

WHERE has my fish traveled?

NEW JERSEY'S
STRIPED BASS
TAGGING PROJECT

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When discussing fish tagging programs, most people drift towards the same questions. How many fish have you tagged? Where do the fish go after tagging? How old are the fish? Many anglers may never have caught a tagged fish; some may think researchers are tagging too few. As you will see, that is definitely not the case with striped bass.

How many fish have you tagged?

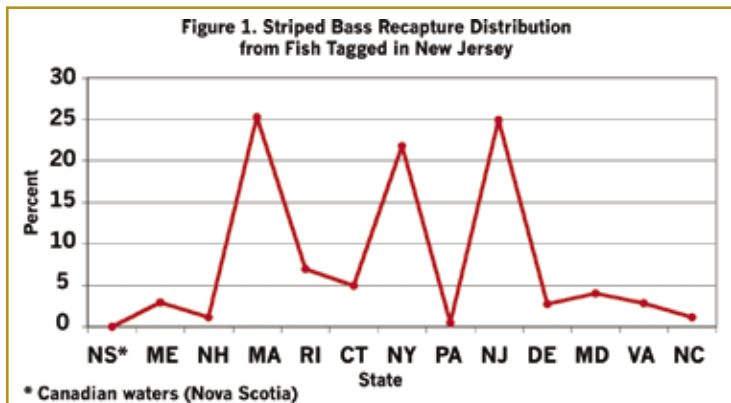
The Coastwide Cooperative Striped Bass Tagging Program is coordinated by the U.S. Fish and Wildlife Service (USFWS) and involves several state and federal agencies from North Carolina to Massachusetts. Each agency is responsible for submitting their tagging information annually to the USFWS, which handles tag distribution, recapture reporting and management of the coastwide database for all releases and recaptures. Since 1987, 473,942 striped bass were tagged and released coastwide with 84,964 recaptures reported to date.

Division of Fish and Wildlife personnel began tagging Delaware Bay striped bass in 1989, marking 34,689 fish from various New Jersey waters through 2007. Although the majority of these fish (26,809) were tagged during the spring on the Delaware Bay, striped bass were also tagged on the Navesink and Delaware rivers as well as along the coast during the Ocean Trawl Survey and coastal sampling of striped bass party boats.

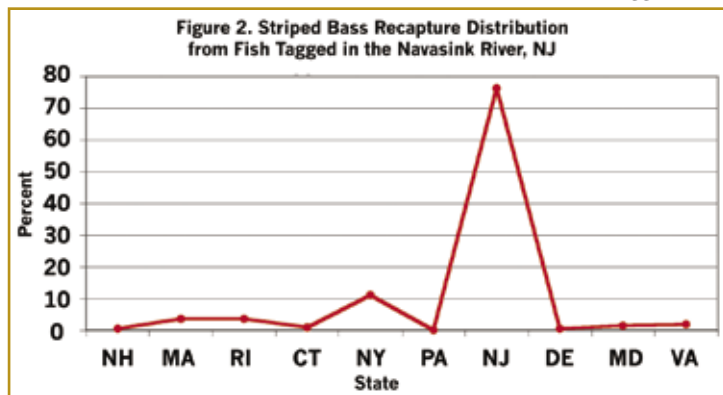
Where do the fish go after they are tagged?

Of the fish tagged in New Jersey, 7,877 recaptures have been reported. These recaptures range from North Carolina to as far north as Nova Scotia. Although only one New Jersey-tagged fish has been recaptured in Canadian waters, it does make an interesting footnote. The striped bass was tagged during January 1992 in Barnegat Bay and was recaptured in the Sissiboo River near Weymouth, Nova Scotia in September 1993.

The majority of fish tagged by Fish and Wildlife (64 percent) are recaptured north of New Jersey, while 26 percent are caught in New Jersey and Pennsylvania. Only 11 percent of recaptures are reported from the south (Figure 1). Striped bass recaptures from fish tagged in Delaware Bay and along the coast tend to follow similar movement patterns, with most of the recaptures occurring in Massachusetts, New Jersey and New York. The majority of these tagged fish are immature females or young adult males which travel as part of the mass migration up and down the coast.



