

# Humpback whale sightings in southern waters of the Dominican Republic lead to proactive conservation measures

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The *Amigos de los Delfines* is a collaborative project established in 2004 with the aim of conducting baseline research on, and promoting conservation of, cetaceans in the waters of the Dominican Republic. In particular, the project focuses on bottlenose dolphins (*Tursiops truncatus*) in the coastal waters adjacent to Bayahibe and the Parque Nacional del Este (Eastern National Park), on the south-eastern coast of the Dominican Republic (Fig. 1). While undertaking surveys for dolphins in the coastal waters of the national park in March 2005, multiple humpback whale (*Megaptera novaeangliae*) sightings were made that, to the authors' knowledge, extends the known range of the species during its winter breeding activities.

On 16 March 2005, under sea state 4 conditions, the team was investigating a large flock of feeding birds for the possible presence of dolphins when one humpback whale was sighted breaching about 400 m to the right of the survey vessel at N 18° 07' 55", W 68° 48' 39", approximately 3 miles off the coast of Saona Island. Three other animals, including a calf, were then spotted less than a minute later, to the left of the boat, with the original animal apparently moving towards them. Following to the rear left of the group, the approach of the lone animal was monitored as they all moved rapidly east, against the waves and parallel to the shore, in waters of approximately 20 m depth. All of the whales were taking short, shallow dives, and the calf was in the centre of the group. On several occasions all four animals were observed surfacing at the same time in close proximity. After 30 minutes, the original group of three animals came to an abrupt stop, and appeared to be resting on the surface. This group of three animals was presumed to be composed of a mother-calf pair and a male escort (Spitz *et al.*, 2002). The fourth animal, a presumed challenging male or secondary escort (Spitz *et al.*, 2002), could not be sighted during this period when the animals were assumed to be resting. The group of 3 whales remained in position for another 2 minutes, before continued in the direction in which they were originally heading. The encounter was terminated at N 18° 05' 23", W 68° 46' 66" due to deteriorating sea conditions -- the total duration of the encounter was 38 minutes. Dorsal fin pictures were taken of each animal, but the animals did not raise their flukes out of the water during the encounter.

Almost one week later, on 20 March, the research team encountered a different whale (as determined later through a comparison of the dorsal fins) at N 18° 06' 42", W 068° 41' 72" just outside a reef, less than 100 m from the coast of Saona, at 15:10 hrs in approximately 5 m of water. The whale appeared to be a small adult due to its size - approximately 10 m. The animal was heading south away from the island when first sighted and continued in that general direction for the duration of the encounter. Approximately 12 minutes after first sighting, the whale "half-breached with a twist" and then slapped its pectoral fin, before continuing on its way. Sea conditions deteriorated quickly as the team followed to the rear of the whale, away from the coast into deeper water. Again, the whale did not raise its flukes out of the water, but dorsal fin pictures were taken. The animal was lost at 15:45 hrs, ending the encounter at N 18° 05' 51", W 068° 40' 26".

On 26 March, two additional humpbacks were sighted moving south parallel to the mainland coast of the Dominican Republic at 07:40 hrs. Sheltered from the wind at this location (N 18° 16' 18", W 068°

49' 615"), sea conditions were much better for this encounter (sea state 1). The pair was followed at a slow speed, appearing to be engaged in classic herding behaviour, as one animal was consistently closer to shore in waters less than 25 m for as long as they were near the coast. The pair was tracked moving in a southerly direction, crossing the mouth of the Catuano Canal. Although changing direction several times, apparently to avoid extremely shallow water, the pair did move through areas where the depth was approximately 5 m. The travel speed of the pair was slowest at this depth. However, their shallow water path took them along a well-used tourist beach on Saona Island (Catuano). At that time, two large speed boats with twin 200 HP engines moved parallel to the beach at speed, approximately 50 m seaward of the whales. The whales seemed to react to this passage by turning directly away from the shore and moving at a more usual speed. They quickly resumed their passage parallel to the shore, although in waters of approximately 20 m depth. At this point, their southerly direction took them offshore. The whales were tracked as they moved farther away from the coast, until the encounter was terminated at 09:30 hrs, due to deteriorating sea state conditions. Dive times were between 6 and 8 minutes until the whales entered water less than 10 m, when dives became more erratic and considerably shorter. Dorsal pictures were obtained on various occasions, and the fluke of the outside animal was recorded for 3 of 4 observed fluke-out dives. The inner whale did not raise its flukes during the encounter.

At 11:30 hrs the following day, 27 March, the survey boat sighted a humpback whale breaching in front of the Catuano Canal, near two catamarans taking tourists out to Catuano on Saona Island (N 18 12.039, W 68 47.292). As the team moved closer, a calf was also spotted. The animals looked like the mother/calf pair observed on 16 March, which dorsal fin pictures later confirmed. The whales were originally moving in the same general direction as the tourist boats, and soon went round the island to the south and moved almost parallel to the shore in a south-easterly direction. Although they had left the catamarans behind at this point, the breaching had attracted more attention and 4 speedboats were now following the pair. The larger whale, presumably the mother, continued to display agitated behaviour, launching her entire rear half out of the water for huge repeated side/tail slaps. The calf did a fluke-out dive as a few more speedboats approached the pair. Other tourist boats were attracted by the commotion, and at one point there were 7 speedboats within 500 m of the whales, several within 100 m, in addition to the research boat and a stationary fishing boat that happened to be in the path of the whales. Although some speedboats maintained their distance in response to the shouted requests of the survey team, several would accelerate aggressively to bring their tourist passengers as close to the whales as possible whenever they would surface. This appeared to elicit tail slaps and "chuffing" from the mother on each occasion.

