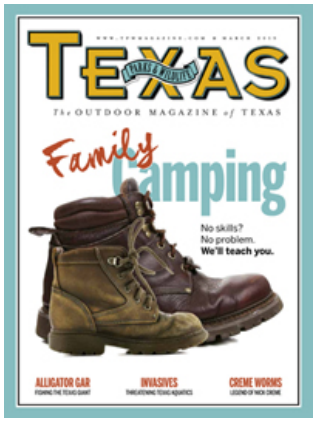
March 2015



INVASION OF THE WATER SNATCHERS

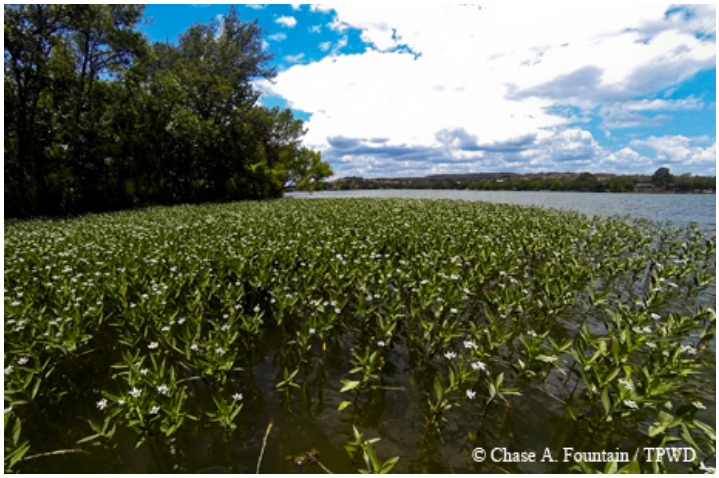
Water-hogging invasives beware: TPWD is out to get you.

By Larry D. Hodge

Carl Boatman points the nose of the airboat directly at the green wall confronting us on Toledo Bend Reservoir and revs the motor, raising a wall of mist behind us. I brace for impact as we slam into the wall — but we sail smoothly on. We're riding on a 3-foot-thick floating carpet of water hyacinth and giant salvinia.

More than 9,000 acres of the north end of Texas' largest reservoir lie smothered beneath a blanket of plants descended from those that were brought to Texas from South America in the not-too-distant past. The plants found their way, either on purpose or by accident, into the state's prime fishing lakes.

Left unchecked, these alien invaders will suck the life out of Toledo Bend and the hundred or so other Texas lakes they already infest. They are not alone.



Alligatorweed

An army of more than 800 invasive plant species has quietly infiltrated Texas lands and waters. They compete with native species, damage the health of ecosystems, waste precious water, stifle water recreation and harm property values.

"The impacts of aquatic invasive species are far-reaching," says Tim Birdsong, chief of habitat conservation for Texas Parks and Wildlife Department's Inland Fisheries Division. "They are not likely to go away, and they are costing Texas billions of dollars annually."

Invasive species affecting aquatic habitats on the Texas "most not wanted" list are

hydrilla, water hyacinth, alligatorweed, giant salvinia and zebra mussels. Salt cedar and giant reed grow on land, but all can have negative impacts. Plants can grow so thick as to impede navigation and irrigation. Left unchecked, they can totally block light from entering the water, preventing the growth of the microscopic plants and animals forming the base of the food chain feeding fish. All forms of water-based recreation suffer, including waterfowl hunting when birds perceive a solid mass of floating vegetation as dry land and go elsewhere.

Giant salvinia

Perhaps the most serious effect is one you can't see: water loss due to transpiration. Water hyacinth uses water at a rate up to 13 times what the loss to evaporation would be from open water. Giant reed can use up to 12 times as much water as the native vegetation it displaces. Salt cedar also uses more water than native vegetation. There are real impacts from these water losses, especially in a state suffering from a drought that some climatologists think could continue for decades and far surpass the drought of the 1950s in severity. Water hyacinth may cause the loss of more than 100,000 acre-feet of water each year in Texas, enough to serve 1.1 million people. That's like losing the amount of water supplied each year by 21,000-acre Lake Lavon.

While it's not known how much water is lost to the atmosphere from land-based species such as salt cedar and giant reed, the 500,000 acres of salt cedar and 60,000 acres of giant reed obviously use a lot of water. Both also crowd out grass and reduce grazing capacity.

