Gobierno de Canarias
Consejería de Medio Ambiente y Ordenación Territorial
Dirección General del Medio Natural

FOR THE IWC CONSERVATION COMMITTEE

ACTIVITIES ON CETACEANS CARRIED OUT BY THE CANARY ISLANDS GOVERNMENT IN 2008 AND REVIEW OF HISTORIC DATA RECORDS OF CETACEANS AND SHIP STRIKE IN THE CANARY ISLANDS

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Strandings

The Canary Islands Government coordinates through the Dirección General del Medio Natural the Stranding Net in the Archipelago, in a professional and continuous manner since over a decade.

There have been a total of 73 stranding cases of 12 different cetacean species in 2008. Death cause could be determined in 47 cases, which include those stranding cases that could be caused by collisions with boats (though, whether the collision had occurred "ante-" or "post mortem" could not be determined). Out of the mentioned 47 cases, 80.8% have been due to natural cause and 19.2 % due to human interaction. Specifically, there have been 4 cases of probable or possible boat collision (all *Physeter macrocephalus*) and 5 cases caused by interaction with fisheries (2 *Kogia breviceps*, 2 *Stenella frontalis* and 1 *Delphinus delphis*).

With regard to the most interesting cases, we would like to point out:

POSSIBLE COLLISSION WITH BOATS

There have been 3 cases of female Sperm-whales, which would be included in the categories "*1. Confirmed definite collision"* (1 case) and "*2.Unconfirmed but probable collision*" (2 cases), according to the Vessel Strike Data Standardization Group of the IWC Ship Strike Working Group (VSDSG-SSWG). In addition, another stranding of a sperm-whale tail fin with some vertrebra has to be included in this chapter. In this case, given the very advanced descomposition (expoxed bones)

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status, it was more difficult to determine whether it could be related to a boat collision. Thus, it was decided to include it in category "*4. Possible collision*", once expertise opinions and the stranding case report were assessed.

Cases in details:

1) Female calf Sperm whale, on April 10th 2008. Showed a big orifice on the dorsal right side, with broken ribs and dislocated breastbone. Visual inspection and partial necropsy was carried out. Report and photos are available. Tissue samples where gathered. Category: *"2.Unconfirmed but probable collision"*
2) Rest of Sperm-whale tail fin with vertebrae, on May 12th 2008. The exposed bones status and the presence of cirrípedos made evident that death had occurred several weeks before. Bone and tissue samples were gathered and photos were taken. Because only the fin with some vertebra was found and not the rest of the body, it is suspected that could be caused by collision. Included in category: *"4.Possible collision"*.
3) Adult female Sperm whale, on May 27th 2008. It presented a very advanced descomposition with loss of internal organs and mass volume as well as longitudinal cuts. Vertebrae and rib exposure and shark bite marks. Visual inspection was carried out and skin, fat samples gathered, as well as 1 mandible and 1 maxillary vestigial tooth collected. Photos are available. Included in category: *"1.Confirmed definite collision"*
4) Sub-adult female Sperm-whale, on September 22nd 2008. Visual inspection was carried out, resulting in advanced descomposition status, right side wound, and overall dark color with some white marks around mouth, caudal peduncle and anal-genital areas. It showed a deep longitudinal cut, going from the cranium backside to the ventral region. Skin, muscle mass, fat, liver and skeleton, collected. Included in category: *"2.Unconfirmed but probable collision"*

Detailed case record file attached in Appendix 4.

INTERACTION WITH FISHERIES

January 25th 2008. *Kogia breviceps*. Juvenile female. Possible interaction with fisheries. Etiologic diagnosis: trauma. Morphologic diagnosis: multiple bone fractures, lung bleeding and hemothorax.

March 23rd 2008. *Stenella frontalis*. Juvenile female. Interaction with fisheries. Etiologic diagnosis: trauma caused by fishing gear. Morphologic diagnosis: hemothorax and broken right lung with double path perforation.

April 4th 2008. *Delphinus delphis*. Adult female. Interaction with fisheries. Etiologic diagnosis: trauma. Morphologic diagnosis: multiple cephalic traumas with associated peripheral bleedings.

April 24th 2008 *Stenella frontalis*. Adult male. Interaction with fisheries. Etiologic diagnosis: trauma. Morphologic diagnosis: maxillary and occipital fracture, bleedings in mandible fat and congestive, hemorragic paraotic sinuses.

