

# Three-Year Beaked Whale Study Begins

By Olivia Patterson

The Bahamas Marine Mammal Research Organisation (formerly known as Bahamas Marine Mammal Survey) is a Bahamian non-profit organization dedicated to research and education with the goal of contributing to the conservation of marine mammals. The Bahamas Marine Mammal Research Organisation (BMMRO) conducts vessel surveys to catalogue the populations of marine mammals in The Bahamas. Most of its research efforts have been concentrated on Abaco, as BMMRO has been stationed here since 1992. The main research technique employed by BMMRO is photo-identification - a process where photographs are taken of all whales and dolphins that the researchers encounter. Each animal has unique characteristics that can be used to tell them apart, much like humans having unique sets of fingerprints. To supplement the data collected by photo-identification, samples of sloughed skin and feces are collected for genetic analysis.

To date, BMMRO has documented 24 species of marine mammals in The Bahamas. While all species are interesting and vital components of the marine environment, perhaps the most alluring is the family of whales called beaked whales. There are currently 21 known species of beaked whales in the world. However, the natural behaviour of beaked whales makes them difficult to study. Some species of beaked whales are so elusive that they are known only from stranded specimens. Three species of beaked whale have been documented in The Bahamas: Blainville's beaked whale, Cuvier's beaked whale and Gervais' beaked whale. South Abaco is one of the leading study sites in the world for these deep diving whales, where they feed along the steep canyon walls of the Great Bahama Canyon

just off Sandy Point, where BMMRO is located.

A mass stranding of beaked whales occurred in the Bahamas on March 15th, 2000, due to sound pollution from a Navy sonar exercise in NW Providence Channel. Fourteen beaked whales stranded, three of which were stranded on Sandy Point beach directly in front of BMMRO's research station. As a result, scientists worldwide recognized the importance of learning more about the biology and physiology of these elusive whales and because BMMRO has such an extensive set of baseline data, it was decided to focus these efforts in The Bahamas.

To fill this knowledge gap, BMMRO has launched the Bahamas Beaked Whale Ecology Study with the support of a grant from the U.S. Office of Naval Research. The three-year project includes three months of dedicated survey effort of the deep water canyons and basins of the northern and central Bahamas aboard the R/V *Odyssey*, a 95-foot sailboat owned by the Ocean Alliance. The first 30-day survey is scheduled to begin on May 5th departing from Freeport. The scientific team will be led by BMMRO's Director, Diane Claridge, and includes Charlotte Dunn, Olivia Patterson and Edward Adderley (all Bahamians), as well as Leigh Hickmott and Kiya Gornik from the United Kingdom and United States, respectively. Dr. Jonathan Gordon of the Sea Mammal Research Unit (SMRU) based at the University of St. Andrew's in Scotland will also join the cruise to test a new underwater listening device that Navy vessels will be able to use to detect beaked whales acoustically and avoid conducting sonar tests in areas where beaked whales are found.

The main goals of the survey will be to

learn how many beaked whales there are in the Great Bahama Canyon, where they are found and how they are related to beaked whales outside the canyon. To do this, the *Odyssey* will run zig-zag transect lines across Northeast and Northwest Providence Channels and Tongue of the Ocean while the scientists conduct visual searches for whales using high-powered binoculars called Big Eyes. When beaked whales are sighted, a team will be deployed in a skiff to obtain identification photographs and tissue samples of the whales. Six days of the cruise will be spent working in conjunction with the Naval Undersea Warfare Center (NUWC) at the AUTECH base in Andros. BMMRO will be helping NUWC test the accuracy of their bottom-mounted hydrophone array in the detection and identification of cetacean species.

When asked about the project, Ms. Claridge said, "This study will have great implications for marine mammal conservation in The Bahamas and will help us to apply our findings around Abaco on a much

broader scope. For example, we have given our data to The Nature Conservancy (TNC) to develop a model to predict important habitats for cetaceans which has shown that Rocky Point just off Sandy Point is preferred habitat for some resident species." BMMRO will now be able to test how well the TNC model predicts important habitats elsewhere in the canyon. Information gained from this cruise will also contribute to the first comprehensive survey of marine mammals in the Tongue of the Ocean. This baseline data will help assess the impacts of naval operations at the AUTECH base on Andros and perhaps lead to more effective mitigation of their activities.

If the *Odyssey* encounters unfavorable weather for surveying, the research crew plans to go ashore in nearby towns to give informative presentations about Bahamian marine mammals.

For more information about BMMRO visit [www.bahamaswhales.org](http://www.bahamaswhales.org) and look for the *Odyssey* cruising near you!



Beaked whales are quite rare and elusive. The Bahamas Marine Mammal Research Organization is beginning a three-year study of the three species of beaked whales that are found in Bahamian waters. The organization's headquarters is in Sandy Point. This is an adult male Blainville's beaked whale.

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