Argentina Voluntary National Cetacean Conservation Report, 2014
Submitted by the Government of Argentina to the Conservation Committee
65th Meeting of the International Whaling Commission

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1. Information on whale watching

- The Lab Ecología y Conservación de Vida Silvestre-CADIC-CONICET gather information on cetacean distribution and abundance since 2009 onboard the BO "Puerto Deseado" along the Patagonian Coasts, Drake Passage and Antarctic waters. The information is geo-referenced and uploaded in a GIS platform together with other environmental and oceanographic data. We are processing data and for some species the data has been published, while for others the corresponding manuscripts are under preparation. All data is available within the BO "Puerto Deseado" campaigns reports.

  It is also gathering information on dolphins and whale watching observations along the Beagle Channel, mainly in collaboration with tourist operators which navigate the area, one member of our lab once a week do the surveys along the Channel onboard the vessels and also we recollect pictures and videos from tourist guides.

2. Current Programs Related to Cetacean Conservation
2.1 Research Projects

- *Trophic structure of marine ecosystem of the southwest Atlantic and the Beagle Channel: temporal and spatial variability, with emphasis on the role of top predators (Riccialdelli Luciana CADIC-CONICET/ Museo Acatushun):* The main objective of this research project is to study the trophic structure of subantarctic waters adjacent to the province of Tierra del Fuego, Antártida e Islas del Atlántico Sur (South Atlantic coast and Beagle Channel, Argentina), with emphasis in the trophic relationships, food and habitat preferences of the top consumers (e.g. cetaceans, seals and sea birds) through the use of carbon and nitrogen stable isotopes composition of their tissues (e.g. bone collagen, hair, blood and skin samples) from dead and live animals. Specifically for cetaceans, isotopic information of 17 species was generated analyzing bone collagen samples, including six species of delphinids (*Cephalorhynchus commersonii, Lagenorhynchus australis, L. cruciger, Pseudorca crassidens, Grampus griseus, Lissodelphis peronii*), two species of porpoises (*Phocoena dioptrica, P. spinipinnis*), eight species of beaked whales (*Berardius arnouxii, Hyperoodon planifrons, Mesoplodon bowdonii, M. grayi, M. hectori, M. layardi, Tasmacetus shepherdi, Ziphius cavirostris*) and two species of baleen whale (*Eubalaena australis* and *Megaptera novaeangliae*). This project is partially funding by a PICT-2012-1832, director Andrea Raya Rey, and a PICT-2013-2228 director Luciana Riccialdelli.

- *Assessment of Commerson's dolphin Cephalorhynchus commersonii conservation status at argentine's southern distribution. (Maria Fernanda Negri CADIC-CONICET)* The aim of this project is to evaluate the conservation status of the Commerson's dolphin

Cephalorhynchus commersonii in Tierra del Fuego, Antártida e Islas del Atlántico Sur province, Argentina. Incidental captures of this species in artisanal fishing nets have been registered all along atlantic argentine coast but its actual impact in the conservation of the spcies is unknown. Thus, it is still considered as "data deficient" by the International Union for Conservation of Nature. In particular, in Tierra del Fuego, Antártida e Islas del Atlántico Sur province, direct observations of gillnets are being conducted in different fishing areas on the Atlantic coast of the Province in order to estimate the bycatch rate of the species in its southern distribution in Argentina. However, mortality estimations can only be included in management programs if they are related to the abundance of the species or population involved. In this sense, the current abundance will be estimated by aerial surveys of lineal transects with a bimotor aeroplane covering the most depth range inhabits by the species that is overlap with the fishing grounds. Knowing the percentage of the abundance removing by bycatch will allow inferring conservation status of this small cetacean at argentine's southern distribution. In addition, it will contribute to perform the proper management measures of the species to diminish the interaction between dolphins and fishing nets. This project is partially funding by a PICT-2012-1832, director Andrea Raya Rey, and Wildlife Conservation Society, director Adrian Schiavini, Society for Marine Mammalogy to Fernanda Negri.

- *Effects of climate on population parameters of marine mammals of southern South America. (Natalia Dellabianca CADIC-CONICET/ Museo Acatushun)* The main goal of the project is to evaluate of the effects of climate change and large-scale patterns of climate variability, such as the El Niño -Southern Oscillation (ENSO) and the Southern Annular Mode (SAM) on the community of marine mammals that inhabit Antarctic and sub-Antarctic waters, analyzing changes in individual growth, distribution, relative abundance and composition of the species.
  -We use teeth of specimens of different species of cetaceans and pinnipeds to investigate the influence of climate oscillations on their individual growth and other life history events. Specimens belong to the Goodall (RNP) collection at the Museo Acatushún de Aves y Mamíferos Marinos Australes (AMMA) at Estancia Harberton, Tierra del Fuego, Antártida e Islas del Atlántico Sur province, Argentina.
  -To evaluate long-term changes in distribution patterns, relative abundance and species composition of the local cetacean community, we will compare new with historical sighting (and stranding) records. The new sighting data will be collected during cetacean surveys onboard different research platforms. This project is partially funding by a PICT-2012-1832, director Andrea Raya Rey, PICT-2013, director Natalia Dellabianca.

