



Philip Kamrass/Times Union

Our goal was to outfit a few sturgeon with transmitters, to learn more about their habitat use and seasonal movement in the Hudson River estuary. While Atlantic sturgeon have been plying the mighty Hudson for centuries, we still know relatively little about them, especially about their life at sea.

We had set our nets near Hyde Park, knowing that here we would have a better chance of catching large fish. Atlantic sturgeon are anadromous, migrating from saltwater to spawn in freshwater, and this area of the Hudson is a well-known historic location for spawning sturgeon at this time of year.

Years ago, sturgeon were plentiful in the Hudson River estuary. In fact, prior to 1900, people caught large numbers of these huge fish, which were prized for their meat and caviar. They were nicknamed “Albany beef,” and were commonplace dining fare in New York’s Capital Region. Over time, Atlantic sturgeon numbers dramatically decreased.

Today, there are so few Atlantic sturgeon that they are protected. In New York, they are generally found in the deeper portions of the Hudson, sometimes as far upriver as Albany. Occasionally, someone will spot a large Atlantic

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By affixing sonic tags and transmitters to sturgeon, biologists can track their movements.

Sonic transmitters allow us to follow a fish’s movements, hopefully shedding more light on habitat use.

sturgeon basking at the water’s surface. However, young sturgeon are rarely seen upstream of the city of Hudson.

To catch these majestic creatures, we use nets just like the fishermen did a century ago. We put the nets in the

water near slack tide, leaving them to sit for about two hours. When the water starts to flow in the opposite direction, it is time to retrieve the nets.

Reflecting on the success of our first net, we felt incredibly optimistic as we

STALKING STURGEON



“We have a sturgeon!” the biologist yelled as he continued to yank on the net. It was a warm, sunny morning in June and we were working on the Hudson River, hoping to catch Atlantic sturgeon. We had only hauled in about 15 feet of the 300-foot net when we felt the strong tug. Bubbles erupted in the water as the huge fish expelled air from its swim bladder on its way to the surface.

Everyone was excited when we caught that first glimpse of the fish tangled in the net—a six-foot-long male Atlantic sturgeon. Carefully working to untangle the fish, we were pleased to see three other sturgeon come to the surface, tangled in the net as well. Today’s efforts had paid off—four fish in one net, one a really large female that weighed 232 pounds and measured nearly seven feet long.

By Amanda Higgs

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DEC photo



Prior to processing, captured sturgeon are held in a specially designed floating pen.

approached the remaining three set nearby. One by one, we pulled the nets out of the water, untangling several more sturgeon. Thirteen fish in all—this was a great day!

We placed the sturgeon in floating nets prior to outfitting them with transmitters. We have an on-board fiberglass tank that we use for tagging and can hold three fish comfortably. Pure oxygen is pumped into the water to keep the fish relaxed. The remaining fish stay in the floating pen hung over the side of the boat. In total we kept 10 fish for processing, releasing the smallest three because we ran out of room.

To protect the sturgeon during handling, we carefully lift each fish in a processing sling specially built for this project. Next, we measure and check each one for prior tags. Today, we have three sonic tags to implant, and seven pop-off archival (PAT) satellite tags. Sonic transmitters allow us to follow a fish's movements, hopefully shedding more light on the habitat use of mature Atlantic sturgeon in the Hudson River Estuary prior to, during, and after spawning. With these data, DEC hopes to identify and characterize specific spawning habitat in the Hudson



Biologists prepare to outfit this sturgeon with a transmitter.

DEC photo

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River Estuary, and is interested in documenting the number of years between spawning events for both male and female sturgeon. PAT tags, on the other hand, enable us to understand the sturgeon's ocean migration patterns and identify congregation areas on the Atlantic coast.

All fish tagged with sonic tags were given names. In 2006, the fish were

named after Harry Potter characters. In 2007 it was Star Wars characters, and in 2008 we gave them our own "fishy" names. The three fish tagged this day (June 9, 2008) were: Stephen A. Superscutes, who was 165 cm long and weighed 90 pounds; Seamus PAT McTaggin, 182 cm long and 84 pounds; and Gilbert Nettingham, measured at 173 cm long and 112 pounds. All fish were released back to the water near Hyde Park and followed until they left the river.

We track the position of these fish with a mobile tracking unit, which is a boat equipped with hydrophones to detect the signal given off by the tag. We also have stationary submersible hydrophones that monitor the fish's movement past a position in the river.

It's interesting to follow the movements of the fish. Seamus PAT McTaggin was detected near Hyde Park (river mile 83) on June 12th, three days after he was tagged. Five days later he was found near Storm King Mountain, some 28 miles downstream "as the fish swims." On July 1st, he had moved a bit north to Newburgh Bay (river mile 60), and was

SUCCESS STORIES

During this study's three field seasons, we caught 142 sturgeon—10 confirmed females and 118 confirmed males. All but 17 of the fish were caught near Hyde Park and Rogers Point. The largest fish was the female mentioned at the beginning of this article—2.4 m long (more than seven feet) and 105.3kg (about 230 pounds).

