

2013 Cape Cod Gray Seal Tagging Summary June 28, 2013

Between June 12 and June 17, marine mammal researchers from the Northeast U.S. and Canada captured 20 adult gray seals off Chatham, Mass., and were able to tag, sample, and release far more animals than expected. The information collected provides a good start toward getting what's needed to better understand how these seals fit in to the larger ecology of Cape Cod and the Islands.

The study plan initially called for captures off Chatham and Wellfleet. However, there were very few gray seals in the Wellfleet study area, and the team was very successful in catching seals off Chatham, so they stayed near the southern end of North Beach in Chatham for the duration of the work.

Fifteen animals were sampled and given numbered flipper tags for identification. Nine were further fitted with a GPS or a satellite tag that will provide information over time about where the animals go and how long they stay there. Four animals were released without sampling, and one animal died during capture from lack of oxygen after becoming tightly twisted in the research net. The capture mortality was reported as required to NOAA Fisheries.

Two animals captured on different days had deep lacerations around their necks caused by fishing net that was still present. The entangling net was recovered from one seal and sent to NOAA for further examination. The entangling net on the other animal was partially cut away during capture, then the rest was worked off by the seal before the animal was examined. It was not recovered. Both entangled animals were treated for their wounds and released. A third animal had a healing laceration of unknown origin.

Biological samples taken will be used by a variety of researchers for different studies. General study areas include gray seal health assessment, feeding ecology and diet, habitat use, genetics, stock identification, and aging studies. Samples taken included blood, whiskers, fur, mucus swabs, teeth, and small amounts of skin and blubber. Animals that were sedated for sampling were fitted with a heart monitor that also recorded temperature.

All of the data-collecting tags are currently working. Radio tag tracks are posted on the Duke University [Johnston Lab website](#). The track data for the seal carrying one of the satellite tags can be viewed on the Wheelock College [Whalenet](#) site. Whalenet provided that tag for the study. Some additional tracks will be posted on the [NOAA Northeast Fisheries Science Center's seal research site](#).

This seal research is supported by contributions from the people and organizations that participated. The effective collaboration of these many partners was vital to the resounding success of the study.

The kinds of questions that can be answered if enough sampling and tagging data are collected and analyzed include how related these animals are to each other and to larger populations in Canada, what they are eating, where they forage and where they haul-out, how much and how far they move around, ages of the animals sampled, and how they are affected by pollutants, disease, or other health threats.

Prior work with harbor seals in New England, including those off Chatham, informed much of the planning for this work. Researchers were surprised that the gray seals, while larger, proved less difficult to capture than harbor seals in some ways. For example, the gray seals stayed near the research area throughout the work. Harbor seals in similar studies scattered easily and proved both faster and more elusive for research captures.

Researchers intend to adjust their methods based on what they have learned from this initial work with gray seals. Among the likely revisions are slightly different capture boats and nets and planning to capture more animals and handle more samples.

The scientific team comprised researchers from a dozen research institutions.

NOAA's Northeast Fisheries Science Center led the project, and Riverhead Foundation for Marine Research and Preservation had the lead for field operations and coordinated biological sampling. Duke University had the lead for GPS tagging and biopsy sampling. Canada's Department of Fisheries and Oceans brought expertise in gray seal handling and sedation. The International Fund for Animal Welfare and Woods Hole Oceanographic Institution provided the project veterinarian, spearheaded animal monitoring, and conducted biological sampling.

The team was rounded out by researchers who assisted in animal handling and monitoring, net management, documenting the work, and sample collection and management. Those researchers came from NOAA Fisheries Northeast Regional Office, the Provincetown Center for Coastal Studies, Marine Mammals of Maine, National Marine Life Center, and the University of New England. The National Park Service also established and maintained a buffer zone for researchers and seals on the beach and on the water as required.

The team operated under a marine mammal scientific research permit issued by NOAA's National Marine Fisheries Service (#17670) to the Northeast Fisheries Science Center, and special use permits issued by the National Park Service, Cape Cod and Monomoy National Wildlife Refuge. Although the scientific party number varied a bit from day-to-day, about two dozen people were involved, with at least 19 participating on any given day.

The gray seal study on Cape Cod is part of the seal research program at NOAA's Northeast Fisheries Science Center, and a component of a much larger, multi-year study of marine mammals, sea turtles and seabirds along the entire U.S. East Coast that the Center is leading on behalf of several federal agencies. The research for that project, the Atlantic Marine Assessment Program for Protected Species (AMAPPS), includes aerial and shipboard surveys as well as field programs. The Bureau of Ocean Energy Management and United States Navy provide funding for AMAPPS projects, including the seal work on Cape Cod.