After 14 minutes, several of the speedboats began to lose interest, accelerating hard away from the whales, back in the direction of Catuano. The mother half breached and then full breached coincident with the departures, possibly in reaction to the sudden increase in noise generated by the engines. Finally, at 11:55 hrs, both whales did a fluke-out dive and the remaining three boats left for the beach, leaving the survey boat alone with the pair. The team followed the whales as they moved in an easterly direction for another 17 minutes, during which time the mother half-beached once. The team ended the sighting at 12:12 hrs, when the mother "chuffed" and the pair made a 180° turn, in order not to cause the animals any further distress.

The northern waters of the Dominican Republic are known to have internationally important breeding sites for humpback whales, in particular Samana Bay (Mattila *et al.*, 1994) and Silver Bank (Winn *et al.*, 1995; Mattila *et al.*, 1989). In 1986, the waters of Silver Bank were declared a Marine Mammal Sanctuary, meaning that no killing, captures, or harassment of whales were permitted, and a code of conduct was introduced for whalewatching activities, as well as certain regulatory measures regarding fishing activities. In 1996, the limits of the sanctuary were increased to 25,000 km<sup>2</sup>, to include Banco de Navidad and Samana, and protection similar to that provided within the Sanctuary was provided to humpback whales throughout all the waters of the Dominican Republic. However, in 2004, the controversial Sectorial Law 202-04 restricted protection to newly designated sanctuary boundaries. Thus, from 2004 and at the time of the above sightings, protective regulations for whales had been restricted to just the northern waters of the Dominican Republic.

The sightings detailed above indicated, however, that it is not just waters to the north of the Dominican Republic that are utilised by humpback whales. Moreover, the animals did not appear to be merely travelling through the region, as the mother and calf pair had been in the area for at least 2 weeks. Some enquiries established that there were confirmed sightings of humpbacks in this area in the early 1980s (Oswaldo Vasquez, pers. comm.), although there has been little or no survey effort between then and the current program. The details of these sightings, the actions of the tourist boats, and the known history of

encounters with humpback whales in this area prompted members of the *Amigos de los Delfines* project to contact the Undersecretary of Protected Areas and Biodiversity of the Dominican Republic government, to express concerns about the conservation and protection of humpback whales in southern waters of the Dominican Republic.

The government of the Dominican Republic took note of the issue and a meeting was arranged with various tourism operators working in the region of Parque Nacional del Este, which was held on 16 November 2005. At this workshop, members of the *Amigos de los Delfines* presented a “Guide of Good Practices for the Conservation of Marine Mammals”, developed with the input of scientists, government officials, members of the tourism sector and with the support of local communities in whalewatching areas. The government endorsed the use of whalewatching codes of conduct to reduce the impacts of tourism activities on whales in the southern waters of the Dominican Republic, and the Guide will hopefully become nationally recognised. The workshop was followed by a training program (ongoing at this time), supported by the Dominican government, for boat owners and operators, and other related members of the tourism sector, to emphasize codes of conduct and best practices for responsible whalewatching. Additionally, a second workshop was held on 18 April 2006 to further increase public awareness about the Guide, the rationale for it, and ecotourism in general. Participants included representatives from tour operators and others with commercial interests (such as the merchant navy), the government of the Dominican Republic (including the Navy and Environmental Police), and local tour guides and operators. Although not yet formally included in regulations, the Guide has been very well received, with wide-ranging voluntary implementation. Many fisherman and boat captains are now also contributing sighting information to the study.

Prior to these sightings in southern waters of the Dominican Republic, concern for the impacts of whalewatching activities on humpbacks was confined to northern waters (e.g., Samana Bay) and management efforts at restricting whalewatching impacts were directed only toward this area. The authorities of the Dominican Republic acknowledged the harassment caused by the vessels in southern waters, and promoted whalewatching guidelines throughout their waters as a precautionary measure in the face of uncertainty over the entire range of humpback whales. The authors would like to offer this process as a demonstration of how quickly it is possible to assimilate new scientific data into management efforts to conserve a vulnerable species. Similarly, this case study also shows how important it is that those directly affected by voluntary guidelines are not only aware of them, but also fully understand the reasons behind them. At this community level, sightings of humpback whales in southern waters open the possibility for a rapid growth in whalewatching activity in this area, and the precautionary approach shown to date will limit the impacts of boat operators on whales, and ultimately sustain a valuable tourism resource for the local people in this area.

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Figure 1. Map of the Dominican Republic showing the locations of Parque Nacional del Este and Samana Bay