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Date: 12/3/2012 9:32:05 AM

Subject: Fewer_dams_can_mean_better_fishing_in_N.C._-_Charlotte_Observer

Fewer dams can mean better fishing in N.C.

Scientists, wildlife groups work to make it easier for fish to go farther upstream in N.C.

By Hannah Miller
Correspondent
Posted: Sunday, Dec. 02, 2012

http://media.charlotteobserver.com/smedia/2012/11/28/16/10

A June 2012 photo of Cape Fear Lock and Dam No. 1: Next spring, the locks won't need to be opened to allow shad to swim upriver. A 200-foot slope of rocks, piled on the downstream side, will allow the fish to swim over the dam on their own. (Melissa McGaw - N.C. Wildlife Resources Commission)

For years, the first thing Ranger Tom Charles has done on spring mornings at Cape Fear Lock and Dam No. 1 is let in the fish.

“There’s probably hundreds of them” waiting below the 11-foot dam 39 miles northwest of Wilmington, he says. “When they’re in there pretty thick, you’ll see them jump, but you can’t see how many there are.”

Most are American shad, waiting for Charles to open the lock to start them on the 90 miles or so to their ancestral spawning grounds in Harnett County. It’s the short leg of the journey for some of these fish important to the marine food chain; they started out in Nova Scotia.

The churning mass also includes striped bass, which migrate shorter distances, and there could also be an endangered sturgeon or two, says Charles, who works for the Army Corps of Engineers.

For more than 50 years, the corps, which supervises the dams, has provided the lifting service to get fish past dam No. 1 and two subsequent lock/dam combinations upriver at Elizabethtown and Fayetteville. Between them, the dams impound drinking water for a large area.

When spawning territories are blocked, “You lose the vast majority of the population,” says Mike Wicker, Raleigh-based biologist with the U.S. Fish and Wildlife Service.

When lifted by the locks, 35 percent of the shad make it past all three dams, according to a study by Dr. Joseph Hightower, U.S. Geological Survey biologist teaching at N.C. State.

Beginning next spring, North Carolina, the corps, and the fish will embark on a new venture. The lock will stay closed, and the fish will begin their journey on their own. They’ll jump up a natural-looking “rock arch rapids” or weir – a 200-foot slope of rock added to the downstream side of the dam.

It stretches up to the top, and “fish swim right over the dam,” Wicker says.

Although it’s a first for the Southeast, “That kind of rock arch weir has been done quite a bit in the Midwest,” Hightower says. “It’s been very successful there.”

The $13 million rapids, completed Nov. 21, are a part of improvements to Wilmington’s harbor and are paid for by federal stimulus money.

“Hopefully in the future we’ll get funds to do something similar at Lock and Dam 2 (Elizabethtown) and 3 (Fayetteville),” says Frank Yelverton, biologist with the corps. “Funds are tight these days.”

Back to nature

The Cape Fear fish are not the only beneficiaries of a current movement in North Carolina to restore streams to as natural a condition as possible.

When neighboring Virginia’s once-pristine Chesapeake Bay suffered fish kills and other symptoms of pollution in the 1980s, wildlife and environmental groups in North Carolina started concentrating on stream health, Wicker says. They discovered that a multitude of dams, many dating to the 1800s, were a source of degradation.

Not only do they block migrating fish, the slack water behind them can become stagnant, oxygen-depleted and home to harmful algae, says Lynnette Batt, who oversees river restoration in the Southeast for advocacy group American Rivers.

There are 5,800 dams in North Carolina that her group knows about, and probably twice as many that it doesn’t, Batt says. Many were built to power grist mills, long-defunct textile mills and the like. Probably half no longer serve any major purpose, she says.

Through the work of wildlife agencies and other advocates, an estimated 25 have been removed in the last couple of decades, Batt says, and more removals are on the way.

Removal is always in cooperation with the dam's owner. Sometimes grants are available; other times, owners work with mitigation bankers – companies that recoup the cost of demolition by selling government-issued wetland mitigation rights.

Even far-inland streams like the Tuckasegee River in Jackson County benefit from the free flow of water, says biologist Mark Cantrell of the U.S. Fish and Wildlife Service.

The 12-foot Dillsboro Dam there was brought down in 2010 with owner Duke Energy's blessing, and already, says Cantrell, the caddis flies, stoneflies and mayflies that feed mountain trout and smallmouth bass have increased many times over.

Shad are key

Much of the statewide effort has been aimed at the historically and economically important American shad. Asked to guess at their numbers, Hightower says that probably tens of thousands of the medium-size (up to 18 inches), tasty fish congregate at the mouths of North Carolina rivers mid-March to mid-May.

Nobody knows why they aim for the fall line – where the rocky Piedmont meets the sandy Coastal Plain. Hightower thinks it's the crevices among the rocks: "Eggs can fall down in those cavities and be protected from predation."

Even more important than the commercial shad catch, Wicker says, is shad's role in the $1.6 billion (2008 estimates) saltwater recreational fishing industry.

"Speckled trout, flounder, puppy drum and even things like bluefish and tuna, king mackerel" – they all feast on shad, Wicker says. "Dolphins eat them too, porpoises … even whales."

On the Yadkin-Pee Dee in the 1800s, shad came as far inland as the Uwharrie River, which empties into Lake Tillery. Regulators are considering a pending relicensing agreement for two dams that block their passage. It calls for Progress Energy, now part of Duke Energy, to "trap and truck" shad from below 50-foot-high Blewett Falls Dam in Anson County to spots upriver, with a fish ladder – a series of in-water steps – to be constructed later.

Swimming the Neuse

On the Neuse and its tributaries, dams started coming down in 1998, with the fall of Quaker Neck on the Neuse at Goldsboro. Three dams have come down on tributary Little River, the last one in 2005. A recent study by N.C. State graduate student Joshua Raabe shows shad moving into the freed areas.

He tagged more than 3,000 fish, most of them shad, and found that, in 2010, 31 percent of the shad made it all the way past the third former dam site to a spot in Johnston County near Selma that he thinks is close to their historic destination. That's 475 miles from the mouth of the Neuse at Pamlico Sound.

On the Neuse itself, fish now swim more than 400 miles to Milburnie Dam on the outskirts of Raleigh.

The shad jumping below Milburnie are a lot of fun for Raleigh anglers. Mac Currin, a former member of the N.C. Marine Fisheries Commission, says that on a light line with a light lure, "a good-sized fish like that can put up quite a fight."

He, Wicker, and much of the public also consider the 15-foot dam a safety hazard. Two children drowned in the hydraulic created by its tumbling waters last summer.

Milburnie is likely to come down next fall, says John Preyer, chief operating officer of mitigation banker Restoration Systems. His company and the dam's owners are already working on its demise.

Then, Wicker says, the shad will have an unobstructed run 15 miles across Raleigh to the dam at Falls Lake, which he thinks is probably the top of their range.

On the Cape Fear, the fish below Lock and Dam No. 1 aren't waiting for human action.

Last spring, according to Charles, the Army Corps of Engineers ranger, "There were some striped bass and shad made it up the fish passage before it was complete."

Read more here: http://www.charlotteobserver.com/2012/12/02/3693543/fewer-dams-can-mean-better-fishing.html#storylink=cpy

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