

## ANNUAL MEETING DATE

The Third Annual Meeting of the Whitewater-Rice Lakes Management District will be held Saturday, August 26 at 2:00 p.m. in the gymnasium of Lakeview School. There are important decisions to be made--especially with respect to weed control. Please mark this date and plan to attend. This is the last notification you will receive before the meeting.

## ON THE STATE OF OUR LAKES:

In 1973, both Whitewater and Rice Lake overflowed the tops of their dams for the first time since the dams were closed in 1947. Obviously, neither of these lakes is abundantly supplied with water. Precipitation is the primary source of lake water, and Whitewater Lake receives additional water from springs located in the Walworth County Nature Center in the south end of this lake. If other sources of water exist, they have not been identified.

The dry summer of 1988 resulted in the lowest lake levels since 1973. By October, 1988, the level of Whitewater Lake was 14 inches below its dam spillway and, by April 26, 1989, had recovered to only 8 inches below the dam level. By May 27, 1989, the lake level had decreased another 2 inches to 10 inches below the dam. Similarly, Rice Lake had fallen to 24 inches below its dam level in October, 1988, and was still 20 inches below its dam on April 26, 1989.

The combination of a low lake level, little rainfall, and warm weather produced the most abundant growth of aquatic weeds during the summer of 1988 that we had ever experienced in Whitewater Lake. And, with little snow during the winter of 1988-89, these weeds did not die back. Thus, the weeds had a running start for the summer of 1989.

In addition, we are disturbed to find that the weeds originally present in Whitewater Lake have been almost entirely replaced by an exotic, imported, species known as Eurasian milfoil. Presently, this species is invading Rice Lake. Eurasian milfoil has become a major, national concern because it has dominated many lakes in North

America, including lakes in 33 states of the USA. Its high, dense, spreading canopy shades more desirable weeds, and eventually dominates the entire area. Pieces of this plant, cut by boat propellers or other means, that sink or drift to the lake bottom, root themselves easily--thus promoting its spread. Ducks and most other waterfowl do not feed on milfoil, and this accounts for the increasing scarcity of waterfowl on our lakes.

As early as May, weed growth in Whitewater Lake had exceeded that of the summer of 1988. Weeds are especially dense in the east and south lobes of this lake, and in some places cover the entire surface of the lake from shore to shore. These dense weed beds are seriously interfering with recreational use of our lakes--boating, swimming, and fishing. Individual property owners' efforts to clear the beaches are frustrated by floating weeds, "mowed" by power boats, that drift ashore.

In the summer of 1988, your Lake District Commissioners arranged for a commercial harvester to remove weeds from both Whitewater and Rice Lakes. This was the very first time that weed harvesting had ever been attempted on either of these lakes. Our Lake District spent nearly \$10,000 for weed harvesting--78.5% on Whitewater Lake and 21.5% on Rice Lake. The combined result removed 404,600 pounds of wet weeds, representing 45,943 pounds of dry weight, 1,061 pounds of nitrogen, and 125 pounds of phosphorus.

From the standpoint of removal of organic material and plant nutrients from the lakes, the weed harvesting was a success. From the standpoint of improved recreational use of the lakes, however, the weed harvesting was a failure. Especially in Whitewater Lake, where the Eurasian milfoil grew back very rapidly.

To be sure that a commercial weed harvester would be available during the summer of 1989, your Lake District Commissioners let such a contract in December,



(more . . .

## ON THE STATE OF OUR LAKES:)

to remove weeds from Whitewater and Rice Lakes. Harvesting of Rice Lake began May 25, and harvesting of Whitewater Lake is scheduled for mid-July. These different harvesting schedules are related to the fact that the two lakes contain different types of weeds, and to our efforts to estimate the best harvesting times for optimal weed control.

The total amount of money available to your Lake District for 1989 weed harvesting is \$12,000. As before, approximately 80% of this money will be spent on Whitewater Lake. Unfortunately, from the present condition of Whitewater Lake, and from our experience in 1988, we must anticipate that the only value from this expenditure will be the removal of organic matter and nutrients from the lake. There will probably be only a temporary improvement to recreational use of the lake.



## ON WEED CONTROL

As we all know, plant growth (including aquatic plants and algae) requires sunlight and fertilizers—primarily phosphorus and nitrogen. Analyses of Whitewater Lake water by the Dept. of Natural Resources during the past two years show that the lake contains substantial quantities of fertilizers. The source of these fertilizers is not well defined, but could easily be related to the fact that both Whitewater and Rice Lakes were formed by flooding pre-existing marsh lands.

