

**Wisconsin**  
**Lake & Pond Resource LLC**  
"Providing Professional Resources for Management of Your Lake or Pond"

Professional Pond Management Products and Services  
Aquatic Herbicide and Algaecide Applications  
Lake Management Planning and Services  
Pond Design and Development

MEMORANDUM

TO: Kettle Moraine Lake Association

DATE: December 5, 2007

SUBJECT: Results of the November 2007 exotic species mapping survey

**Recent Management Activities**

In May 2006, 141 acres of Eurasian watermilfoil were treated on Kettle Moraine Lake with Navigate® (granular 2,4-D) at a rate of 100 lbs/acre. A follow-up survey in October 2006 found that although the density of milfoil had noticeably decreased in the treated areas, survival had occurred throughout. In total, 133 acres were mapped. Three staggered treatments took place in May 2007 to cover the entire infested area. On May 8, 2007, 59 acres of Eurasian watermilfoil were treated with Navigate® at a rate of 100 lbs/acre. On May 21, 2007, an additional 58 acres were treated in the same manner. Finally on May 24, 2007, 15.3 acres were treated with a combination of 55 gallons of Aquathol K® (liquid endothal) and 27.5 gallons of DMA 4 IVM® (liquid 2,4-D). This was an experimental treatment used to target both Eurasian watermilfoil and curly-leaf pondweed within the treated area. Prior to the third treatment, a survey of the aquatic plant community was made. This survey utilized the point-intercept method and map provided by the Wisconsin DNR. The abundance of aquatic plants including Eurasian watermilfoil and curly-leaf pondweed was assessed at 21 locations within the treatment area.

**Exotic Species Mapping Survey Results**

On November 8, 2007, Wisconsin Lake & Pond Resource, LLC staff conducted a survey of Kettle Moraine Lake. A total of approximately 137 acres of Eurasian watermilfoil were found (**Figure 1**). Of the areas found, a majority of them (108 acres) had very low density. Milfoil plants in these areas appeared to be new growth. In addition, curly-leaf pondweed had been identified at a number of locations. **Figure 2** identifies the locations of curly-leaf pondweed identified by Wisconsin Lake & Pond Resource staff on November 8, 2007 and by the Wisconsin DNR's Bureau of Research on June 13, 2007. The survey conducted by Wisconsin Lake & Pond Resource LLC took place 20 days after the final treatment of the lake. **Figure 3** identifies the locations of Eurasian watermilfoil and curly-leaf pondweed found within the 15.3 acres treated on May 24, 2007. It shows where these species were identified in October 2006, prior to treatment and again in November 2007 following treatment.

