

DNR Fisheries Service Feature Story



Sea Turtle Pound Net Tagging and Health Assessment Study in Maryland's Chesapeake Bay

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Did you ever catch a glimpse of a sea turtle resting at the water's surface just before he dove out of sight and asked yourself where is he going? Where did he come from? Why is he here?

Scientists around the world are wondering the same things about these endangered and threatened turtles.

Determining the distribution, abundance, and population status of sea turtles in the marine environment is important for the recovery and protection of sea turtle populations listed under the Endangered Species Act of 1973.

The Chesapeake Bay has been identified as a major seasonal developmental and foraging habitat for juvenile loggerhead (*Caretta caretta*) and Kemp's ridley sea turtles (*Lepidochelys kempii*) during the summer months. In addition, the leatherback sea turtle (*Dermochelys coriacea*) is an occasional spring and summer migrant to Maryland.



Loggerhead



Kemp's Ridley



Leatherback

How and why do we study sea turtles in the Chesapeake Bay?



With the



exception of data collected by the Maryland Marine Mammal and Sea Turtle Stranding Network, little was known about sea turtle biology and ecology in Maryland waters of the Chesapeake Bay. In 2000, the Maryland Department of Natural Resources' Cooperative Oxford Laboratory (COL) and the National Marine Fisheries Service identified the need to collect more information on sea turtle habitat, movements, health, age, and growth in Maryland's Chesapeake Bay. The incidental capture of sea turtles in pound nets provides a unique opportunity to study live specimens that might otherwise be inaccessible in Maryland waters. There have been anecdotal reports of sea turtles incidentally captured alive in pound nets in Maryland waters over the years, but until recently very few had been documented.

Biologists at the COL began studying sea turtles incidentally captured in pound nets in the summer of 2001. The study runs from May until October, which coincides with sea turtle migration into and out of the Chesapeake Bay. Pound netters report incidentally captured sea turtles to Fish and Wildlife Health Program (FWHP) personnel at the COL. Personnel travel to the site of the pound net and with the aid of the watermen the turtle is safely removed from the net. The turtle is measured, weighed, biopsied (for genetics information), bled, tagged, and released unharmed back into the water. Pound netters are financially compensated for participating in the study.

What do we do with a sea turtle once it is removed from the pound net?



The turtle is photographed and given an identification number.



Straight and curved length and width carapace measurements are taken and the turtle is weighed when possible.



A blood sample is taken from the dorsal cervical sinus for baseline health analysis, including a reptile chemistry profile, parasitology, and for sex determination.



Metal Inconel flipper tags are applied to the second scale on the posterior edge of each front flipper.



A Passive Integrated Transponder, or PIT tag, is inserted into either the shoulder muscle or the flipper, depending on the turtle's size.



A small tissue sample is taken from the posterior edge of the rear flipper and stored for future genetic analysis.

What can we learn about sea turtles as the result of this study?



Since July 2001, 18 sea turtles (9 loggerheads and 9 Kemp's ridleys) have been examined as part of the sea turtle tagging and health assessment study. These turtles were reported by pound netters with nets at various locations throughout Maryland's Chesapeake Bay, including Herring Bay and Fishing Bay. Over time, the collection of data will provide important information on habitat use, migration, health, growth, sex, and geographical origin of sea turtles in the Chesapeake Bay. Flipper tagging of sea turtles provides valuable information, as these turtles may be captured within the same season and in subsequent years. Recaptures of tagged sea turtles give an indication of distribution and migration behavior, both in Maryland and elsewhere. For example, one of the turtles examined in 2001 was a recapture from another study. The turtle, a sexually mature female, had been tagged by the University of Central Florida in July 1992 on Melbourne Beach, Florida, after laying a clutch of 85 eggs. Recapture data also provides information on growth rates of sea turtles over time. A tissue biopsy can tell us on which nesting beach an animal was born and blood samples provide insight into the health of Maryland's sea turtle population. In the future, the COL would like to utilize satellite telemetry to track sea turtles from Maryland waters and to study inter- and intra-seasonal movements, migration routes, dive to surface ratios, and water temperatures. The results of this study, in combination with data collected from other regions of the United States, will have important implications for the development of conservation strategies to adequately protect endangered and threatened sea turtles throughout their range.

What can you do to help?

The continued success of this study is dependent upon the assistance and cooperation of pound netters in the Bay. Some pound netters work directly with us to report and assist in retrieving sea turtles in their pound nets. All pound netters are invited to fill out pre-paid sighting postcards to report information, including capture location and approximate size and weight of an animal, on a sea turtle incidentally captured in a pound net.

If you are interested in participating in or have questions about the sea turtle tagging study, please contact the Cooperative Oxford Laboratory at customerservice@dnr.state.md.us.