Aquatic weeds and algae compete with each other—both for sunlight and for fertilizers. Heavy infestations of algae can easily retard weed growth by producing murky water that shields aquatic plants from sunlight.

This competition was especially evident during the summer of 1988. In the weed beds, the water was exceptionally clear so that the lake bottom was visible in 8-10 feet of water. In the center of the lake where the water was deep enough that no weeds were present, the algae growth was heavy enough that no weeds were present, the algae growth was heavy enough that a Secchi disc could be seen at a depth of only about 3 feet.

This illustrates one of the disadvantages of using herbicides to control weed growth. Because algae does not respond to herbicides, chemical control of weeds will result in heavy infestations of algae.

The premise is that heavy weed growth will continue to be a problem on both Whitewater and Rice Lakes. Consequently, the electorate of the Whitewater-Rice Lake Management District will be asked to discuss, adopt, and approve an acceptable procedure, and associated budget, for weed control in our lakes at the Annual Meeting August 26, 1989.

The By-Laws of our Lake District limit the taxing authority of the District to 0.5 mil—or \$50 per year on an assessed property value of \$100,000. Thus the maximum yearly revenue of the District is currently about \$21,000. This is far less than will be required for any kind of appropriate weed control procedure. It will, therefore, be necessary to consider modification of the District By-Laws to some level up to the 2.5 mil rate allowed by the State of Wisconsin Statutes. This action will require the approval of two-thirds of the Electors present at the meeting. Your Lake District Commissioners are actively collecting information on the projected costs of available methods for weed control. This information will be available, in some detail, at the Annual Meeting.

Your Lake District Board of Commissioners unanimously favors a very substantially increased program of weed harvesting for both Whitewater and Rice Lakes over the next several years. Mechanical weed harvesting is, by far, the most widely-used, and environmentally acceptable, method of weed control in current use in the United States.

# AGENDA FOR THE LAKE DISTRICT'S ANNUAL MEETING

## August 26, 1989

1. Secretary's report of last annual meeting (May 28, 1988)
2. Treasurer's report
  - a) Report of Financial Audit Committee
3. Election of officers (one vacancy to be filled)

Candidates for election are Clifford Witte and Bill Norris.



Please note that our By-Laws provide that any three electors may nominate additional candidates by submitting written nomination papers to the Secretary of the Board at least 45 days prior to the Annual Meeting.

4. Proposal to Amend Section 6 (lines 4-6) of the Lake District By-Laws to read as follows: The property tax levy of the District shall not exceed a rate of 2.5 mils of equalized valuation. (Such modification of the By-Laws is a necessary preliminary to further discussion of alternatives for weed control.)
5. Selection of alternative prospects for weed control.
  - a) Presentation of Detailed Cost Estimates for alternative methods of weed control.
  - b) Discussion
6. Annual Budget for 1990. (The result of the decision reached in item 5 [above] will be included in the proposed budget.)

### PROPOSED 1990 DISTRICT BUDGET

Operating Expenses	\$ 400
Newsletter	\$ 1,000
Legal Fees	\$ 800
Miscellaneous Expenses	\$ 300
Wisconsin Association of Lake Districts (Membership)	\$ 100
Fishery Program	\$ 2,000
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Subtotal	\$ 4,600

### ADDITIONAL BUDGET ITEMS SUBJECT TO APPROVAL AT ANNUAL MEETING: (See explanations on following page)

A.	Continue current limited weed harvesting. (No change in 0.5 mil tax rate)	\$ 15,000	
B.	Purchase weed harvesting equipment at approximate cost of \$150,000. Annual service cost of loan over 5 years.	\$ 35,000 (approximate)	<i>+ 130,000</i>
C.	Annual operating costs of harvester	\$ 35,000 (approximate)	<i>175,000/5yr</i>
D.	Increased commercial weed harvesting	\$ 50,000	
E.	Hydrologic study--Phase I	\$ 10,000	<i>175,000/6yr</i>
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7. Establish date of next Annual Meeting--1990
8. Presentation of newly elected officer
9. Motion to adjourn

