

**ARGENTINA. PROGRESS REPORT ON CETACEAN RESEARCH, APRIL 2005 TO MARCH 2006
WITH STATISTICAL DATA FOR SEASON 2005/06**

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1. Species and stocks studied

AQUAMARINA

Common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Franciscana dolphin	<i>Pontoporia blainvillei</i>	Argentina, Buenos Aires	2.1.1, 3.1.3, 3.2, 4.2, 4.3, 4.4, 5, 9, 11.2
Burmeisters porpoise	<i>Phocoena spinipinnis</i>	Argentina, Buenos Aires	2.1.2, 4.2, 4.3, 4.4,
Long Finned Pilot Whale	<i>Globicephala melas</i>	Argentina, Buenos Aires	4.3
False Killer Whale	<i>Pseudorca crassidens</i>	Argentina, Buenos Aires	4.3

CENPAT 1

Common name	Scientific name	Area / stock	Items referred to
Dusky dolphin	<i>Lagenorhynchus obscurus</i>	Northern Patagonia	2.1.1, 2.2, 3.1.1, 4.4, 9
Commerson's dolphin	<i>Cephalorhynchus commersonii</i>	Northern, central and southern Patagonia	2.1.1, 2.2, 3.1.1, 4.4, 9
Common dolphin	<i>Delphinus delphis</i>	Northern Patagonia	4.2, 9
Peale's dolphin	<i>L. australis</i>	Central Patagonia	2.1.1, 2.2, 3.1.1
Bottlenose dolphin	<i>T. truncatus</i>	Northern Patagonia	3.1.1, 4.3, 8, 9
Southern Right Whale	<i>E. australis</i>	Northern Patagonia	2.1.1
Franciscana	<i>Pontoporia blainvillei</i>	Abundance, Distribution range	2.1.1, 9
Sherpherd's beaked whale	<i>Tasmacetus shepherdii</i>	Southern Patagonia	8
Pilot whale	<i>Globicephala melas</i>	Patagonia	8

CENPAT 2

Common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Peale's dolphin	<i>Lagenorhynchus australis</i>	Central Patagonia.	2.1, 3.1.1, 3.2
Dusky dolphin	<i>Lagenorhynchus obscurus</i>	Central Patagonia	2.1
Commerson's dolphin	<i>Cephalorhynchus commersonii</i>	Central Patagonia	2.1

Long finned pilot whale	<i>Globicephala melas</i>	Central Patagonia	2.1, 4.3, 8
Risso's dolphin	<i>Grampus griseus</i>	Central Patagonia	2.1, 4.3, 8
Killer whale	<i>Orcinus orca</i>	Central Patagonia	2.1, 8
Gray's beaked whale	<i>Mesoplodon grayi</i>	Southwestern Atlantic Ocean	8
Layard's beaked whale	<i>Mesoplodon layardii</i>	Southwestern Atlantic Ocean	8
Minke whale	<i>Balaenoptera bonaerensis</i>	Southwestern Atlantic Ocean	8
Blue whale	<i>Balaenoptera musculus</i>	Southwestern Atlantic Ocean	8

Cethus

Common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Southern right whale	<i>Eubalaena australis</i>	Southern Patagonia	2.1.1, 9
Sei whale	<i>Balaenoptera borealis</i>	Southern Patagonia	2.1.2
Minke whale	<i>Balaenoptera acutorostrata</i>	Southern Patagonia	4.3; 5, 8
Peale's dolphin	<i>Lagenorhynchus australis</i>	Southern Patagonia	2.1.1, 2.2, 3.1.1, 3.2, 9
Dusky dolphin	<i>Lagenorhynchus obscurus</i>	Southern Patagonia	4.3, 5, 8
Commerson dolphins	<i>Cephalorhynchus commersonii</i>	Southern Patagonia	2.1.1, 3.1.1, 3.2, 4.4, 9
Orca	<i>Orcinus orca</i>	Northern Patagonia	2.1.2, 3.1.1
Cuvier's Beaked whale	<i>Ziphius cavirostris</i>	Southern Patagonia	4.3, 5, 8

ICB

Common name	Scientific name	Area/stock(s)	Items referred to
Southern right whale	<i>Eubalaena australis</i>	SW Atlantic, N Patagonia	2.1.1, 3.1.1, 4.1, 4.3, 4.4, 5, 6.2.1, 6.3, 8, 9, 10, 11.1, 11.2

