

SO - - - - -  
YOU THINK  
YOU HAVE  
W-E-E-D  
PROBLEMS

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# THEN READ OUR STORY

Think you have problems with weeds in your yard?

Does it seem that too many hours are spent mowing, clipping, edging and spraying in the struggle to hold back the wilderness?

Multiply your lawn chores more than a thousandfold and you can come up with an idea of what the Central and Southern Florida Flood Control District faces continually in its battle against aquatic weeds.

Left to grow and spread, water-nourished weeds would choke the flow in hundreds of miles of canals within the FCD. If man did not fight the aquatic weeds, they

eventually would curtail or stop the supply of water to many municipalities and to agricultural lands for irrigation purposes. They would impede navigation and prevent rapid removal of water when floods threaten.

Florida's mild climate and sunshine, which attract tourists, also provide ideal conditions to help nourish floating and submersed weeds. They thrive and multiply at a rapid rate.

Some of the weeds, such as the floating hyacinth, are so prolific that they double in area in 30 days if not controlled.



**BOATING GETS** to be work when you belong to a spray crew. The FCD operates field stations in strategic locations throughout the 15,500-square-mile, 18-county district. Workers, in addition to spraying duties, maintain structures and equipment.



# All-out Warfare

Spray guns, resembling light-weight automatic rifles, amphibious "ducks," those bathtub shaped military vehicles which operate both in water and on land, motor boats, trucks with boom arms, draglines, and occasionally an airplane, are used in the FCD battle against the canal-clogging weeds.

Spray crews engage in chemical warfare, using nozzle guns from boats and canal banks. The "ducks" tow a steel A-frame, which uproot underwater weeds.

The weeds then float to barriers near water control structures and are scooped out by dragline.

Not wishing to miss a bet, the FCD also has granted funds for biological weed control research.

Manatees, also called seacows, and Marisa snails have been the subjects of experiments in the quest for new methods to deal with aquatic weeds.

However, mechanical and chemical means still are the key weapons in the fight. FCD officials now are encouraged by the apparent effectiveness of a new chemical which quickly wiped out underwater growth in controlled applications near Miami. Other chemicals are used on the floating weeds, without harm to water quality or to fish and wildlife.

Weed control not only is time consuming. It is costly. The FCD spends more than \$200,000 a year in the fight. The cost is expected



**THIS SWINGER** doesn't have fun like the nightclub, or even playground, variety. He must handle a chemical spraying chore in hard-to-reach places for the FCD.





**UNDERWATER SPRAYING** is effective within some sections of the Flood Control District, but fishing grounds must not be disturbed.

to reach an estimated \$600,000 annually when the water control project is completed and approximately 2,000 miles of canals will be maintained by the FCD.

The Flood Control District now maintains more than 1,400 miles of canals in 18 counties.

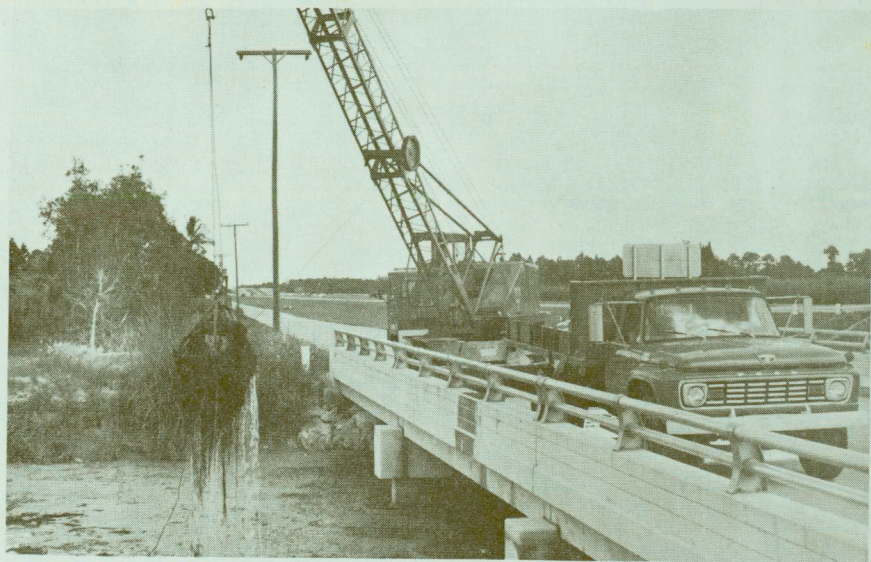
However, it is not only the additional canal mileage which eventually will treble weed control costs. Newly dug canals have few weeds, but as canals grow older weed problems increase. Costs for chemicals and labor are expected to rise. But the overall problem also is expected to be complicated by adaptability of aquatic vegetation to changing environments and by ecological shifting.

In a sense, weeds "fight back."

Ecological shifting already has been noted. For example, in South Florida weed experts no sooner found methods to kill southern naiad when elodea moved in and took over.

While chemical and mechanical methods remain the key to weed control for the FCD, there is hope that biological means will alleviate the problem in the future.





**BIG JOB** of aquatic weed control sometimes takes big equipment such as this dragline and truck. A steel A-frame attached to a boat tore underwater weeds loose so they could float to the 'pick-up' point.

## VEGETARIAN HELPS

Studies have indicated that the seacow, or manatee, a monstrous vegetarian, could aid aquatic weed battlers throughout the warmer sections of the world. An experiment conducted for the FCD in 1964-65 by Florida Atlantic University at Boca Raton showed that manatees gorge themselves on canal weeds, especially the underwater species.

However, on the debit side, it was discovered that seacows are susceptible to respiratory disorders when weather turns chilly. In addition, the reproductive rate of the huge mammals remains a mystery.

Marisa snails, observed in another experiment partly funded by the FCD, also are avid eaters of underwater weeds. Unlike the seacows, this species of snails reproduce rapidly.

FCD officials, heartened by the hardy appetites of manatees and snails, which do not harm fish, are hopeful that biological weed control someday may relieve the burdens imposed by present mechanical and chemical controls.



# THE PUBLIC CAN HELP

As taxpayers supporting the local-state-federal water control project, you can help in the fight against aquatic weeds.

Whether a resident or visitor, you can exercise caution by not digging up, transporting, or planting aquatic weeds which add to the woes of the weed killers.

There are several major methods of weed infestation committed by the unsuspecting public. Boaters sometimes move their crafts from one waterway to another without cleaning weeds from propellers. Aquarium hobbyists, after they become disenchanted with raising fish, sometimes empty tanks — complete with weeds — into FCD

canals.

Many of today's troublesome weeds are not native to Florida, but were imported. The most common example is the hyacinth which was brought into the state in 1884 by a woman who admired their lavender blooms. They spread and thrived. More than 80 years later, we are trying to eliminate the problem.

There is hope that importation of foreign weeds will be curbed. The FCD has asked Congress to pass laws controlling weed imports so that another "pretty flower" such as the hyacinth does not turn into a monster which taxpayers must support.



**MARISA SNAILS** eventually may be used by the FCD to help control underwater growth. Experiments have revealed that they are avid weed chompers and would not adversely affect fish.