

BRAZIL. PROGRESS REPORT ON CETACEAN RESEARCH, MARCH 2001 TO FEBRUARY 2002, WITH STATISTICAL DATA FOR THE CALENDAR YEAR 2001

Compiled by Artur Andriolo¹ and Márcia C. Engel²

This report summarizes information obtained from:

Instituto Baleia Jubarte: Instituto Baleia Jubarte, Phone/fax: +55 73 2971340, E-mail: jubarte@tdf.com.br

Centro de Mamíferos Aquáticos: Ibama

Grupo de Estudos de Mamíferos Aquáticos do Rio Grande do Sul (GEMARS) - Rua Felipe Neri, 382/203 - Porto Alegre, RS 90440-150 Brazil. Phone (51) 335-2886 - Fax (51) 267-1667. Email: gemars@zaz.com.br &

Centro de Estudos Costeiros, Limnológicos e Marinhos/Universidade Federal do Rio Grande do Sul (CECLIMAR/UFRGS) - Av. Tramandaí, 976 - Praia do Imbé, RS 95625-000 Brazil. Phone/Fax (051) 627-1309.

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Departamento de Vida Silvestre-IBAMA/Universidade Federal de Santa Catarina – Lamaq.

Projeto Golfinhos - CP 24075, Rio de Janeiro - RJ, Brazil, 20522-970, E-mail : lodi@domain.com.br, Fax : 55 – (xxx) 21 – 2438 21 02, Phone : 55 – (xxx) 21 – 2572 22 79 - <http://www.paraty.com.br/golfinho.htm>

Ana Paula Madeira Di Beneditto and Renata Maria Arruda Ramos - UENF – Universidade Estadual do Norte Fluminense.

Biodinâmica/Universidade Federal de Santa Catarina – Lamaq.

¹ International Wildlife Coalition/Brasil C.P. 5087, Florianópolis, SC, 88040-970 ² Instituto de Biociências, PUCRS - Paulo A.C. Flores^{1,2} and Karina R. Groch¹ Phone (48) 91041793 / Phone and Fax (48) 2352330 e-mail: paflares@pucrs.br

1. Species and stocks studied

Common name	Scientific name	Area/stock(s)	Items referred to
Humpback whale	<i>Megaptera novaeangliae</i>	Western South Atlantic	2.1.1, 2.2, 3.1.1, 3.1.3 4.1, 4.3, 8
Right whale	<i>Eubalaena australis</i>	Western South Atlantic	2.1.1
Short-finned pilot whale	<i>Globicephala</i> <i>Macrorhynchus</i>	Western South Atlantic	4.3 ; 8
Sperm whale	<i>Physeter macrocephalus</i>	Western South Atlantic	4.3 ; 8
Tucuxi (marine)	<i>Sotalia fluviatilis</i>	Western South Atlantic	4.3 ; 8
Franciscana dolphin	<i>Pontoporia blainvillei</i>	Southern Brazil, LNRS	4.2; 4.3; 7; 8; 9
Southern right whale	<i>Eubalaena australis</i>	Southern Brazil, LNRS and Santa Catarina	2.1; 3.1.1; 3.2; 4.1; 4.3; 5; 6.2; 8; 9; 10; 11
Bottlenose dolphin	<i>Tursiops truncatus</i>	Southern Brazil, LNRS / ASPSP	2.1.2; 3.1.1; 3.2; 4.3; 8; 10
Atlantic spotted dolphin	<i>Stenella frontalis</i>	São Sebastião – SP	8
Bottlenose dolphin	<i>Tursiops truncatus</i>	São Sebastião – SP	8
Franciscana	<i>Pontoporia blainvillei</i>	São Sebastião – SP	8
Tucuxi (marine)	<i>Sotalia fluviatilis</i>	São Sebastião – SP	2.1.2 e 8
Antarctic minke whale	<i>Balaenoptera bonaerensis</i>	Northeastern coast, from Rio Grande do Norte to Alagoas	2.1.1

