

U.S. Fish & Wildlife Service

Cooperative Tagging Program



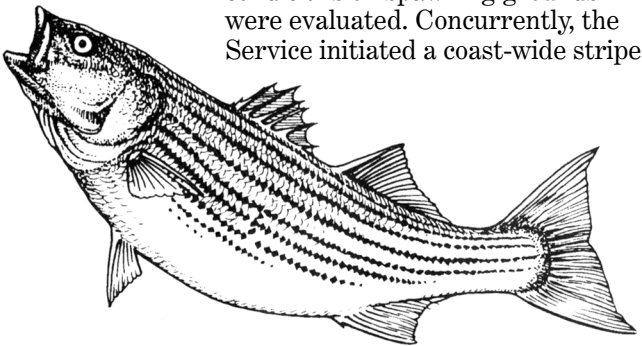
The Cooperative Tagging Program is made up of federal and state agencies working together along the eastern seaboard toward the preservation and restoration of anadromous fisheries. Information gathered is used to identify causes of decline in fisheries resources, monitor the status of stocks, and to evaluate restoration of fish populations. The program's success is in part due to the cooperative of both recreational and commercial fisherman in reporting tagged fish.

Striped Bass

A management success story

Severe declines of striped bass landings during the 1970's led to the passage of Section 7 of the Anadromous Fish Conservation Act 1979, more commonly known as the Emergency Striped Bass Study. The Act instructed the Secretaries of Interior and Commerce to implement studies to determine the causes for the decline of migratory stocks of Atlantic striped bass.

Towards that end, water quality conditions on spawning grounds were evaluated. Concurrently, the Service initiated a coast-wide striped



bass tagging and hatchery programs to estimate rates of exploitation and natural mortality and to determine if hatchery-reared fish could supplement wild stocks in severely depleted rivers. During this same period emergency fishing restrictions were imposed by the coastal states from NC to ME to protect the remaining striped bass stocks.

As a result, the Chesapeake Bay's migratory stock of striped bass was declared restored as of January 1, 1995. For the Fish and Wildlife Service, other Federal agencies, state agencies, research groups, and the users of the resource, the recovery of striped bass is a well-deserved reward for years of effort, research, and extreme sacrifice.

A central database, designed and managed by the U.S. Fish and Wildlife Service stores coast wide tagging information and fishery

dependent and independent survey data. This information is used to develop and implement appropriate management measures to maintain a viable and sustainable fishery.

Since 1985, nearly nine million marked hatchery-reared striped bass fingerlings have been released into the wild. In 1988, hatchery fish comprised 50% of Maryland's young-of-the-year striped bass in some rivers. Today, as hoped, hatchery fish are far out numbered by wild fish. The Maryland Department of Natural Resources reported that the 1996 young-of-the-year index was the highest since the survey began in 1954. While evaluation studies continue on the potential contribution of hatchery fish to wild stocks, hatchery-reared striped bass marked with coded wire tags are now used primarily to gather information on population dynamics and migration patterns to answer management questions.

The Service, encouraged by the success of the striped bass program, has begun restoration work on coastal populations of American Shad and Atlantic sturgeon.

What have we learned?

Migratory striped bass are found from the St. Lawrence River to North Carolina. Tag returns are providing better understanding of migratory patterns. The tagging program has confirmed that some 1-2 year old striped bass do leave bays and estuaries to forage along the coastline. Tag returns of three year old hatchery fish released in the Chesapeake Bay have come from as far north as New Brunswick, Canada—over 1,000 miles from its point of release, illustrating that hatchery stripers migrate as far as those born in the wild. Tag returns have also provided information on rates of migration. For example, one striper

swam 500 miles at an average of 16 miles per day before being recaptured.