- *Onashaga Commitment: tourist guidelines for the sustainable development of the tourist activity along the Beagle Channel. (Andrea Raya Rey y Natalia Dellabianca-CADIC-CONICET/ Museo Acatushun).* Ushuaia city and the Beagle Channel Waters are subject of an increase in tourism activities. Catamarans and small boats navigate the Beagle Channel waters doing bird and whale watching, approaching and in some cases disembarking on the islands. Our lab is working since 2005 in a local certificate for the tourist activity within the Beagle Channel waters together with local NGOs, tourist operators, provincial and city council technicians from different departments, APN, tourist guides association, university, etc. Since 2011 the Onashaga Distinctive rules the activity and our lab collaborate in the development and implementation of this certificate as well as in the evaluation and revision of the guidelines for seabird and whale watching in particular and measure the indicators of the profitable activity provided in the certificate. Finally our lab is also involved in the communication of cetaceans, natural history and conservation for people implicated in the activity and public in general.

- Update from the Southern Right Whale Health Monitoring Program (SRWHMP):

1. Stable isotope analyses of baleen suggest that a higher proportion of pregnant SRW females are feeding exclusively on copepods on the Patagonian Shelf, instead of migrating annually to the waters off Islas Georgias del Sur, considered their default and preferred feeding grounds.
2. Bone marrow fat as an indicator of calf reserves showed that only half of the dead calves examined had bone marrow fat, and when present the levels were low. Calves that died earlier in the season tended to have lower levels of marrow fat and greater variance than calves that were found later in the year.
3. Comparison of blubber thickness measurements as an indicator of dead SRW calf body condition, showed that blubber thickness at the anal-dorsal region was significantly thicker in years with low calf mortality compared to high mortality years.
4. Only trace biotoxin levels were found in dead whales, suggesting that toxins from algal blooms may not be a significant mortality factor. However, temporal associations between plankton blooms and mortality patterns occurred in some high mortality years.
5. Overall, the most consistent pattern in the gross necropsy findings for the 212 calves necropsied between 2003 and 2012 was the presence of gull attack lesions. 70% of affected whales had histologic lesions associated to gull-wounds, which varied in severity, deepness and chronicity.
6. In years of high calf mortality (such as 2012) 50% of the calves had a very high number of gull lesions (25 or more in some cases) and only 26% were without lesions.
7. A paper summarizing findings for the first 10 years of the SRWHMP and highlighting the significant ongoing mortality event at PV was published in Marine Ecology Progress Series in 2013: Rowntree VJ, MM Uhart**,** M Sironi, A Chirife, M Di Martino, L La Sala, L Musmeci, N Mohamed, J Andrejuk, D McAloose, JE Sala, A Carribero, H Rally, M Franco, FR Adler, RL Brownell Jr., J Seger, T Rowles. 2013. Unexplained recurring high mortality of southern right whale calves (Eubalaena australis) at Península Valdés, Argentina. Marine Ecology Progress Series. Vol 493: 275-289.
8. Results from these studies have been presented at several scientific meetings, including the International Association for Aquatic Animal Medicine in 2013, the IWC (2013 and 2014) and workshops organized by the provincial government of Chubut, Argentina (2013 and 2014).

- *Update from the Right Whale Research Program (Instituto de Conservación de Ballenas / Ocean Alliance) for the 2013 field research season with the southern right whales of Península Valdés:*

1. ICB/OA conducted the 43rd photo-identification survey of the right whales at Península Valdés on September 3 and 6, 2013. Over 5,000 identifying photographs were taken and will be added to our catalogue of nearly 3,000 known whales. We counted 729 whales including 297 calves. The information is used to assess individual and population reproductive success, wounding of calves and mothers by kelp gulls, patterns of habitat use and social interactions. The aerial surveys are critical for monitoring the high calf mortality rates currently afflicting the population.
2. We continued observations of respiration rates to evaluate the body condition and health of the living right whales at Peninsula Valdés. Blow frequency data were collected in 2013 and after analysis they will be added to extend the database.
3. A paper reporting metal levels in right whale skin was published: Martino, J., Wise, S.S., Perkins, C., Sironi, M. and J.P. Wise, Sr. 2013. Metal Levels in Southern Right Whale

(*Eubalaena australis*) Skin Biopsies from Península Valdés, Argentina. Journal of Environmental and Analytical Toxicology 3:190. doi:10.4172/2161-0525.1000190

- Studies on acoustic, pollution, genetic and ecology are carried out by Fundación Cethus on different species of cetaceans of Argentina.

