21st Biennial Conference on the Biology of Marine Mammals
13-18 DECEMBER 2015
HILTON SAN FRANCISCO UNION SQUARE
SAN FRANCISCO, CA USA

Year-round Presence of Beaked Whales off Cape Hatteras North Carolina

William McLellan Ryan McAlarney Erin Cummings Joel Bell Andrew Read D. Ann Pabst

We conducted monthly aerial surveys off Cape Hatteras, NC, USA as part of an ongoing monitoring project of sites utilized by the US Navy for training and testing activities along the US Atlantic coast. Survey tracklines extend from shallow continental shelf waters, across the continental shelf break, to deep pelagic waters. During surveys we record the geographic position of each marine mammal sighting, take extensive photographs of each animal, and review these images in the lab to confirm species identification. Characteristics utilized to identify beaked whales to species are based upon our sightings of adult males with erupted teeth and from comparisons with images of stranded animals. Between May 2011 and December 2014, we recorded 63 beaked whale sightings, representing 173 individuals. Beaked whales were observed in every month of the year, with the highest number of sightings (n=42) from May through August. The most commonly encountered species, observed in every month of the year, was *Ziphius cavirostris* (n=36 sightings, 106 individuals). *Mesoplodon* spp. (n=27 sightings, 67 individuals) were encountered in all months except September and October. Five of these mesoplodont sightings could be identified to species with *M. europaeus* (n=4 sightings, 12 individuals) and *M. mirus* (n=1 sighting, 2 individuals) identified from May through July. All beaked whales were encountered along the continental shelf break suggesting a restricted distribution. This area has recently been opened by the US Bureau of Ocean Energy Management to offshore oil and gas exploration. The geographic distribution of beaked whales off Cape Hatteras overlaps the "Manteo Prospect" and is included in the areas of interest identified in six pending permits for large-scale, commercial seismic surveys. The cumulative impacts of seismic surveys are of special concern as deep-diving beaked whales have been shown to be vulnerable to high-amplitude, impulsive anthropogenic sounds.