LGB
4 Bottlenose dolphin sp.	2F, 2M	2002-03	North coast TF	stranding	RNP, LGB	RNP, LGB
1 Shepherd's beaked whale	M	2002-03	North coast TF	stranding	RNP, LGB	RNP, LGB
1 Long-finned pilot whale	F	2003-04	North coast TF	stranding	RNP	RNP
1 Southern right whale dolphin	U	2003-04	Cabo Peñas, TF	stranding	RNP	RNP
1 Cuvier's beaked whale	M	2003-04	North coast TF	stranding	RNP	RNP
1 Southern right	U	2004-05	North coast TF	stranding	RNP	RNP

whale dolphin						
1 Hourglass dolphin	M	2004-05	Ea. Moat, TF	ship strike	RNP	RNP
1 Bottlenose dolphin sp.	U	2004-05	Ea. Harberton, TF	stranding	RNP	RNP
1 Peale's dolphin	U	2004-05	North coast TF	stranding?	LGB	LGB
1 Burmeister's porpoise	M	2004-05	Rio Grande, TF	stranding	LGB	LGB
1 Southern right whale dolphin	U	2005-06	North coast TF	stranding	RNP	RNP
1 Strap-toothed whale	F	2005-06	North coast TF	stranding	RNP	RNP
1 Spectacled porpoise	U	2005-06	North coast TF	stranding	LGB	LGB
1 Cuvier's beaked whale	U	2005-06	North coast TF	stranding	LGB	LGB

**AQUAMARINA** 

110011111111111111	No.	No. post		
Species	strandings	mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Franciscana dolphin	32	0	P. Bordino / AquaMarina CECIM	bordino@aquamarina.org
Burmeister's porpoise	2	0	P. Bordino / AquaMarina CECIM	Idem above
Bottlenose dolphin	1	0	P. Bordino / AquaMarina CECIM	Idem above
Long-finned Pilot whale	1	1	F. Zapata / AquaMarina CECIM	zapata@aquamarina.org
False killer whale	1	0	F. Zapata / AquaMarina CECIM	zapata@aquamarina.org

# **CETHUS**

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Commerson's dolphin	1	1	СТН	cethus@cethus.org
Unidentified Beaked whale	1	1	СТН	cethus@cethus.org

# **ICB**

18 southern right whales (2 adults, 1 juvenile, 15 calves) and 1 adult humpback whale stranded dead along the shores of Peninsula Valdes in 2006. Of these, 27% (5) were found during land and aerial surveys of the shoreline of Peninsula Valdes carried our by a team of 2 to 4 researchers and park rangers, and 73% (14) were reported by a stranding network with over 70 contacts, including fishermen, coast guards, whalewatch captains, park rangers, tour guides, researchers, etc.

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Southern right whale	18	18	Marcela Uhart / Wildlife Conservation Society and Victoria Rowntree / ICB-WCI/OA and University of Utah	Victoria Rowntree (rowntree@biology.utah.edu) Marcela Uhart (muhart@speedy.com.ar)
Humpback whale	1	1	Marcela Uhart / Wildlife Conservation Society and Victoria Rowntree / ICB-WCI/OA and University of Utah	Victoria Rowntree (rowntree@biology.utah.edu) Marcela Uhart (muhart@speedy.com.ar)

# MACN - CONICET

Species	No. strandings	No. post mortems	Contact person(s)/ Institute(s)	Contact email address(es)
Ballenas Picudas de Hector	2	2	Luis Cappozzo – MACN	cappozzo@macn.gov.ar
Humpback Whale	1	1	Luis Cappozzo – MACN	cappozzo@macn.gov.ar

Burmeister's porpoise	1	1	Luis Cappozzo – MACN	cappozzo@macn.gov.ar
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#### 9. OTHER STUDIES AND ANALYSES

#### **AMMA**

During 2006-07, a cooperative project on the DNA of large ziphiid whales, principally Cuvier's beaked whale, was begun with M. Dalebout. Student projects continued on the ageing of teeth of specimens of Commerson's dolphin, Risso's dolphin and the false killer whale. M. Torres continued her study of vertebral growth in the fetus and neonate of 35 specimens cetaceans of 13 species. R. Leduc analysed DNA sequences from killer whale samples from TF. L. Pimper has continued her research on the morphometric and genetic structure of Commerson's dolphins in the southernmost area of their distribution, to clarify population structure and implications for future management. This project is coordinated with C.S. Baker and C. Olavarría of Punta Arenas, Chile. N. Dellabianca is studying the effects of climatic cycles on the growth of Commerson's dolphins in subantarctic waters. L. Riccialdelli is studying the trophic ecology of inshore and offshore small cetacean species of Tierra del Fuego, through the analysis of stable isotopes. RNP joined with J. de Tullio and E. Secchi to compile tables of beaked whale strandings along the southwestern South Atlantic coasts (Brazil to Argentina).