- A "Tango" vessel voyage, as part of the SORP, was carried out in the following area: Islas Orcadas del Sur and the west side of the Antarctic Peninsula, from the Islas Shetland del Sur to Brown Base of Argentina in Paradise Bay. The trip began on the 17th February from Ushuaia and finished on the 5th March 2014. The "Tango" was prepared to develop acoustic surveys. The Scripps Institution of oceanography – University of California San Diego provided a HARP that was deployed in the north-west area of the Antarctic Peninsula and an array was used during the survey. Two scientists from this US institution spent 4 days before the departure of the Tango in Ushuaia to fix and check equipment, and train acousticians on board. A scientist from Scripps took part on the voyage.

  Each cetacean observed during the entire trip was recorded but the species of main interest were the Antarctic blue whales, humpback whales, southern right whales and killer whales. The only species that could not be recorded was the southern right whale, due probably to bad weather conditions on the north of Islas Orcadas del Sur area where it was expected to find them.

  The following species were recorded: Fin whales, humpback whales, Antarctic and dwarf minke whales, sei whales, blue whales (1 individual), killer whales (two ecotypes), long-finned pilot whales, ziphiids, hourglass dolphins, Peale's dolphins and Dusky dolphins. A paper showing the results of this voyage were presented at the 65b IWC Scientific Committee, Bled, Slovenia.

  During the voyage sound were recorded using the array from 300 Hz to 250 kHz. Results were also presented at the 65b IWC SC.

  As explained before, a HARP was deployed on the north-west of Elephant Island and it will be recovered in January 2015.

  This trip was an exploratory one and information on sightings and acoustics were recorded. Next year the voyage will be included other components (telemetry and genetics).

3. Current threats to Cetacean Conservation and Management Measures Taken/Proposed

3.1 Strandings

- The province of Chubut created and established the Red de Fauna Costera by Decree N° 731/14, by Regulation N° 75/11. Three different protocols are being revised: i.) Comunication, ii.) Procedure and Handbook of the Coordinator of the Node and iii.) safety and basic techniques on cetacean's disentanglement
- The Southern Right Whale Health Monitoring Program (a joint project of Instituto de Conservación de Ballenas, Whale Conservation Institute, Ocean Alliance, University of California, Davis, University of Utah, Fundación Patagonia Natural and Wildlife Conservation Society) continuous research efforts to unravel the causes of whale deaths at Península Valdés nursery ground. A total of 672 dead southern right whales were recorded and examined between 2003 and 2013. Calves represented 91% of recorded dead whales. At least 116 whales died in 2012, which is considered the most extreme mortality event ever observed for the species. Consistent and sustained high calf mortality rates could slow the Península Valdés southern right whale population's recovery.

3.2 Kelp gull and southern right whales interaction

- Progress on the Conservation Management Plan of the Southwest Atlantic Southern right whale is presented under the document IWC/65/CCRep05. On August 4-5th an IWC workshop on mortality on Southern right whale were hosted by the government of Argentina and the province of Chubut. The report of this workshop will be submitted to the 66a IWC Scientific Committee
- The Southern Right Whale Health Monitoring Program macroscopically and histologically characterized lesions by ante-mortem gull predation on whales dying at Península Valdés between 2005 and 2013.
- The long-term aerial survey photographs from Ocean Alliance / Instituto de Conservación de Ballenas photo-id catalogue was used to assess the occurrence, number and relative size of gull lesions in circa 2000 living mother-calf pairs sighted from 1974-2010.
- ICB researchers have recorded the frequency of gull attacks on right whales at different sites of the Península annually since 1995 as a way to gauge the success of efforts to curb these attacks. In September of 2013, we observed 211 mother/calf pairs in 24 observation days, and recorded 1,462 gull attacks, of which 86% were aimed at the calves and the remaining 14% were aimed at the mothers. The gulls attacked the whales in 26% of the 5-minute intervals in Golfo San José and in 36% of the intervals in Golfo Nuevo. The frequency recorded in 2013 shows an alarming increase in gull attacks in Golfo Nuevo.
- Vet. Carla Fiorito, who belongs to the Ecophysiology Applied to Wildlife Management and Conservation Laboratory of Centro Nacional Patagónico (CENPAT-CONICET), Chubut, Argentina, reported the results of a study carried out to determine the causes of skin lesions in Southern right whales in Península Valdés. Samples of skin lesions were obtained from free-living and dead stranded whales. Isolation of bacteria from wounds caused by gulls showed that those wounds acted as a route of entry for pathogens, which could even cause death of some individuals. *Erysipelothrix rhusiopathiae* was isolated from typical square edge wounds in a stranded and in a live whale. The clinical disease associated with *E. rhusiopathiae* is called erysipelas in birds and mammals or erysipeloid in humans. The pathognomonic sign of erysipelas in many species is the presence of diamond-shaped skin lesions. Cetaceans are the marine mammals most susceptible to this disease. These other bacteria were also isolated: *Enterococcus faecaelis*, *Staphylococcus epidermidis* and *streptococcus beta haemolytic*.