¹ Coordenação Geral de Fauna - IBAMA

² Instituto Baleia Jubarte

Sperm whale	<i>Physeter macrocephalus</i>	Northeastern coast, from Rio Grande do Norte to Alagoas	2.1.1
Short finned pilot whale	<i>Globicephala macrorhynchus</i>	Northeastern coast, from Rio Grande do Norte to Alagoas	2.1.1
Bottlenose dolphin	<i>Tursiops truncatus</i>	Northeastern coast, from Rio Grande do Norte to Alagoas	2.1.1
Pantropical spotted dolphin	<i>Stenella attenuata</i>	Northeastern coast, from Rio Grande do Norte to Alagoas	2.1.1; 4.1
Atlantic spotted dolphin	<i>Stenella frontalis</i>	Northeastern coast, from Rio Grande do Norte to Alagoas	2.1.1
	Ziphiidae	Northeastern coast, from Rio Grande do Norte to Alagoas	2.1.1
Tucuxi (marine)	<i>Sotalia fluviatilis</i>	Paraty Bay, South of Rio de Janeiro State, Southern Brazilian coast	2.1.1 ; 2.1.2 ; 2.2
Franciscana	<i>Pontoporia blainvillei</i>	Northern of Rio de Janeiro State	4; 5; 7; 8
Tucuxi (marine)	<i>Sotalia fluviatilis</i>	Northern of Rio de Janeiro State, Central Santa Catarina State, Southern Brazil	2.1; 3.1.1; 3.2; 4; 5; 7; 9; 10; 11

Abbreviations: LNRS = Northern Rio Grande do Sul, from Torres (29°19'S; 49°43'W) to “Parque Nacional da Lagoa do Peixe” (31°22'S; 51°02'W). ASPSP = “Arquipélago de São Pedro e São Paulo” (ASPSP) (00°55'N; 29°20'W).

2. Sightings data

2.1 Field work

2.1.1 SYSTEMATIC

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SURVEY CRUISES – ABROLHOS BANK 2001

Weekly 4 days cruises were conducted during the winter season - July to November - in the Abrolhos Bank, Bahia - Brazil (16°40' - 19°30'S / 37°25' - 39°45'W). The cruises were concentrated in the northern portion of the bank (16°40'S- 18°10'S). The main objectives of these cruises were photo-identification, biopsy sampling and behavioral observations. The boat used was a 15-meter wooden research trawler.

Month / No. of days	Sighting effort (hours)	Direct observation time (hours)	Nº of whales	Nº of calves	Nautical miles navigated
JULY 13 days	93,91	49,58	200	5	433,22
AUGUST 18 days	81,02	40,75	181	22	311,07
SEPTEMBER 10 days	69,75	35,92	158	42	367,06
OCTOBER 13 days	98,41	35	142	37	581,66
NOVEMBER 10 days	60,5	16,83	45	14	345,27

Total 2001	403,59 hrs	178,08 hrs	726	120	2038,28
64 days					

ADDITIONAL CRUISES – ABROLHOS BANK 2001

Additional cruises were also made in the southern region of the Abrolhos Bank (18° 10' - 19° 30'). This was the first season that this area was surveyed systematically through boat and aerial surveys (see below).

Month / No. of days	Sighting effort (hours)	Direct observation time (hours)	Nº of Whales	Nº of calves	Nautical miles navigated
JULY 2 days	16,6	8,92	34	1	80,12
AUGUST 9 days	70,41	15,0	112	8	642,98
OCTOBER 7 days	44,91	7,0	41	6	210,02
Total 2001	131,92 hrs	30,92 hrs	187	15	933,12
18 days					

SURVEY CRUISES – NORTHERN BAHIA STATE COAST 2001

Daily cruises were made from July to November in the Northern Bahia State Coast (12° 20'S – 13° 52'S) with a 15-m wooden research schooner. The main objectives of these cruises were photo-identification and behavioral observations.

