

caddo invasive aquatic fern | Texas Water Resources Institute

Management of invasive aquatic fern continues at Caddo Lake

By Katie Heinrich

Caddo Lake, the only natural lake in Texas, has seen no reprieve from the fast-growing biomass of giant salvinia (*Salvinia molesta*), a free-floating aquatic fern first introduced in the United States by the water garden industry.

The [Caddo Lake Giant Salvinia Eradication](#) project, established within the [Center for Invasive Species Eradication \(CISE\)](#) as a joint effort between Texas A&M AgriLife Research and the Texas A&M AgriLife Extension Service, through the Texas Water Resources Institute (TWRI), has made progress in salvinia management. Biological and chemical controls have been helpful in efforts to limit the invasive plant and help minimize the negative economic and ecological impacts to Caddo Lake since the salvinia infestation began in 2008, according to CISE scientists.



The project is one of the first by the CISE to evaluate invasive plant species within various ecosystems in Texas and produce real-world application methods that could be used to control outbreaks of a species.

There are many factors about the lake's ecosystem to consider when choosing between biological, chemical and mechanical methods to control growth. In the long run, biological probably works the best, said **Lucas Gregory**, CISE program coordinator and TWRI project manager. Although biological treatment application achieves the most gradual results, it is cost-efficient and effective when conditions are favorable, Gregory said.

CISE has used chemical applications on the lake, as well as biological methods. Gregory said that to control something as dominant as the salvinia, control mechanisms must be integrated.

The growth of the salvinia depends on several factors, but the fern's development is mainly weather dependent, Gregory said.

"This past winter was not as cold, so we didn't see the kill that normally comes with a freeze during that time," Gregory said. "On the flip side, since the weather and water are warmer, we may be able to get weevils out quicker and get them growing faster."

Another factor in controlling the species is educating the people, businesses and outside entities around the lake about the giant salvinia.

"When we start seeing good instances of control, people become passive and not as aggressive in tackling the situation for a while, and then we see the growth come back and we again have the pending issue," Gregory said. "We are never going to have complete elimination of the salvinia and probably never going to be able to fully contain it, but the goal is just to maintain the situation."