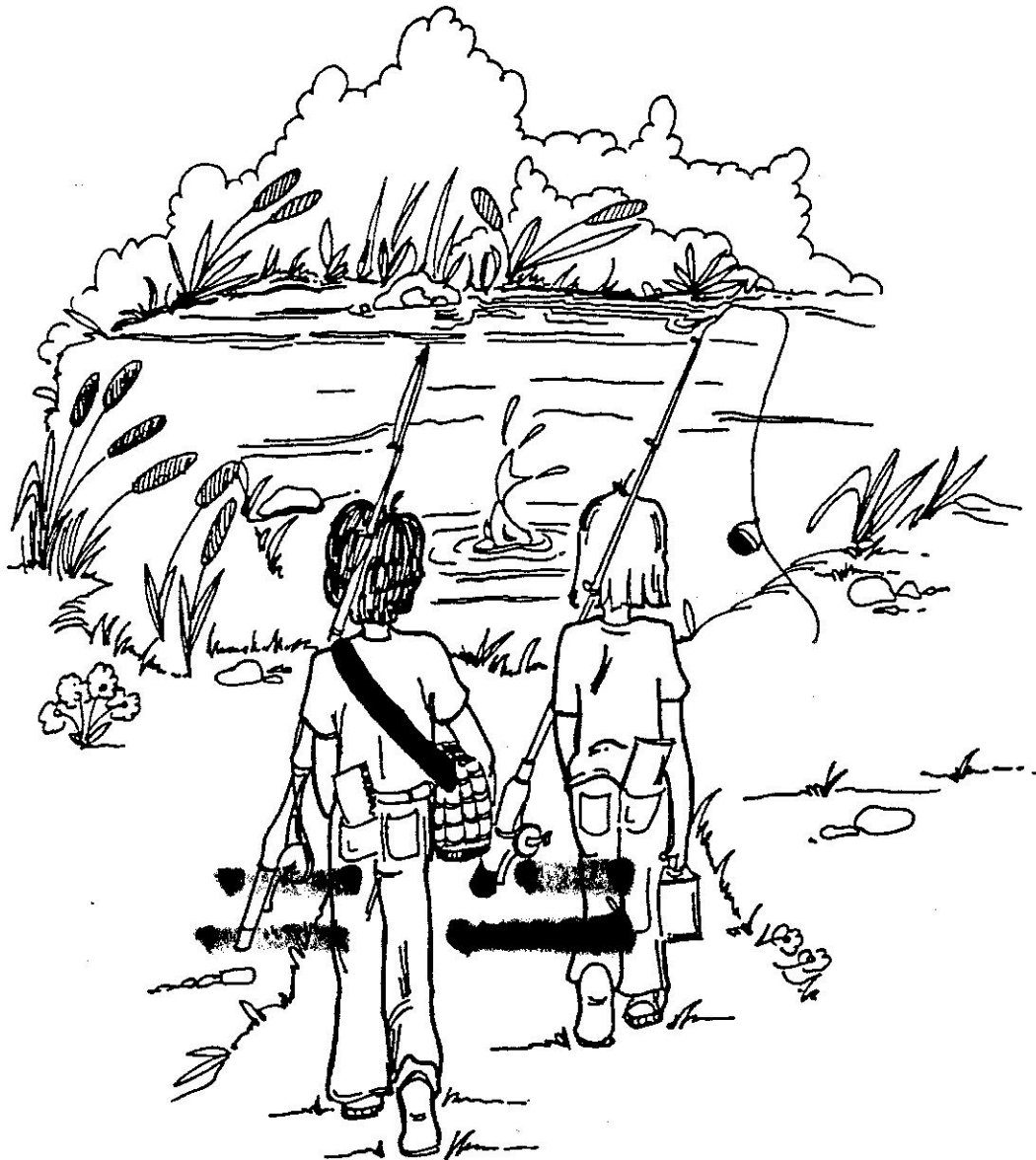
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## AVAILABILITY OF HAND WEED HARVESTING EQUIPMENT

Some residents may wish to purchase equipment for removing weeds from their shorelines. The Handy Marketing Co. sells a weed cutter and a weed rake suitable for cutting and/or raking weeds from around piers and swimming areas. The weed cutter cuts a 52 inch path and can be used from shore, a pier, or a boat. It sells for \$84.95 plus a \$5.00 UPS handling charge.

The aluminum rake is 36 inches wide and has an adjustable handle (6-10 ft.). It has an attachable float for

raking floating weeds or algae. The rake sells for \$89.95 plus a \$5.00 UPS handling charge. The company address is 4394 Airwest St. S.W., Grand Rapids, MI 49508. Flyers on the cutter and rake have been requested from the company. Anyone interested in this equipment, contact Will Gross at 473-6352. If enough people are interested, it may be possible to obtain a group discount through the District.





## ALTERNATIVES FOR CONSIDERATION AT ANNUAL MEETING

methods of weed control. There is, in addition, a need to study the sources of the nutrients in Whitewater and Rice Lakes.

