



Research Helps Striped Bass Farming Make Bigger Splash in Mississippi's Economy



Photos by Lou D'Abramo

By Andrea Cooper

Research by scientists at the Mississippi Agricultural and Forestry Experiment Station is reaping benefits for Nature's Catch, the largest pond-based producer of

hybrid striped bass in the United States.

For more than 11 years, MSU researchers Lou D'Abramo and Terry Hanson have worked with managers of the Clarksdale-based aquaculture enterprise to develop a more efficient culture system for rearing hybrid striped bass.

In the past, pond culture of hybrid striped bass was based on a three-phase system. Fingerlings were stocked into ponds at a density of 8,000 to 12,000 per acre and grown to a stocking size, harvested and graded. The fish were then used to stock ponds at a density of 3,000 to 4,000 per acre and grown to market size.

"The problem with the old system is that there is intensive labor and high mortality associated with the transfer of the stocking size fish into ponds for final grow-out," explained D'Abramo, a professor in the Department of Wildlife and Fisheries.

For this reason, research has focused on the elimination of the transfer phase. Field testing and economic analysis of the alternative two-phase system, termed "direct stock," is encouraging.

"By eliminating the need to grade and transfer fish harvested from ponds, the direct stock management system decreases the potential for mortality," said Bubba Groves, biologist and assistant manager at Nature's Catch. Management of water quality, Groves added, should also be less resource demanding.

"Because we will stock the fingerlings at lower densities in the direct stock system, water quality is much easier to manage," said Groves, an MSU aquaculture alumnus.

The lower densities for the direct stock system are associated with faster rates of growth and a decrease in turnover time to market size. Instead of the average 29 months to harvest with the three-phase system, direct stock produces harvestable fish in an average of 21 months.

The economic analysis, conducted by Terry Hanson of the Department of Agricultural Economics, indicates a 30 percent reduction in production costs realized through the decrease in turnover time.

"In addition, it has the potential to increase the total annual production," D'Abramo said.

Another management advantage of the direct stock system is the elimination of the need to hold fish in a maintenance mode in ponds until ponds become available for stocking.

"Having to hold the fish creates an operational bottleneck that drains both labor and feed resources," Groves said.

The new system has been tested for a year in commercial-sized ponds and worked extremely well, Groves said.

"Nature's Catch is now totally transforming the current 884 water production acres of the farm to the direct system," he said. "We are also constructing an additional 269 acres that will be managed under the direct-stock system."

Groves estimates that after the 2 years required for implementation of the new system on the current 884 acres, the annual rate of production of Nature's Catch will increase from 1.7 million pounds to 2.35 million pounds.

"That represents an increase of \$1.9 million or 38 percent in total sales for Nature's Catch," Groves said.

With the proposed increase in acreage, annual sales should increase to approximately \$8.9 million by 2010.

"That's a lot of striped bass and a significant input into the economy of the state of Mississippi," Groves added.