

# Aquaculture holds promise for area farmers

BY PETER WILLIAMS  
The Perquimans Weekly

Nobody is saying growing fish will ever replace the growing of crops in northeastern North Carolina, but industry experts say aquaculture is here and is likely to only grow larger.

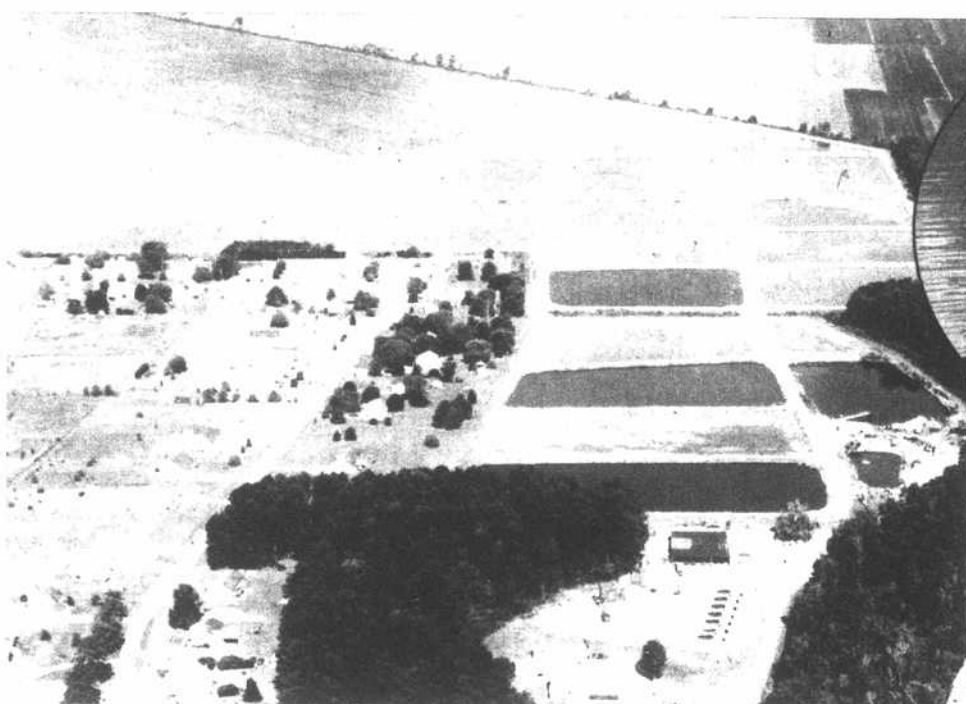
"It's more than you'd think," said John Aydtlett about aquaculture in the northeast. He works in the N.C. Department of Agriculture and Consumer Services northeast marketing center in Elizabeth City.

One reason the industry may grow is the demand to feed more people and tighter rules on wild-caught seafood.

According to the United Nations' World Population Prospects report, the world population is currently growing by approximately 74 million people per year.

Fish are more efficient than other animals when it comes to how much food they need to produce a pound of meat. According to one federal statistic, it takes 8.7 pounds of food to produce one pound of beef. For pork the ratio is one to 5.9 pounds in food. Chickens are far more efficient at 1.9 to one. Salmon need about 1.2 pounds of food to produce one pound of meat.

Steve Gabel, an Edenton-based extension specialist who works with aquaculture, thinks fish farming will grow because restrictions on wild-caught seafood will only increase.



An aerial photograph shows a sprawling Artesian Aquafarms LLC in South Mills.

"There is a limited amount that can be raised in the wild," Gabel said. "I think you'll see more in the future with the restrictions on the wild caught industry. It will only get tighter and the protein has got to come from somewhere."

Gabel has been an agriculture agent for 33 years and moved to Edenton in 1988. His current job as an aquaculture specialist for the N.C. Extension Service puts him covering a 22-county area from Wake County west to Currituck and south to Beaufort.

Gabel started working in extension while living in Louisiana. He said one fish farmer explained why he

shifted from crops to catfish.

"He said if a hurricane came through it didn't mess with him. If it gets too wet, I'll drain and if it gets too dry, I'll pump."

Local fish farmers paint a picture of agriculture that includes financial rewards, but also includes a lot of work and the prospect they could get wiped out.

Gary Sawyer farms hybrid striped bass in South Mills.

