

Amazon Fern Spurs Fight to 'Stomp It to Death' (Update1)

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By Jim Kennett



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April 24 (Bloomberg) -- In the East Texas town of Uncertain, Ken Shaw stands on the shore of [Caddo Lake](#) and points to fresh evidence of a South American invader.

This one is [giant salvinia](#), a floating, leafy fern that grows in dense mats as much as three feet (0.91 meters) thick. The plant is like aquatic kudzu, blanketing everything in its path, including the lake's cypress tree roots, which provide vegetation and shelter for large-mouth bass and other fish.

The residents around Uncertain are battling the tropical weed, originally from Brazil. The plant doubles in size every 8 to 10 days and may threaten the health of the lake. Its foliage chokes off light to the aquatic plants beneath the surface and overruns boat ramps, jeopardizing the lake's appeal to fishermen who pump more than \$2 million annually into the local economy.

"You can take a piece of salvinia the size of your fist, and in three months you've got 40 acres of it," said Shaw, 63, a retiree who serves as the unpaid head of the local navigation district.

Originally from the Amazon River, giant salvinia may have entered Caddo Lake by hitching a ride aboard a boat trailer that accidentally picked it up in a nearby waterway, said Randy Westbrook, an invasive species specialist with the U.S. Geological Service in Whiteville, North Carolina. First discovered in Texas in 1998, it's been spotted in 15 public lakes, rivers and reservoirs across the state.

Salvinia, banned in the U.S., may have slipped into the country after being mistakenly included in a shipment of aquatic plants, said Westbrook, 54.

Non-Native Species

In that case, giant salvinia is another instance of expanded global trade introducing non-native species to new environments. Other examples include Asian long-horned beetles that feed on American elm trees, zebra mussels that clog water pipelines in the Great Lakes and Asian snakehead fish that can breathe out of water and feed on native fish in U.S. rivers and lakes.

[Caddo Lake](#)'s shallow, swampy waters cover 27,000 acres on the Texas-Louisiana border. The area's role as a habitat for migratory birds along with its plant and animal diversity make it "internationally important" under the Ramsar Convention on Wetlands, an environmental treaty signed in 1971 by more than 150 nations, according to the convention's [Web site](#).

'Perfect Nursery'

Rich in nutrients from decaying vegetation and fertilizer run-off from nearby farms, the lake provides the "perfect nursery" for the Amazon plant, said Westbrooks.

"Giant salvinia has the capacity to grow so fast that it could essentially take over the lake," said Howard Elder, 56, an aquatic habitat biologist with the Texas Parks and Wildlife Department in Jasper, Texas. Caddo Lake has "all the tiny sloughs and shallow backwaters that you can't get into, but these tiny plants can float in and breed and grow crazy."

Area residents and water management authorities are fighting that. Last year, they tried to contain the plant by installing a nylon mesh fence 5 feet (1.52 meters) tall and 2 miles (3.21 kilometers) long. It didn't work. They next sprayed the weed with a state-approved herbicide. Their boats were able to cover just 2 acres a day, permitting the weed to grow back.

Shaw's navigation district wants to raise \$270,000 from state, local and private sources to repair an airboat and purchase enough herbicide to spray 25 acres daily.

Robert Speight's boat ramp on the lake's northern shore used to be a busy place between February and May, when he'd launch 150 boats monthly at \$3 apiece, he said. Nowadays, few people want to fish that section of the lake because of the salvinia, he said.

'Ghost Town'

"My RV park is a ghost town because people don't come in and fish," said Speight, 45, as he sat in a cafe in Uncertain, on the lake's western shore. He had fewer than 25 customers from August to November, he said.

Boat mechanic Mike Turner said business at his repair shop near the lake also declined last year.

Fishing at Caddo Lake generates \$2.13 million in annual revenue for Texas, \$1.63 million of which goes directly into the local economy, according to a 2003 study by the state's parks department.

Can anything stop salvinia's spread? Winter temperatures, which kill water hyacinth, another weed in the lake, merely slow its growth. Topical herbicides destroy only one of the multiple layers the plant grows. Treating the lake with systemic herbicides might work, at a cost of \$4 million, said Tim Bister, a fisheries biologist with the state in Marshall, Texas.

The only way to win the battle against the weed is to stop it before it infests too large an area, Westbrooks said. He isn't sure whether it's too late for Caddo Lake, he said.

"From a more strategic view, you've got to have something going on from a local, state and a federal level," Westbrooks said. "Now's the time to go out and stomp it to death."

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