June 27th 2008. *Kogia Breviceps*. Adult male. Interaction with fisheries. Etiologic diagnosis: trauma. Morphologic diagnosis: Vertebrae 5 and 6 fracture affecting rib articulation. It presented internal bleedings in muscle tissue, affecting vertebrae 2 to 9.

OTHER CASES OF INTEREST

In 2008, a total of 16 cases of *Steno bredanensis* have been registered, with 15 of them occurring between March and May. Out of these, 10 necropsies have been carried out, throwing diagnosis results which are comparable to natural bio-toxicity. This is a particular occurrence frequency case, since from 2000 until 2007 only 3 *Steno bredanensis* stranding cases had been registered.

STRANDED LIVING SPECIMEN

There have been 6 cases of cetacean standed alive. The death cause was determined as natural death in all 6 cases, with an outstanding case of premature delivery (Sperm whale). In 3 cases the animal was brought back to sea and re-stranded dead. In 2 cases, the animal stranded alive and died few hours later while recovery and transportation action was being taken. In one case the animal was brought back to sea, and there is no evidence of a later sighting.

- March 10th 2008. Male Striped dolphin (*Stenella coeruleoalba*) in Gran Canaria. Stranded alive and taken to ULPGC Veterinary Faculty (University of Las Palmas de Gran Canaria). Died during rescue maneuvers and transportation to the recovery center. Necropsy results: pathologic entity. Non-consumptive pathology of natural origin. Etiologic diagnosis: "Meningoencefalitis infecciosa".
- March 17th 2008. Spotted dolphin (*Stenella frontalis*) in Gran Canaria. Taken by agents of the Wild Fauna Recovery Service Center of the island public administration (Cabildo de Gran Canaria) to the ICCM facilities (Marine Science Institute). It was brought back to the sea.
- April 21st 2008. Male Risso´s dolphin (*Grampus griseus*) in Tenerife. Stranded alive in a beach on april 20th in the late evening. It was brought back to sea and stranded again dead on the morning after. Necropsy results show death cause or pathological entity: "Non-consumptive pathology of natural origin". Etiologic diagnosis: "viral infection and meningitis infection".
- June 17th 2008 Female Risso´s dolphin (*Grampus griseus*) in Gran Canaria. Appeared alive in a beach, from where it was taken still alive to the ICCM facilities. It showed nervous symptomatology with permanent inclination to the right. Died some hours after (euthanasia on that same night). The necropsy carried out showed the following results: pathologic entity. Non-consumptive pathology of natural origin. Etiologic diagnosis: "Meningoencefalitis infecciosa".
- July 22nd 2008 Female Sperm whale (*Physeter macrocephalus*) in La Gomera. The specimen was sighted on the day 22nd, swimming at short distance of La Puntilla beach (municipality of Valle Gran Rey). At 07:30 hours, a warning of the emergency service (CECOES, 112) was received. The animal tried to strand twice and was taken back to sea by volunteers. Finally, it stranded in a rocky coastal area and died at 12:00 hours. Together with local police agents and fishermen it was taken to the facilities of the fishermen´s association. The necropsy was carried out on the same day of the stranding. Specimen size is smaller than the one described for newborn Sperm whales (4.5 – 5 m.). Presence of newborn meconium in intestines. The results of the necropsy are as follows: pathologic entity. "Neonatal- Perinatal Pathology". Etiologic diagnosis: "Premature delivery. Fetal suffering. Isolation from mother"
- November 18th 2008. Male Rough toothed dolphin (*Steno bredanensis*) Gran Canaria. The animal stranded alive on the 18th evening in the beach. It was reintroduced at sea by people present at the time of the stranding before personnel of the Wild Fauna Recovery Service Center of the island public administration (Cabildo de Gran Canaria) arrived. The animal strands again and dies. Necropsy results: pathologic entity. "Consumptive pathology of natural origin". Etiologic diagnosis: Septicemia. Chronic infection process.

Whale-watching

During 2008, a total of 37 vessels (28 operator companies) were licensed to offer tourist whale watching activities. According to data of May 2009, there are 33 authorized active vessels.

It has been observed that approaching the cetaceans beyond the 60 m. zone is the most common infraction, though approaches are made in an acceptable manner. Rules regarding stay-with –animal 30 min. time limit and number of vessels allowed on one same animal or group are usually respected.

The interest of swim-with-dolphin activity has increased despite being prohibited by law. This situation is considered as worrying.