MACN-CONICET

Common name	IWC recommended scientific	Area/stock(s)	Items referred to
Franciscana	<i>Pontoporia blainvillei</i>	Southwestern Atlantic Ocean	2.1.1; 2.1.2; 2.2; 4.3; 5; 11.1
Ballenas Picudas de Hector,	<i>Mesoplodon hectori</i>	Southwestern Atlantic Ocean	8; 11.1

UNMP

Common name	IWC recommended scientific name	Area/stock(s)	Items referred to
Franciscana	<i>Pontoporia blainvillei</i>	Northern Buenos Aires coast	9
Common dolphin	<i>Delphinus delphis</i>	Patagonia	5

2. Sightings data

2.1 Field work

2.1.1 SYSTEMATIC

AQUAMARINA

Systematic sightings of Franciscana dolphins were recorded from land stations and boats surveys along coastal Buenos Aires and Rio Negro Provinces throughout the year. Studies were conducted for recording Franciscana dolphin distribution, abundance, and behaviour.

CENPAT 1

- Coastal aerial surveys for small cetaceans (franciscanas, dusky, common and Commerson's dolphins) in the coast of Buenos Aires Province and Chubut (Northern Patagonia).
- Coastal aerial surveys for Southern Right Whale around Península Valdés, Chubut Province
- Sightings distribution of dusky dolphin groups from tourism boats at Golfo Nuevo (Northern Patagonia).
- Sightings distribution of Commerson's dolphin from tourism boats at Bahía Engaño (Northern Patagonia) and Ría Santa Cruz and Monte León National Park (Southern Patagonia).
- Sightings from clifftops of Commerson's dolphin at Chubut River mouth area and southern Santa Cruz Province.
- Sightings distribution of Peale's dolphin groups at Bahía Camarones (Central Patagonia) and southern Santa Cruz Province.

CENPAT 2

Studies on sightings distributions of small cetaceans are carried out since January 2003 in Central Patagonia, as a part of a project to identify priority sites for marine conservation, and to propose and plan MPAs based on flagship and landscape species. Systematic surveys at sea are conducted by boat, by means of random line transects during spring and summer, obtaining data on species, location, group size, activity pattern, habitat variables (Reyes et al. 2004a,b, Reyes in press).

Cethus

- 1.) Sightings distribution of Peale's dolphin at southern Patagonia.
- 2.) Sightings distribution of Commerson's dolphin at southern Patagonia.
- 3.) Sightings distribution of Southern Right whales from shore and vessels at southern Patagonia.

ICB

Aerial surveys of southern right whales off the coast of Peninsula Valdes, Argentina were conducted on September 20 and 21, 2005. The purpose of the surveys was to document the presence and distribution of right whales in 2005 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: 507 (including 182 calves). Final results of photo-identification not yet available.

MACN-CONICET

During the period of this report we studied diet, physical maturity and contaminants (heavy metals) from specimens died on different fishing arts. We obtained some tissue samples in order to conduct DNA studies on souther stocks of this species of small cetacean.

Survey of distribution and abundance of small cetaceans in coastal waters of southern Buenos Aires Province (Estación Hidrobiológica de Puerto Quequén- MACN). As part of an integral study of coastal fisheries that operate along the southern coast of the Buenos Aires Province (between 38° to 40 ° S). The principal aim of the study with small cetaceans is estimate the total mortality produced by a consequence of incidental mortality caused by guillnet or other fishing arts. Other subjects of our objectives include studies on biology and ecology of dolphins (diet, sexual maturity, pollutants, etc).

The study (discontinued) is carried out since 1998 in the area mentioned (L. Cappozzo) and is compared with previous studies carried at the same area by other researchers. During the last six years we worked interacting with fishermen and carrying out a small programme with observers on board of the same coastal vessels.

2.1.2 OPPORTUNISTIC, PLATFORMS OF OPPORTUNITY

AQUAMARINA

Sightings of Burmeister's porpoise were recorded from fishing boats and Coast Guard vessels along the Buenos Aires coast throughout the year.

CENPAT 1

Sightings records from fishing vessels.

CENPAT 2

Sightings from fishing vessels, sailing boats, coast guard boats, or from shore (Reyes 2006 in press).