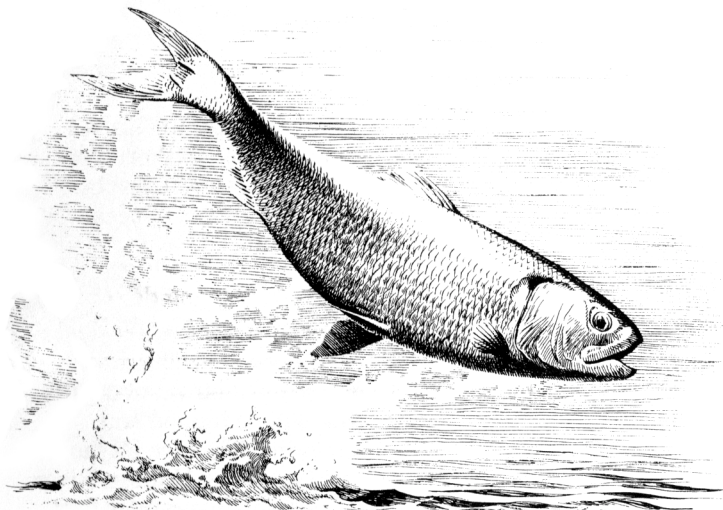
Tagging data on striped mortality has shown that approximately 20 percent of adult wild stripers die each year from sources other than direct fishing for striped bass. Tagging data has also shown that both juvenile wild and hatchery stripers, during their first 1-3 years, suffer higher mortality than adults. Information on mortality rates obtained from the tagging program allows biologists to evaluate and adjust individual state and coastal management programs as needed.

*What can
you do?*

If you catch a tagged striped bass, you should cut off the tag and record the date, location, and method of capture. If you are unable to cut off the tag then write down the tag number along with the required information. You should then report the information as soon as possible to the U.S. Fish and Wildlife Service at 1 800/448 8322.

More than 340,000 hatchery-reared and wild striped bass have been tagged with an external anchor or spaghetti tag since 1985. Anglers returned more than 62,000 of these tags by the end of 1999. In addition, all hatchery-raised stripers—more than nine million fish in all—are also tagged in the left cheek with a tiny micro-encoded piece of wire which anglers cannot see but researchers can detect with specialized equipment.

Fishery managers and biologists from the United States Fish and Wildlife Service, the National Marine Fisheries Service, state agencies from North Carolina to Massachusetts, and universities are participating in the coast-wide striped bass tagging program.



Shad

*Hudson River
and Delaware
Bay American
Shad Tagging
Study*

As American shad migrate up the Atlantic Coast on their annual spring spanning run, researchers teamed with the New York State Department of Environmental Conservation's (NYDEC) Hudson River Fisheries Unit, and NJ Bureau of Marine Fisheries will continue a third year of study in the coastal shad population.

The Hudson River research will determine the number of shad returning to the river to spawn and the portion caught by Hudson River fishermen. The Delaware Bay study will show which stocks use lower Delaware Bay on their migration route.

What we know

American shad spawn in major rivers along the east coast. In the first year of life, shad remain in the river until late fall when they enter the ocean. There they join the rest of the stock and begin their ocean journey, which will eventually (generally four to six years later) bring them back to the river where they were born.

Shad flesh and roe have long been considered a springtime delicacy, making them highly sought after by commercial fisheries. Traditionally

the fisheries have occurred within river systems. But in recent years of harvest of shad has increased in ocean waters. Because of the increase in ocean harvest during the last 15 years, the information gathered on the Hudson River fish will also be used to gauge the effects of ocean harvest on the Hudson River population.

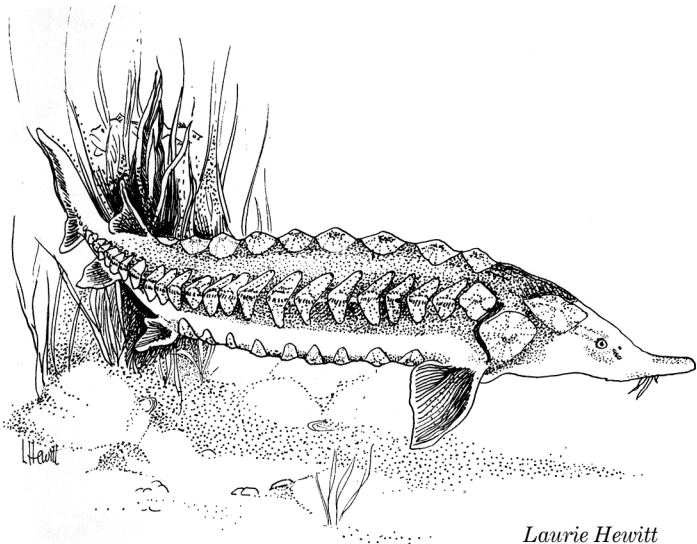
What are we doing?