"When you lose money, you lose lots of money in a hurry," Sawyer said. "If you're in it for the long haul, you can make it."

Gary Sawyer got started in aquaculture in 1994. "We had built fish ponds

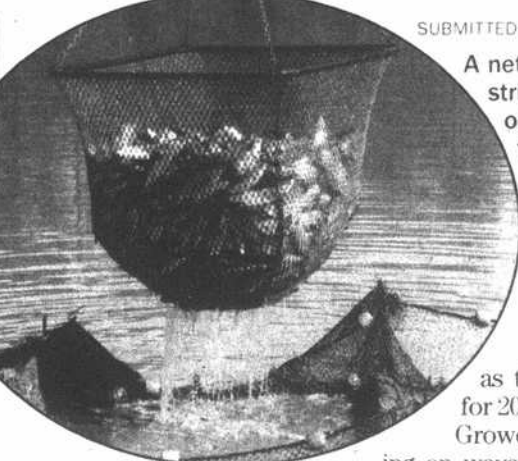
for other people using a bulldozer and dragline."

He had a 100-acre farm, which he admits "wasn't a huge farm to make it in agriculture."

He now tends 65 acres with 23 ponds growing hybrid striped bass for sales to northern markets.

Sawyer sold his operation to Charles Verdery, the president of Sydnor Hydro, a well drilling company based in Richmond, Va. Sawyer still manages the fish farm and ships about 300,000 pounds a year to wholesale markets in New York and Maryland.

"If they like hard work, it's very intense and you can't leave the farm in the summertime. But it's been



SUBMITTED PHOTO  
A net lifts hybrid striped bass out of a fish farm pond in South Mills.

good. We've always managed to sell whatever we produced, but lately the markets have been getting real crowded. If everybody decided to grow fish, I don't think there is a market for it."

Finding the market — that's the key — Gabel says.

"Don't come up with an attitude that if I grow them, someone will buy them," Gabel said. "Get your market first. And more sure you have the right water."

The Fish Connection Cooperative in Washington, N.C. helps growers find a market for their fish.

Aydtlett said the southeastern part of the state is bigger and in the western part of the state trout production is strong. State estimates show the number of North Carolina aquaculture sites is down slightly, but the value and tonnage of the products is up. The total value of the state's aquaculture industry in 2014 was estimated at \$58 million. That's up from \$50.9 million in 2008, but the same

as the estimate for 2005.

Growers are working on ways to increase production and add fish that don't normally thrive well in captivity.

"In ponds you can produce a pound of fish for every 250 gallons," Gabel said. "In a closed (tank) system, you can produce a half (pound) to three quarter of a pound (of fish) per gallon."

It's possible that in the future, fish food, fish and fish processing can all be done in the same place.

"There is something close to that now with Carolina Classic in Ayden," Gabel said. "They have their own feed mill to produce catfish feed which they're producing."

One popular fish — flounder — is on the decline in the wild, so limits have been placed on catching them. Gabel said some people on working to produce farm-raised versions in tanks.

"The big problem is they don't use the whole water column, just the bottom. Striped bass swimming in tanks will use the whole water column."

## WATER FIXES

Continued from 1A

rates," Howard said.

The other reason, he said, was the county water systems' softening problem. County officials knew the state would be ordering changes in the water system and they intended to get ahead of that by setting rates high enough that the water fund would begin to grow some reserves for capital projects.

The county's new water rate, which went into effect earlier this fiscal year, is \$9 for 1,000 gallons, \$24 for 4,000 gallons. The minimum bill for the first 2,000 gallons is \$12, and then it's \$9 per gallon for each 1,000 gallons after that.

The county in 2005 raised the rate to \$9 for the first 2,000 gallons and then \$4 per 1,000 gallons. That was \$17 for 4,000 gallons.

In 2008 the rate remained

at \$9 for the first 2,000 gallons but was increased to \$4.50 per 1,000 gallons after the first 2,000. That brought the bill for 4,000 gallons to \$18.50.

Howard said that even with the rate increase the county's water rates are still lower than those in nearby counties because Chowan operates an efficient system.

In this area, only the Town of Edenton at \$23.25 and Gates County at \$22 have lower bills for 5,000 gallons than Chowan's \$30.

The highest bill for 5,000 gallons in the area is \$51 in Washington County. Other counties include Perquimans at \$43, Currituck at \$42.50, Tyrrell at \$40.50, Currituck Outer Banks at \$37.50, Dare at \$35.88, and Bertie at \$35.

