



Treated and untreated water hyacinth, which has completely covered this Louisiana stream. **Inset photo:** Spray crews use custom-made aluminum skiff boats outfitted with pumps, metering, overboard suction devices and outboard motors.

THE BAYOU: CLEARING ITS WATER

With more than 6.4 million acres of freshwater habitat and a sub-tropical environment that favors rapid aquatic weed growth, Louisiana is hard-pressed to keep water hyacinth from completely choking many waterways.

Water hyacinth is a major problem in the deep South, but in no state is this pesky aquatic nuisance more prevalent than Louisiana.

To meet this challenge, the state has an extensive and finely-tuned program. More than 50 workers are responsible for water hyacinth control, as well as other duties related to aquatic vegetation management, for an area of 48,523 square miles.

"We're spread pretty thin, but we've been able to fight water hyacinth down to a maintenance situation," says Richard Brassette, regional

aquatic biologist for the Aquatic Plant Research & Control Section of the state Department of Wildlife & Fisheries in Baton Rouge.

The section's continuing objectives are: to maintain access to hunting, fishing and trapping areas; to keep state waterways open for boaters, skiers, sightseers and other recreational activities; to prevent deterioration or loss of wildlife and fish habitat; and to assist in maintaining healthy, balanced fish populations. The program also strives to keep waterways navigable for commercial concerns, and helps maintain flood drainage and

reduce disease-transmitting vectors such as mosquitos.

Key herbicides

Due to the extent of water hyacinth infestations, the Aquatic Plant Section's management strategy relies heavily on herbicides. Without these materials, control would be impossible.

"Trying to manage water hyacinth by mechanical means in Louisiana is like trying to sweep back the ocean with a whisk broom—you just can't do it," says Brassette. "For instance, if using mechanical harvesters, our crews could only cover five or six



The water hyacinth challenge

Native to South America, water hyacinth was introduced into the U.S. in 1884 by Japanese representatives attending the International Cotton Exposition in New Orleans. By the turn of the century, the plant had become a major pest in Louisiana.

Water hyacinths can double their number every 10 days, and 10 plants can cover one acre in 10 months. A single plant has the capability of producing 65,000 to 70,000 daughter plants during the eight-month growing season in northern Louisiana. Because growing conditions are more optimum, this figure may double in the southern part of the state.

One acre of hyacinths can yield up to 45 million seeds every year, and these seeds can remain viable for 20 to 40 years. As many as 900,000 plants can raft together on one acre of water.

This pest completely blocks many Louisiana bayous and streams, making navigation impossible. Large-scale hyacinth infestations are also highly detrimental to fish and wildlife.

Spawning grounds of largemouth bass and other gamefish can be completely smothered and destroyed. Floating mats of hyacinth block out light and destroy other aquatic plants used as food by ducks, geese and other wildlife. Hyacinth is useless as a food source for waterfowl, and many good hunting lakes and ponds have been ruined by it. □

acres a day."

Brassette also stresses that mechanical control methods often can't be used at all. Stumps, trees and other underwater obstacles prevent mechanical removal equipment from operating and cause severe damage to machinery.

Herbicides, on the other hand, allow treatment of up to 25 acres of infested waterway per day by each of the 21 two-person spray crews. The two main herbicides used are 2,4-D and Rodeo.

"Due to large acreages of agricultural crops, particularly cotton, in northern Louisiana we cannot apply 2,4-D without special permission from March 15 to September 15," Brassette explains. "Rodeo is perfect for use in sensitive areas where there are agricultural crops."

There are no restrictions on use of water treated with Rodeo for irrigation, recreational or domestic purposes. However, Rodeo cannot be applied within one-half mile of a drinking water source point.

The biologist adds that Rodeo is also often used near residential areas where there is concern about off-site damage to lawns, shrubs or gardens. The active ingredient in Rodeo, glyphosate, is the same material used in Roundup herbicide, a product commonly used by homeowners to control weeds and grasses in lawns and flower beds.

Because of these special properties, Rodeo is also frequently used to control unwanted vegetation in Federal game reserves. In many cases, it is the herbicide of choice here.

"Part of our job is to provide the public with information on aquatic weed control," says Brassette. "We often recommend Rodeo for use in farm ponds and in subdivisions where lakes and ponds are part of the landscaping scheme."

Trained support

Each spray crew is made up of two to five workers operating from a boat that is specially-equipped for herbicide application over water. Most of the spray crews—and all of the supervisors working with them—have been thoroughly trained and are certified to apply herbicides correctly and safely.

This training and certification process is conducted by the Louisiana Department of Agriculture. State workers involved in commercial herbicide application attend a special school to obtain their certifications. They are re-certified every three years.

"We take this certification process very seriously," says Brassette. "Over 90 percent of our people are certified, and we're working on getting the others to complete the course."

The spray crews work primarily from custom-made aluminum skiff boats outfitted with pumps, metering and overboard suction devices and powered by outboard motors. Some crews use special 22-foot mud boats that are powered by V-8 inboard engines.

"We use these mud boats near spillways and other conditions where an outboard would have trouble operating," Brassette explains. "It's amazing where these boats can go in just a few inches of water."

During the mid-1970s, water hyacinth infestations approached an estimated 1.7 million acres in Louisiana. Since then, Brassette says that populations have fluctuated. Each year, the Aquatic Plant Section provides control of roughly 25,000 to 60,000 acres of water hyacinth. At this treatment rate, Louisiana is literally staying just one step ahead of the problem.

According to Brassette, growing conditions during the past few years have favored the spread of water hyacinth and complicated control efforts. More seeds germinate when conditions are dry, and Louisiana experienced several droughts in the late 1980s.

Another complicating factor has been heavy summer rains that raise water levels in rivers, bayous, lakes and other waterways. When water rises, hyacinth plants are carried further inland from shores and banks and quickly become established in new areas.

"If current control operations are reduced or interrupted, water hyacinth infestations would rapidly reach the levels experienced in the 1970s," Brassette warns. "The expenditures required to again reclaim public waterways would be economically staggering to the state." **LM**

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