Cethus

Sightings of Sei whale were obtained during August 2005 and October 2005 along the coast of Southern Patagonia.

Sightings of killer whales were obtained during March - April 2005 through observations carried out at Peninsula Valdés from land-based whale watching.

MACN-CONICET

Sightings records from fishing vessels (from 1998 to 2001) of small cetaceans and recovery of carcasses (since 1998) of dolphins for other systematic studies from incidental mortality, with the collaboration of Quequén fishermen. Sightings records from fishing vessels through projects developed from Estación Hidrobiológica de Puerto Quequén (EHPQ) and information gathered from the fisheries observers program, coordinated by the EHPQ (MACN-CONICET), carried on during four years. Actually fishing trips of the vessels from the Puerto Quequén fleet are more longer than in the past (2-3 days). We only recovery some carcasses from some known vessels.

2.2 Analyses/development of techniques

CENPAT 1

a) Aerial surveys are being used in density / abundance estimations by means of distance sampling methods for franciscana, dusky dolphins, Commerson's dolphins and common dolphins (Pedraza et al in review, Crespo et al., manuscript).

b) Habitat use and seasonal local abundance are being evaluated from data gathered onboard tourism boats for dusky and Commerson's dolphins.

CENPAT 2

Line transect by boat is being used to obtain data on occurrence, distribution and habitat use of small cetaceans in the coast of Golfo San Jorge. Data analysis include mapping of sightings, comparisons of sighting rates and activity patterns in different areas at small scale (Reyes et al. 2004a,b).

MACN-CONICET

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.

3. Marking data

3.1 Field work

3.1.1 NATURAL MARKING DATA

CENPAT 1

Species	Feature	Area/stock	Calendar year / season / no. Photographed	Catalogued Y/N	Catalogue total	Contact person / institute
Commerson's dolphin	Dorsal fin scars and anomalous coloration patterns	Northern, Central and Southern Patagonia	1998 – 2001 / year round/ 50 Southern Patagonia	Y Y	140 26	E.A.Crespo (CENPAT)
Dusky dolphin	Dorsal fin scars	Northern Patagonia	2001 –2006 Northern Patagonia	N	-	E.A.Crespo / S.L. Dans (CENPAT)
Bottlenose dolphin	Dorsal fin scars	Northern Patagonia	2001- 2006 Northern Patagonia	N	-	E.A.Crespo / S.L. Dans (CENPAT)
Peale's dolphin	Dorsal fin and body scars	Central and Southern Patagonia	2002 - 2005	Y	10	E.A. Crespo (CENPAT)

CENPAT 2

Species	Feature	Area/stock	Calendar year/season/ no. photographed	Catalogued (Y/N)	Catalogue total	Contact person/institute
Peale's dolphin	Dorsal fin and body scars	Central Patagonia	2002 - 2005	Y	22	Laura Reyes (CENPAT)

Cethus

Species	Feature	Area/stock	Calendar year / season / no. Photographed	Catalogued Y/N	Catalogue total	Contact person / institute
Commerson's dolphin	dorsal fin and along the back and sides of the body	Southern Patagonia	1996 and 1997 (summer time); 1998-2006/year round	Y	73	Fundación Cethus
Peale's dolphin	Dorsal fin and body scars	Southern Patagonia	January 1996 – April 2006	Y	14	Fundación Cethus
Killer whale	Dorsal fin, body scars	Northern Patagonia	1985-2006	Y	21	Fundación Cethus

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	2005/spring/507	Y	Approx. 1,900 individuals, currently under analysis	V. Rowntree ICB-WCI/OA and University of Utah

3.1.3 TELEMETRY DATA

AQUAMARINA

Species	Tag type	No. successfully	Maximum time	Contact person/institute
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		deployed	transmitting	
Franciscana dolphin	VHF radio	3	6 weeks	P. Bordino, AquaMarina, Argentina
Franciscana dolphin	Satellite	4	In process	P. Bordino, AquaMarina, Argentina