Month / No. of days	Sighting effort (hours)	Direct observation time (hours)	Nº of Whales	Nº of calves	Nautical miles navigated
JULY 5 days	38,5	17,5	52	0	184,6
AUGUST 5 days	36,6	12,6	43	4	139,0
SEPTEMBER 11 days	86,1	14,9	44	9	451,5
OCTOBER 6 days	48,8	2,92	8	0	267,0
Total 2001	210 hrs	47,92 hrs	147	13	1042,1
27 days					

AERIAL SURVEY - 2001

A first year of aerial survey was conducted between the north limit of the Bahia State (12° 10'S) and the south limit of the Espírito Santo State (20° 42'S) between August 25 and September 2, coinciding with the seasons peak. Seventy-seven transects 25 km apart were held from the coastline to the 500m isobath. The main objective of the surveys was to estimate the population density and abundance in the area and analyze the patterns of habitat use.

No. of days	Sighting effort (hours)	Nº of Groups	Nº of Whales	Nº of calves	□ transects (n.miles)
8 days	56 hrs	245	377	8	2633,39

AERIAL SURVEYS – RIGHT WHALES

A first year aerial survey was made in the area between Ubatuba, São Paulo State (23° 00'S) and Porto Seguro, at Bahia State (16° 00'S), from August until October. The purpose of this study was to identify and estimate the number of mother-calf pairs of right whales along São Paulo, Rio de Janeiro, Espírito Santo and Southern of Bahia State.

No. of days	Sighting effort (hours)	Nº of Groups	Nº of Whales	Nº of calves	□ transects (n.miles)
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7 days	37:56 hrs	07	14	7	-----
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LAND BASED SURVEY

A theodolite tracking land-based survey study is conducted since 1998 at Santa Barbara Island (17°57,73'S e 38° 42,36'W) aiming to measure the impact of boats to whale groups inside the Abrolhos National Marine Park. The land-based study used three different data collection types: (a) scan sampling, which totaling 128 hours of observation time; (b) focal animal sampling (normal behavior), which totalling 71,36 hours of observation time; and (c) interactions between whales and boats, which totalling 73,36 hours of observation time.

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A ship-based sighting survey was conducted off the northeastern coast of Brazil in October 2001. The objectives of that cruise were to verify distribution and abundance of cetacean as well to obtain the abundance estimate for great whales. Minke whales were the target species. An experiment of collecting biological material from small cetaceans was also carried out during the cruise. (Contact: A. Zerbini and J.M. da Rocha).

Vessel Name	Vessel Type	Top Barrel	Period and Region	Species Seen	Number of Animals	Researchers
NH Sirius	Hydrographic	Height of tijupá: 9,95m	October 9-19, 2001, Northeastern coast	<i>Balaenoptera bonaerensis</i>	41	A.N. Zerbini, J. M da Rocha, A Andriolo, P. Simoes-Lopes, A. Lucena, I. Moreno, D. Danilewicz, M. Cremer, G. VanBlaricom
				<i>Minke whale</i>	11	
				<i>Physeter macrocephalus</i>	5	
				<i>Globicephala macrorhynchus</i>	6	
				<i>Tursiops truncatus</i>	31	
				<i>Stenella attenuata</i>	410	
				<i>Stenella frontalis</i>	3	
				Ziphiidae	1	
				Delphinidae	20	
				Unidentified whale	21	

Projeto Gofinhos

Vessel Name	Vessel type	Top barrel	Period and region	Species seen	Researcher
Ticarola and Mimi	Trawlers	Yes, 2m	March 2000 to September 2001 Paraty Bay, South of Rio de Janeiro State, Southern Brazilian coast	<i>Sotalia fluviatilis</i>	Liliane Lodi

During our fieldwork, development between 1998 and 1999 in Ilha Grande Bay, we discovered that marine tucuxis might form unusual big aggregations (up to near 450 individuals) in the region of Paraty Bay, compared to what is known to its distribution area all over the world. The big aggregations recorded in Paraty Bay may be related to fishing and socializing behaviors (Lodi and Hetzel, 1998).

