A NEW CASE OF SHIP STRIKE WITH A BRYDE'S WHALE IN ECUADOR

Fernando Félix
Fundación Ecuatoriana para el Estudio de Mamíferos Marinos (FEMM)
PO Box 09-01-11905
Guayaquil, Ecuador

Contact e-mail: fernandofelix@femm.org

ABSTRACT

A new case of a whale Bryde's (*Balaenoptera edeni*) struck by a ship in the southwest coast of Ecuador is reported. The whale was found floating around the Guayaquil port facility on the night of 15th April 2009. Photographs taken when the animal was freshly dead show skin lesions and bruising in several parts of the body, particularly on both sides of the head and genital region. It is suspected that the whale got draped on the bow of an unidentified large ship. Environment and port authorities are encouraged to record these events to assess the potential impact of collisions on local species.

KEY WORDS: South America, ship strike, Bryde's whale

INTRODUCTION

It has been recognized in various international forums that ship strikes with whales and dolphins are a conservation problem as both maritime traffic and vessel speeds have increased (e.g. Reeves *et al.*, 2003; Jensen, and Silber, 2004; IWC, 2005; CMS, 2005). Most cases, however, remain unreported and the impact on the vast majority of species and/or populations is unknown. In 2005, the Conservation Committee of the International Whaling Commission established the Working Group on Ship Strikes to analyze the scientific and technical issues related to these events, recommend actions to mitigate impacts and coordinate the collaboration of institutions with competence in marine affairs (IWC, 2005). In 2007 the Vessel Strike Data Standardization Working Group agreed upon a template for a global database (IWC, 2007). The Marine Environment Protection Committee (MEPC) of the International Maritime Organization (IMO) has included in its agenda the development of a guidance document on minimizing the risk of ship strikes with cetaceans, which will be reviewed during its 59th meeting in July 2009.

In the Southeast Pacific, several cases of ship collisions with whales and dolphins have been reported, including Bryde's (*Balaenoptera edeni*), humpback (*Megaptera novaeangliae*), sperm whales (*Physeter macrocephalus*), bottlenose dolphins (*Tursiops truncates*), among others (Capella *et al.* 2001; Félix and Van Waerebeek, 2005; Van Waerebeek *et al.*, 2007). A similar case as the one reported here occurred at the same port on 10th December 2004, when a container cargo ship arrived to Guayaquil with a Bryde's whale, 16m in length, draped on the bow bulb (Félix and Van Waerebeek, 2005). On that occasion, the event was described in detail because the whale remained over the bulb and naval authorities and the ship's captain were highly cooperative.

In this paper a new case of a Bryde's whale struck by a ship, in similar conditions to that in 2004, is reported. Unfortunately, the circumstances around the event could not

be fully explained, as the floating whale could not be examined in detail and the ship was not identified.

The case

On 15th April 2009 around 21:00 hours, a whale was seen floating at the Guayaquil port facility (2º17'S, 79º55'W), which is the most important maritime port of Ecuador (Figure 1). Port staff made arrangements to tow the body to buoy 84, a couple of kilometers away, as the cadaver may have affected the circulation of small vessels in the area. Simultaneously, they reported the event to the environmental authorities, who invited the author to examine the animal and to offer advice.

We arrived to the site around 23:00 hours. An immature female Bryde's whale of approximately 9-10m long was floating belly up. The carcass was still fresh, not inflated nor stinky; indicating that animal probably died a few hours before. In most parts of the body the skin maintained its natural coloration, black on the flanks, dark-gray on the throat that becomes lighter towards the ventral region, and white around the genital area. In the ventral region, the animal showed a number of bruises stretching around three meters from the navel to the caudal peduncle. Part of the epidermis in this area was lost (Figure 2). Large areas with bruises were also photographed on both sides of the head; on the left side the wounded area extended to the flipper (Figures 3 and 4). A deep wound along the distal part of the ventral edge of the left flipper, apparently reaching the bone (radius), could be observed, indicating that the animal suffered a serious trauma on this side. Nothing could be done other than taking photographs and skin samples.

The floating body was photographed again on the next day at 11:00. The high temperature and the sun had accelerated the decomposition process. At this time, just 12 hours after the first examination, most of the epidermis was lost or burned, and the belly of the whale was inflated. Despite this, the wounds described above were visible in both the genital/caudal area and the flanks (photo 5). The naval authorities decided to tow the body towards open waters, so the carcass could not be examined in detail that day.

