



Controlling invasive weed

Center begins evaluating giant salvinia-eating weevils

Project members of the recently funded Center for Invasive Species Eradication (CISE) have been hard at work managing the center's first undertaking, the *Caddo Lake Giant Salvinia Eradication Project*.

Giant salvinia is a free-floating aquatic fern that has aggressively invaded Caddo Lake and other lakes in Texas. The project, funded through the U.S. Department of Agriculture's Natural Resources Conservation Service and managed by the Texas Water Resources Institute (TWRI), is evaluating and demonstrating multiple control methods—biological and chemical—and assessing their effectiveness in killing giant salvinia.

In the fall of 2010, project members constructed weevil-rearing tanks covered by two large greenhouses at the Caddo Lake National Wildlife Refuge. Lucas Gregory, TWRI project manager, said the two greenhouses hold four large tanks, 48 feet long and 15 feet wide, and are infested with the plant's only biological enemy, the salvinia weevil. The weevil prefers warm temperatures and eats the giant salvinia as its only food source. These tanks are being used to grow giant salvinia and propagate salvinia weevils for release on Caddo Lake.

"Currently, water quality evaluations are being conducted to improve water chemistry and salvinia

Caddo Lake is the focus of the first project for the Center for Invasive Species Eradication.

Scientists will demonstrate and evaluate different methods for controlling and preventing the growth of giant salvinia. Photo by Lucas Gregory.



Clockwise from left: Example of dead and dying giant salvinia in tanks at the Caddo Lake National Wildlife Refuge.

The project staff has constructed greenhouses with growing tanks with salvinia weevils and giant salvinia.

This invasive species has invaded Caddo Lake and other lakes in Texas. Photos by Lucas Gregory.

growing conditions in the beds, thus refining the science of growing the weevils,” Gregory said. Eventually, when weevil numbers reach sufficient levels, they will be released on salvinia in the lake.

Other experiments with the tropical bugs are beginning as well. “We just initiated a ‘weevil overwintering’ study to evaluate impacts of cold weather on the weevils,” said Patrick Ireland, Texas AgriLife Extension Service assistant and project coordinator for the center. Ireland and Dr. Allen Knutson, AgriLife Extension entomologist, have placed 40 small floating cages containing weevils in Caddo Lake near Goat Island and will monitor

them throughout the winter. They will periodically remove the cages to determine what effect the cold weather has on weevil mortality, Ireland said.

Gregory said the project members, including Knutson; Dr. Michael Masser, AgriLife Extension fisheries specialist; Dr. Paul Baumann, AgriLife Extension weed specialist; Howard Elder, aquatic habitat biologist, and other Texas Parks and Wildlife Department staff will test this and other strategies to fight giant salvinia.

“Integrated pest management and herbicide experiments to control the invasive plant are being planned for next growing season,” Gregory said.