Although problems with the county water system have been in the news a lot during the past few months, the issues actually are not

new. Howard told the audience that it was in 1999 that the county first received a letter from state officials about the discharge of wastewater from the water treatment plant.

Wastewater was infiltrating the holding pond and the state told the county it had to fix the problem.

The following year, state officials directed the county to relocate the discharge to Rocky Hook Creek or apply for a non-discharge permit.

In an initial effort to fix the problem, the county spent \$35,000-\$40,000 on a plan to discharge at Harris Landing, Howard said. But then state officials told the county that the salt concentration in the wastewater or effluent was too high to discharge into a freshwater source, Howard said.

The county is looking for ways to make use of the planning it has already done, since it has money tied up in those plans.

The county manager said that hopefully the county will be able to go back to the Harris Landing plans, with the addition of an on-site holding tank.

When audience members asked why the county hadn't been proactive about the water system issues, Howard said he believes the county has been proactive but has been given moving targets by the state.

Bill Diehl, the engineer who consults with the county on water system concerns, said the county

needs to set aside money to fund whatever project is pursued.

But the county is looking for clear direction from the state before moving forward with any capital project for the water system.

"We don't want to do anything until the state is sure what they want us to do," Diehl said.

Diehl said he believes the county will be allowed to continue softening the water as long as it has a plan moving forward.

Pat Kersey, a Republican candidate for county commissioner in Chowan's 2nd Dist. et. asked about the possibility of pursuing a joint project with the Town of Edenton.

Howard said the town currently is doing its own study on a solution for its water problems.

He and Diehl explained that the town will face different kinds of problems. In the county's case, Diehl said, the water coming out of customers' faucets meets all state standards.

Edenton actually has issues with the quality of water coming out of the tap, Diehl said.

Diehl said getting water from Gates County at a rate adequate to meet county needs would require an expensive project of constructing a transmission line all the way to the plant in northern Gates County.

The county's goal had been to set aside money in the water fund over the next couple of years in order to have funding for the

required upgrades.

But that didn't go as planned. Shortly after the rate increase took effect, the county received a letter from the state calling for immediate remedial action.

"We didn't even have half a month worth of savings in the bank from that he new rate increase when we got the letter," Diehl said.

Howard said the county does not expect to be fined because it is working with the state to enter into a special order by consent that will enable the county to avoid fines as long as it meets state-mandated timetables for corrective actions.

Diehl agreed that the purpose of an SOC is to buy time to fix the problem without being fined.

Robert Kirby, a civil engineer who was in the audience at the meeting, asked if the county should not be looking at building a reverse osmosis treatment plant as the long-term solution. He noted that Diehl had indicated an RO plant was the only practical way to eliminate total dissolved solids, which is what causes white deposits to form on plumbing fixtures.

Diehl said that maybe by 2035 the county could have an RO plant on-line if it started planning now for it. But the county doesn't have nearly that much time to address the state's mandates regarding discharge, he said.

The state is going to make the county do something now, Diehl said. The immediate solution is likely to involve a holding tank at the plant and a new discharge line to a state-approved discharge point.

But Diehl said the im-

mediate solution wouldn't necessarily be wasted effort and wasted money, since a future RO plant at the current location to remove total dissolved solids could make use of a pipe to Harris Landing.

Howard said the county is expecting to set aside \$300,000 a year with the new rates in place.

In addition to the necessary upgrades to the treatment plant, Diehl said, the county also will need to do \$2 million or so in line replacement work over the next couple of budget years in order to replace worn-out distribution lines.

"There are a lot of costs that we are looking at," Diehl said.

As the process moves forward, county officials will study implementing reverse osmosis at the current plant.

In 1983 the county built a new treatment plant that generated 800 gallons of water a minute. Over the years that capacity has been expanded through upgrades at the plant and now stands at 1,600 GPM.

The original permit for the plant called for the effluent to be discharged into a roadside ditch.

But sometime in the late 1980s or early 1990s, construction and grading on Highway 32 made it impossible for the county to continue discharging into the ditch.

A letter from state environmental officials in 1999 noted wastewater from the treatment process "infiltrates the groundwater within the settling pond."

County and state officials have been working on the problem since then, pursuing a workable solution.

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