



Kids work to bring salmon back to river

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NEWBURYPORT — This morning, a group of schoolchildren from Newburyport will carefully wade to the banks of the Souhegan River in Milford, N.H., kneel at the water's edge and release more than 1,000 salmon fry into the Merrimack River Watershed.

Once they dump the fry — 700 of which the students raised themselves — into the fresh water tributary, the fish will stay there for the next three years if all goes well. Then, with even more luck, they'll venture downriver to find saltwater before making an arduous return to lay their own eggs.

The River Valley Charter School students know the odds aren't good for the fry's survival and have been told to expect only five of every 500 to mature and reproduce. But they know that it's efforts like theirs, through the U.S. Fish and Wildlife's Adopt a Salmon program, that the mighty Atlantic Salmon might return and flourish in the Merrimack River.

Atlantic salmon, referred to by some as the "King of the Gamefish," were once plentiful in the Merrimack River, according to the U.S. Fish and Wildlife salmon Web site. But due to overfishing and the construction of dams that kept adults from their spawning grounds upriver, the majestic fish all but disappeared by the mid-1800s.

Efforts have been made to build "fish ladders" upriver so that the salmon can circumvent the dams, and now groups like River Valley teacher Karen Popken and her students are reintroducing the fish to their old nesting grounds.

"Salmon are anadromous fish," Popken said. "They're born in fresh water and live in salt water, but they have to return to fresh water to spawn. When all the dams went in, the salmon couldn't return. They can jump 30 feet, but they can't jump over a dam."

Through the efforts of the U.S. Fish and Wildlife Agency, in association with a number of volunteer groups that have been slowly reintroducing the small fish to the small freshwater bodies to the north, Popken said approximately 100 adult salmon have been tagged by fishermen in recent years.

"For the last five years, salmon have returned to the Merrimack River," said Popken, who adds that by way of a fish ladder in Lowell, they now have safe passage back to the tributaries from whence they came.

Popken plans to accompany the two River Valley classes to Milford, N.H., today, where along with their own 700 fish fry, they'll be releasing another 300 that have been cultivated and cared for by the Parker River National Wildlife Refuge into the Souhegan River.

Raising the fry to this point in their fragile life spans hasn't been easy, and the children are looking forward to

setting them free. As their sole caretakers, the kids have raised the fish since they were mere fertilized eggs.

"The children visit the hatchery, and they actually see the female salmon," Popken said. "They press on her belly, and the female salmon will release thousands of eggs. Then they take a male salmon and sedate him. They press on the male salmon, and he releases his (milt), and the children actually stick their hand in the bowl and stir them together so that the milt mixes with the eggs."

After fertilization in the lab, the fertilized eggs are sent by courier to the classroom, Popken said. There, children tend to the tank full of eggs, being careful to keep the water temperature at a cool 38 degrees Fahrenheit and taking turns "deep sea diving" for the unlucky ones that don't make it.

"When an egg is dead, it turns white," Popken said. "We call it deep sea diving because a child will volunteer to use a turkey baster and get the egg out. The water is 38 degrees so it's not easy to do."

Children also test the pH level of the water each morning, she said, and take part in feeding brine shrimp to the growing fry.

"You do lose a certain percentage," Popken said. "Only the strong will survive. This year, we've been really careful about feeding them, and right now we have a really healthy, thriving tank."

Popken and the kids are expected to drain the tank today around 8:15 a.m. and will carefully catch the fry with a net and place them in an average-size beach cooler.

For the hour-long bus ride up to Milford, Popken has borrowed an aerator to keep the tank oxygenated. Once they reach their destination, which is off an unmarked path in the middle of the town, each child will take part in the release.

"We have the salmon in cups, and the children will wish the salmon well," Popken said. "It's really a beautiful thing."

The Life Cycle of a Merrimack River Salmon

Salmon eggs are laid in the gravel of headwater streams. The eggs mature through the winter and hatch in late March or April to become "fry." As the fry feeds and grows, it matures into a "parr." After several years, it grows to about 6 inches in length, at which point it undergoes a transformation that better adapts it to a saltwater environment. It's at this point that the "smolts" will make their way down from their fresh water tributary and through the mouth of the Merrimack, where they will migrate through the Atlantic all the way up to feeding grounds off the coast of Greenland.

After one or two years of feeding and growing in the Atlantic, the adult fish will make their way back to the Merrimack River, where they will head upstream to spawn. The cycle is then repeated annually.

Unlike Pacific salmon, which die after spawning, Atlantic salmon live on to spawn again, much to the consternation of scientists. From the time they re-enter their old nesting grounds to spawn, salmon can go as long as six months without a meal. During this time, their silver color turns to a dark color, and they're referred to at this time as black salmon or kelts. Only when they re-enter the Atlantic and begin to feed again do they regain their silver luminescence.

Source: U.S. Fish and Wildlife Administration

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