3.3 Ship strike

- In Patagonia, Argentina, Coast Guard (Prefectura Naval Argentina) defines annually the navigation limits in Golfo Nuevo, establishing intangible areas where navigation is prohibited, and sustainable use areas where whale watching occurs. Nevertheless, there is a large area near Puerto Madryn city where navigation constraints do not exist. There is only a navigation route that is used by ships as an enter route to Puerto Madryn port. Lic. María Belén Argüelles, who belongs to the Ecophysiology Applied to Wildlife Management and Conservation Laboratory of Centro Nacional Patagónico (CENPAT-CONICET) led by Dr. Marcelo Bertellotti, reported that this 80 to 120 m depth area is now intensively used by whales, which perform more than 20 min dives, increasing the collision risk with vessels when whales emerge to breathe. Southern right whales are being tagged with a suction cup device in order to register their dive patterns in the route of access to the port. Surveys to determine whale distribution patterns in the area are being performed in case a management plan on ship traffic to reduce collision risk is needed.

- Two of 116 dead whales examined by the Southern Right Whale Health Monitoring Program in 2012 had evidence of trauma. One was a confirmed case of ship strike (female calf ID 072512PV-Ea08, near Puerto Pirámides) with two para-sagital and well defined cuts along the entire body length on both sides. The other was a female calf (ID 92312PV-Ea 67), also found near Pirámides, with a large hematoma in its left lung and blood clots in stomach (swallowed blood), suggestive of blunt-force trauma.

4. Cooperation Programs

- The Fondo Argentino de Cooperación Sus-Sur y Triangular (FOAR) will be developing a two years cooperation program to work on capacity building and training workshop on whale watching in Honduras and Dominican Republic in November 2014.

- Distribution patterns and relative abundance of subantarctic cetaceans in relation to environmental variables and anthropic activities. Dr Graham Pierce. Oceanlab, University of Aberdeen, Aberdeenshire, Scotland

- Effects of climate on population parameters of subantarctic marine mammals through the study of their teeth. Dr Aleta A. Hohn, National Marine Fisheries Service - Southeast Fisheries Science Center, National Oceanic and Atmospheric Administration, Beaufort Laboratory, North Caroline

- Relation predator-prey in the MPA Francisco Coloane. Director: Jorge Acevedo (CEQUA, Chile).

- Trophic relationship and isotopic gradients of the subantarctic marine fauna. Collaborators: Seth D. Newsome (University of New Mexico, USA) and Marilyn L. Fogel (University of California, USA)

- Survey design and cetacean abundance estimation. Researcher: Dr. Alexandre Zerbini (National Marine Mammal Laboratory of the National Oceanic and Atmospheric Administration, NOAA Seattle, United States).

5. Regional Conservation in Latin America

- Contribution to the South Atlantic Whale Sanctuary Proposal.

1. Since 2005, ICB has been a co-author of the scientific proposal to establish the South Atlantic Whale Sanctuary (SAWS) proposed by the governments of Argentina, Brasil, South Africa and Uruguay. The Government of Brazil organized a workshop on the SAWS on March 19-21, 2014 in Praia do Forte, Brazil. Dr. Mariano Sironi, Scientific Director of ICB, was invited to give a presentation on non-lethal cetacean research in Latin America.

6. Education for environmental and whale conservation

- In cooperation with the Ministry of Culture of Chubut province, The Instituto de Conservación de Ballenas developed the educational exhibit “Southern Right Whale: Researching to Conserve” at the Provincial Museum of Oceanography in Puerto Madryn.

The exhibit describes right whale biology, non lethal research techniques and the conservation threats that the whales face in the oceans. Since its opening on National Whale Day on September 25, 2013 the exhibit has been visited by thousands of tourists and school children.

- The Instituto de Conservación de Ballenas, was given in 2013 the award for Biodiversity Conservation in Latin America from the BBVA Foundation that recognize organizations carrying forward environmental conservation policies and projects. ICB was given the award for its extraordinary contribution to the understanding and conservation of southern right whales.

- Since 2011 Fundación Cethus is developing an educational program on Dolphins of the Río Negro estuary. This program is focus on the conservation of the Franciscana (*Pontoporia blainvillei*) and bottlenose dolphins (*Tursiops truncatus*). By August 2014, the program has reached 8,000 childrens from 40 schools.