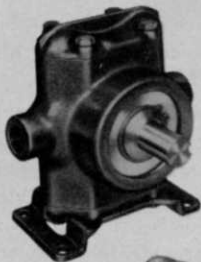


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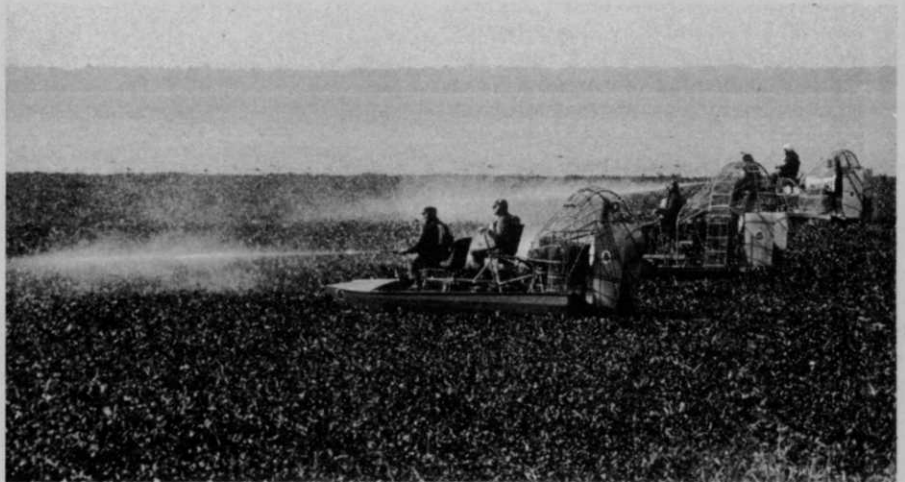
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These airboats, part of "Operation Clean Sweep" make headway on the St. Johns River at Riverdale, Fla. Note water hyacinths have practically covered the area adjacent to the shoreline.

## OPERATION CLEAN SWEEP

# Florida Hyacinth Problem Once Over Lightly

JACKSONVILLE — A two-year study by the U.S. Department of Interior's bureau of sport fisheries and wildlife shows conclusively that 2,4-D does not kill fish in concentrations which are used for hyacinth control and that even a ten-fold error in application rate would not decimate a fish population.

According to Donald P. Shultz, research chemist with the southeast fish control lab at Warm Springs, Ga., there was "no evidence of fish kill" in any of the ponds treated with the herbicide. His recently released scientific report also noted that the aquatic plant control chemical used the Army Corps of Engineers and the Game and Freshwater Fish Commission breaks down within a few

days after application.

Schultz' research showed that "there is little danger of the herbicide causing putative (supposed) effects on reproduction ascribed to the chlorinated hydrocarbons." The usual route for biomagnification of pesticides is through the food chain, and Schultz' report said the potential toxicity of the compounds was analyzed as a part of the research.

"Although fish can be killed with DMA-2,4-D, the median tolerance limit (of fish) is high enough that even a ten-fold error in application rate would not decimate a fish population," Schultz concluded.

During the two-year study, the bureau of sport fisheries and wild-



Water hyacinths have covered the east bank of the St. Johns River in this residential area.

life established experimental ponds in Florida, Georgia, and Missouri and sprayed the ponds at rates of two, four, and eight pounds per acre of acid equivalent. The normal rate of application for hyacinth control in Florida is two to four pounds per acre.

Field studies conducted by the Department of Interior at three Florida test ponds showed that 2,4-D residue dropped to barely detectable levels three days after use of the hyacinth control chemical. After 14 day, only a trace of the chemical could be found in the water.

Schultz also showed that seven days after spraying water hyacinths were brown and decomposing. In the tests, 98 percent of the plants were killed by the herbicide application. No fish mortality was noticed nor was there evidence of abnormal offspring from the reproduction of bluegills.

According to Julian J. Raynes, assistant chief, civil land planning section, environmental engineering branch of the U.S. Army Corps of Engineers, South Atlantic, a concentrated 60 day spraying drive against water hyacinths on the St. Johns River began in late February. The project, known as "Operation Clean Sweep," involved eight Army Engineer airboats, each capable of spraying up to 20 acres of hyacinths a day.

Raynes said that a draft environmental impact statement released in December showed that chemical spraying of water hyacinths and other unwanted aquatic plant in Florida is essential until continued research brings forth lower cost control methods.

Cost of mechanically harvesting hyacinths in the St. Johns River would exceed \$8 million per year compared with spraying costs of about \$228,400 annually. The hyacinth problem in the St. Johns River represents about 10 percent of the statewide aquatic weed problem.

The environmental report concedes that chemical control of hyacinths poses some environmental drawbacks because the sprayed plants sink to the bottom and contribute to the nutrient load.

However, until an economical use of the harvested hyacinth can be developed or some disposal method found, the chemical spraying program in Florida waterways appears to be the only "viable alternative," the environmental report concludes.

Raynes said the environmentalists last year filed an injunction against the use of 2,4-D in hyacinth control.

It was lifted, however, this year when the Corps filed the environmental impact statement showing the chemical control is essential to control weed growth.

The engineer pointed out that weather conditions are a big factor in chemical spraying of water hyacinths. For instance, spray crews are not allowed to operate when the water-level wind speed exceeds 10 miles an hour. Wind could cause drift of material to valuable plantings on the shoreline. Similarly, the spraying operation is halted during rainy weather, or whenever there is

a heavy dew, since the rain or dew dilute the effectiveness of the spray material.

Raynes related that one hot, new idea for hyacinth control is the use of the laser. Developed by Dr. Ralph A. Scott, Jr., a former Army Corps of Engineers scientist, the laser zaps target plants which wilt almost immediately after irradiation. Plant life is completely destroyed in 8 to 12 weeks. While use of the laser is still strictly in the experimental stage, it represents an entirely new dimension in weed control, heretofore untried. □

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