

Isla Iguana Wildlife Refuge

José Julio Casas is investigating sustainable whale watching in a marine protected area within Panamanian waters.

Location: Isla Iguana Wildlife Refuge, Panama
Species: Various
Lead Researcher: José Julio Casas

Previous studies indicate that the waters off the Pacific coast of Panama sustain a diverse and abundant population of cetaceans (Townsend 1935). However studies on cetaceans in Panama are practically nonexistent today. The main modern source of information about the fauna of cetaceans of the region comes from the documentation provided by tunny ships that operate in eastern waters of the tropical Pacific. (Castroviejo, 1997).

Whale watching as a tourism industry developed in Panama in the late 90's. According to Hoyt (2001) most of the whale watching undertaken here is from boats, as opposed to land-based. Whales and dolphins such as sperm whales, humpback whales and some tropical dolphins are the targets of such vessels.

Study Area

The Isla Iguana Wildlife Refuge is found in the Pacific Ocean watershed in the eastern extremity of the Azuero Peninsula, Pedasí Region, Los Santos Province, Republic of Panama, approximately four thousand seven hundred meters (4700 m) away from the coast between Purio River and Pedasí River in 7°37'08" and 7°38'00" of North latitude and 79°59'45" and 80°00'15" West longitude. (Official Order #21235).

General Objective

- To determine the most applicable strategies for the sustained whale watching in the Iguana Island Wildlife Refuge, after making a S.W.O.T. analysis based on the species inventory and the proper characteristics of the study area and presenting a cetaceans guide of the refuge.

Specific Objectives

1. To achieve an inventory of resident or provisional



Humpback whales possibly use Panamanian waters as breeding and nursery grounds in the summer months.

species found in the refuge during the year through camping tours.

2. To survey people involved in the whale watching being conducted in the zone, and to document their concerns and opinions.

"...studies on cetaceans in Panama are practically nonexistent today..."

3. To consider the most applicable strategies for the whale watching in the refuge based on the results as well as the species characterization and the S.W.O.T. analysis.

4. To provide a guide of the cetacean species found in the Iguana Island Wildlife Refuge waters (with the assistance of the Panama Foundation and the Whale

Watching Conservation Society).

Justification

Scientific literature about marine mammals, especially cetaceans, in Panama is limited. Almost all the data concerning local distribution of the species that visit the Central American Coast are from Costa Rica. In addition, in Panama there are few studies being conducted on species living off shore. The impacts on cetacean species in Panamanian waters of whale watching are unknown but still of concern. The Whale watching industry is developing in Panama and it is important to take the precautionary steps to ensure the preservation of cetaceans before its expansion.

Species Observation and Identification

After three months of field work at the Isla Iguana Wildlife Refuge, and at the locality of Pedasí, we have deepened our research on cetaceans that permanently or occasionally frequent these waters. Similarly, we are gaining more insight into the point of view of the locals and visitors who visit the area.

We have completed a total of six field trips, after which we have been able to identify and photograph three marine mammal species (one species of whale



Spotted dolphins are another frequent visitor to Isla Iguana Wildlife Refuge.



Humpback whales are one of the most popular species with whale watching boats, as they are slow moving, acrobatic and majestic.

and two species of dolphins), namely:

- a. Humpback Whale (*Megaptera novaengliaea*)
- b. Spotted Dolphin of the Pacific (*Stenella attenuata*)
- c. Bottlenose Dolphin (*Tursiops truncatus*)

The most frequently observed species is the spotted dolphin, which we have observed on 83.3% of visits to the refuge. The bottlenose dolphin is next with a sightings rate of 66.7% during our visits, and lastly, the humpback whale sighted 16.7% of the time.

The low frequency of humpback whale sightings could be due to the dates in which the visits took place (October 6 and 7, 2007), and the fact that humpback whales usually only visit these waters between the end of June and September.

It is important to highlight that, according to fishermen in the area; this season has seen the largest number of humpback whales in the area in recent years.

Another important fact to note is that due to differences in size and coloring in some groups of spotted dolphins we suspect that we have been observing two different stocks: coastal and oceanic, an aspect that we will try to confirm at a later date with dedicated research. Groups of spotted dolphins were seen to have a larger number of individuals than the bottlenose dolphin, although in some cases we observed mixed groups.

We have also noticed differences regarding animal's responses to boats. The bottlenose dolphin interacts more closely with our boats; whereas the spotted dolphin seems less willing to interact.

Fishermen Survey

During our three months of field work, we surveyed a number of fishermen who have seen cetaceans in the waters of the Refugio de Vida Silvestre Isla Iguana and we have found out that currently, around fifteen

fishermen are working in the area.

The number of trips done by the fishermen specifically to encounter cetaceans is rather low and most tourists are foreigners. Dolphin/whale watching is an activity that although currently limited, has been increasing in recent years.

Reported Species

After our discussions with fishermen and scientists who work in the area, we have documented, according to the species-specific characteristics, six species that possibly visit the waters of the Refugio de Vida

Silvestre Isla Iguana from time to time. Although we have not personally been able to observe or photograph these species during our field trips, we believe it is important to document such sightings.

- a. Orca (*Orcinus orca*)
- b. Sperm whale (*Physeter macrocephalus*)
- c. Pilot whale (*Globicephala macrorhynchus*)
- d. Common dolphin (*Delphinus delphis*)
- e. Rough-toothed dolphin (*Steno bredanensis*)
- f. Striped dolphin (*Stenella coeruleoalba*)

It is important to highlight that the information gathered could help in determining a possible seasonality to cetacean sightings, especially orcas, which have been reported during the months of February and March, well into the dry season when the water temperature has dropped to approx. 12°C due to the upwelling phenomena to which the Panamanian Pacific water is exposed.

In some cases we have photographic proof, for example, the case of a sperm whale that was stranded on a beach very close to Isla Iguana in 1997.

This information corresponds to a very important part of our work, since most reports were given by fishermen who are constantly in the waters of the Refugio de Vida Silvestre Isla Iguana and its adjacent zones; helping greatly, in this way, with the development of the project and increasing the information on marine mammals in Panama.



Until recently, bottlenose dolphins of the coast of Panama were in danger of being caught for the captivity and entertainment industry.