First whale detected by newly deployed acoustic buoy in New York Bight

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A fin whale is swimming in New York waters. A hi-tech buoy fitted with a hydrophone and located 22 miles south of Fire Island has detected the vocalizations of fin whales, enormous marine mammals second in size only to the blue whale, the largest animal species on earth. The first whale detection was made on Monday, July 4th. Credit: A.H. Kopelman for CRESLI.

A new acoustic buoy recently deployed by scientists from the Woods Hole Oceanographic Institution (WHOI) and WCS's (Wildlife Conservation Society) New York Aquarium to listen for some of the world's biggest animals in the New York Bight has detected its first whale species, and it's a really big one.

Fixed in position some 22 miles south of Fire Island and fitted with a digital acoustic monitoring instrument, the hi-tech buoy is now operational and has detected the vocalizations of fin whales, enormous marine mammals second in size only to the blue whale, the largest animal species on earth. The first whale detection was made on Monday, July 4th, only 12 days after the buoy was placed in its current position on June 23rd.

Since that time, the buoy has made several fin whale detections; the most recent vocalizations were detected yesterday (July 27th) and today.

"It's incredibly exciting that the buoy is working well and we're hearing whales already," said WHOI's Dr. Mark Baumgartner, co-lead of the joint WCS New York Aquarium-WHOI project, who developed the software used by the acoustic instrument and led the integration of the instrument into the buoy. "Now we can focus on learning when and how often different whales visit the busy waters of the New York Bight over the coming year."

"After years of planning, it's great that we're now in the water and receiving our first data -detections of fin whale vocalizations from the buoy over many days in the last few weeks," said Dr. Howard Rosenbaum, Director of WCS's Ocean Giants Program and co-lead of the WCS New York Aquarium-WHOI project. "By detecting whales in this area, we will get a much better understanding of how they are using the waters off New York and how to better protect them."

Dr. Mark Baumgartner of Woods Hole Oceanographic Institution is standing beside the acoustic buoy. Baumgartner is the co-lead of the joint WCS New York Aquarium-WHOI project and developer of the whale-identification software used by the buoy's acoustic instrument. Credit: Julie Larsen Maher/Wildlife Conservation Society

Fin whales were commercially hunted for much of the 20th century, and as a result are endangered today. Only around 1500 animals inhabit the waters of the U.S. east coast and according to government reports, they suffer from high rates of mortality from fishing gear entanglements and ship strikes.

Growing up to 70 feet in length and weighing as many tons, the fin

whale is a somewhat common denizen of the waters of the New York Bight. The whale is characterized by its streamlined shape, a prominent dorsal fin located about two-thirds down its long back, and a tall spout. A fin whale calf can be up to 20 feet long at birth.

The fin whale is the world's only mammal with a consistently asymmetrical coloration; every individual fin whale has a cream or white colored lower right jaw while the lower left jaw is dark. The fin whale also has one of the lowest voices on Earth; the infrasonic sound can only be heard by human ears when sped up several times.

Dr. Artie Kopelman, President of the Coastal Research and Education Society of Long Island (CRESLI), an organization that has been studying cetaceans (whales, dolphins, and porpoises) of the New York Bight for more than two decades from whale-watching vessels, said: "Data from the new acoustic buoy platform will undoubtedly complement sighting information on these and other marine mammals in New York waters and hopefully inform management decisions on this and other cetacean species."

As time progresses, scientists expect the buoy to detect other whale species, including the humpback whale, a frequently observed species on whale watch cruises, and the North Atlantic right whale, one of the most endangered whale species on the planet with a total population of fewer than 500 individuals. Information about the detected whale sounds are being collected by the buoy's acoustic instrument and transmitted to Baumgartner's laboratory in Woods Hole, Massachusetts via an Iridium satellite where they are reviewed and posted on a publically accessible website.

"We're excited to share this discovery with the residents of New York City and to help promote a better awareness of these marine mammals in the region," said Jon Forrest Dohlin, Vice President and Director of

WCS's New York Aquarium. "The acoustic buoy will help us monitor the whales and learn more about their needs. New Yorkers can now share in that process of discovery and conservation."

Provided by Wildlife Conservation Society