3.2 Analyses/development of techniques

AQUAMARINA

Three female Franciscana dolphins were radio tagged with small VHF transmitters and released in Bahia Samborombon in March 2005. The tags were attached to the dorsal fins by a single delrin plastic pin with corrosible nuts. The dolphins were tracked for 6 weeks. The maximum range from the highest receiving stations was about 20km. Signals were received from at least one of the tagged dolphins daily, from two individuals on 71% of days, and from all three individuals on 40% of the tracking days. Preliminary analyses by unit effort revealed fairly localized movements by the dolphins, which were mainly recorded in the same area where they were caught. Preliminary analyses suggest a movement pattern associated with the tidal flow, with dolphins coming into the bay during high tide. Though the pilot data set is small, the consistency of findings across the animals suggests that the current designation of a single management stock in Argentina should be re-evaluated. This study represents the first time that radio tracking has been accomplished with Franciscana dolphins (Bordino and Wells 2005). Four individuals (2 females, 2 males) were satellite tagged and released in the same study area in March 2006. This is an ongoing research.

CENPAT 1

Photo ID by means of dorsal fin scars is being used in Commerson's dolphins to study the capture / recapture history of the individuals identified. This data are providing information to develop capture recapture models for the estimation of population parameters such as abundance, birth, mortality and emigration-immigration rates; as well as social structure and group dynamic.

CENPAT 2

Photoidentification techniques based on marks and scars are being used to analyse time to resightings and site fidelity of Peale's dolphins in Golfo San Jorge, in order to design zoning schemes.

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

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	2005 / 115 skin and blubber samples	Y	119	250	Luciano Valenzuela / Instituto de Conservacion de Ballenas and University of Utah
Southern Right Whale	SW Atlantic, N Patagonia	2005 /10 skin samples	Y	10	10	John Wise / University of Southern Maine

4.2 Samples from directed catches or bycatches

AQUAMARINA

Species	Area/stock	Calendar year/season total	Archived (Y/N)	Tissue type(s)	Contact person/institute
Franciscana dolphin	Buenos Aires coast	63	Y	Muscle, liver, glands, lung, kidney, teeth, skin, skeleton, etc	P. Bordino, M. Mendez, AquaMarina CECIM
Burmeisters porpoise	Buenos Aires coast	2	Y	Muscle, liver, glands, lung, kidney, teeth, skin, skeleton, etc	P. Bordino, AquaMarina CECIM

CENPAT 1

Species	Area / stock	Calendar / year Season total	Archived Y/N	Tissue types	Contact person Institute
Common dolphin	Northern Patagonia	1999 / 2005	Y	Gastrointestinal helminths	E.A. Crespo CENPAT

MACN-CONICET

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Franciscana	Southern of Buenos Aires Province and some from the northern area	33 (1998 – 2006) (bycatches)	Y	Skin, blubber, stomach content, skeleton, gonads, muscle samples	Luis Cappozzo María Fernanda Negri

4.3 Samples from stranded animals

AQUAMARINA

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Franciscana dolphin	Buenos Aires coast	19		Muscle, liver, glands, lung, kidney, teeth, skin, etc	P. Bordino AquaMarina CECIM
False Killer Whale	Buenos Aires coast	1	Y	Muscle, liver, glands, lung, kidney, teeth, skin, skeleton, etc	P. Bordino, AquaMarina CECIM
Burmeisters porpoise	Buenos Aires coast	3		Muscle, liver, glands, lung, kidney, teeth, skin, etc	P. Bordino, AquaMarina CECIM
Long Finned Pilot Whale	Buenos Aires coast	1	Y	Muscle, liver, glands, lung, kidney, teeth, skin, skeleton, etc	P. Bordino, AquaMarina CECIM

CENPAT 2

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Long finned pilot whale	South West Atlantic	2003	Y	Skull (1)	Dr. Laura Reyes
Risso's dolphin	South West Atlantic	1998-2004	Y	Skulls (2)	Dr. Laura Reyes.

Cethus

Species	Area / stock	Calendar / year Season total	Archived Y/N	Tissue types	Contact person Institute
<i>Balaenoptera acutorostrata</i>	Southern Patagonia	2005	Y	Skin; blubber	Fundación Cethus
<i>Ziphius cavirostris</i>	Southern Patagonia	2005	Y	Skin; blubber, stomach	Fundación Cethus
<i>Dusky dolphin</i>	Southern Patagonia	2006	Y	Skin; blubber	Fundación Cethus

ICB

The following samples were obtained from a total of 47 southern right whales that stranded dead along the shores of Península Valdés between July 16 and December 25, 2005:

Baleen plates: 15

Skin / Blubber: 19

Brain: 1

4.4 Analyses/development of techniques

AQUAMARINA

Differences in sex ratio and relatedness among 114 by-caught animals were evaluated. There was no significant departure from a balanced sex ratio in the group of animals considered in our study area, neither in a particular year nor across the entire temporal span of our analysis. However, out of seven cases in which two individuals were found stranded in the same gillnet, six were pairs composed of an adult female with a juvenile. Only four haplotypes were impacted in this way, two of them in 6 out of the seven cases. The mtDNA lineage diversity and structure in our study area were compared against the Northern Brazil and Southern Brazil-Uruguay sequences from previous studies. Twenty seven unique haplotypes have been resolved. Sixteen of these haplotypes were new. Tests for population genetic structure showed significant differences between populations in the Buenos

Aires area compared to those populations in Brazil and Uruguay. Similar tests indicate significant levels of differentiation within our study area, in a relatively small geographic scale. Our findings suggest that key aspects of the species' demography are being seriously impacted in the study area, which exhibits notable lineage diversity and haplotype richness. (Mendez et al. 2005). DNA studies from Burmeister's porpoises are still in revision. All samples from stranded animals are being currently analyzed for histopathology.

CENPAT 1

a) Samples of Commerson's, common, dusky and Peale's dolphins obtained by skin swabbing for genetic studies are being analysed at the University of Durham UK by Dr. A. Rus Hoelzel. Samples obtained from bycatch of dusky and Commerson's dolphins during the 90's are also included in the analysis. Samples from dusky dolphins were also used for phylogeographic analysis in a cooperative work with the Free University of Brussels (Cassens et al., 2005).

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.

ICB

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: ^{13}C and ^{15}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

Biological studies: age determination, parasites, diet analysis, reproduction and and physical maturity diseases of Franciscana of southern of Buenos Aires Province (L. Cappozzo, EHPQ-MACN).

5. Pollution studies

AQUAMARINA

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

Cethus

Fundación Cethus stores samples of blubber from Minke whale, Cuvier's beaked whale and Dusky dolphin for pollution studies.

ICB

Pilot study investigating the response of right whale tissues to contaminants. Skin samples collected for Dr. John Wise will be used to estimate the sensitivity of southern right whales to chemicals by investigating the levels and effects of metals in skin samples. Several metals are known to break DNA and the Wise Laboratory is investigating the hypothesis that whales may be exposed to metal levels high enough to cause this damage, which if it occurred in reproductive cells and organs could impair the ability of the animals to reproduce and if it occurred in brain cells, could impair neuro-function.

The Wise Lab developed cell lines from the skin samples collected in Valdes in this preliminary study. These cells lines were the first created for the southern right whales, and they will allow for determination of the effects of contaminants. These cells will be treated with metals to see if and how much of a metal is required to damage DNA. This level will be compared to tissue levels to help determine if the whales are exposed to unsafe levels. Ultimately, cell lines will allow scientists to conduct additional experiments without needing to obtain new skin samples.

MACN-CONICET

Studies of heavy metal contamination on franciscana dolphins from Southern of Buenos Aires Province.

UNMP

A study was finalized about heavy metals in *Delphinus delphis* from Patagonia.

6. Statistics for large cetaceans

6.2 Non-natural mortality

6.2.1 STRANDINGS OR DEAD WHALES ENCOUNTERED AT SEA

CENPAT 2

Whale species	Sex	Location	Cause of death	Det.	Source or contact institution, contact name and telephone and/or e-mail
A. Blue whale	U	Golfo San Jorge. Isla Galiano 45°06'S-66°25'W	U	U	Org.: CENPAT Contact: Laura Reyes E-mail: lreyes@cenpat.edu.ar
B. Minke whale	U	Caleta Córdova 45°44'S-67°21'W	U	U	Org.: CENPAT Contact: Laura Reyes E-mail: lreyes@cenpat.edu.ar
C. Minke whale	U	Golfo San Jorge 45°58'S-67°34'W	U	U	Org.: CENPAT Contact: Laura Reyes E-mail: lreyes@cenpat.edu.ar
Comments: A. Old stranding. Only mandibles and vertebrae. B. Stranded alive.					