Between 1995-2000 nearly 10,000 shad were tagged. Shad will be tagged and released in lower Delaware Bay and in three sections of the Hudson River: New York Harbor, Haverstraw Bay, and Kingston.

What can you do?

Any person capturing a tagged fish is asked to call the **Toll-Free** number printed on the tag, which is the same as that for striped bass and sturgeon. There are rewards for turning these tagged fish.

The Hudson River and Delaware Bay area studies is part of a joint interstate efforts to understand shad harvest patterns along the coast. Tagged fish may be recovered along their Atlantic Coastal migratory route (VA to Canada). Recoveries of this spring's release may be in either the Delaware Bay or Hudson River and other northern spawning rivers. Other cooperating agencies include the NJ Bureau of Marine Fisheries and the U.S. Fish and Wildlife Service.



Laurie Hewitt

Sturgeon

Why are they important?

Earliest records of the Atlantic sturgeon's importance to Native Americans date back to 2198 B.C. Chesapeake Bay waters once supported large and valuable populations of the Atlantic sturgeon, a majestic long-lived bottom dwelling species, capable of reaching enormous size. Yet, throughout its range the species has virtually disappeared due to overfishing, diminished water quality, and damming of rivers.

Initially, the Service is trying to learn more about the abundance, distribution, mortality, and life cycles of sturgeon in Atlantic Coastal waters. One successful method for obtaining such information is through external tagging. Each captured fish is marked with two spaghetti-shaped tags (one on its pectoral or bottom fin and one on its dorsal or top fin). Each tag bears a separate serial number, plus a toll-free telephone number. Some are also being tagged with a yellow spaghetti-shaped tag located near the third scute from the front.



Robert Savannah

*What can
you do?*

If you catch a tagged sturgeon, call the toll-free number on the tag to report information about the recapture, such as the tag number, size of the fish, date, place, and method of capture.

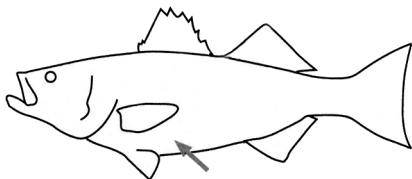
State and federal biologists and managers working with sturgeon recovery programs in Atlantic Coastal water, need your help and welcome any information you can provide about this fish.

*Thanks for
your help!*

The Cooperative Tagging Program has provided valuable information for striped bass, and will be as important to sturgeon and shad. However, our understanding of migration, mortality, and spawning behavior is far from complete for all three species. This is where anglers can help by continuing to look for and to report tags. We thank you for your participation as a partner in the restoration of Striped bass, Atlantic sturgeon, and American shad.

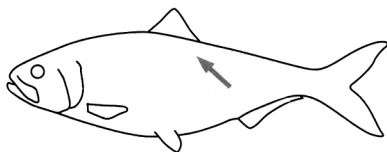
Striped Bass

*USFWS tag
located in belly.
Tags are pink or
orange.*



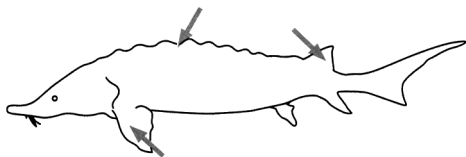
American Shad

*USFWS tag
placed below
dorsal fin.
Tag is red.*



Atlantic Sturgeon

*USFWS tag
placed in the
dorsal fin and
one placed in the
pectoral fin.
Tags are yellow.*



**For further information, please contact:
U.S. Fish & Wildlife Service
Maryland Fisheries Resources Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
1 800/448 8322**

**U.S. Fish & Wildlife Service
1 800/344 WILD
<http://www.fws.gov>**

**Cooperators: State Agencies and Universities in
NC, VA, MD, DC, DE, PA, NJ, NY, MA, RI, and CT.**

July 2000

