

AMAPPS

AMAPPS is a comprehensive research program to assess the abundance and spatial distribution of marine mammals, sea turtles, and sea birds in US waters of the western North Atlantic Ocean (<http://www.nefsc.noaa.gov/read/protsp/mainpage/AMAPPS/>). This program includes collecting data on seasonal shipboard and aerial surveys for marine mammals, sea turtles and sea birds, data on tagging projects, and data on other related projects. In addition, the program includes analyzing these data where one goal is to quantify abundance and spatial distributions and to produce spatially-explicit density distribution maps. The intent of AMAPPS is to improve the assessments of marine mammal, seabird and sea turtle stocks and to contribute to the evaluation and mitigation of the impacts of activities as required under the Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA), National Environmental Policy Act (NEPA) and Migratory Bird Treaty Act (MBTA).

AMAPPS started out in 2010 as an inter-agency agreement between NOAA Fisheries Service, US Fish and Wildlife Service, Bureau of Ocean Energy Management (BOEM) and the US Navy. It has since evolved into a larger collaborative program involving researchers from a variety of organizations. This collaborative effort has the benefit of increasing the amount of field and analytical work. The original interagency agreements were from 2010 – 2014; however, these agreements have since been extended to 2019.

Work conducted during 2010 – 2014 under AMAPPS can broadly be divided into four categories: monitoring density and abundance, defining bias corrections to the density estimates, conducting biological and ecological studies, and developing a database.

The types of data collected include:

- line transect aerial and shipboard data targeting cetaceans, pinnipeds, sea turtles and sea birds (only on the shipboard surveys);
- passive acoustic data from towed arrays and bottom mounted recorders;
- photographic survey data of seals on haul-out sites;
- habitat and trophic abiotic and biotic data from shipboard surveys and via satellite and model-based sources;
- location and depth data from tagged loggerhead turtles and harbor seals; and
- health and biological data from turtles and seals.

The types of analyses that are underway include:

- integrating the line transect survey, tag and habitat data via Bayesian hierarchical and generalized additive models to develop spatially-explicit density models and maps;
- integrating the photo-id and tag data of harbor seals to develop an abundance estimate;
- developing abundance estimates from the passively detected sperm whales;
- integrating the passively detected cetaceans with visually detected cetaceans to develop an improved more precise abundance estimate;
- integrating the line transect survey data and biotic habitat data to develop ecosystem relationships;
- describing the spatial-temporal distribution (on both large and small scales) of cetaceans, sea turtles, and seals using visual sightings, acoustic detections, tag data, and photographic data; and
- improving our knowledge of the demography of loggerhead turtles and seals.

For a more detailed description of the current field and analytical work see the core background document <**Summary of 2014 AMAPPS activities.pdf**>.

For a summary of products completed and planned see the core background document <**Products List Dec2014.pdf**>.