In relation to ww activities carried out with scientific or educational purposes, 6 authorizations have been granted to scientific research projects (5 renewals for research organizations that work on a continuous basis in the Canary Islands and one research team which was developing a single project work in autumn 2008 here). Furthermore, 4 authorizations for educational projects have been granted. These authorizations allow exemptions to the regional Decree that regulates ww activity (e.g. approaching the animals below the 60 m mark or swimming in presence of the whales and dolphins to take pictures or filming).

For activities that can cause direct disturbance of the animals like biopsy sampling or tagging (TDR or Dtag), 3 specific authorizations were granted in 2008, due to the status of cetaceans as protected species. It is the case of the renewals from past years authorizations that were granted to research organizations that work on a continuous basis in the Canary Islands.

In case of taken samples, and transportation or deposit of stranded cetaceans or body parts, annual authorizations are granted to the teams that integrate the Canary Islands Stranding Net, which is coordinated by the Canary Islands Government to carry out the pertinent biological and pathological studies: SECAC (Sociedad para el Estudio de los Cetáceos en el Archipiélago Canario), ULPGC-IUSA (Universidad de las Palmas de Gran Canaria- Instituto de Sanidad Animal) y Tenerife Conservación (TeneCon).

Informative - educational program

During 2008, the educational program “Ballenas y Delfines en la Escuela” (Whales & Dolphins at school) has continued. This program is focused on scholars in the whole region, and was conceived to promote knowledge about cetaceans present in the Canary Islands, and conservation issues regarding the animals and the natural marine environment. This program includes sessions aboard collaborating ww vessels.

Regarding information and public outreach, informative leaflets are published in three languages (Spanish, English, and German). The leaflet includes information about the code of conduct, conservation and protection measures, and adequate behavior at sea in presence of cetaceans. Also, informative panels have been installed in the ports of departure of ww vessels, in order to keep the general public, and, more specifically, the potential whale watcher and other users of the areas, informed about how to behave correctly in presence of cetaceans.

REVIEW OF HISTORIC DATA RECORDS OF CETACEANS AND SHIP STRIKE IN THE CANARY ISLANDS

Historic data records of stranding cases of animals that showed signs of a possible vessel strike have been assessed. In some cases, animal death cause can undoubtedly be attributed to a collision with a vessel. These are cases in which the collision has been observed directly, pathologic evidence points to a ante mortem strike or, specifically events when the animal shows evident cuts and its position and typology may indicate that the animal was still alive when they were produced. There are other cases for which strike evidence is clear, since the animal shows deep cuts or body sections have been completely cut off. Though, in these cases, strike cannot be clearly ascribed to an "ante- or "post mortem" case. Also, there are cases for which a collision event is considered probable but not definite, and other in which data may indicate a possible collision as well as other type of events and causes. Lastly, there are some cases for which there is high grade of uncertainty that a strike event has taken place (but not being an impossible case scenario), which are frequent cases when descomposition of the specimen body is failry advanced and body parts are missing. In these last cases, talking about a possible collision can be an overstatement.

Considering the above mentioned and basing on the categorization defined by the IWC Vessel Strike Data Standardization Group - Ship Strike Working Group (VSDSG - SSWG), each case has been evaluated and assigned to one category, in order to be able to provide realistic and comparable results at world level and then, studies of the overall impact of maritime traffic on cetacean population can be developped.

Categories include:

1. Confirmed definite collision
2. Unconfirmed but probable collision
3. Definitely hit by ship but maybe post mortem collision
4. Possible collision
5. Near miss event
6. Confirmed NOT vessel collision

According to the database of the Canary Islands Government Stranding Net formed by SECAC (Sociedad para el Estudio de los Cetáceos en el Archipiélago Canario), ULPGC-IUSA (Universidad de las Palmas de Gran Canaria- Instituto de Sanidad Animal) y Tenerife Conservación (TeneCon), the results are:

Out of all cetacean stranding cases data (data is available for the period between 1985 and 2008 but in a homogeneus and continuous manner since 2000), 74 have been assessed between, having focused on those cases suspect of being caused by interaction between animal and vessel. Out of these, in 54 cases the death has been considered as caused, definitely, probably or possibly, by a ship strike, and thus included in categories 1, 2, 3 and 4 of the VSDSG-SSWG. As much as 20 cases have been dismissed on the idea that no animal – vessel interaction had taken place.