Invasive species don't only impede the movement of boats through water, they also can inhibit the flow of water itself. In recent times, water hyacinth and hydrilla clogged the Rio Grande, forcing the watermaster to release up to 30 percent more water than needed for irrigation and municipal supply to push the water through the vegetation. Hydrilla on Lake Austin created so much drag during a high-water event that water backed up and flooded seven Austin homes.

Hydrilla

Those problems may pale in comparison to the latest aquatic invader, zebra mussels. First discovered in Texas in 2009, these Asian imports colonize and clog anything left in the water, including boats, docks, and intake structures for water treatment and hydroelectric plants and their internal piping. In the Great Lakes region, zebra mussels cost the electric utility industry half a billion dollars a year in increased maintenance and lost generating capacity. Texas has 23 power plants; zebra mussel maintenance could cost up to $9 million annually. It's everyone's problem. Ratepayers will bear the cost.

Maybe you don't own a power plant, ranch or boat or draw water from the Rio Grande to irrigate a crop. You're not home-free. Shoreline property values on lakes infested by aquatic invasive vegetation can decline as much as 16 percent. Statewide, that could add up to billions of dollars and loss of property tax revenue as well. Feeling smug because you don't own lakefront property? Where do you think taxing entities will get the money to make up that lost revenue? Look in a mirror.

It is a war, and you are involved.

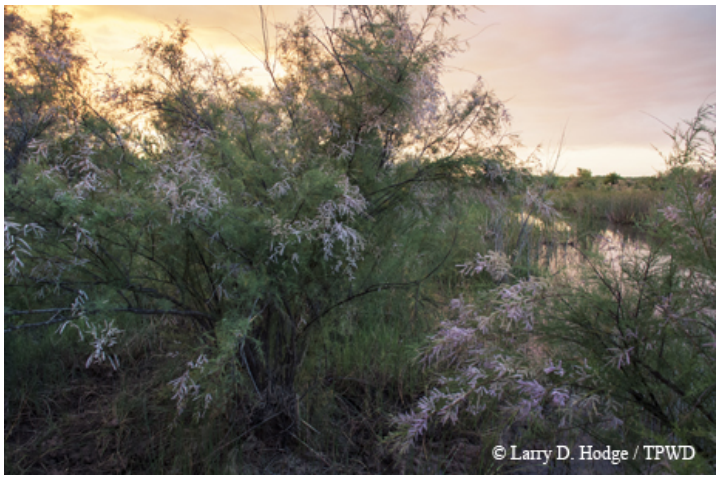
East Texas has hydrilla, giant salvinia, giant reed, water hyacinth and zebra mussels. West Texas has salt cedar, giant reed and hydrilla. South Texas has salt cedar and water hyacinth. North Texas has salt cedar, giant reed, water hyacinth and zebra mussels. According to *www.texasinvasives.org*, giant reed has been recorded at 867 sites, salt cedar at 144, water hyacinth at 77, giant salvinia at 46, hydrilla at 101, zebra mussels at seven. Under good growing conditions, water hyacinth can double its coverage of a lake in two to three weeks. Giant salvinia can double in less than a week. And all the aquatic species are easily transported from one body of water to another, most likely by boats. Once there, they are almost impossible to get rid of. No matter what you do, they keep coming back.

Water hyacinth

Zombie plants. Coming soon to a lake near you.

Marshaled against this nightmarish invasion is TPWD's invasive aquatics SWAT team — seven people, one airboat and an annual budget of $1.4 million — that treats only 4 percent of the aquatic invasive species issues in the state. The invaders are winning — for now.

The fight against invasive species will be a continuing one, and it will require additional funding. Only $750,000 of the invasive species program's $1.4 million annual budget comes from state funds. (In comparison, Florida spends $18 million to $19 million annually, and Louisiana spends $7 million to $8 million.)



Salt cedar

TPWD has submitted a request to the Legislature for $9 million annually for 2016 and 2017. Some $700,000 annually would be spent on education aimed at preventing the introduction and spread of invasive species and $200,000 for control of marine species such as lionfish and tiger shrimp. The bulk of the money would go for herbicide treatments, physical removal, planting of native vegetation, inspection and monitoring, and development of biological controls.

"This funding increase, while significant, would still enable us to address only about 20 percent of the invasive species problems confronting Texas," says TPWD's Birdsong. "In order to keep pace with growing invasive species problems, it will be necessary to increase the resources made available for their control and management and to maintain that level of support long-term."

Related stories