Fish tagged in the Navesink River from 1989 to 2000 generally followed a different pattern with over 76 percent recaptured in New Jersey waters (Figure 2). Factors which may account for this difference could be the tagging location and the type of fish. Striped bass tagged in the Navesink River were stocked by Fish and Wildlife as part of a restoration project during the 1990s. These fish were progeny of a non-migratory stock of striped bass from North Carolina and may tend not to migrate like wild stocks from the Chesapeake Bay, Hudson River and Delaware River.

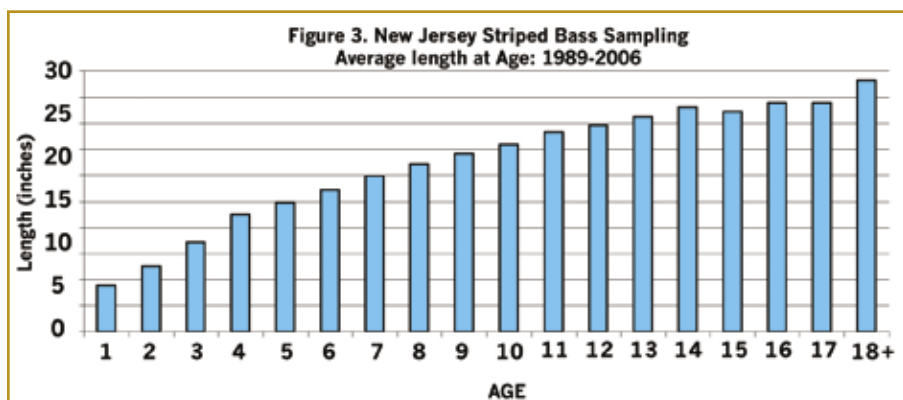


What ages are the tagged fish?

Scale samples collected during tagging provide invaluable information for the development of age-length keys. These keys help determine the general age range of a fish if a scale sample is not available, such as with those fish you catch. (Figure 3).

Each fish is measured prior to tagging, a subsample is weighed and scales are taken from all fish for age determination. (See sidebar on aging scales.) During the 2006 Delaware Bay tagging survey, fish ranged in total length from 16 to 40 inches, with a mean size of 25 inches. The majority of the fish collected were ages five through seven years old, with the 2000 year-class accounting for 36 percent of the fish sampled.

An example of using an age-length key to



estimate the age of a striped bass includes a striper dubbed "Morsax" tagged in the early days of our sampling. Morsax was 24 inches when tagged in the Delaware Bay during March 1989. It was quickly recaptured in November of the same year, in Barnegat Inlet, New Jersey then re-released. By January 2004, Morsax had grown to 43 inches when it was recaptured again off the coast of North Carolina. Morsax held the tag for nearly 15 years. A scale sample was not taken at the time of tagging, so biologists used the Delaware Bay age-length key to estimate the approximate age of the fish. When tagged, it was estimated to be five years old, so by the second recapture Morsax would be around 20 years old.

The travels of Morsax may not have occurred without proper hook and release techniques at the time of first recapture. Fish and Wildlife encourages catch and release when possible, so it is imperative to take good care of fish during handling. Approximately 54 percent of all recaptured coastal striped bass are re-released, while 66 percent of fish marked from the Delaware and Navesink rivers are re-released.

With the number of tagged striped bass swimming along our coast, anglers have a fair chance of catching one. The recapture rate coastwide is about 18 percent, while New Jersey's recapture rate is 23 percent. If you see a pink tag protruding from the belly of a striper, record the tag number, length, date, location and capture method. If you cannot record the data, cut the tag at its base, retain the tag, then call (800) 448-8322 to report the recapture. The USFWS will send information from when your fish was tagged and will reward you with a hat. Good luck and keep looking for the pink tags. 



Scale from five year old striped bass.



Fish scales are heated in this press to burn an impression onto an acetate slide.

Striped Bass Scale Aging

- Most commonly used aging structure
- Advantages: ease of collection and non lethal sampling technique
- Disadvantage: difficult to determine age with older fish
- Taken from midway between the head and tail in the upper half of the body
- Heated press used to burn impression onto acetate slide (above, bottom)
- Slide viewed with microfiche reader to count annuli (growth rings) like rings on a tree (above, top)
- One annuli per year
- In 2006, New Jersey Division of Fish and Wildlife aged over 1,500 striped bass scales

Fishing clubs or organizations interested in learning more about this topic may contact New Jersey Division of Fish and Wildlife's Bureau of Marine Fisheries at (609) 748-2020 to schedule a group presentation.