



Florida's aquatic weed control— The key is maintenance

For boating, swimming or fishing, it's unlikely any Florida lake for its size achieves greater popularity than Winter Park's beautiful 223-acre Lake Virginia. Tourists, local residents, and particularly students from Rollins College, all enjoy its welcoming waters.

But this has not always been so. As recently as 1970, Lake Virginia and the other 13 lakes in that chain were clogged with vegetation. It was a situation which understandably hampered full enjoyment of the wide-ranging recreational opportunities.

Fortunately, city officials recognized the problem. By taking appropriate action, they now offer visible evidence that lakes can be reclaimed from weeds and again made valuable assets to a community.

Unwanted vegetation was brought under control, and a well organized maintenance schedule was initiated. Now, lakes superintendent Joe Frye and foreman Al Pieroni, together with a crew of seven, keep the lakes constantly inviting to those who love the water.

According to Frye, all lakes are checked regularly and chemically treated as needed, normally three times each year. "By keeping undesirable weeds constantly under control, we hold down overall costs. We use a fathometer to give us readings as to weed development. This approach has worked well for us.

"When we apply liquid herbicides such as Diquat and Endothal, we use the bottom acre foot method, injecting the materials directly down into the areas where the plants are rooted. Where it seems advisable, we use slow release pellets such as Hydout which drop



quickly to the bottom of the lake where they begin acting almost immediately on the plants we're after."

Small orange flags placed along the shoreline caution home owners and others that the lake waters are being treated with herbicides. The people know that when the flags are removed, the waters are again ready for use.

In the opinion of veteran aquatic weed scientist, Robert D. Blackburn, long associated with USDA's aquatic plant management program and now vice president of Joyce Environmental Consultants, Casselberry, Fla., the time has arrived for vigorous management of all our water resources.

"There is no question that water has become one of our most valuable assets. We can no longer take it for granted. As our population has grown, our water requirements have increased steadily. We have turned to the utilization of water re-

sources no one even dreamed about using only a few years back."

Blackburn calls attention to the influence of water on the economics of a region. "Here in Florida, recreational aspects alone are of tremendous importance as a source of income for the state. It has great influence on land values. You'll find a lakeshore lot will cost three times as much as an otherwise identical lot just across the street. As a lakefront property owner you'll pay an extra 25 to 30 percent in taxes for this privilege. Tax assessors are well aware of the added value."

As Blackburn analyzes the situation, "We've traditionally ignored our water resources from the standpoint of invading aquatic weeds. We've landscaped our yards and added nutrients so we can grow beautiful lawns. At the same time, we've taken for granted that our backyard lakes will always remain beautiful for swimming or launching our boats. But those nutrients escaping with runoff water caused things to grow in our lakes the same as on land. Algae and higher aquatics have become a serious problem."

So what do we do?

Blackburn is offering a consulting and full scale management service. "We zero-in on selling a total management-type concept," he says.

Many of Blackburn's clients are the widely advertised Florida tourist attractions, most of which have aquatic weed problems. Others are drainage districts whose aim is to keep water flowing freely in their canals.

The goal in either situation is the elimination or control of unwanted aquatic weeds. Blackburn and others have developed systemized plans calling for regular water monitoring.

According to Blackburn, hydrilla has replaced water hyacinth as Florida's number one aquatic weed problem. Beginning with an obscure start in Florida about 1960, perhaps from an emptied family aquarium, hydrilla has become a national threat, spreading to Louisiana and Texas. "It's even been identified in Iowa," he says.

Hydrilla spreads easily and quickly via fragments floating

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Inspection tour completed, Paul Kawaguchi carefully hauls his boat from the water. Regular inspection is a crucial part of good maintenance.

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downstream, or on boats carried from one body of water to another. Its nutrient needs are low, but it responds with rapid and luxuriant growth to runoff nutrients from fertilized lawns and fields.

What about control?

"We have three trains of thought here in Florida," Blackburn responds. "One group favors Diquat and copper. Another, copper and Endothall. The third approach calls for treatment with a pelletized product. With this pelletized material we are able to get the herbicide down to lake bottoms, treating the areas where the weeds are rooted."

Treating with pellets offers several other very definite advantages, he explains. "By releasing your toxic material at the lake bottom, you give the fish a chance to live. The chemical is released slowly, permitting fish to avoid toxic concentrations."

Before Blackburn and his staff

treat a lake, they monitor it for at least 24 hours with portable oxygen meters, under both sunny and cloudy conditions. This gives them a basic idea as to the oxygen curve that can be expected when the lake is treated.

Blackburn refers to his organization as "Nature's Guardian." "We're developing a broad program covering aquatic environmental management. It's like fitting together pieces of a jigsaw puzzle. Most of our equipment in the past has been borrowed from other uses. Now we're designing equipment distinctly for our needs to improve our efficiency. We're blending biological, chemical and mechanical control into a concept that should please everyone." Of course, to please everyone, weeds in some areas will be controlled to provide clear water, and left growing in others as cover for fish. "Except for our canals, none of us want completely clean bodies of water," Blackburn reminds. "Sure, a person with beach property wants open water near his home, but over on the backwoods side he wants all kinds of weeds to fish around. With a herbicide that stays where you put it, you can treat certain areas to have clear water, and leave weeds in an adjoining area untouched.

Paul Kawaguchi, of P.H.K. Inc. (Pollution Hazard Knockout, Inc.), is greatly involved with aquatic weed control in Central and South Florida. He also emphasizes maintenance programs with his customers. "A monthly inspection is a regular part of our service. By treating as needed, we put down less chemical at any one time. In the long run, it saves our customers money, and they have cleaner water all the time. It's like caring for a lawn. To remain attractive, it must be mowed from time to time."

Kawaguchi applies both liquids and pellets. Pellets give him the opportunity for more restrictive control over a specific area, he says. With an airboat spreading pellets over a 10-foot swath, he can treat an acre of water in approximately 20 minutes. "For applying liquid herbicides we drop hoses into the water to inject the chemical near the lake bottom where it will begin acting on the plants immediately. □

Kawaguchi uses both liquid herbicides and pelletized herbicides to keep lush aquatic weed growth under control.