With regards to the animals involved, most of the cases are species with deep-water habits, more specifically:

Physeter macrocephalus: 28 cases
Kogia breviceps: 7 cases
Ziphius cavirostris: 7 cases
Globicephala macrorhynchus: 5 cases

Mesoplodon europaeus: 1 case

To which should be added:
Balaenoptera borealis: 2 cases
Balaenoptera edeni: 1 case
Balaenoptera physalus: 1 case
Stenella frontalis: 1 case
Indetermined: 1 case
Balaenopteridae: 1 case

All are on shore dead animal stranding cases, except for the following 9:

- 1 case of *Balaenoptera physalus*, stuck on bow of a ferry boat which arrived to the islands from the spanish mainland, and had collided near the islands while it was still alive.
- 6 cases of a direct observed colissions at sea: one case of undetermined specie and 5 *Physeter macrocephalus (*including a single strike involving one adult and one calf).
- 2 cases of animals having been found floating: 1 *Physeter macrocephalus* and 1 *Globicephala macrorhynchus.*

Assigning these 54 cases to the categories of the SSWG - IWC (STATUS OF COLLISION RECORDS -IWC Categories), results appear as:

- Category "1": 20 cases of confirmed definite collision occurred ante mortem
- Category "1" or "3": 20 cases of definite collision without having determined if the strike occurred ante mortem or post mortem. It is not clear whether Category "1" must be interpreted as "definite strike but both ante mortem or post mortem" and category 3 includes those cases of "definite strike whit evidence of post mortem strike", or, to the contrary, if Category "1" is only suitable for cases of clear ante mortem collision event and Category "3" is only suitable for cases of definite strike without chance of determining if ante or post mortem. In the table annexed appear under Category 1/3 the cases of definite collision without having determined if the strike occurred ante mortem or post mortem.
- Category "2": 11 cases
- Category "4": 5 cases

No cases for category 5

Matching a stranding event to one of the categories may occasionally come up as a somewhat difficult task. We consider a debate on the interpretation of the categorization defined by the VSDSG as highly interesting. This debate is being proposed by IWC and ACCOBAMS within a workshop on "Ship strike", to take place in Monaco in 2010. Debate should be based on available documented cases in order to reach clear decissions at international level and facilitate comparable approaches and realistic and efficient analysis of the issue.

Reports of the 4 cases of interaction with vessels which occurred in 2008 have been annexed (Appendix 4). Case record data sheet include all information relevant to each case and considered important for the IWC database, according to the SSWG. Further reports of the other 50 cases will be provided, if it is posible, during the 2010 workshop.

In Appendix 3 (Table: *historical data cetacean ship strike Canary Islands*) a table with all 54 cases assessed is included, containing date, specie, sex, age, animal status, island, nature of report and status of collision record.

In order to assess the impact of the interaction with maritime traffic, only data from stranding cases occurred between 2000 and 2008 have been used. This is because it is the period of time during which the work carried out by the Stranding Net was continuous and homogeneus and its results are comparable, and thus, its analysis reliable.

In Appendix 1 (Total Stranded Animals 2000-2008 and nº of collision, by species) information includes the total stranding number of the different species, classified by year of occurrence with added information on definite or probable collision, for the period 2000-2008 and before.

Out of the 54 cases related to interaction with maritime traffic, 51.85% were Sperm whales; *Kogia breviceps* and *Ziphius cavirostris*, 12.96% each*;* 9.26% *Globicephala macrorhynchus; Balaenopera borealis* 3.70% (2 cases); and one single case corresponding for each: *Mesoplodon europaeus*, *Balaenoptera physalus*, Balaenopteridae, undetermined and Striped dolphin (*Stenella coeruleoalba*) (1.85%).

To be specifically mentioned is the fact that the average cetacean collision reaches almost 5 animals per year (4.67), more than two of them sperm whale (2.11).

Appendix 2 (Cause of cetacean mortality 2000-2008, averages and relativs collision figures) includes information about the study of the cause cetacean mortality between 2000 y 2008. Out of the total of 420 stranded animals, mortality cause could be determined for 217 cases. To be added are 31 cases of possible collision: even though death cause could not be determined through necropsy, the cases are sufficiently evident to determine the death cause as at least “possible collision” (even though this not being at a pathologic level). Thus, and considering the 248 cases, 65 % of the cases lead back to natural cause as the mortality cause, while 35% have anthropic cause. This means that 17% of the cases of animals with known, defined death cause are related to a definite or a possible collision between cetacean and a vessel. Considering only the cases of mortality due to human interaction, it would represent a 47.73% of anthropic causes. This would be followed by other 26.14% related to interaction with fisheries, and 14.77% related to the use of active sonar (military maneuvers).