

# Observing Cetaceans from Land – Co-operation as the Driving Force behind Sustainable Whale Watching Tourism



Fabian Ritter<sup>1</sup>, Christian Steindorff<sup>1</sup>, Christina Sommer<sup>1</sup>, Volker Smit<sup>1</sup>

*(1) M.E.E.R. e.V., Bundesallee 123, 12161 Berlin, Germany*

## **Abstract**

The Canary Islands are known for an extraordinarily high cetacean species diversity and whale watching tourism has developed rapidly since the 1990s. Off La Gomera, where 23 cetacean species have been documented, few operators offer whale watching trips to date. Through a long-term collaboration with one operator, the NGO MEER has been realizing a best practice approach to whale watching, where scientific data collection and public education for locals and tourists are integrated in various ways. In 2017, the first permanent platform for the observation of cetaceans from land was established. It is designed and equipped for scientific research (i.e. documentation of sightings, BDA studies, monitoring of ferry traffic, etc.), but also serves as an aid for whale watching operators when cetacean sightings from land are communicated to the observation vessels.

From April through October 2017, on 40 observation days (96 h 45 min of sighting effort), 69 cetacean sightings were documented, comprising six species. Various behavioural states and responses to vessels were observed. Regularly, sightings were conveyed from land to whale watching vessels at sea.

As a service to convey sightings made from land brought forward through an NGO, the platform is available for all current operators, and hence fulfils a variety of valuable tasks, apart from research: 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. In the future, the platform also shall help reducing potential disturbances by dispersing boats within the area covered by operators. Thus, the new platform represents an essential part of a long-term conservation strategy to further 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.

## **Introduction**

The Canary Islands are known for an extraordinarily high cetacean species diversity. Whale watching tourism has developed rapidly since the 1990s, and has witnessed unrivalled numbers of whale watchers, especially on the island of Tenerife (Elebajeita & Urquiola 2009). Off La Gomera, whale watching started in 1992 and has increased slowly since then. To date, five operators offer whale watching trips from Valle Gran Rey, the municipality in the southwest of the island, carrying an estimated several thousand tourists per year on cetacean-based trips. In the area, 23 cetacean species have been documented (Ritter 2012), representing one of the highest cetacean species diversities in Europe and world-wide. Through a long-term collaboration with one of the local operators, the NGO M.E.E.R. has been realizing a best practice approach to sustainable whale watching. Scientific research and public education are integrated in various ways: among them long-

term collection of sighting data, dedicated behavioural studies, photo identification and ecological as well as other studies (Ritter 2002; Ritter *et al.* 2011) on board the whale watching vessels, and regular student courses in cetacean behavioural biology (since 2001). Additionally, in 2008, M.E.E.R. established a tri-lingual public exposition on dolphins and whales – currently the only existing institution of its kind in the Canaries. In 2017, in another effort of pioneering work, the first permanent platform for the observation of cetaceans from land was established on the southwestern coast of La Gomera. It was designed and equipped for scientific research, such as documentation of sightings, BDA studies with relevance to boat-based whale watching, monitoring of boat traffic, and the like. In addition, the platform shall serve as an aid for whale watching operators by means of communicating cetacean sightings from land to the observation vessels.

## **Methods**

The observation platform (see Figure 1) is situated on the southern coast of La Gomera, some 290 m above sea level, was put into operation in April 2017. 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, see Figure 2).

For each sighting, cetaceans were identified to the lowest possible taxa (and ideally, to species level) together with the distance to coast (either estimated from the vertical angle of the BIGEYE binocular together with an optical reference point on the island; or communicated by a whale watching vessel approaching the animals), behavioural states (TRAVEL, REST, MILLING, FORAGING and SOCIALIZING, definitions see Ritter 2003), 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 2012), 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) by verbally (via mobile phone or radio) indicating the approximate location of the sighting and guiding the vessels towards to the cetacean group, if necessary.