With the support of Cetacean Society International, Fundação O Boticário de Proteção à Natureza and Universidade Federal Rural do Rio de Janeiro - Instituto de Florestas / Departamento de Ciências Ambientais e Florestais, the Dolphins Project (“Projeto Golfinhos”) was begun in October 2000 a study with marine tucuxi dolphin that inhabiting the Paraty Bay (23°13’S 44°42’W ; 23°02’ 44°35’W), region on the south of Rio de Janeiro State, Brazil. Over most of Paraty Bay the depth is < 20m. This study (which have duration of one year) will examine environmental and behavioral determinants of the habitat use and preferences of marine tucuxi dolphin in Paraty Bay.

Between March of 2001 and September of 2001, 23 groups of *S. fluviatilis* were sighting (Table 1). Groups and solitary tucuxis were observed for over 4739 min. Groups with 40 or more tucuxis were seen in 18 different occasions. The high number of calves and juveniles observed in the groups in the period of study suggest that this area represent possibly a breeding area for the marine tucuxi dolphins. Tie the moment, the mainly observed behaviors are foraging and feeding.

Table 1. Sightings of marine tucuxi dolphins in Paraty Bay, between March 2001 to September 2001.

GROUPS #	Group size	Calves	Juveniles	Adults
01	45	4	5	26
02	40	4	9	27
03	41	4	5	32
04	40	5	9	26
05	45	9	11	25
06	38	3	12	23
07	35	4	11	20
08	45	5	12	28
09	7			7
10	45	8	10	27
11	40	5	11	24
12	16	3	4	9
13	60	10	14	36
14	51	9	9	33
15	50	11	10	29
16	50	10	10	30
17	50	6	9	35
18	21			21
19	40	6	8	26
20	40	7	8	25
21	40	8	5	27
22	40	7	8	25
23	40	9	9	22
TOTAL	919	137	189	593

* Other sightings :

A Southern right whale (*Eubalaena australis*) and her calf - probably the same individuals - were sighting in the following dates and local in Ilha Grande Bay :

- July 25, 2001 – Praia Brava
- July 26, 2001 – Itaorna (in front of a power plant ANGRA I and II)
- August 1, 2001 – Angra dos Reis , travelling to the North.

In August 10, the whales were sighting in Sepetiba Bay. They come back to the Ilha Grande Bay and in August 17, the female and calf were sighting for 100 meters of Conceição de Jacareí. The female had in their body fishing net. In the attempt of moving the whales away the coast by local people, the female collided with the boat.

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Common name	Survey	Location and	Dates	Sightings
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Marine dolphin	tucuxi	Boat	Baía Norte, SC	March 2001 – January 2002	One sighting of 80-100 individuals per survey (On
Southern whale	right	Boat and aerial	Central and South SC, North RS, Entra aqui os voos da Norsul?	July – November 2001	110 female/calf pairs and 32 non-calf groups (land based) 29 female/calf pairs (aerial) all including double

SC = Santa Catarina State

Marine tucuxi dolphin are studied through boat surveys in an area of ~250km² (Baía Norte, SC), conducted without following a regular course and year round, almost every month (Flores 1999). The study area is divided into 18 zones using topographic references easily identifiable from the boat to plot sightings locations (Flores 1999) also aided by a GPS. Contact or encounter rate of tucuxis was ~95% out of boat surveys (Flores 1999).

Southern right whales are surveyed from helicopter in a coastline of 150km - and on occasion in another 100km of the northern coast of SC and RS and Southeast coast of Brazil (SP – BA) (J.T. Palazzo, P.A.C. Flores and K.R. Groch, unpublished) from an inflatable boat, mostly during biopsy sampling efforts (Flores and Ott, unpublished) and from shore in 12 observation stations covering about 80km of coastline (Groch 2000, 2001). A total of 110 sightings of mother-calf pairs and 32 of groups without calves including double counting were obtained from land (Groch, unpublished).

2.1.2 OPPORTUNISTIC, PLATFORMS OF OPPORTUNITY

Gemars: Opportunistic onboard survey have been carried out between “Arquipélago de Fernando de Noronha” (03°51’S; 32°25’W) and “Arquipélago de São Pedro e São Paulo” (00°55’N, 29°20’W). In this area the bottlenose dolphin (*Tursiops truncatus*) was sighted during this period.

