



Observing Cetaceans From Land – Developing Co-operation as the Driving Force Behind Sustainable Whale Watching Tourism

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Introduction

The Canary Islands are known for an extraordinarily high cetacean species diversity. Off La Gomera, 23 cetacean species have been documented (Ritter 2012). Through a long-term collaboration with local operators, scientific research and public education are integrated in various ways into the whale watching tourism. In 2017, the first permanent platform for the observation of cetaceans from land was established. The platform shall serve as an aid for whale watching operators by means of communicating sightings from land to the vessels.



Figure 1. Observation platform



Figure 2. Optical equipment on the observation platform

Methods

The observation platform (Fig. 1) is situated on the southern coast of La Gomera, some 290 m above sea level. During regular observation sessions from 06 April until 31 October 2017, the sea was scanned with the help of a stabilized handheld binocular CANON 15*50 IS AW (15x magnification), a monocular SWAROVSKI Habicht AT 80 HD telescope with an 30x wide angle ocular, and a BIGEYE BINOCULAR (equipped with 20x & 40x stereo vision oculars, Fig. 2)

For each sighting we recorded the distance to coast, behavioural states (TRAVEL, REST, MILLING, FORAGING and SOCIALIZING), presence or absence of vessels, number of vessels present, responses of cetaceans to vessel presence (AVOIDANCE, NO RESPONSE, PROXIMITY and INTERACTION, categories defined in Ritter 2003), and the duration of the observation.

If the initial sighting was made from land and whale watching vessels were visibly operating in the area, an attempt was made to convey the sighting to the vessel(s) via mobile phone or radio.

REFERENCES: Ritter, F. 2003. Interactions of Cetaceans with Whale Watching Boats – Implications for the Management of Whale Watching Tourism. M.E.E.R. e.V., Berlin, Germany, 91 pp. Ritter, F. 2012. Model for a Marine Protected Area designed for sustainable Whale Watching Tourism off the oceanic Island of La Gomera. M.E.E.R. e.V., Berlin, Germany, 37 pp. Smit, V., Ritter, F. & Neumann, K. 2003. Feasibility Study: Land-based Observations of Cetaceans on La Gomera (Canary Islands). Poster presented at the Annual Conference of the ECS, Gran Canaria, Spain, March 2003.

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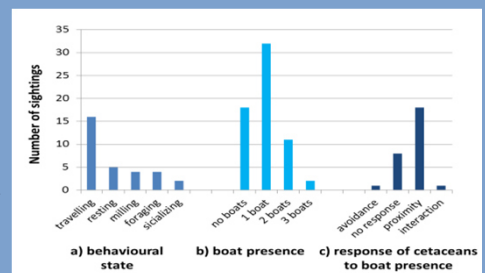


Results

A total of 96 hours and 45 minutes of sighting effort was accomplished. 69 cetacean sightings were documented, comprising a minimum of six species: bottlenose dolphins (*Tursiops truncatus*, N=21), short-finned pilot whales (*Globicephala macrorhynchus*, N=21), Atlantic spotted dolphins (*Stenella frontalis*, N=3), Bryde's whales (*Balaenoptera brydei*, N=2), unidentified baleen whales (N=3), unidentified dolphins (N=14) and unidentified beaked whales (N=1). During 4 sightings, the animals were only classified as "unidentified cetaceans". During 3 sightings, short-finned pilot whales were seen together with bottlenose dolphins.

During 31 sightings, behavioural states could be determined. These included TRAVELING (N=16), RESTING (N=5), MILLING (N=4), FORAGING (N=4), and SOCIALIZING (N=2, Fig. 3a). Boats were present during 45 out of 63 sightings. Boat presence varied from no boat (N=18), 1 boat (N=32), 2 boats (N=11) to 3 boats (N=2) together with the same animal group (Fig. 3b). Responses to the vessels were documented during 28 sightings. These were AVOIDANCE (N=1), NO RESPONSE (N=8), PROXIMITY (N=18) and INTERACTION (N=1, Fig. 3c). During 11 instances, a sighting that initially was made from land was successfully conveyed from the land-based platform to a whale watching vessel at sea.

Figure 3. Number of sightings in relation to (a) diff. behavioural states of cetaceans (total N=31), (b) boat presence (total N=63) as well as (c) the response of the animals to the boat presence (total N=28).



Discussion

We were able to show that, when weather and sea state allow it, the presence of individual large whales and small cetacean groups can be remotely documented from land (compare Smit *et al.* 2003). The observation may also include behavioural states, and the response of the groups to vessel presence. The latter, though, have to be treated carefully. A response may easily be overlooked at distances of several miles. It is likely that positive reactions will be overestimated as they typically involve smaller distances between vessels and cetaceans which are easier to observe from far.

The service to convey sightings made from land is available for all whale watching operators, hence the platform fulfils a variety of valuable tasks: It a) acts as a mediator between operators competing for the same resource; b) helps increasing the sighting success of vessels; and c) helps creating a sense of community within operators and fosters the dialogue between stakeholders.

In the future, the platform also shall help dispersing vessels within the area covered by operators, resulting in less pressure on the animals. The platform represents an essential additional part of a long-term conservation strategy to develop whale watching as a sustainable use of cetaceans off La Gomera. It is hoped that similar platforms will be established on other Canary Islands and elsewhere.