In 2008 we recaptured two fish that were tagged in 2006. The fish were recaptured within 100 yards of where they were first caught two years earlier, and on nearly the same date (6/19/2006 and 6/11/2008). In analyzing the tracking data, we discovered that this appears to be a trend; the tagged fish generally return to the same spawning areas of the river on nearly the same date each year.

FISH FACTS

Sturgeon are prehistoric-looking creatures that have been around since before the dinosaurs. Instead of scales, five rows of large bony plates or shields (called scutes) cover the fish's leather-like skin.

Atlantic sturgeon are New York's largest and longest-lived freshwater fish. They can grow to be six to eight feet in length, weigh more than 200 pounds, and live to more than 60 years old.

Female Atlantic sturgeon reach sexual maturity at 18-19 years of age, when they are six to eight feet long and weigh more than 70 pounds. Males become mature at 12-14 years of age, when they are four to seven feet long.

Sturgeon are toothless. They use barbels (whiskers) to locate a variety of benthic (or "bottom") organisms, including worms, amphipods, isopods, midge larvae, plants, and small fishes, which they suck up with their tubular mouths.



James Clavon

detected leaving the river (Hastings on Hudson, river mile 22) on July 6th.

Gilbert Nettingham was detected on June 12th near Diamond Reef (upper Newburgh Bay, river mile 67). On June 17th, he was found near Storm King Mountain with Seamus PAT McTaggin. On June 30th, he was detected leaving the river (Hastings on Hudson, river mile 22).

Stephen A. Superscutes spent the longest time in the river. He was detected on June 12th near Diamond Reef (upper Newburgh Bay, river mile 67) with Gilbert Nettingham. Five days later (June 17th), he had swum south to Iona Marsh (south of Bear Mountain Bridge, river mile 45). On July 17th he had gone a little north and was found near Con Hook (river mile 49), where he was detected three more times during August and September. On September 24th and October 9th he was found near Iona Marsh again (river mile 45).

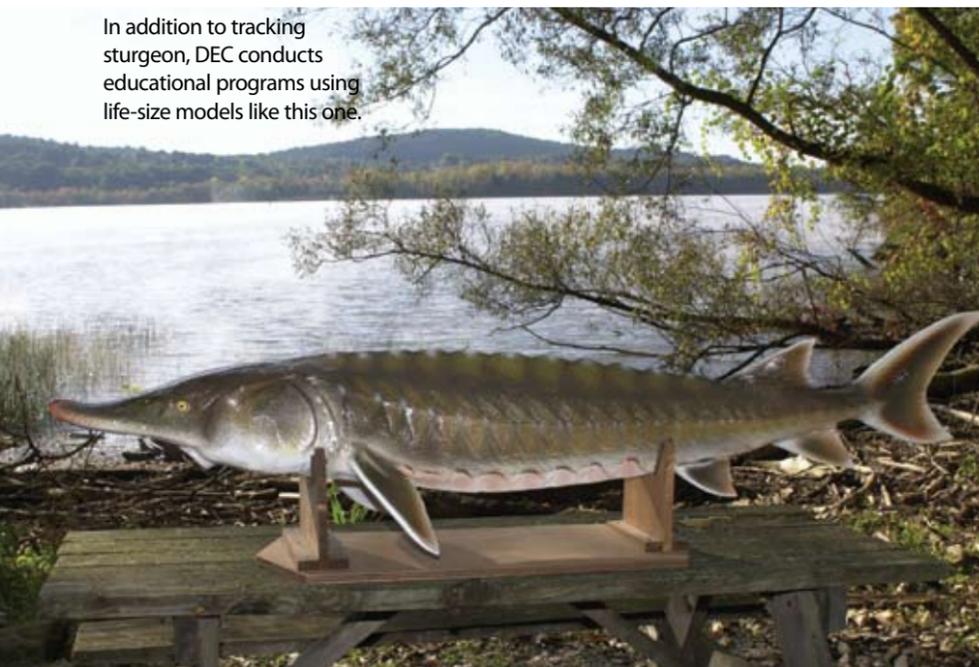
Since the tags' batteries are designed to function until at least 2012, we will return to the river each spring to search for returning fish. By following tagged

sturgeon like McTaggin, Nettingham, and Superscutes, we hope to gain the insight necessary to protect their populations, ensuring these magnificent creatures will be here for centuries to come.

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Author's Note: Many groups collaborate on sturgeon research, including the Hudson River Estuary Program, Atlantic States Marine Fisheries Commission, U.S. Fish and Wildlife Service, Wildlife Conservation Society, Pew Institute for Ocean Science, University of Florida, and the National Fish and Wildlife Foundation.

In addition to tracking sturgeon, DEC conducts educational programs using life-size models like this one.



Susan L. Shafer