Opportunistic sightings of Atlantic spotted dolphin (*Stenella frontalis*), rough-toothed dolphin (*Steno bredanensis*) and minke-whale (*Balaenoptera acutorostrata*) were done in Southeastern Brazil.

Fundamar: Projeto Sotalia (ongoing) - Observation point on the coast (Enseada de Caraguatatuba e Canal de São Sebastião - SP). total effort: 24 h e 20 min. Sighting species: Sotalia fluviatilis. Sighting effort: 3 h e 13 min. Observed behaviors: splashes, blows and fast swimming.

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Bottlenose dolphin: boat surveys with photoidentification, behavior, ecology, group size (Flores 2000). These sightings are taken opportunistically during the marine tucuxi dolphin study in Baía Norte (Flores 1999) and along Sta Catarina Island.

2.2 Analyses/development of techniques

Instituto Baleia Jubarte

The data of The aerial surveys and the cruises were collected following the methodology of linear transects (Burnham *et al.*, 1980; Hiby and Hammond, 1989; Buckland *et al.*, 1993).

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The surveys have been conducted using the line transect distance sampling methodology to estimate distribution and abundance of cetaceans.

Projeto Golfinhos

Sea surveys (n = 21) were undertaken over approximately 37 km of the coastline of the north part of Paraty Bay. The coastal zone was divided in five sections.

During the boat surveys the maximum possible time was dedicated to following tucuxis groups and recording activities and habitat use.

Estimates of group size and composition were repeated several times during a survey.

Group activity/behavior was recorded at the commencement of each sighting and, thereafter, randomly in 10 min intervals throughout the survey.

The location of dolphins group and direction of movement were recorded using landmarks and subsequently plotted on a chart (Brazilian Navy Chart).

Cruises Surveys (From March 2001 to September 2001)

Sighting (min.)	Effort	Nautical Miles	Number of group of tucuxis sighted	Number of groups with calves	Number of groups / nm	Number of groups / nm
7962		532	23	21	0,003	0,04

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Photoidentification, biopsy sampling, genetic analysis, boat and aerial surveys, behavioural reactions to boat approaches.

3. Marking data

3.1 Field work

3.1.1 NATURAL MARKING DATA

Species	Feature	Area/Stock	Number of animals photographed	Catalogue (Y/N)	Catalogue total	Contact Person / Institute
Humpback whale	Fluke	W. S. Atlantic	218 (2000 season)	Y	982 (until 2000)*	Instituto Baleia Jubarte
Bottlenose dolphin	Dorsal fin	ASPSP	2	Y	8	G. Caon & P.H. Ott / GEMARS
Southern right whale	Callosities	Southern Brazil	~30	Y	70 ^a	P.A. Flores / IWC-Brazil ^b
Marine tucuxi	Dorsal fins and body marks	Central SC	On going analysis	Y	~ 130	Paulo A.C. Flores
Bottlenose dolphin	Dorsal fin	Central SC	10	Y	35	Paulo A.C. Flores
Southern right whale	Head callosities	SC	50	On going analysis	~ 180 79 ^c	Karina R. Groch

* Data from the 2001 whale season is currently being analyzed.

^a These include only biopsied right whales photo-identified during the genetic study carried in southern Brazil since 1998 (see 4.1).

^b IWC-Brazil = International Wildlife Coalition/Brazil.

3.1.2. ARTIFICIAL MARKING DATA

Not applicable

3.1.3 TELEMETRY DATA

Biodinâmica/Universidade Federal de Santa Catarina – Lamaq.

A Satellite transmitter was deployed on a humpback whale in November of 2001 at Rio de Janeiro State Coast, about 35nm from the coast.

4. Tissue/biological samples collected

4.1 Biopsy samples

Species	Areas	Calendar year 2001	Archived (Y/N)	Number analyzed	Total holdings	Contact person/institute
Humpback Whale	W. S. Atlantic	43	Y	43	197	Instituto Baleia Jubarte
Southern right whale	Southern Brazil	9 skin samples + 9 blubber	Y	On going study	84skin + 44 blubber	P. H. Ott/GEMARS *
<i>Stenella attenuata</i>	Northeastern coast	1	Y	No	1 blubber's sample	D. Danilewicz (GEMARS)

* This project is being conducted in conjunction with the International Wildlife Coalition/Brazil (IWC/Brazil) and Genetic Department of Federal University of Rio Grande do Sul (UFGRS).

