# Mechanical And Herbicidal Lake Weed Management

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This is the fourth paper on the management of aquatic weeds in the Lakes of Winter Park, Florida.

The first was at the Southern Weed Conference at Jacksonville in 1966 and was an operational report of our 1963 Model Weed Harvester (1). The second was at the Hyacinth Control Society meeting at Fort Myers in 1967 and was in regard to the economic aspects of weed control in the lakes of Winter Park, Florida (2). The third was at the Hyacinth Control Society meeting at Winter Park in 1968 and was in regard to the lake management program of that city (3).

This paper will endeavour to bring you up to date on our operation and management procedures and costs. It is my desire to convey to the reader the problems and difficulties, and also the cost, involved in lake weed management. Our problems are not germaine with us in Winter Park, but are prevelant in many areas of the country and we have not solved these problems even though many experts have been developed during the past year in this field, from the "yard man" to actual scientists; in whom we place or trust.

Since last years report we have herbicided the shore line out 35 feet in each of our three major lakes and one lake twice (3). In July and in December liquid Hydrothol 191 was applied at 4 ppmw in Lake Osceola. This lake is now ready for its third application by Penwalt Chemical Company, which is forth-coming. Lake Virginia was also treated with Hydrothol 191 (liquid) in March at the same rate by Penwalt and applied by Andy Price.

Lake Maitland was treated with 3M Company"s System E at 3 ppmw (acid equivalent) and System M at 1 ppmw on April 21st and 25th.

The cost of these four applications has been borne mostly by the home owners or lake front property owners. From 72% to 81% paid for the application of the herbicides.

In Lake Osceola we applied herbicides to the entire shoreline, although all the lake owners did not cooperate. The City paid for the 19% that refused to pay a share of the cost. In Lake Virginia we treated the built up area of the lake leaving that area not populated for research. Here 25% of the area the City paid. While in Lake Maitland we treated only areas that wanted treatment. Areas that would not cooperate and/or were adverse to herbicides we did not treat. The cost of these four applications representing almost 12 miles was about $20,000.

The mechanical operation cost has also increased since the last report and we now have over $128,499 in lake weed management inventory.

In mechanical operation we have been operating the two large Scavenger weed harvesting machines at a 67% efficiency. Operating expenses for the fifteen pieces of equipment cost us $20,000 a year Operating expenses were high due to repairs, modifications, operating expenses, and etc. The two Scavengers use $168 for gas and oil per month and cost $335 for parts and labor.

The total package of harvesting and carrying to the dump these aquatic weeds const approximately $12.70 per ton. This is the total cost and has not been compensated for other work that the Lake Division accomplishes.

In looking at past figures we can see the spiraling costs and growth of lake weeds.

Since 1 November 1968 we have formed a Lakes Division under the Parks and Recreation Department with eight full time personnel and a budget of $102,000 plus herbicides and capital outlay of $30,000 which equals $132,000. We have a proposed budget of $132,000 for 1969-70 coupled with a possible lake front, front foot tax of approximately $54.000 which would bring the total to $184,000.

The Lakes and Waterways Board, a Board advisory in capacity only, has increased membership from five to eleven and has been zealous in its demands as it is composed of

TABLE 1. EQUIPMENT USED IN LAKE WEED MANAGEMENT OF LAKES IN WINTER PARK, FLORIDA.

| Equipment | Number | Purchase Date | Cost |
|---|---|---|---|
| *Harvesters* | | | |
| *Prototype | 1 | 1963 | $16,000 |
| *Aquatic Scavenger | 2 | 1968 | $75,720 |
| *Miscellaneous* | | | |
| Self propelled barge | 1 | 1963 | $ 5,000 |
| Sell propelled barge | 1 | 1968 | 4,500 |
| Nonmotorized barge | 2 | 1969 | 5,000 |
| 2½ Ton dump truck | 2 | | 7,590 |
| Boat/motor | 1 | | 749 |
| Trailers | 2 | | 1,100 |
| Service truck | 1 | | 100 |
| Truck/radio | 1 | | 2,047 |
| Hydraulic loader | 1 | | 10,793 |

*Purchased from Aquatic Control Corp., Waukesha, Wisc.

TABLE 2. EXPENDITURES FOR WEED CONTROL IN THE LAKES OF WINTER PARK, FLORIDA.

| Year | Expenditures |
|---|---|
| 1966 | $ 18,160 |
| 1967 | 25,705 |
| 1968 | 134,632 |
| 1969 | 132,000 |
| 1970 | * 184,000 |

TABLE 3. TONS OF AQUATIC WEED HARVESTED.

| Year | Tons of Weeds Harvested |
|---|---|
| 1966 | 1149 |
| 1967 | 1585 |
| 1968 | 9610 |
| 1969 | **2016 |

*Estimated
**For 5½ months

100% lake front home owners. This Board was effective in causing the City of Winter Park to vote a one mill increase tax for the Lake Weed Management Program. Something that is almost unheard of in these times.

We, in Winter Park, have run the gauntlet from dragging rail road irons, black plastic, clay, drag lines dredges to harvesting for chicken feed in Japan We have been associated with research on snails, fish (Nile Perch and Congo Carp), to laser beams, which have to have the plants carried to the laboratory for treatment, all this in the name of weed research.

The City of Winter Park believes in research and has supported research. Last summer, with Rollins College and Orange County Water Conservation Department, the 3M Corporation and the Game and Fresh Water Fish Commission, we assisted in the various research programs.

This year we have actively supported, by a small grant, the research of the Corps Research Division, Agriculture Research Service of the United States Department of Agriculture. Herein, we sincerely believe, will be the final answer for lake weeds management. We would like to encourage all organizations to support such research.

## LITERATURE CITED


1. Blanchard, Jay L. 1966: *Aquatic Weed Harvester Operational Report.* Proc. SWC 19: pp. 477-479.
2. Blanchard, Jay L. 1967: *Economic Aspects of Weed Control in the Lakes of Winter Park, Florida.* Hyacinth Control Journal 6; pp 21-22.
3. Blanchard, Jay L. 1968: *Winter Park Lake Weed Management Program.* Hyacinth Control Journal 7: pp 30-31.