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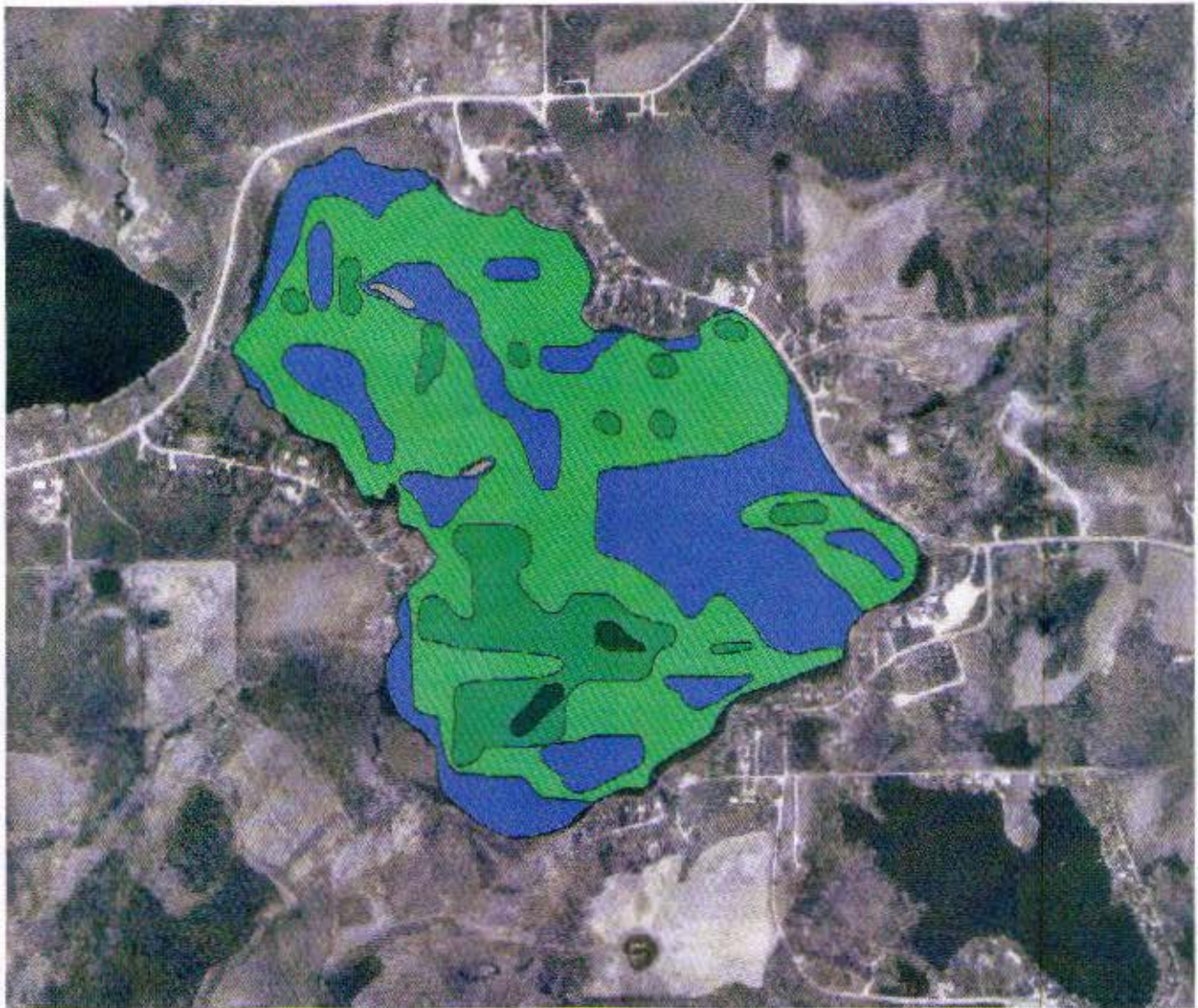
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### **Conclusions and Management Recommendations**

Despite the continued spread of Eurasian watermilfoil in Kettle Moraine Lake, the efforts of the Kettle Moraine Lake Association have, in recent years, been effective in preventing the plant from dominating the lake and in most areas of the lake, have kept it at sub-nuisance levels. The current strategy of annually monitoring the lake and treating all milfoil beds should be continued. Often with lakes having low occurrences of milfoil, hand-pulling is a management option recommended to lake organizations. However, given the wide distribution of milfoil in Kettle Moraine Lake, this option would be too labor intensive to be practical.

It appears the dual herbicide treatment on May 24, 2007 was as effective at reducing the extent of Eurasian watermilfoil as the Navigate<sup>®</sup> treatments. In addition, curly-leaf pondweed appears to have declined in the treated area. Of the five post-treatment locations where curly-leaf pondweed was identified, three were identified shortly after treatment and were not identified in November. Curly-leaf pondweed was recently found growing in many areas of the lake. However, since turions will continue to sprout and grow over the winter it would be most appropriate to assess the results of the dual herbicide treatment by approximating its full distribution this coming spring.

Figure 1. Eurasian watermilfoil distribution (136.7 acres total) in Kettle Moraine Lake on November 8, 2007.