4.2 Samples from directed catches or by catches

Species	Area/stock	Calendar year/season	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Franciscana	Northern Rio de Janeiro	4	Y	Skin, blubber, liver, kidney, muscle, blood,	Ana Paula M. Di Benedetto and Renata M. Ramos - UENF
Tucuxi (marine)	Northern Rio de Janeiro	4	Y	Skin, blubber, liver, kidney, muscle, blood,	Ana Paula M. Di Benedetto and Renata M. Ramos - UENF

4.3 Samples from stranded animals

Species	Area/stock	March 2001 to January 2002	Archive d (Y/N)	Tissue types (total)	Contact person/institute
Humpback Whale	W. S. Atlantic	-----	-----	-----	Instituto Baleia Jubarte
Franciscana	LNRS	1	Y	Gonads, liver, kidney, blubber, muscle, stomach, teeth and skull.	Ignacio Moreno GEMARS
Clymene dolphin ^a	LNRS	1	Y	Complete skeleton, gonads, liver, kidney, blubber, muscle, and stomach.	Ignacio Moreno GEMARS
Bottlenose dolphin ^b	LNRS	1	Y	Skull, teeth, muscle, stomachs.	Ignacio Moreno GEMARS
Minke whale ^c	LNRS	2	Y	Skull, muscle, gonads, blubber and baleen	Ignacio Moreno GEMARS
Wright whale ^d	LNRS	1	Y	Muscle, blubber, skin, baleen and callosities with (<i>Cyamus</i> spp)	Ignacio Moreno GEMARS
Sperm whale ^e	LNRS	1	Y	Skull and Muscle	Ignacio Moreno GEMARS
Franciscana	Northern Rio de Janeiro	1	Y	Skin, blubber, liver, kidney, muscle, blood, stomach contents and	Ana Paula M. Di Benedetto and Renata M. Ramos -

				gonads	UENF
Humpback Whale	W. S. Atlantic	4	Y	skin and blubber	Instituto Baleia Jubarte
Humpback Whale	W. S. Atlantic	1	Y	skin	CMA/Instituto Baleia Jubarte
Tucuxi	W. S. Atlantic	3	Y	Bones	CMA
Tucuxi	W. S. Atlantic	1	Y,N,N,N	Bones, lung, heart, liver	CMA
Tucuxi	W. S. Atlantic	1	Y,N,N,N,N	Bones, liver, lung, kidney, heart	CMA
Short-finned pilot whale	W. S. Atlantic	1	Y	Parasites, small intestine, lung, kidney, bladder, stomach, skin	CMA
Sperm whale	W. S. Atlantic	1	Y	skin, tooth	CMA

^a Clymene dolphin (*Stenella clymene*); ^b bottlenose dolphin (*Tursiops truncatus*); ^c minke whale (*Balaenoptera acutorostrata*), ^d Wright whale (*Eubalaena australis*), ^e Sperm whale (*Physeter macrocephalus*).

4.4 Analyses/development of techniques

Universidade Estadual Norte Fluminense: Heavy metals: The tissues (muscle, liver, and kidney) of franciscana and tucuxi (marine) samples have been examined for the presence of heavy metals (Hg, Cd, Zn, Cu, Cr and Fe). The analyses are still in progress. Immunology: Blood samples of franciscana and tucuxi (marine) are being examined to detection the presence of the *Toxoplasma gondii*. The analyses are still in progress. Genetic: Muscle samples of franciscana are being examined to genetic analyses (mitochondrial DNA; MHC analyses). The analyses are still in progress.

