Endangered Atlantic sturgeon find a new nursery in the Connecticut River

by Judy Benson, Day staff writer

Old Lyme — Though facing extinction after 70 million years of existence, Atlantic sturgeon apparently aren’t done looking for new ways to adapt and survive. “They’re really amazing fish,” Isaac Wirgin, associate professor in the Department of Environmental Medicine at New York University’s School of Medicine, said Monday. “This was really an unexpected result.”

The result he was referring to was the outcome of genetic tests he completed last fall on tissue samples from some 6-inch, 1-year-old Atlantic sturgeon caught in the lower Connecticut River in 2014. Tom Savoy, a fisheries biologist with the state Department of Energy and Environmental Protection who’s been researching Atlantic sturgeon in Long Island Sound for more than 20 years, caught the small fish while sampling with nets in the river for a related species—the short-nosed sturgeon—and knew right away he’d found something unique. Based on their size, they had to have been born in the river.

“Prior to that, we assumed the breeding population had been extirpated in Connecticut,” said Savoy, who works out of DEEP’s Marine Headquarters on Ferry Road. “But the great news is, evidently they are spawning in the Connecticut River,” he said. “Now, because they’re a federally protected species, the state is obligated to learn more. We need to know where they are, and how many there are.”

The ancient species, which supplied the caviar that became one of the first exports from the colonies, was declared a federally endangered species in 2012. Living up to 70 years and growing up to 400 pounds, adult Atlantic sturgeon were popular fish for Native Americans and the European settlers who came after them.

“By the 1800s, about 75 percent of the stocks on the East Coast were wiped out,” Savoy said. Since receiving endangered species status, more researchers have been looking for—and finding—Atlantic sturgeon in rivers and estuaries along the Atlantic coast, with the Hudson River population standing out as the most robust, Wirgin said. The fish spawn and live the first few years of their lives in rivers, then swim into the ocean to spend the next 20 years until they reach sexual maturity and return to the rivers to lay eggs. In the intervening years, sturgeon travel a wide area, usually swimming south in the winter and north in the summer.

In the Thames River in Groton, a juvenile Atlantic sturgeon found in 2015 swimming offshore from the Naval Submarine Base had a transmitter that showed he had come from the south shore of Long Island. Savoy concluded that fish was probably a summer visitor that found his way into the Sound, then into the Thames River in search of food.
“Atlantic sturgeon go everywhere,” Wirgin said, noting that a population in the Baltic Sea was found through genetic analysis to have originated in North America. Still, when he began analyzing the Connecticut River tissue samples, he said, he expected to find that the young fish were genetically related to sturgeon from the Hudson River or the Kennebunk River in Maine, since adults from both waterways had been tracked swimming into Long Island Sound with transmitters implanted by researchers.

Or, he thought, perhaps they were a remnant native population that had survived in the Connecticut River after researchers thought they had all disappeared. “But these fish look very different from Hudson River fish,” he said, and bore no similarities that would mark them as remnant Connecticut River fish.

Instead, he said, “they look most like fish from the Chesapeake Bay, South Carolina and Georgia.” Atlantic sturgeon are divided into five “distinct population segments” or subspecies—each with unique genetic characteristics found in a specific geographic area. Perhaps, he said, some “colonizers” from these southern areas swam into the Sound, then found appealing spawning habitat in the Connecticut River. “It could keep happening,” he said. “We should monitor to see if there are future colonization events in the Connecticut River.”

“It’s a very important finding,” said Wirgin, who is making final revisions to an academic journal article that soon will be published about the results. “Number one, it shows that there is successful reproduction going on in the Connecticut River. Sometimes you think a fish is gone from a river because you don’t know where to look,” he said.

Jennifer Goebel, spokeswoman for the Greater Atlantic Fisheries Office of the National Oceanic and Atmospheric Administration, said the discovery of spawning Atlantic sturgeon in the Connecticut River is significant for the survival prospects of the endangered fish. “We are very excited about the potential to be spawning there, since we didn’t know they were there,” she said. “It will need some more research, but it is great news.” She said her agency is developing a proposal to establish “critical habitat” areas to enhance protection of the fish.

The Connecticut River is one of the areas that would receive the designation. “What that would mean is that, if someone wanted to do a dredging or construction project on the river, they would have to figure out how to minimize impacts,” she said. The plan is slated to be completed in 2017, she said. The issue of impacts on sturgeon arose during the construction of the new Tappan Zee Bridge over the Hudson River in New York. Last year, the environmental group Riverkeeper petitioned the National Marine Fisheries Service, a branch of NOAA, to examine whether the bridge work had caused the deaths of 122 sturgeon since construction began in 2012.

For his part, Savoy is eager to continue searching for young sturgeon in the Connecticut River, hoping to discern whether the fish he found in 2014 were a small, isolated population from a one-time, out-of-state visitor or part of a larger migration trend. With bony plates like swordfish and fang-like sensory barbules on the lower jaw to help find worms, mollusks and ghost shrimp in the sediment, Atlantic sturgeon are a unique species he doesn’t want to see go extinct.

“They have mouths like vacuum cleaners that pull worms and ghost shrimp out of long burrows,” he said. “Since we’ve found they’re spawning here, we need to consider that anytime there’s construction or dredging at marinas.”

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