



CLEARWATER

# Navigator

NOVEMBER / DECEMBER 2004

DON'T MISS OUR  
**HOLIDAY CATALOG**  
INSIDE ON PAGES 4 & 5

## HUDSON RIVER REPORT CARD

### ATLANTIC STURGEON IN THE HUDSON

SOME RECOVERY, BUT NUMBERS REMAIN LOW

The Hudson's shortnose sturgeon (*Acipenser brevirostrum*) is a federally-listed endangered species, and you'd think that it would be the most compelling story of the river's most charismatic fish family. But you'd be wrong. When I gave DEC scientists Kathy Hattala and Gregg Kenney a chance to talk sturgeon for the Navigator, the story was all about Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus* – and no, it's not a typo).

The largest of all the Hudson's fishes, the Atlantic sturgeon can grow to more than twelve feet in length, and live more than 100 years. They have a cartilaginous skeleton and are covered with bony plates called scutes. They feed from the bottom on worms, mollusks and crustaceans. Their mouths are part catfish, with sensory barbels dangling beneath their chins, and part sucker, with protruding toothless round lips on the bottoms of their snouts. They've been around since the Jurassic era, and have survived as a family for more than 120 million years.



Linda Richards

their lowest levels ever recorded. New studies being conducted by the Estuary Management Program scientists are aimed at finally getting to the population dynamics of this wonderful animal. The key lies in determining the ages of the fish. Only by understanding the distribution of different year classes can scientists measure the impact of the moratorium, and begin to build knowledge about the other variables that may be influencing population cycles, such as overfishing, habitat loss, pollution and rising water temperatures. As scientists begin to measure the successes and failures of different spawning years, they can better understand the relationships between reproductive success and the environmental variables. This, in turn, can lead to a more effective management plan.

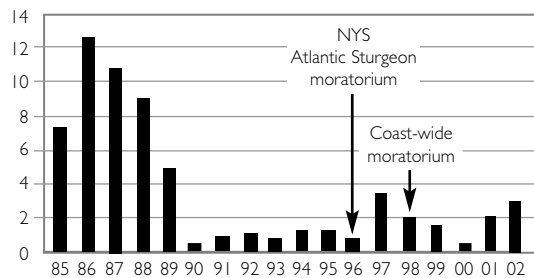
Sturgeon are remarkably difficult to age, however. Most of the reliable methods require killing the fish. Today Hattala and her colleagues are taking "spine clips" – tiny cross-sections of the bony spine at the leading edge of the animal's pectoral fin. The sample is then dried and epoxied, and under a microscope the rings can be counted like the rings of a tree. The fish rapidly recovers.

They are also placing sonar tags on many captured wild fish and newly-released hatchery fish bred from Hudson River stock. Each tagged fish has its own unique signature, and can be followed by boat-mounted hydrophones or sonar buoys that remain submerged for weeks at a time and record data on memory cards similar to those in digital cameras. By knowing the ages of fish, and by tracking their movements, the scientists can situate their data in the context of remarkably-detailed river-bottom habitat maps (those of you who were at the Annual Gathering will know what I'm talking about...) and begin to build defensible management practices that will hopefully allow the Atlantic sturgeon to recover and thrive.

- Andy Mele  
Executive Director

### Sturgeon Numbers Declining

Utilities Beam Trawl Sturgeon Survey (fish caught per trawl)



Now, after all that time – all those glaciers, meteors and volcanoes – we've almost fished the sturgeon out of existence in a few short decades. Concerned about the crashing population of Atlantic Sturgeon (see graph), in 1996 Governor Pataki took the recommendations of DEC staff in the Fisheries Unit and the Estuary Management Program, declaring a moratorium on fishing for the species on the Hudson, and then began urging New Jersey to do the same. Other states soon followed, and by 1998 there was, and remains, a coastwide ban on taking Atlantic sturgeon thanks to New York's leadership. Without question, it is this action that has saved the species, buying time for a restoration plan to be developed.

After 1996, the Atlantic sturgeon seemed to bounce back, but unfortunately, by 2000 numbers were at

