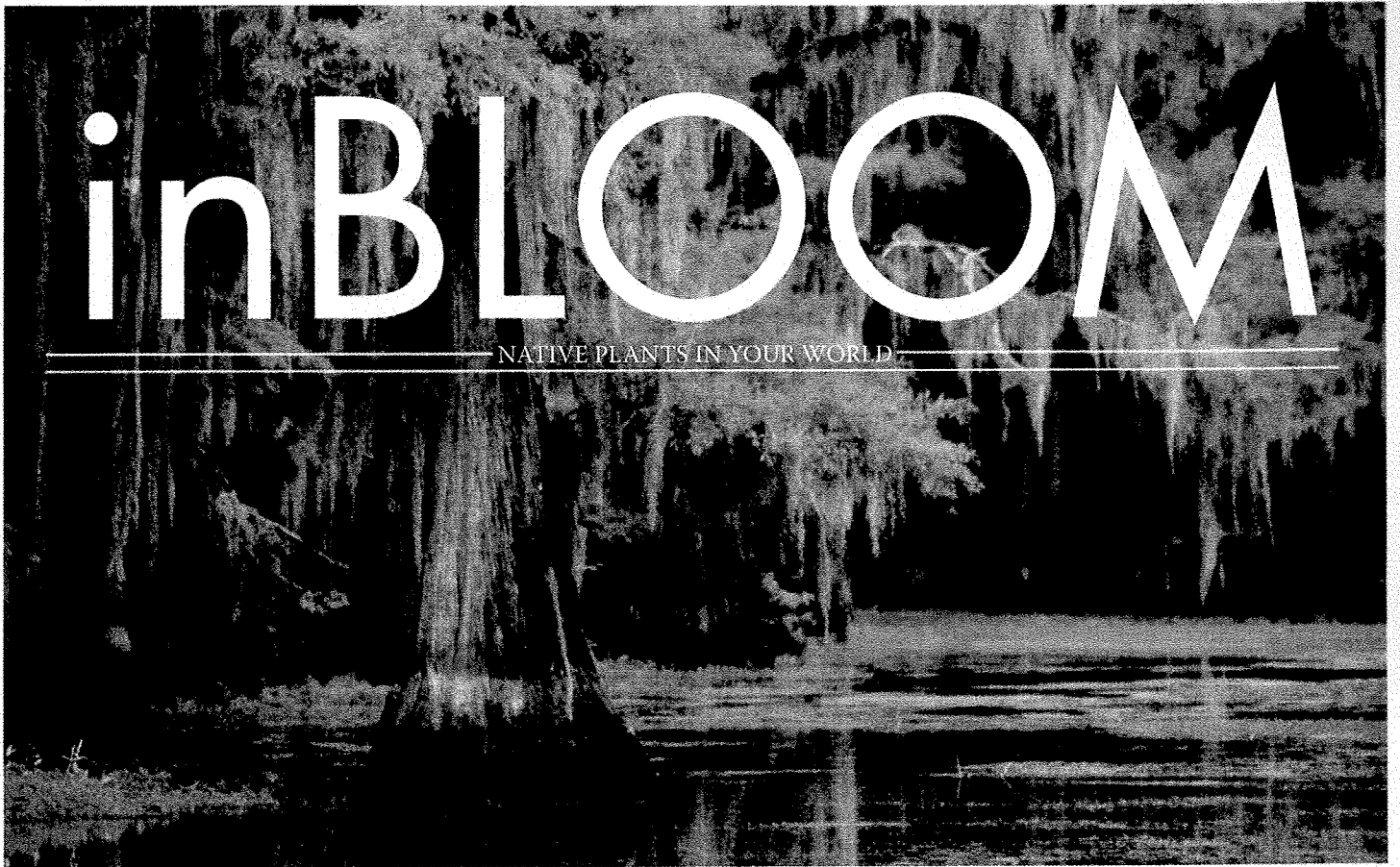


# inBLOOM

NATIVE PLANTS IN YOUR WORLD



**Lady Bird Johnson** credited Texas' romantic Caddo Lake region with instilling in her a lifelong love of nature. Today, the lake is threatened by invasive plants.

## Troubled Waters

Texas' largest natural lake is under seige by invasive plants PHOTOGRAPHY BY BRUCE TINCH

Caddo Lake is one of only 17 wetlands in the country listed as a wetland of international importance.

JACK CANSON IS PILOTING a pontoon boat on Caddo Lake heading toward the Louisiana border, pointing out the sights to passengers, when he is forced to power down. Boat Road A, which should be open water, is impassable, blocked with a floating mat of small-leaved, brownish-green plants. Giant salvinia (*Salvinia molesta*), the scourge of Texas' largest natural lake, has cut off the route.

"There wasn't a sprig of this here two weeks ago," Canson says, reversing the boat to avoid fouling the propeller. Canson, a screenwriter who now lives in Marshall, is one of the full-time advocates of Caddo Lake who are hell-bent on saving it from the invaders — giant salvinia, water hyacinth

(*Eichhornia crassipes*) and hydrilla (*Hydrilla verticillata*).

