

**Summer 2011**

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## Scooping Poop:

### A Stress-free way to measure stress in whales

Volume 1  
Issue 4

July marked the beginning of a three-year study looking at the potential effects of noise on beaked whale and sperm whale populations in The Bahamas. This study is in collaboration with the New England Aquarium (NEAq) and is funded by the US Navy's Office of Naval Research. To understand how anthropogenic sounds such as those from military exercises affect these whale populations, fecal samples were collected and will be used to test hormone and stress levels. Fecal samples collected from whale populations in Abaco will assist in establishing baseline hormone levels of beaked whales and sperm whales that are not frequently exposed to military exercises. These baseline hormone levels will then be used to assess the hormone levels of whales that inhabit the Atlantic Undersea Test and Evaluation Center (AUTECE) range off Andros Island. NEAq's research team has previously shown that it's possible to measure reproductive and stress hormones in whale feces; it's the first proven method for measuring stress in free-living whales.



Tracking the whales



Collecting feces



Processing the samples

Fecal samples from beaked whales were collected by towing snorkelers who were able to keep the beaked whales in view during their shallow dives and consequently direct the boat captain in the direction the whales were travelling. Snorkelers then dived down to collect fecal matter with our "pooper scooper" when the opportunity presented itself. Nineteen fecal samples were collected in all from sperm whales and beaked whales. BMMRO wishes to thank Roz, Scott and Kathleen from the NEAq for involving us in this exciting work!

For more information, visit the NEAq Global Explorer's Blog:  
<http://explorers.neaq.org/search/label/BahamasWhales2011>

## Fin Whale (*Balaenoptera physalus*) strands off Chub Cay, Berry Islands



*Above: Fin whale strands on a sand bank near Chub Cay. Skull and backbone protrude on this skinny animal. Intern Pernellya Jolly assists by keeping the whale cool.*



*Left: Fin whale sighted on May 14th. Compare the fullness of the body to the emaciated whale above.*

On September 3rd, The Bahamas Marine Mammal Stranding Network received a report of a live stranded whale on the sand bank off Chub Cay, Berry Islands. Mr. Colin Lightbourn reported that the animal had attempted to swim to deeper waters, but returned to the sand bank shortly after. BMMRO researchers responded immediately and flew to Chub Cay to try to assist. They confirmed the species as a fin whale, and collected a sloughed skin sample for genetics. They noted that the whale was severely emaciated, sun-burned and overheating in the warm, shallow water. There were no external injuries or clues as to how the whale had become ill. Sadly, there was nothing that could be done to help and the whale died overnight. Atlantis staff responded the next day, but due to the large number of sharks in the area, were unable to perform a necropsy. Fin whales are endangered, which is the result of massive population declines during commercial whaling; today, there are only about 40,000 fin whales remaining in the entire northern hemisphere. In our last issue we reported the first recorded sighting of a live fin whale in The Bahamas, seen on May 14th off south Abaco, traveling towards the ocean. BMMRO has confirmed that this is not the same animal as the stranded whale. This stranding represents only the second recorded stranding of a fin whale in The Bahamas. In other words, fin whales are rarely seen in The Bahamas and it remains unknown why these two recent sightings have occurred, but clearly at least one of these animals was quite unhealthy. BMMRO would like to thank Mr. Mike Lightbourn, Mr. Colin Lightbourn, and Mr. Fred Greene of Chub Cay for their help with the stranding.

**TO LEARN MORE, PLEASE VISIT OUR WEBSITE: [www.bahamaswhales.org](http://www.bahamaswhales.org)**

## President's Update—Research Centre News



**Charlotte Dunn**

After an extremely busy and successful July, collecting feces, seeing almost our entire Abaco beaked whale population and managing to excite some great Bahamian interns through our Whale Camp, myself and Diane Claridge, BMMRO's executive director, headed to Scotland for an extended period of study. We are undertaking our PhD's at the University of St Andrews, but unfortunately as we were attempting to settle into our academic selves, we were rudely interrupted by hurricane Irene. On the night of Monday 22nd August, Irene was downgraded at our last internet check. On Tuesday morning however, at 7am Scotland time, she had been upgraded and was projected to track over the research centre in Sandy Point. By 10am we were both at Edinburgh airport, an hour away, with only hand luggage, desperately trying to get on a flight. We arrived in Sandy Point around 3pm on Wednesday and immediately went to work. At night fall the wind had picked up, but we were well prepared.

On Thursday morning the wind was howling and the power finally went out. At around 3pm, although Irene had passed us, the wind direction changed to the west, the surf picked up and shingles began to fly off the roof. Around 5pm things were pretty bad and we started to put passports etc. into dry bags, dreading high tide, as already the wave surge was reaching the deck of the centre. Just before 7pm, the wind shifted slightly to the south, enough to make a big difference, and the worst was over. The days after were spent hosing the house, clearing the yard, retrieving the boats from safer in-land havens, fixing the roof, making runs to the hardware store, and feeling generally relieved. We left as soon as we could fly out and got back to Scotland in the knowledge that the house was now pretty prepared if another storm headed our way.