International Wildlife Coalition/Brazil and Instituto de Biociências, PUCRS

Tucuxi dolphin: biological parameters (calving interval, association patterns, etc.), biological parameters (abundance estimates, natality and mortality rates), residency, site fidelity, home ranges (Flores 1999) – on going Ph.D. thesis with data from 1993-2001

Bottlenose dolphin: association patterns, residency, site fidelity, home ranges (Flores 2000, unpublished)

Southern right whale: within season residency, times/distances to resightings, biological parameters (abundance estimates, calving interval), whale/boat interaction during whalewatching activities (on going Ph.D. Thesis with data from 87 to 2003) (Groch, unpublished).

5. Pollution Studies

Gemars: Samples of blubber, kidney and liver of all cetacean species found have been collected for future contaminant studies.

Universidade Estadual do Norte Fluminense: The heavy metals analyses of franciscana and tucuxi (marine) are still in progress. The metals Hg, Cd, Zn, Cu, Cr, and Se are being determined by ICP-MS. The dolphin tissues (muscle, blubber, liver and kidney) and their preferential prey tissues (muscle and liver) are being examined for further studies of biomagnification and bioaccumulation process in the Northern Rio de Janeiro.

International Wildlife Coalition/Brazil and Instituto de Biociências, PUCRS: Blubber samples from Southern Right whales collected to be analysed.

6. Statistics for large cetaceans

6.1 Direct catches (commercial, aboriginal and scientific permits) for the calendar year 2001)

Not applicable

6.2 Other non-natural mortality for the calendar year 2001 or the season 2001/2002.

Not applicable

6.3 Earlier years' statistics

Not applicable

7. Statistics for small cetaceans

7.1 Incidental mortality for the calendar year 2001

Species	Area/stock	Directed catch		Incidental mortality			Live-capture
		Reported	Est. Total	Reported	Est. total	Source	Reported
Franciscana	LNRS	0	0	1	-	Gillnet	0
Franciscana	Northern	0	0	18	-	Gillnet	0
Tucuxi (marine)	Northern	0	0	4	-	Gillnet	0

8. Strandings

Instituto Baleia Jubarte: collected data of 5 stranded humpback whales off Bahia and Espirito Santo State coasts, most of them calves. Further information about the stranded animals can be obtained from the Instituto Baleia Jubarte.

Fundamar: Northern of São Paulo State.

Stenella frontalis - 01

Tursiops truncatus - 01

Pontoporia blainvillei - 06

Sotalia fluviatilis - 01

There were collected 4 carcasses (*Tursiops*, *Stenella*, *Pontoporia* e *Sotalia*) that are in the FUNDAMAR museum.

Universidade Estadual do Norte Fluminense: Northern of Rio de Janeiro State - Ana Paula M. Di Benedetto and Renata M. Ramos

Pontoporia blainvillei - 01

The Centro Mamíferos Aquáticos/IBAMA (CMA) has rescued nine cetacean carcasses from March, 2001 to January 2002. Of these animals only one specimen was not identified (a beaked whale). There were 5 Tucuxis, 1 Sperm Whale, 1 Humpback whale and 1 short-finned pilot whale. All materials collected are in CMA base in Itamaracá Island, Pernambuco State.

9. Other studies and analyses

Gemars: Other aspects of cetacean research conducted by GEMARS relevant to the Scientific Committee not covered in earlier sections include the following studies:

a) Body condition and energetic reserves of franciscana dolphin – (Contact person: Glauco Caon/GEMARS)

b) Population genetics of franciscana dolphin - The genetic variability and population structure of franciscana dolphins along the Brazilian coast are being studied using nuclear (microsatellites) and mitochondrial markers (Contact person: Paulo Ott/GEMARS).

c) Life history of franciscana dolphin - (Contact person: Daniel Danilewicz/GEMARS)

d) Skull Geometrics Morphometrics and distribution of dolphins (Genus *Stenella*) in Southwestern Atlantic Ocean. (Contact person: Ignacio Moreno/GEMARS).

e) Systematic survey on stranded cetaceans in southern Brazil since 1991. Study area: From Torres (29°19'S; 49°43'W) to “Parque Nacional da Lagoa do Peixe” (31°22'S; 51°02'W). (Contact person: Ignacio Moreno/GEMARS).

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