ICB

Whale species	Sex	Location	Cause of death	Det.	Source or contact institution, contact name and telephone and/or e-mail
47 Southern right whales	11=♂ 23=♀ 12=U	Península Valdés, 42°- 43° S 63°34' to 65°W	U	U	Org.: WCS / FPN / WCI / ICB Contact: Marcela Uhart and Vicky Rowntree E-mail: muhart@satlink.com rowntree@biology.utah.edu

6.3 Earlier years' statistics

ICB

Cooke, J.G., Rowntree, V.J. and R. Payne. 2001. Estimates of demographic parameters for southern right whales (*Eubalaena australis*) observed off Península Valdés, Argentina. J. Cetacean Res. Manage. (Special Issue)2:125-132.

7. Statistics for small cetaceans

7.1 For the calendar year 2006

CENPAT 1

Dolphin species	Sex	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
bottlenosed dolphin	U	2004	43S 64W	D	anchovy	TM	F	E:A: Crespo / S.L. Dans (CENPAT)
Commerson's dolphin	U	2004/2005	Golfo San Jorge	D	shrimp	OTB	F	E:A: Crespo / S.L. Dans (CENPAT)

7.3.1 STRANDINGS OR DEAD SMALL CETACEANS ENCOUNTERED AT SEA

AQUAMARINA

Species	Sex	Location	Cause of death	Det.	Source or contact institution, contact name and telephone and/or e-mail
False Killer Whale	F	Northern Buenos Aires, San Clemente del Tuyu	Unknown, probably entangled		Org.: AquaMarina CECIM Address: del Sauce 748 Pinamar Contact: P. Bordino Tel.: 02254 489987 E-mail: bordino@aquamarina.org

Long Finned Pilot Whale	F	Northern Buenos Aires, San Clemente del Tuyu	Unknown, probable entangled		Org.: AquaMarina CECIM Address: del Sauce 748 Pinamar Contact: P. Bordino Tel.: 02254 489987 E-mail: bordino@aquamarina.org
Comments: Gillnet and rope marks on pectoral and dorsal fins in both individuals					

7.3.3 FISHERY BYCATCH

AQUAMARINA

Species	Sex	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Franciscana dolphin	33 F, 30 M	Oct 2005 to March 2006	Several locations along coastal Buenos Aires		Bottom dwelling species	GNS	Observers Program	IDEM above
Burmeisters porpoise	2 F	Oct 2005 to March 2006	San Bernardo, Buenos Aires		Bottom dwelling species	GNS	Observers Program	IDEM above
Comments: Entangled in gillnets								

7.4 Earlier years' statistics

AQUAMARINA

Dolphin bycatch for coastal Buenos Aires was estimated between 650 to 900 individuals in 2004 and over 1000 individuals in 2005 through out an independent observers on board program covering around 8% of the total artisanal gillnetting fleet. The increasing annual incidental Franciscana dolphin mortality recorded in coastal Buenos Aires during 2005 is direct consequence of the increasing gillnet fishing effort.

8. Strandings

AQUAMARINA

AquaMarina CECIM (info@aquamarina.org), Pablo Bordino (bordino@aquamarina.org), Diego Albareda (albareda@aquamarina.org)

CENPAT 1

Age determination was studied in a specimen of a Shepherd's beaked whale stranded in Southern Patagonia. Age structure of pilot whales mass strandings along the coasts of Patagonia during the last 25 years is being analysed at CENPAT at present.

CENPAT 2

Species		Source or contact institution, contact name and telephone and/or e-mail
Killer whale	Golfo San Jorge	Laura Reyes (CENPAT)
Long finned pilot whales	Golfo San Jorge	Laura Reyes (CENPAT)
Risso's dolphins	Golfo San Jorge	Laura Reyes (CENPAT)
Gray's Beaked whale	Golfo San Jorge	Laura Reyes (CENPAT)
Layard's beaked whale	Golfo San Jorge	Laura Reyes (CENPAT)

Cethus

Species	Area/stock	Season total	Contact person
Minke whale	Southern Patagonia	2005	Fundación Cethus
Cuvier's beaked whale	Southern Patagonia	2005	Fundación Cethus
Dusky dolphin	Southern Patagonia	2006	Fundación Cethus

ICB

Between July 16 and December 25, 2005, 47 southern right whales (7 adults, 4 juveniles, 36 calves) stranded dead along the shores of Península Valdés.