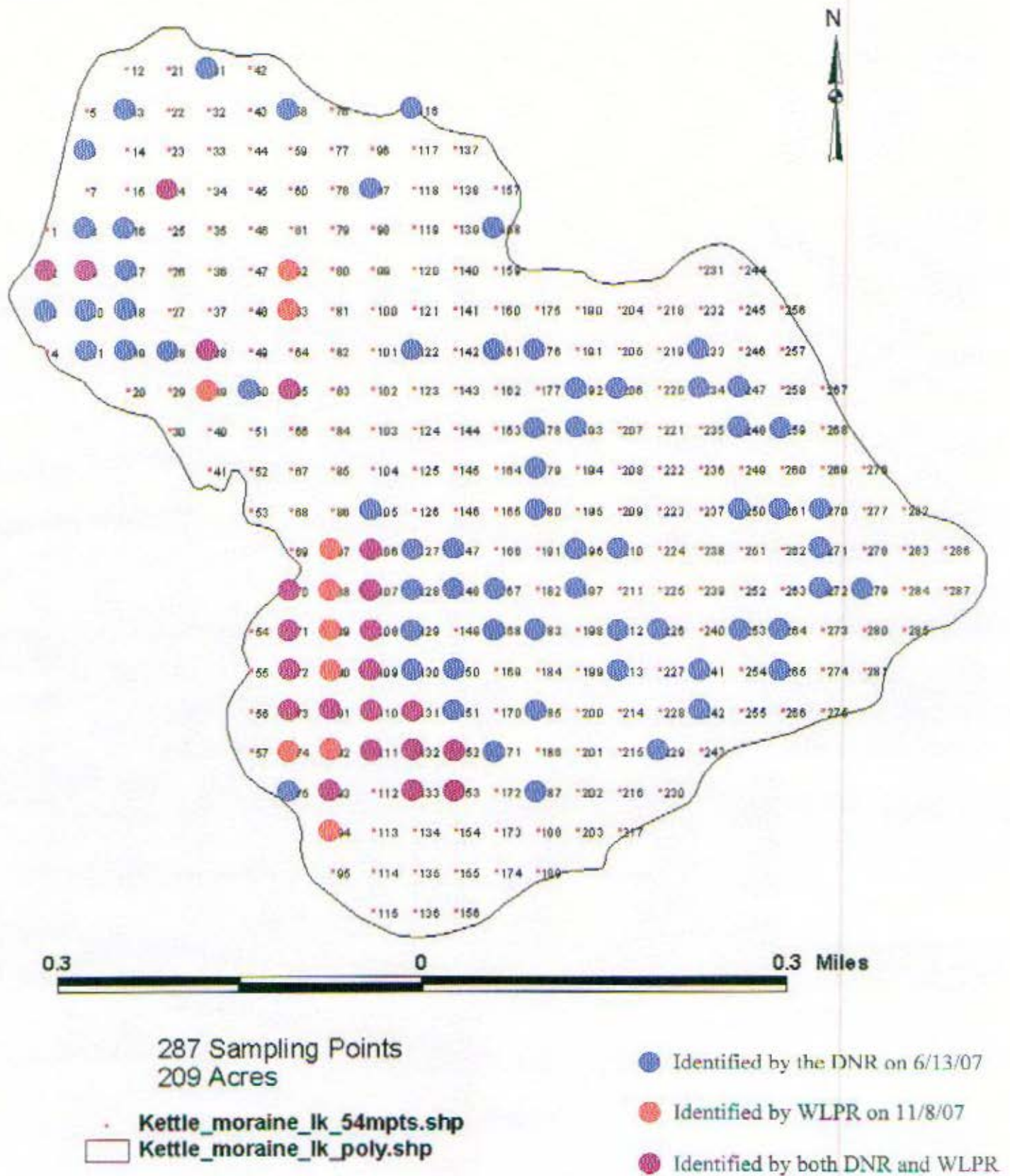
-  Kettle Moraine Lake
-  Dense Eurasian watermilfoil (2.0 acres)
-  Less dense Eurasian watermilfoil (26.7 acres)
-  Sparse Eurasian watermilfoil (108.0 acres)