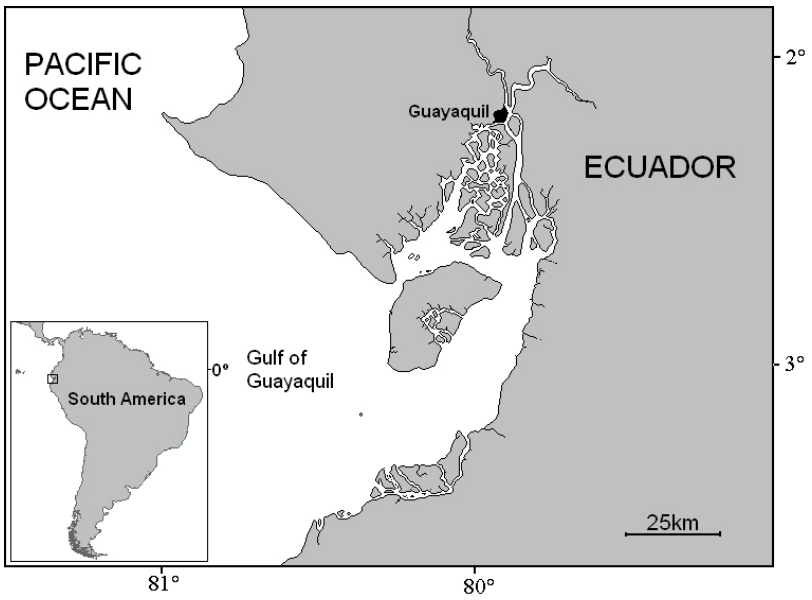

Figure 1. The Gulf of Guayaquil in the Southwestern coast of Ecuador.

Figure 2. Lower part of the belly and genital area.

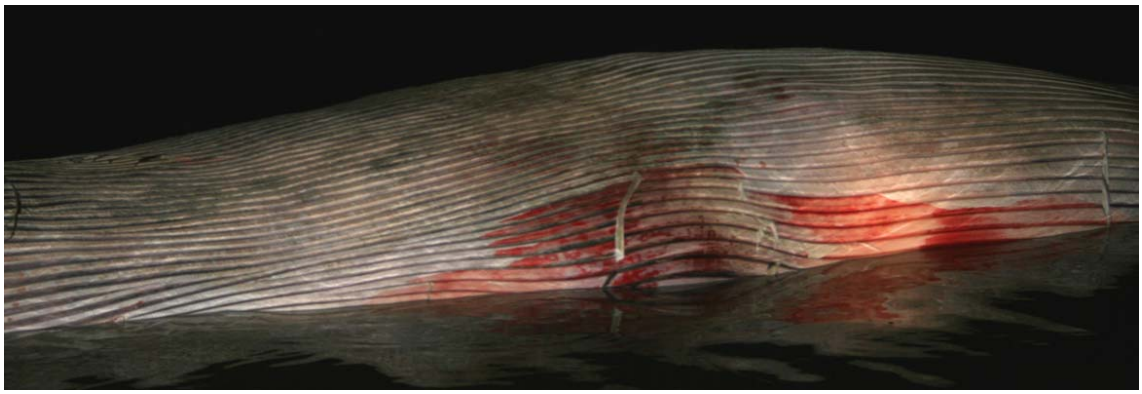

Figure 3. Lower-right side of the head.

Figure 4. Lower-left side of the head and left flipper.

Figure 5. Left side of the carcass as it appeared 12 hours later.

DISCUSSION

The multiple wounds mainly located on both sides of the head and the ventral region indicate that the animal was a victim of a collision with a large ship. The collision would have occured on its left flank, while other parts of the body also suffered injuries during or immediately after the impact. It seems that the whale was draped on the bow of a ship arriving to Guayaquil on the evening of 15th April. The ship had to stop at the quarantine zone (about 6km from the port) to wait for its turn, where the whale carcass would have been freed and the tide could have dragged it into the harbor. It is possible that the crew did not realize the collision had occurred or notice the whale on the bow. This would also explain why a neritic/oceanic species was found dead 70km upstream in an estuarine area and how it passed along the river unnoticed.

