

StarTribune.com | MINNEAPOLIS - ST. PAUL, MINNESOTA

U of M study looks to make carp less common

People have been known to use nets, poison and even dynamite to get rid of the invasive fish, but a study of three west-metro lakes may offer the first hope at how best to keep their numbers low.

By [Laurie Blake](#), Star Tribune

Last update: October 29, 2007 – 11:18 PM

Having found a way to reduce sea lampreys in the Great Lakes, Peter Sorensen now is taking on the common carp. The University of Minnesota biologist has begun a scientific study in three lakes in Eden Prairie and Chanhassen that could offer the first hope for thinning the nasty bottom diggers from lakes across the country.

"We think it's important to show people we can do something with an invasive animal -- that science can do things," he said.

Two-thirds of all Minnesota lakes -- and all metro-area lakes -- are infested with the common carp. And it's a national problem as well, said Sorensen, who works in the university's Department of Fisheries, Wildlife and Conservation Biology.

Carp make clear waters murky by churning up clouds of sediment in their search for food. They can dig a foot into the muck at the bottom of a lake, uprooting good plants and stirring phosphorous on the lake floor back into the water, where it fertilizes algae and weeds. Their own excretions further foul the water. Sorensen considers them the most damaging aquatic species in Minnesota.

"It is unlikely that we can do much to improve the water quality in most of our lakes until we control them," he said.

He chose to do his research on the three west suburban lakes -- Lake Riley, Lake Susan and Rice Marsh Lake -- because they are home to thousands of carp. The bottom-feeding fish make up half to two thirds of the fish in the lakes. Some of them are 2 to 4 feet long and as big as 18 inches in girth. Some are 50 years old

Years of experience

During their first two summers, Sorensen and his research team discovered something surprising and significant: Although some of the fish are older than 50, young fish are scarce.

The age of the carp can be determined by slicing open their ear bones to count their growth rings. It's like counting the rings on a tree trunk. Judging by a sampling of the age of the fish in the lake, it's been roughly 10 years since a baby carp grew from egg to adulthood -- even though each female fish produces more than 1 million eggs a year.

Why the eggs grow into carp in some years and not others, Sorensen's team does not yet know. But one theory, according to his research assistant, Prezmyslaw Bajer, is that in

most years other fish eat the carp minnows, but that the natural predatory chain is interrupted when an especially harsh winter kills off all the fish in the lakes. Then carp come back by migrating from other lakes and multiply much faster than the game fish -- resulting in an over-population of carp.

The fact that in many years young carp do not mature raises hope that if the older fish are removed, they may not be replaced by younger fish, Sorensen said.

The biologists will work to suppress young fish, remove adults, and prevent adult fish from coming from other lakes and laying more eggs.

In his study of sea lampreys, Sorensen and his team identified and synthesized a chemical signal, known as a pheromone, that can be used to trick the lampreys into traps. The lampreys prey on lake trout, whitefish and other fish.

Pheromones also will figure into the carp study, as Sorensen looks for a chemical signal that would lure females into a single locale where they can be removed from the lake.

Plenty of support

Sorensen's work is getting financial support from many corners. He has a \$550,000 grant from the state's Environment and Natural Resources Trust Fund, which gets money from the state lottery, and other funding from the Department of Natural Resources, the government of Australia -- where carp is considered a national problem -- and residents who live around the lakes he is studying.

On Lake Riley, the water quality seems to get a little worse every year, said resident David Florenzano, who lives on the lake with his wife, Anne.

The Lake Riley Improvement Association kicked in \$2,000 to support the study because residents want to do what they can to help clean up the water, Florenzano said.

"We think it's a world-class study, and we feel very fortunate to have these folks doing this world-class study on our lake."

The west-suburban Riley Purgatory Bluff Creek Watershed District has promised to provide \$2.7 million for the project from 2008 through 2017.

The significant investment reflects the district's belief in the importance of the project to the west suburban lakes and to the state, said board Vice Chair Ken Wencil of Chanhassen. "This has never been done before and it's a very important thing."

Carp do so much damage that until they are under control, there is no way to improve the water quality, reduce the weeds and stop soil erosion, Wencil said.

No one expects the carp to disappear completely, said Watershed District coordinator Paul Haik. "You will never eliminate the carp. The question is how can you manage the carp at a level that will allow fishing, boating and wakeboarding."

Within three years, district officials expect to start seeing clearer water, a greater percentage of game fish and positive changes in plant life.

By the end of the study, Sorensen hopes to leave the lakes with low carp numbers and be able to hand the Watershed District a manual for keeping them that way.

"I think we are smarter than carp, and I think we can figure this out," Sorensen said.

Laurie Blake • 612-673-1711

Laurie Blake • lblake@startribune.com

© 2007 Star Tribune. All rights reserved.