Paddlefish, Poaching, and Ponds

Scott and Kami Miller, Chrisman, Illinois

North Central Region
Paddlefish Polyculture

Coordinator: Scott Miller

Location: Chrisman, Illinois

SARE Grant: $14,378

Grant Year: 2001

Project Number: FNC01-338

Scott Miller was able to raise paddlefish to marketable size in only a year—much faster than expected. Paddlefish clean the water but don't compete for food with other fish in the pond.

The most popular sources of top-quality caviar can also be the most threatened of fish. For instance, the high-in-demand Blue Sturgeon was nearly wiped out in Russia due to poachers looking to make a fast ruble, says Scott Miller, an Illinois farmer.

Miller and his wife Kami are hoping the same fate is not in store for paddlefish, a freshwater fish known by its long, bill-like snout and large mouth. He says that the caviar industry has begun to consider paddlefish because the eggs from females make "fairly high-quality caviar."

Paddlefish also have the potential to improve water quality, so Miller received a SARE grant in 2003 to raise paddlefish in a poly-culture system. He monitored both their growth and their impact on water quality as they grew under different conditions over a two-year trial period.

Miller's goal was to determine if the paddlefish could reach marketable size in a farm pond in two years, which is how long it takes for them to reach market size in native water. To his surprise, the paddlefish reached marketable size (18 to 24 inches) in only a year. Intrigued by these results, Kentucky State University agreed to purchase Miller's paddlefish and stock them into rivers and reservoirs.

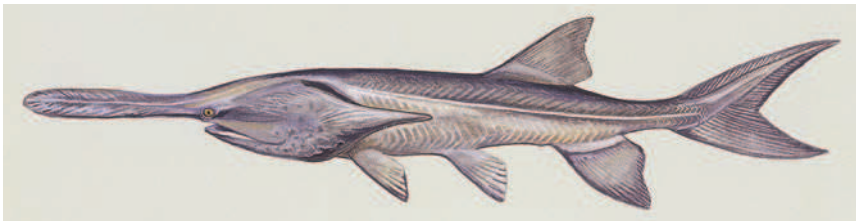

Photo courtesy of USFWS

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"What we were trying to do is grow juvenile fish to a larger size and transplant them into rivers and reservoirs where their survivability will be much higher," says Miller, who owns and operates a 75-acre farm in Chrisman, Illinois.

If caviar production from paddlefish does take off, it is crucial that paddlefish be produced commercially, Miller says. Otherwise, the poaching of paddlefish from wild sources will increase heavily, and the species could face the same threat as the Blue Sturgeon.

"If you get people raising them commercially and feeding the market, people would be less likely to poach," he says.

Miller used four ponds during his research—two existing ponds on his farm and two others donated by area farmers. He stocked one pond with paddlefish and largemouth bass; he stocked the other ponds with paddlefish and multiple species such as catfish, bluegill, bass, and perch.

Through trial and error, Miller discovered that the most productive stocking rate was 50 paddlefish per acre—although he did go as high as 100 per acre. With good aeration, he believes you could stock as many as 200 to 250 per acre.

Paddlefish are plankton feeders; and as a result, they do not compete for food with other fish and they help to clean the water. "They basically swim through the water with their mouths open, filtering out plankton," Miller says.

"In a commercial fish pond, you're always going to have too much plankton because you're supplemental feeding," he explains. "Every day, you're adding fertilizer with the feed. But if you've got paddlefish in there, they'll be picking up the waste. They will help your water quality."

He noted an improvement in water quality in all four ponds. For instance, they had little problem with surface moss in two of the ponds, thanks to the paddlefish.

Miller found that the paddlefish helped to filter out some of the nitrates in water—although he says they did have nitrate problems in two ponds when the water temperatures were high.

Paddlefish require more oxygen than the other fish he stocked, Miller says. As a result, he dealt with survivability issues in all four ponds. However, he says this problem could be easily avoided by using supplemental aeration—the circulation of air through water.

"If you're going to make it work, you're definitely going to need supplemental aeration," says Miller. The only drawback is that aeration is fairly expensive.

"It all comes down to money," he says.

Because of the expense for aeration, Miller decided not to pursue paddlefish production long-term and is currently raising largemouth bass. But he still sees that raising paddlefish with supplemental aeration is a viable option.

"We have proven that these fish are quite useful and can produce an added income for fish or non-fish farmers who have farm ponds," he says.

By Jason Peterson