It has been a tribute to the animals (and of course technology) that during this period away from the centre, we have had some very informative sightings reports making up two of our newsletter stories this quarter, pages 1 and 3 (this issue). Please do not underestimate your role in helping us to conserve, through research, these fascinating creatures.

Thank you as ever for your sightings!



*Left: Winds from hurricane Irene buffeted the BMMRO research station as storm surge approached the building. The storm passed over on a rising tide.*

*Left: a new addition: meet Legacy Patterson! Though we don't think she'll quite shape up to be a whale poop dog, we welcome her to the team!*

**If you would like to receive an e-copy of BMMRO's newsletter, please contact us at [info@bahamaswhales.org](mailto:info@bahamaswhales.org) to be added to the list.**

## Bahamian student interns learn ins and outs of marine mammal research



*Above: Researchers and interns (and faithful canine friends) at BMMRO for summer field season*

During July, BMMRO welcomed 6 Bahamian students for Whale Camp: Erin Patterson, Pernellya Jolly and Matthew Grammatico of Abaco, Teshan Young, Christina Roberts and Shaquel Knowles of Nassau. BMMRO received sponsorship to support the students for a week at a time. While living at the BMMRO research centre, campers got to experience firsthand what it was like to work as a marine mammal researcher. They took part in data collection in the field and processed that data in the lab. The data included identification photos of multiple species which BMMRO uses to follow individuals over their lifetimes, and acoustic recordings of dolphin whistles and clicks, which are used to monitor the amount of time spent by the dolphins in the selected study area, as well as how often boats pass by. Some of the campers also got the opportunity to work with scientists from the New England Aquarium and take part in a fecal study that focused on collecting whale feces for genetic analysis and hormone studies (see page 1). Interns were able to see bottlenose dolphins, spotted dolphins, beaked whales, sperm whales, dwarf sperm whales and melon-headed whales. For several of the campers this was their first time seeing a whale or dolphin in the wild. Pernellya said about her experience, "While interning at BMMRO I was able to learn new techniques and skills such as snorkeling, photo identification and acoustics. I am thankful for the privilege to intern at BMMRO and I enjoyed every minute!" Thanks to Young Marine Explorers, Friends of the Environment, Disney Animal Programs and Environmental Initiatives, Sky Bahamas and Rotary of Abaco.



**STRANDING NETWORK HOTLINE NUMBER: 1 242 544 5409**

## Orcas sighted off Eleuthera

In August and September, Aqua Cat Cruises reported that a pod of 4 killer whales (*Orcinus orca*) were sighted off of south Eleuthera (in Exuma Sound) on two occasions. Excellent photos taken during the sighting confirmed presence of a known adult male (Oo4). BMMRO encountered Oo4 with three other known killer whales last July off of Rocky Point, south Abaco. Prior to 2010, this adult male was first seen with his mother in 1995 and has been re-sighted on four other occasions over the past 15 years by BMMRO's scientists, indicating that The Bahamas is a part of his home range. Although orcas have been seen in all months, they are more common in The Bahamas in summer, May through August. They have been observed feeding on other marine mammals such as Atlantic spotted dolphins (*Stenella frontalis*) and dwarf sperm whales (*Kogia sima*). BMMRO thanks Jason Glass, Jeffrey Cowser, Bruce Purdy and the staff of Aqua Cat Cruises and others for all public sightings!



A photo of Oo4 taken this September in Exuma Sound. BMMRO was able to identify him by the distinct nick at the tip of his dorsal fin. Photo by Jeffrey Cowser.

## NEW BMMRO T-Shirts! Get yours today!

BMMRO celebrates new research into the behavioural ecology of deep diving whales with a new T-shirt. The shirt features a sperm whale, one of our resident species. Shirts come in ladies size S-L and men's M-XL are available from Java or Friends of the Environment in Marsh Harbour for \$25.



### Test your whale knowledge!

Which whale is known to have the largest brain in the animal kingdom?

- A) Humpback Whale      C) Sperm Whale  
B) Blue Whale          D) Fin Whale

Turn to page 4 for the answer!

## 2011 Summer Cetacean Sightings in The Bahamas

There have been 82 sightings of 10 different species of whales and dolphins throughout the Bahamas from July-September 2011!