#### **AOUAMARINA**

1) Testing and Implementing hand-lines in coastal Buenos Aires as a strategy to reduce dolphin bycatch This study attempts to promote the use of bottom hand-lines as an alternative fishing practice. Seven local fishermen were selected to use hand-lines and gillnets. Landings of both fishing gear were compared. Landings of bottom hand-lines and gillnets were similar; however, longlines mainly targeted commercial species and sea lion interactions and damage to fishing gear were substantially lower than that of gillnets. Interaction with sea birds and marine turtles were not recorded with longlines. Longline fishermen save money because their fishing gear lasts longer. Thus, bottom longlines could be implemented as a fishery management strategy in the study area. (Bordino et al. 2006)

2) Effects of over-fishing on small cetaceans

This study evaluates the over-fishing in two areas were Franciscana dolphin abundance has been estimated (Bahia Samborombon and Cabo San Antonio), in order to understand the level of threats for the species. Using historical data on fish catch and fish abundance, as well as information regarding species included in a representative local food chain, modelling is applied to evaluate current over-fishing in the study areas.

3) Analizing sonar behavior to understand the bycatch mechanism

The proposed research is concerned with the recording, analysis and interpretation of the bioacoustic behavior of free ranging dolphins. The immediate objectives are focused on an appropriate registration of the sonar sounds of the Franciscana dolphin with simultaneous observations of its behaviour. At the various locations where the sonar sounds are recorded, ambient aquatic noise levels are measured to complete the sonar signal description. It is not clear whether dolphins become entangled because they do not detect the net or because they do not perceive the net as dangerous. Acoustic behavioral studies of Franciscana dolphin are scarce only recorded in captivity and controlled conditions. The complete mechanism involved in the dolphin entanglement is still unknown. As gillnet fisheries will continue to operate in areas inhabited by the Franciscana dolphin, research to understand the sonar behavior of the species is urgently needed.

4) Evaluating health status and population structure

Dolphins carcasses are continue being recovered from incidental entanglement events and analized following standard protocols. Tissue samples from lung, liver, intestine, thyroid, lymph nodes, adrenal and kidney are collected for histopathology analysis. Specific samples from blubber, liver and kidney are preserved for toxicology analysis. Regarding genetic studies, muscle tissue samples are collected from dead and stranded individuals. Samples are preserved by immersion in DMSO, alcohol, or in liquid frozen, and analyzed following lab procedures for gender determination, population structure, population size, migration patterns and demographic history. At present, samples over 200 animals were collected and will be analyzed in 2007

#### **CETHUS**

Species	Area / stock	Calendar / year	Studies	Contact person Institute
Commerson's dolphin	Southern Patagonia	1986 2007	Stock size. Photoidentification (since 1986). Diet.	СТН
Peale's dolphin	Southern Patagonia	1996 2007	Stock size. Photoidentification (since 1996)	СТН
Southern Right Whale	Southern Patagonia	2000 2007	Stock size.	СТН

#### **ICB**

Gull attacks on right whales. Kelp gulls at Península Valdés feed on the skin and blubber of live southern right whales and have a negative effect on the behavior of the whales. Researchers from the Instituto de Conservacion de Ballenas (ICB) and the Whale Conservation Institute / Ocean Alliance (WCI/OA) have made observations of the interactions between kelp gulls and southern right whales annually since 1995. In 2006, 139 mother-calf pairs were followed visually for 123 h between August 4 and October 3 at two different sites. A total of 879 gull attacks were recorded. The frequency of gull attacks was highest at La Adela Beach (30% of 5-min intervals of observation contained at least one gull attack), where it more than doubled over a period of ten years: it increased from 12% in 1995 to 27% in 2006 for the month of September. However, the frequency of gull attacks in Golfo San Jose has decreased over a similar time period from a high of 37% of 5-minute intervals under observation in 2000 to 9% in 2006. Monitoring and controlling the gull harassment problem has become a joint project with other NGOs and local governmental officials in Chubut Province.

Swim-with-whales tourism and effects on the behavior or southern right whales. Swimming with whales is not allowed at Península Valdés. However, local dive operators want to open this activity to visitors. The Government of Chubut Province requested an impact study to be done before a decision is made. The purpose of this study is to determine the effects of swim-with-whale tourism on the behavior of right whales on their nursery ground at Peninsula Valdés. The study was conducted in 2005 and 2006 by researchers from ICB and Texas A&M University. We focused primarily on behavioral responses of mother/calf pairs and juvenile right whales to the method of entry and activities of swimmers in the water around the whales. These age categories of whales were chosen because they are the individuals that are most likely to be encountered by operators of swim-with whale programs. Trained divers swam in the vicinity of 153 whale groups out of a total of 184 groups approached. Several behavioral and movement pattern variables were recorded during the interactions. Data are currently under analysis.

#### MACN - CONICET

Since 1998 and as part of an integral study of coastal fisheries that operate along the southern coast of the Buenos Aires Province, we are working on the estimation of Franciscana incidental mortality caused by guillnet and other fishing gears.

Our results are compared with previous studies carried out at the same area by other researchers. During these years we have worked interacting with fishermen and recovered carcasses of entangled dolphins for systematic studies, as described before.

Data concerning fishing activities in the different localities and the mortality of dolphins by different gears were obtained by interviewing fishermen from each localities. Our past experience in southern Buenos Aires Province has proven this method to be relatively successful to get data on marine mammal incidental mortality, both in terms of the effort and the information obtained, but in general, underestimate the data.

On the other hand, zyphids identification by analysis of mythocondrial DNA sequence, and morphological studies, is currently conducting.

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