The collision would have occurred in the outer Gulf of Guayaquil, a highly productive area rich in zooplankton and small pelagic fish such as sardines and anchovy (Jiménez, 1996). This would be the same area where a collision with a Bryde's whale occurred in 2004 (Felix and Van Warebeek 2005). The Bryde's whale usually is distributed in tropical and subtropical waters near highly productive coastal areas (Leatherwood and Reeves, 1983), as those found along southern Ecuador and northern Peru. The species occurs throughout the year in this zone but mainly between October and March, as showed by catch records from northern Peru where the species was killed during most of the twentieth century (Ramírez, 1989: Clarke, 1980).

The IWC Working Group on Ship Strikes has called for contractor governments to include in their country reports information on collisions, regulations and action plans adopted to reduce their impact on cetaceans (IWC, 2007). It is recommended to Ecuadorian environment and port authorities to start recording ship strikes occurring with vessels arriving Ecuadorian ports and to report them to the IWC. It is important to include in such reports information on the circumstances around the event, location, time, speed, oceanographic conditions, the species involved and the type of damage caused to the animal and the vessel. This information will be useful to make risk assessments of local species and eventually take the necessary measures at the operational level, as well as to conduct research, education and outreach activities. It is also recommended to allow researchers to conduct deeper examinations of the carcasses in port.

ACKNOWLEDGEMENTS

The author thanks the naval authorities of the Guayaquil Harbor and the Oceanographic Institute of the Navy (INOCAR) for reporting the event and for providing the boats to examine the whale. Mario Brito and Mireya Pozo from the Ministry of Environment who invited me to examine the whale.

REFERENCES

Capella, J., Flórez-González, L. and Falk, P. 2001. Mortality and anthropogenic harassment of humpback whales along the Pacific coast of Colombia. *Memoirs of the Queensland Museum* 47(2): 547-553.

Clarke, R. 1980. Catches of sperm whales and whalebone whales in the southeast Pacific between 1908-1975. *Report of the International Whaling Commission* 30: 285-288.

Convention on Migratory Species (CMS). 2005. Report of the Eight Meeting of the Conference of the Parties to the Convenion on the Conservation of Migratory Species of Wild Animals. UNEP/CMSCOP8/Report/Rev 1, 16 May 2007. 271pp.

Félix, F. and Van Waerebeek, K. 2005. Whale mortality from ship strikes in Ecuador and West Africa. *Latin American Journal of Aquatic Mammals*. Vol. 4(1):55-60.

International Whaling Commission (IWC). 2005. Report of the Conservation Committee. IWC/57/Rep 5. 13pp.

International Whaling Commission (IWC). 2007. Ship strikes working group. Second progress Report to the Conservation Committee. IWC/59/CC3. 31 p.

Jensen, A.S. and Silber, G.K. 2004. Large whale ship strike database. *NOAA Technical Memorandum* NMFS-OPR. January 2004. 37 p.

Jiménez, R. 1996. Biología, Ecología y Acuacultura. Pp 111-223. En: *Sistemas Biofísicos en el Golfo de Guayaquil*. Comisión Asesora Ambiental de la Presidencia de la República CAMM. Ecuador. 223 p.

Leatherwood, S and Reeves, R.R. 1983. *The Sierra Club Handbook of Whales and Dolphins*. Sierra Club Books. San Francisco. 302 p.

Ramírez, P. 1989. Captura y observaciones de la ballena Bryde en el norte del Perú. *Boletín de Lima* 65:91-95.

Reeves, R.R., Smith, B.D., Crespo E. and Notarbartolo di Sciara G. (compilers). 2003. *Dolphins, Whales and Porpoises: 2002–2010 Conservation Action Plan for the World's Cetaceans.* UCN/SSC. Cetacean Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK. ix + 139p.

Van Waerebeek, K., Baker, A.N., Félix, F., Gedamke, J., Iñiguez, M., Sanino, G.P, Secchi, E., Sutaria, D., van Helden, A. and Wang, Y. 2007. Vessel collisions with small cetaceans worldwide and with large whales in the Southern Hemisphere, and initial assessment. *Latin American Journal of Aquatic Mammals* Vol. 6(1):43-69.