All of these plants threaten the fragile Caddo environment, but with its ability to double its colony in size in three to seven days, giant salvinia is the Godzilla of invasive plants. A floating Brazilian fern popular as an aquarium plant, it was probably accidentally introduced into these waters and moved around on the bottoms of boats. It drifts rapidly in the wind on the water's surface, leaving tiny clumps of semi-cupped leaves behind that can reproduce by budding from the attached nodes or broken stems. The white, coarse hairs on its leaves resist water and herbicides, insulate it against cold and make it stick like Velcro to

boats and people. The dense vegetation the fern forms on the surface starves the water beneath for light and depletes the water of dissolved oxygen needed by wildlife.

At 40 miles long, Caddo Lake is one of only 17 wetlands in the country listed as a "wetland of international importance" by the 1971 Ramsar Convention, an international treaty aimed at conserving and sustainably using wetlands.

Sit on a dock on a winter afternoon and what is most impressive about the lake is its stillness. Draped gracefully in Spanish moss (*Tillandsia usneoides*), bald cypress trees are silent sentinels. A great blue heron sits motionless on a channel marker. And the only sounds are the soft pecking of a woodpecker, the occasional cry of an egret and the conversational quacks of pintail ducks.

Named for the Native Americans who once inhabited its banks, Caddo Lake has landmarks heavy with history. Devil's Elbow is where paddlewheel steamboats slowed to navigate the turn. Government Ditch is the spot the federal government dredged when the lake level dropped. Once the main water navigation route into north Texas, Caddo has become a fisherman's mecca and eco-destination.

No wonder that the lake attracts passionate advocates. Jack Canson, who spends his days scouting giant salvinia and lobbying for action, knows the rock stars and river rats, as well as the fishermen, landowners and environmentalists who love the lake. Lady Bird Johnson, who grew up in Karnack seven miles away, attributed her lasting love of nature to days spent near its waters. Musician Don Henley co-founded the Caddo Lake Institute, which works to discover more about the lake's complex ecosystem and ways to restore it to better health. Richard Lowerre, an Austin attorney who heads the Caddo Lake Institute, says, "There is just an amazing set of volunteers at Caddo Lake. They are passionate and interested, and they all pull together."

When giant salvinia was discovered, the Cypress Valley Navigation District built a 2-

mile fence across the lake to stop the fern's march into Texas. Built with posts and nylon netting, it worked up to a point, but boaters complained and invasive water hyacinth got stuck in the barricade lifting it so the salvinia could pass underneath. When a storm damaged it, it was not rebuilt.

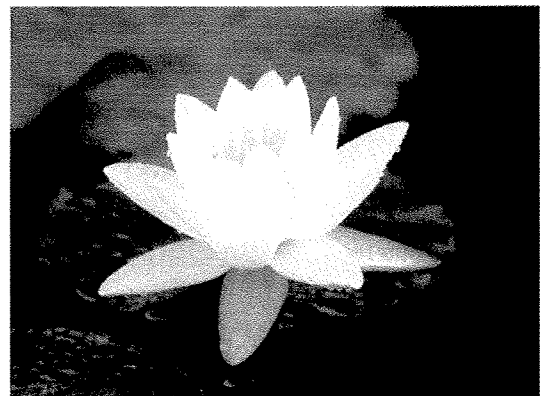
The "Caddo Lake Weed Wardens" who patrolled the fence next lobbied the Texas Legislature for an appropriation to save the lake, and in 2007 Texas Parks and Wildlife Department (TPWD) was directed to spend \$240,000 on Caddo Lake plant management during 2008-2009. TPWD, through the Cypress Valley Navigation District, uses that money to spray herbicides that curb salvinia, water hyacinth and hydrilla. So far, the former two have been treated.

Are they winning the battle? "The results are mixed so far," says Dr. Earl Chilton II, TPWD's aquatic habitat enhancement program director. "So far, we've seen declines in water hyacinth but increases in the giant salvinia population. We will be monitoring the process this spring to see if we can help make activities more efficient."

TPWD is using 2,4-D (dichlorophenoxyacetic acid), Diquat, glyphosphate and other herbicides to kill salvinia and other invaders. So far, Chilton said, there is no evidence that the herbicides are harming anything other than the invaders, but he is interested in trying biological controls — giant salvinia weevils which have proved their effectiveness in tropical countries but which may be susceptible to Texas' colder temperatures. TPWD is also planning to use \$30,000 from the U.S. Department of Agriculture for biocontrols and \$28,000 from the Southeast Aquatic Resources Council that will likely be used for more herbicides.

Canson and Lowerre would like to see mechanical harvesting, booms and fences used to slow the spread. "We are not going to eradicate it," Canson said, "but we can pick out the areas we want to save. Herbicides are one way, but we should also say, 'Bubba, get a rake.'" — SARALEE TIEDE

**FROM TOP RIGHT** Giant salvinia (*Salvinia molesta*) can double its colony in size within a week. The beloved lake at sunset. Caddo Lake has a complex ecosystem that is home to birds and other wildlife. A welcome sight for Caddo enthusiasts — a freshwater lily blossom on Caddo Lake.



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