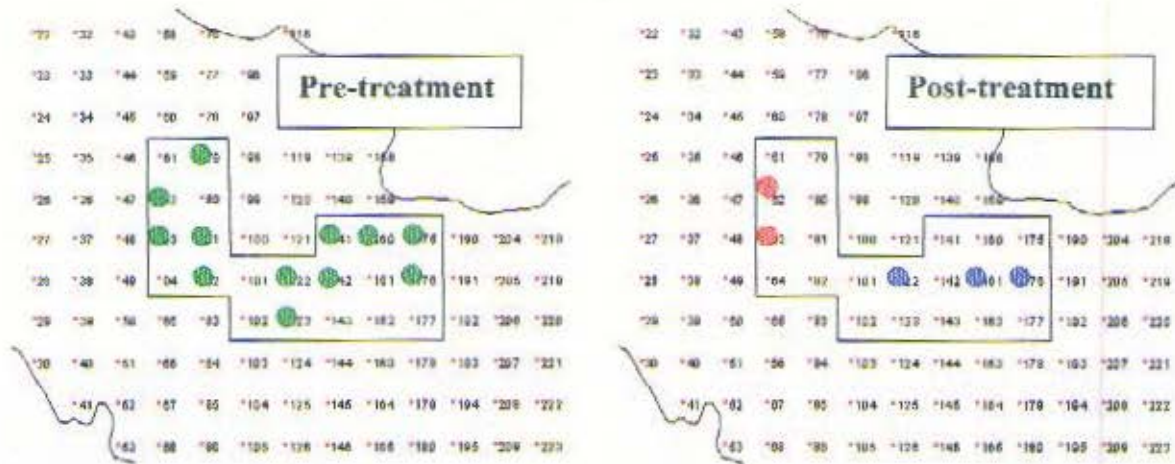


Figure 2. Curly-leaf pondweed distribution in Kettle Moraine Lake for 2007.

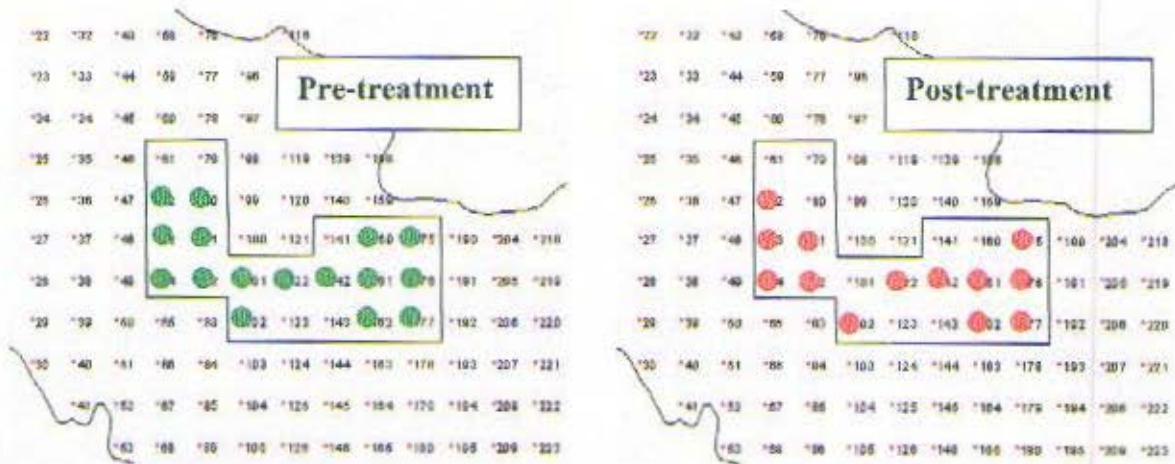


**Figure 3. Pre-treatment (October 2006) and post-treatment (November 2007) distributions of Eurasian watermilfoil and curly-leaf pondweed in a 15.3 acres section of Kettle Moraine treated with a combination of Aquathol K<sup>®</sup> and DMA 4 IVM<sup>®</sup>.**

**Curly-leaf pondweed**



**Eurasian watermilfoil**



● Identified by the DNR on 6/13/07

● Identified by WLPR on 11/8/07