Figure 1. Observation platform



Figure 2. Optical equipment on the observation platform

## Results

From 06 April through 30 October 2017, on 40 observations days, 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 TRAVELLING (N=16), RESTING (N=5), MILLING (N=4), FORAGING (N=4), and SOCIALIZING (N=2, Figure 3a). Boats were present during 45 sightings. Boat presence varied from no boat (N=18), one boat (N=32), two boats (N=11) to three boats (N=2) together with the same animal group (Figure 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, Figure 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.

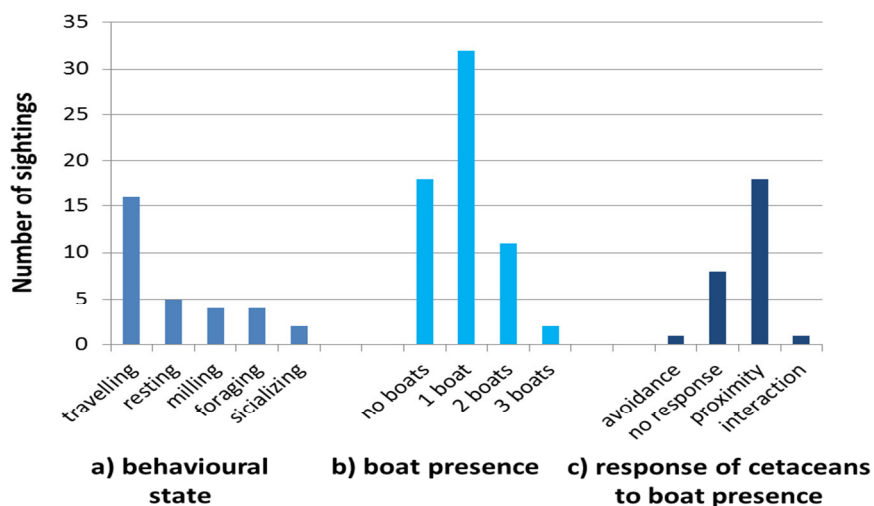


Figure 3. Number of sightings in relation to (a) different behavioural states of cetaceans (total N=31), (b) boat presence (total N=63) and (c) the response of the animals to the boat presence (total N=28).

## Discussion

This study brought further evidence that it is feasible to continually study cetaceans from land on La Gomera, and likewise also in other elevated locations along the coastline of the western Canary Islands (compare Smit *et al.* 2003). We were able to show that the presence of individual large whales and small cetacean groups can be remotely documented from land, parallel to the presence of vessels within the observed area. When weather and sea state allow it, the observation may include documentation of the species, behavioural states, and the response of the groups to vessel presence. Behavioural observations of reactions to whale watching vessels, though, have to be treated carefully. A response may easily be overlooked at distances of several miles from the sighting. It is likely that positive reactions will be overestimated as they typically involve smaller distances between vessels and cetaceans which in turn are easier to observe from far. Through an intensified communication between the on-board whale watching guides it will be possible to enhance and validate these observations.

In future, dedicated studies of the interplay between vessels and cetaceans are planned, so as to assess the general effects of vessel presence in greater detail. Moreover, it is conceivable to conduct studies that correlate cetacean presence/absence to the increasing ferry traffic in La Gomera's waters.

The establishment of the platform was based on a private (NGO) initiative embedded in the long-term research and education project *MEER La Gomera* which started 20 years ago. Ever since, this project has engaged in an approach based on co-operation so as to develop whale watching tourism of La Gomera in a sustainable way. Until today, the boat based collection of cetacean sighting data has led to more than 11.000 sightings documented over a period of more than two decades. In this way, science was rooted deeply into the whale watching activities, as was dedicated public education in manifold ways. With the new platform, a new level was reached, literally. The service to convey sightings made from land brought forward through an NGO is available for all current whale watching operators, hence the platform fulfils a variety of valuable tasks, apart from research: 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 (through meetings organized by MEER as a "neutral player").

In the future, the platform also ought to help reducing potential disturbances by dispersing vessels within the area covered by operators, resulting in less pressure on the animals. Thus, the new platform represents an essential (additional) part of a long-term conservation strategy to (further) 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.

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