A budget of \$50,000 per year would allow commercial harvesting of weeds two times during the summer. The rapid regrowth of weeds experienced in 1988 suggests that this might not be enough, and only experience will provide the answer.

In addition, commercial harvesters tend to be inefficient. They typically use small machines (5-6 foot wide cutters) to avoid problems with over-the-road transport of larger equipment. This, together with the limitations imposed by the small number of accesses on Whitewater Lake, suggests that District-owned equipment would be more efficient.

**A. Continue limited weed harvesting** with no change in the 0.5 mil tax rate. Continuing current operations would involve spending perhaps \$15,000 per year on weed harvesting by a commercial harvester. This alternative is beneficial in removing nutrients and organic material from the lakes, but, because of the small amount of harvesting that can be done, has little benefit in improving recreational use of the lakes. The Board of Commissioners does not consider this an acceptable alternative to managing Whitewater and Rice Lakes.

**E. Hydrologic Studies of Whitewater and Rice Lakes.** Besides doing some weed harvesting, the District should also investigate whether weed harvesting represents the best management approach for controlling the nutrients that cause the weed and algae problems our lakes have experienced over the past years. All lakes are not the same, and selection of the best management approach can depend upon such factors as a lake's shape, shoreline development, nutrient sources, type of recreational activity, type of bottom materials, and its average depth.

At the recommendation of the DNR, the Board has been in contact with the U.S. Geological Survey (U.S.G.S.). Steve Field, of the U.S.G.S., conducted a field survey of Whitewater and Rice Lakes on May 15, 1989. After the survey, Mr. Field suggested a one-year study of the hydrology of both lakes. In brief, the study would involve periodic measurements of water inflow, water outflow, and groundwater inflow into the lakes, as well as precipitation, evaporation, and lake-level fluctuations. Using the data and literature references, the U.S.G.S. would develop a crude phosphorus budget for the lakes. A major part of the study cost would be for construction of a permanent lake-level monitoring station at the outlet of Whitewater Lake which the District would own.

**B. Purchase a Weed Harvester.** Many of the lake districts and lake associations in Wisconsin have opted to purchase their own equipment for harvesting weeds. This allows weed harvesting to proceed on an as-needed schedule throughout the summer months, and the cost, for an equivalent amount of harvesting, is substantially less than that of employing a commercial concern. Furthermore, if the equipment is purchased by the Lake District, the equipment can be tailored to best suit the requirements of a particular lake. This is of special concern to Whitewater Lake (and perhaps less so to Rice Lake) where the lack of suitable accesses for unloading weeds causes major inefficiencies in the harvesting process. In the approximately 10 miles of shoreline on Whitewater Lake, there are only three accesses suitable for unloading a harvester--the recently improved access on Cruse Lane in the east lobe of the lake, the old roadbed below Lakeview School, and the State Park boat launch. A fully loaded weed harvester has a maximum speed of about 2 miles per hour, and this presents an additional problem. The solution appears to be the acquisition of a "high speed" transporter--a device that will unload the harvester on the water, and transport the weeds to the nearest lake access at a speed of 10-12 miles per hour.

A written proposal has not been prepared, but the U.S.G.S. conducts lake studies on a cost-sharing basis. Mr. Field estimated the cost of the hydrologic budget at \$20,000, with \$10,000 representing the District's share (50%).

The U.S.G.S. would require a depth-contour map (hydrographic map) of both Whitewater and Rice Lakes. This work would have to be performed by an independent contractor. The cost is unknown, but estimated at approximately \$600.

**C.** We are awaiting firm quotes on prices of equipment. However, the "ballpark" estimate of equipment costs is around \$150,000. **Yearly operating costs are estimated at an additional \$35,000.** *paid off at what? 35,000/yr*

**D. Increased Commercial Harvesting and Other Alternatives.** In spite of its support for increased weed harvesting, your Lake District Board of Commissioners remains divided on the subject of buying our own equipment for harvesting weeds. At issue is the fact that a substantial investment in equipment may commit us to weed harvesting for a period of time longer than we can foresee or find desirable. Alternative methods of weed control are being investigated, and improved methods may emerge in the future.

The proposed hydrologic study of the lakes is only one phase of a complete feasibility study. However, the proposed study would indicate the need for any additional information, and the type of information the District would need. Doing only one phase of a feasibility study represents a slow, cautious, approach to the management alternatives for Whitewater and Rice Lakes.

Increased commercial weed harvesting represents a temporary alternative (2-3 years) to the high cost of the District starting its own harvesting program. This will allow for the District to determine how much weed harvesting is actually needed, and to investigate possible alternative

**WHITEWATER-RICE**

Lakes Management District

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