MACN-CONICET

Species	Contact person/institute
Ballenas Picudas de Hector	Luis Cappozo

9. Other studies and analyses

AQUAMARINA

Since October 2004, efforts to mitigate the incidental mortality of Franciscana dolphins in coastal gillnets were undertaken in northern Buenos Aires. The experiment tested the use of experimental hand-lines as an alternative fishing practice to replace gillnets in the study area. This two consecutive-year tests show promising advances in reducing the incidental mortality of dolphins (*Bordino in prep*), although a long-term experiment is required to evaluate the potential use of hand-lines on a larger scale in northern Buenos Aires. In terms of economy, experimental hand-lines used were cheaper, had the same catch size frequency, caught species with highest price in the market and with better quality, need to be set for a shorter time, presented low interaction with sea lions and consequently reduced damage to gear, and last longer than gillnets. Currently, efforts to reduce incidental mortality integrate components of the program that are well-established: a) the proven effectiveness of hand-lines as a direct way to reduce the gillnet fishing effort in the area and b) the proven effectiveness of acoustic warning devices in reducing Franciscana bycatch (Bordino et al. 2002, Bordino et al. 2004). Indications are that using a combination of these mitigation methods could potentially be more profitable for the artisanal fishermen while reducing dolphin bycatch.

CENPAT 1

Current: southern right whale, dusky dolphin, Commerson's dolphin and common dolphin

Species	Area / stock	Calendar / year	Studies	Contact person Institute
Dusky dolphin	Central Patagonia	2000 - 2005	stock size, behaviour, stock identification	E:A: Crespo (CENPAT)
Commerson's dolphin	Central and southern Patagonia	2000 - 2005	stock size, behaviour, diet, stock identification	E:A: Crespo (CENPAT)
Common dolphin	Northern Patagonia	2000 - 2005	parasites, diet, stock identification	E:A: Crespo (CENPAT)
Franciscana	Buenos Aires Province	2000/2004	abundance	E:A: Crespo (CENPAT)
Southern right whale	Península Valdés	2004-2006	monitoring of stock by aerial surveys	E:A: Crespo (CENPAT)

CENPAT 2

I am working mainly in the definition of criteria for the selection of priority sites for marine conservation in Patagonia, Argentina, integrating biological, socio-cultural and economical features. I also aim to conduct an identification of priority sites for the creation, planning and implementation of MPAs. In this context, the studies carried out on cetaceans are a key tool for planning through ecosystem-management approaches.

Cethus

Species	Area / stock	Calendar / year	Studies	Contact person Institute
Commerson's dolphin	Southern Patagonia	1986 2006	Stock size. Photoidentification (since 1986). Diet.	Fundación Cethus
Peale's dolphin	Southern Patagonia	1996 2005	Stock size. Photoidentification (since 1996)	Fundación Cethus
Southern Right Whale	Southern Patagonia	2004 2005	Stock size.	Fundación Cethus

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 Conservación 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 2005, 159 mother-calf pairs were followed visually for 129.8 h between September 4 and October 31 at three different sites. Gull attack frequency for the three study sites was 16% in 2005. The frequency was highest at La Adela Beach, where it doubled over a period of ten years: it increased from 12% in 1995 to 26% in 2005 for the month of September. 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. 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. Between August 1 and November 1 researchers from ICB and Texas A&M University carried out the first of two field seasons. 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. Mother/calf pairs compose 2/3 of the whales in the study area and are thus the whales most frequently seen (and the most vulnerable to disturbance) and juvenile whales frequently seek out encounters with boats. Data collected in 2005 will be combined with data collected in 2006 to elaborate conclusions.

MACN-CONICET

Studies undergoing by Cappozzo's research team, EHPQ (MACN).

Incidental mortality and fisheries interactions with small cetaceans. Conservation status of Franciscana in its distribution range, monitoring continuously along southern Buenos Aires Province coast. Parasites, diet, Skeletal development and physical maturity age and reproduction of Franciscana in southern Buenos Aires Province. Zephrus identification by analysis of mitochondrial DNA sequence, and morphological studies.

UNMP

Studies on craneal ontogeny on *Pontoporia blainvillei* from the North part of Buenos Aires coast. These studies are carried out through traditional multivariate morphometry and geometric morphometry.

10. Literature cited

ICB

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11. Publications

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CENPAT 1

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CENPAT 2

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ICB

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