

Caddo Lake no lost cause

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Caddo is seriously sick, but healing the state's only naturally-formed lake is not impossible.

Dangerous amounts of mercury have poisoned the large-mouth bass and other fish and aquatic plants are eliminating a sizable portion of the lake's oxygen. The plants are also making large areas of the lake impassable.

Sediment is filling portions of the lake and acid may be slowly contaminating the 26,000-acre waterway that roughly straddles Texas and Louisiana.

But a solution for at least one problem is already in motion.

The Bush administration has introduced legislation, the Clear Skies Initiative, that would force power plants to drastically cut the amount of mercury and gases they release into the atmosphere.

Scientists have discovered that power plants fueled by coal, natural gas and oil create emissions filled with the toxic chemicals and gases.

When the plants fire up their fossil fuel, the emission goes up the pipes and prevailing winds distribute it over wide areas.

The proposed legislation is an amendment to the 1990 Clean Air Act.

Advocates say the Clear Skies legislation, if passed, would force power plants to eventually eliminate 69 percent of their mercury emissions, 73 percent of their sulfur dioxide and 67 percent of their nitrogen oxide.

Legislation controlling the emission of sulfur dioxide and nitrogen dioxide has been in place for some time, but the initiative demands that power plants further reduce the amount of gases they send up their smokestacks.

Although mercury and other impurities are already in the lake, time will probably render them harmless. They drift to the bottom and are covered by sediment, according to Jennifer Wilson, hydrologist for the U.S. Geological Survey, in Austin.

Wilson, who recently researched and wrote an 88-page report on contaminants in Caddo Lake, said she doesn't know how long it will take for sediment to cover the mercury. It depends on the amount of flooding, which brings in more sediment, how fast mercury is curtailed, construction — which pushes sediment into the lake — and water rushing downstream from the Lake O' the Pines.

Downstream water also washes away some previous layers of sediment.

Contaminants never disappear and she said they can be reintroduced into the water if disturbed.

But when the mercury, and/or other pollutants, drift to the lake bottom, "that's a meter below the surface and hardly anything lives down there so nothing is

exposed to it," Wilson said.

Wilson said flood water or even a strong flow of downstream water could wash the contaminated sediment from the lake altogether.

If flood water or downstream water did not wash the contaminated sediment from the lake, she acknowledged it would contribute to what some experts believe to be a dangerous (uncontaminated) sediment buildup.

But Wilson said "That's what happens naturally. Lakes fill in, "but human activity can make the difference" on how soon that happens.

Humans are now making a difference for the worse, said Mike Ryan, inland fisheries biologist with the Texas Parks and Wildlife Department.

If the state passes laws that control land use practices, such as clear cutting timber for building or sale, erosion can be stopped before Caddo turns into dry land.

Some rules do exist.

Texas Forest Service forester Jacob Donellan said wetlands are regulated by the Army Corps of Engineers and the Environmental Protection Agency, and those agencies do have jurisdiction over some areas around Caddo Lake.

The Corps does not necessarily require timber companies to apply for a permit to cut in wetland areas, but does require them to obey some rules, he said, explaining that when he checks, most of the timber companies are sticking to regulations.

He also said the Texas Commission on Environmental Quality has not identified unpolluted sediment as a threat to Caddo Lake.

As far as the aquatic plants are concerned, a solution is also possible, Ryan said, but it will first be necessary for some kind of agency to take responsibility for the lake.

"We either need a controlling authority or a funding source, or both," he said.

Because a controlling authority does not exist, he said it has been a major hurdle to snag funding to combat the profusion of aquatic plants, such as water hyacinth and hydrilla.

Although the state has very little money for vegetation control statewide, something can be done. If a local controlling entity, like a river authority, has funding, the state can provide 50 percent of the cost through a contract with the Army Corps of Engineers, said Dr. Earl Chilton, aquatic habitat enhancement program director for the Texas Parks and Wildlife department.

Many other lakes and reservoirs do have a controlling authority over waterways. The corps is the controlling authority for Lake O' the Pines, among others. The Sabine River Authority makes the decisions at Toledo Bend reservoir.

Spraying 24D herbicide — a concoction that convinces aquatic plants to grow uncontrollably, thus exposing themselves to deadly sunlight — on the aquatic plants has been effective to a point, Ryan said, but his department hasn't had

enough money to eliminate the choking plants. Therefore, they return and spread.

Aquatic vegetation uses oxygen that fish need to survive. In the summer, about 7,000 of Caddo's water acres are so choked with plants that fish must move to other areas or die.

Ryan said some funding for vegetation control is provided by the Corps of Engineers but the amount varies from year to year.

Last year, TPWD spent \$4,000 spraying 400 water acres, but the Texas side of the lake covers about 13,000 acres. Louisiana has another approximately 13,000 water acres.

After a recent by-boat survey across Caddo Lake, checking the water plants, TPWD biologist Howard Elder concluded, however, that "We're barely keeping our heads above water."

In the mid-1990s, personnel from several agencies came up with ideas to better manage the aquatic plant problem. Ryan said planners decided it would take multi-millions of dollars to do so.

Modifying the Mooringsport dam to allow Caddo's water level to be lowered each winter was one idea that emerged from the meeting. If the lake were lowered, freezing weather could kill the aquatic plants.

The money could also be used for spraying more plants or eliminating them with biological controls such as the triploid grass carp that feeds on hydrilla.

But each plan has its challenges.

Altering the dam would be a major project and introducing the carp, which is biologically altered to prevent reproduction, also carries big risks.

Ryan said Louisiana officials are concerned that the carp might move downstream into their waters so a barrier would have to be built at the Mooringsport dam to keep the fish from swimming downstream. Building such a barrier, he said, would be an "engineering nightmare."

"I don't think there's any way in the world to do it," Ryan said, explaining that the barrier would have to be tight enough to contain the smallest carp but still allow water to flow through the dam.

Also, Ryan said trees and sizable objects often float down to the dam and could destroy any barrier.

TPWD "would also have concerns" about the carp, he said, because employees "would want to use" the carp "in a very, very conservative manner.

"We want to control vegetation, not eliminate it, and it's very difficult to control the fish and they could do a lot of damage."

It would take public consent both for lowering the lake or introducing grass carp, he said, and the plans "would only be feasible with a controlling authority and funding. And it would take years to implement.

"It's more than saying we're going to do this. There are pluses and minuses."

Duck hunters might also protest if the lake were lowered, he said. The process would have to begin each fall when hunters travel to their duck blinds to await their quarry.

Elder said scientists have released some biological organisms into the lake because they believed the organisms would help control vegetation.

Weevils that eat water hyacinth have lived in the lake for about 20 years, happily munching away, and Elder said the weevils have helped cut down on the amount of water hyacinth and their size.

The hydrilla fly, which puts stress on the plant, thus making it harder to flourish, has been released in Texas. Elder believes the fly is at work on Caddo's hydrilla.

But the "down side to parasites is that no good parasite kills its host," he said.

Other biological organisms could eventually be used, but Elder said scientists must first make sure they would not have a negative impact on native plants or crops.

"There are no magic bullets," to eliminate aquatic plant problems, but it would help Caddo if TPWD had more money for spraying and shredding aquatic plants, he said.