These include the following:

### Toothed whales

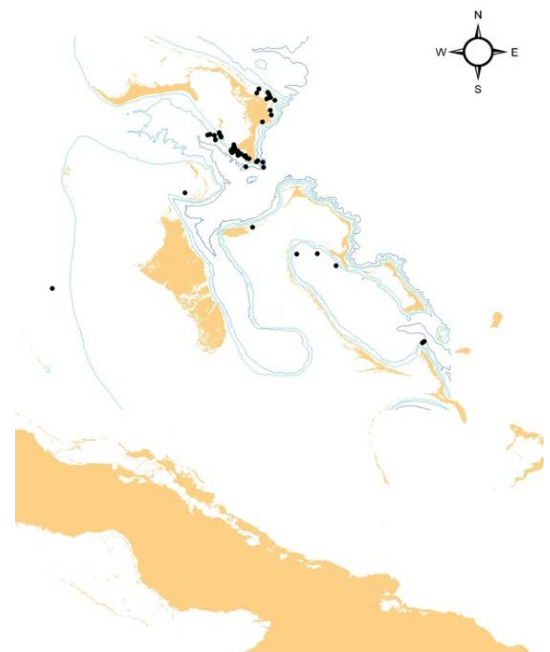
- Atlantic spotted dolphin (*Stenella frontalis*)
- Blainville's beaked whale (*Mesoplodon densirostris*)
- Bottlenose dolphin (*Tursiops truncatus*) — inshore ecotype
- Dwarf sperm whale (*Kogia sima*)
- Killer whale (*Orcinus orca*)
- Melon-headed whale (*Peponocephala electra*)
- Short-finned pilot whale (*Globicephala macrorhynchus*)
- Sperm whale (*Physeter macrocephalus*)

### Baleen whales

- Fin whale (*Balaenoptera physalus*)

Many of these records have been from sightings reported to BMMRO from the public. These data are vital to understanding the distribution and abundance of these species and is greatly appreciated.

**THANK YOU !!!!**



### Three exciting ways to report sightings:

1. Complete our sighting report form to [www.bahamaswhales.org/sightings](http://www.bahamaswhales.org/sightings) (click on "Report Sightings" tab).
2. Email the sighting information directly to us at [info@bahamaswhales.org](mailto:info@bahamaswhales.org).
3. Post on our Facebook page.

**Don't forget to send us your marine mammal sightings!**

## BACK TO SCHOOL: BMMRO's Education Program off and running!



Fox Town Primary School

With the start of the new school year, BMMRO's Education Officer, Ms. Kendria Ferguson, renewed BMMRO's commitment to raising awareness about marine mammals in the Bahamas by once again visiting schools. So far this term, Ms. Ferguson has visited Every Child Counts in Marsh Harbour, J.A. Pinder Primary in Sandy Point and Fox Town Primary in North Abaco. Students of all ages were introduced to marine habitats and the ecology of marine mammals such as bottlenose dolphins and sperm whales. Ms. Ferguson also inspired students to channel their inner artist at the end of her presentations by making marine mammal themed posters or doing sidewalk art.



Every Child Counts School

Activities such as these help reinforce information discussed in the presentations.

In the upcoming months, Ms. Ferguson hopes to visit other schools in Abaco, with a goal of visiting each of Abaco's 25 schools at least once by the end of 2012.

If you are interested in having Ms. Ferguson visit your school, contact her at [kferguson@bahamaswhales.org](mailto:kferguson@bahamaswhales.org) or 366-4155.

For more information on how you can support this program, please email [info@bahamaswhales.org](mailto:info@bahamaswhales.org).



**Answer:**

Answer: C: Sperm Whale  
The largest brain belongs to the sperm whale: 7 kg (17.5 pounds)

### **Our Mission:**

**To promote conservation of marine mammals and their habitats through scientific research and educational outreach.**

### **Our Vision:**

- 1) To conduct scientific field studies in the Bahamas to increase the understanding of species' biology and conservation needs.**
- 2) To disseminate results that raise awareness and appreciation of marine mammals in the Bahamas and ultimately influence policy makers.**
- 3) To remain a small professional non-profit organisation, proportional to the needs of the Bahamas.**



### **BMMRO's Board of Directors & Staff**

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 Kendria Ferguson, *Educator & Research Assistant*

### **WE APPRECIATE YOUR HELP!**

Thank you to all who have helped BMMRO by reporting sightings, volunteering your time, providing financial support, and donating resources. Without your valuable contributions, the scientific research conducted, AND educational opportunities created for young Bahamians, would not be possible.



### **Contact Us**

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**Website:** [www.bahamaswhales.org](http://www.bahamaswhales.org)

And don't forget to look us up on Facebook!

### **Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations**

(or OBIS-SEAMAP) has recently been updated to include BMMRO's data up to and inclusive of 2008. The OBIS-SEAMAP project compiles global data on marine mammal, sea turtle and seabird observations in order to improve our understanding of their distribution and ecology. This is a public resource and is used by groups such as the US Navy and for environmental impact assessments. For more information, visit: <http://seamap.env.duke.edu>

BMMRO is a registered Bahamian non-profit organisation and accepts US and Canadian tax-deductible contributions through its partnership with PERC, a US registered 501(c)3 organisation.