

**LAKE MINNETONKA CONSERVATION DISTRICT (LMCD)
2010 Eurasian Watermilfoil (EWM) Final Harvesting Report**

A. Harvesting season data and conditions summary:

1. Harvesting Season- The 2010 season consisted of approximately eight weeks starting on Thursday, June 10th, and ending on Thursday, August 12th. There was one day cancelled due to weather (June 14th). The length of the season, factoring in for cancelled days, was 32 working days. This was less than the 41-day season in 2009 and the 35-day season in 2008. The crew operated the three LMCD harvesters and transport barge four days a week, 10 hours a day. This was a change from previous years which was eight hours a day, five days a week. A second change was that the program was not scheduled to operate July 5-8.
2. Water Level- Lake levels during the course of the 2010 season were higher than the low conditions in 2009. The lake level on the first day of the 2010 season was 929.35', compared to 928.57' in 2009. The highest lake level during the 2010 season was 929.36' on June 18th, compared to a highest lake level of 928.57' on June 10rd during the 2009 season. The lowest lake level during the 2010 season was 928.94' on August 9th, compared to a lowest lake level of 927.80' on August 6th. Overall, it appears that 2010 lake levels were up approximately one foot in 2010 when compared to 2009.
3. Acres Harvested- Total acreage harvested in 2010, including second harvests was 384. This compares to 350 acres harvested in 2009 and 309 acres harvested in 2008. Acres harvested during a season have been calculated since 2003 utilizing Global Positioning System and Geographic Information System software. (see attached map for further details).
4. Harvester and Truck Loads- The total number of harvester loads in 2010 was 251.25, which generated 137 truck loads or 4.15 per day (see attached spreadsheets for further details). This compares to a total number of harvester loads of 337.50 in 2009, which generated 170 truck loads or 4.15 per day. In 2010, the total number of harvester loads decreased by approximately 34% and the total number of truck loads decreased by approximately 24%. 2009 is not a good season for comparison purposes due to the low water and high EWM growth in 2009. A more appropriate season is 2008 because it had more similar EWM growth. In 2008, the total number of harvester loads was 192.50, which generated 97 truck loads or 2.77 per day. Comparing statistics from 2010 to 2008, the total number of harvester loads increased by approximately 31% and the total number of truck loads increased by approximately 41%.

B. Operating Highlights

Harvesting priorities were based upon impediment to public boat navigation on the open water, with higher priority given to areas of the lake that were matted. Although there were some areas of the lake with significant milfoil growth that

was not aesthetically pleasing, we generally did not harvest them unless they were impeding public boat navigation. This year there was a higher emphasis in recovering milfoil fragments. This was done through utilizing one of the harvesters as a skimmer at times. Another technique that was used was emphasizing tandem cutting and returning to areas the following day and skimming the areas with the harvesters.

The LMCD has assembled a rotating harvesting schedule for Lake Minnetonka (see attached schedule for further details). In 2010, the Lower Lake North Option was implemented. At the beginning of the season, the program deviated from the schedule to harvest North Arm and Crystal Bay prior to Lower Lake North. The basis for this decision was heavy matted EWM growth and lack of significant growth in the scheduled bays. Similar to past seasons, a combination of clear-cutting and channel-cutting was utilized to address harvesting priorities. There was a high emphasis on tandem cutting when possible. All areas that dictated the need for harvesting were cut at least once, with high growth areas harvested twice as time permitted.

Public response to the harvesting in general was encouraging, with a limited number of telephone calls from the public. Harvested milfoil was mainly composted at the University of Minnesota Landscape Arboretum, with occasional loads composted either at Gale Woods Park or area farms. Some additional compost sites were secured in 2010. These sites are a convenient distance from Lake Minnetonka, generally less than 10 miles from most offload sites.

C. Personnel

Judd Harper served his tenth year as Project Manager in 2010. Mike Heiland was hired as the EWM Site Supervisor for 2010. He had not previously worked for the LMCD harvesting program but is a resident of the area and has a great deal of experience and involvement with the community and Lake Minnetonka. An additional five employees were hired for the 2010 season, with a mixture of new and returning seasonal employees.

D. Equipment Operation and Maintenance

The LMCD contracted with Curfman Trucking and Repair, Inc. for their tenth year for maintenance of the EWM harvesting equipment. The efforts made by Curfman Trucking and repair the past ten years has generally resulted in improved efficiency and decreased downtime of the harvesting equipment.

E. Status of EWM Harvesting Equipment

In 2010, the harvesting equipment consisted of three paddlewheel harvesters and a used transport barge purchased from Aquarius Systems in 2003 to improve the efficiency of the program. The three paddlewheel harvesters were purchased prior to the 2000, 2003, and 2005 seasons. The 2010 season was the fifth year that the used transport barge was available to support the transporting of vegetation from the harvest site to the off-load site. The primary goal of the high speed transport barge was to increase the amount of work time

(primarily harvesting time) and to decrease the amount of down time (primarily on site travel time).

F. 2010 EWM Harvesting Program Budget Analysis

The overall budget for the 2010 EWM Harvesting Program was \$98,000. This budget took into account that the District received the \$32,800 MN DNR grant. Estimated expenses incurred through mid October are approximately \$96,000. There are possibly a few other expenses incurred during the 2010 season in which invoices have not been received and paid.

G. Overview of 2009 Challenges/Issues

Challenges/Issues

2010 Corrective Actions

• Staffing

1. Shortage on a few days- created primarily by floating position
2. Early season and late season coverage
3. Improve daily start-ups and shut-downs
4. Clarification of duties and responsibilities of the Project Manager and the Executive Director

Eliminated floating position (with employment expectations communicated up front)

Fourth of July week scheduled shutdown

Budget and the discovery of zebra mussels did not allow extending the length of the season

Implemented ways to encourage better start up and shut down times

- Switched from 5 -8 hour work weeks to 4-10 hour work weeks
- Additional harvester parking locations
- Parking at offload site

• Harvester (transporter) & truck travel times

1. Travel time is problematic to off-load sites from certain areas of the Lake
2. Travel time is problematic to compost sites from certain areas of the Lake

Secured and utilized additional off-load and compost sites

Challenges/Issues

2010 Corrective Actions

- Risk management
 1. Slippery surfaces of the equipment
Purchased and implemented mandatory inflatable PFD use for all LMCD employees
 2. Contracted truck preparations
Clarified truck preparation procedures with contractor
 3. Shore conveyor equipment (in particular in its upright position)
Heavy duty hydraulic cylinders and load holding valves installed on the shore conveyor equipment
- Equipment Needs
 1. Communication problems in the field
Radios fixed or replaced
 2. Broken canopies on the harvesters, with no canopy on the transport barge
New canopies installed on the harvesters and transport barge
- Consistency with policies and procedures
 1. Preventive maintenance on outboard motors, harvesters, and writing)
Additional policies documented
Preventative maintenance emphasized
 2. Cutting options (clear-cutting vs. channel cutting)
Tandem cutting emphasized
 3. Cutting methods (tandem vs. Individually)
- Shoreline Fragments
 1. Fragments as a result of LMCD harvesting equipment
Tandem cutting and skimming with a harvester utilized to minimize fragments
 2. Fragments not as a result of LMCD harvesting equipment