

Aquatic Weed Control - Year Around Maintenance

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INTRODUCTION

Aquatic weed control, as all persons working in this field are well aware, is not a "one-shot" permanent cure-all for weed infested waters. Conditions contributing to aquatic weed growths remain unchanged following weed control efforts. A single treatment may reduce aquatic weed growths to the point a new species becomes established in that particular water, but in this region if control is not exerted on a continuous basis, weed growths of one type or another almost always return to former levels of abundance within a relatively short period of time.

Intermittant weed control, based on the return of weeds to recreation stopping or unsightly levels, often results in many lost hours of recreational enjoyment for home owners and municipalities, as well as lost profits for real estate developers and other commercial ventures. Single application costs, without being followed by continuous weed control efforts, are generally duplicated within a reasonable period of time without any reduction in later costs. Reasons for these high costs are; the necessity of using large quantities of chemicals to obtain control, intensive efforts in labor that are required over a short period of time, large overhead costs for commercial applicators due to the amount of equipment required and which often remains idle during certain periods of the year as a result of seasonal demands from clients, and high salaries demanded by skilled operators of applicator equipment in order to compensate for slack periods which result in unemployment.

Our organization is now operating on the premise that we can provide better service to our customers, hold recreational and other water usages to optimal levels, and reduce costs to clientele by providing year around maintenance control contracts.

DISCUSSION

One of the municipal bodies of water now being maintained by Aqua Weed Control will be used as an example to illustrate some of the features and benefits of year around aquatic weed control maintenance.

Miramar Isles, located at Miramar, Florida, has been plagued with submersed growths of Florida elodea (*Hydrilla verticillata*) for the past several years. The Miramar Isles canals, which are approximately six miles in length, were completely choked with this undesirable plant. After several meetings with homeowners of waterfront property and the City Council of Miramar, an aquatic weed control plan was established. Homeowners agreed to an assessment of \$1.50 per month for continuous aquatic weed control, on an annual basis. If the shoreline of homeowners exceeded 110 feet, an additional assessment was

charged. The total funds raised in this manner were not enough to meet the total cost of the first years treatment, but the City Council agreed to pay the deficiency in the first year and subsequent annual treatments if any deficiencies arose. By the end of the third year of continuous treatment, it was believed that the entire cost of maintenance would be borne by homeowners without an increase in the \$1.50 assessment rate. Reduced treatment costs, because of the need for spot treatments rather than widescale applications, would allow a constant reduction in treatment rates until a minimal level is reached.

A combination of Diquat (6,7-dihydrothipyrido, (1,2-9:2,1'-C) pyrazidiinium salt) at 1 ppmw and copper sulfate at 1 ppmw of copper was used to treat the Florida elodea infestations. Materials were released below the water surface through the use of a John Beam pump at a rate of 5 gpm at 300 psi.

The initial application was made January 29, 1968. After one week of application, the weeds had become discolored and were sinking rapidly. Within 3 weeks after the initial application, 75% weed control had been obtained. Certain areas that had been heavily infested were spot treated at this time. One canal required the use of Hydrothol 191 (mono (N,N-dimethylalkeylamine) salt of endothal] in the initial treatment because of muddy water conditions. A small loss of fish resulted in this canal but no other fish kills were reported. After seven weeks following the initial application, 90% weed control was realized and only two small areas required retreatment.

Canals were inspected in June, 1968 and only one small area required treatment. Periodic inspections are made on a 60 day or less schedule, dependent upon rates of regrowth, to maintain these canals in their current weed free condition.

In summary, the cost of maintaining Miramar Isles canals in a relatively weed free condition have been minimal following the initial large scale application. We have had the same experience on other bodies of water where similar contracts have been entered into, including waters owned by other lake associations, industries, and certain Federal lands which are now under contract.

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