MEMORANDUM

TO: Johns Lake Management District

DATE: December 8, 2009

SUBJECT: Results of the Johns Lake exotic species survey conducted on September 15, 2009

On September 15, 2009 a survey of Johns Lake was conducted to determine the extent and abundance of Eurasian watermilfoil (*Myriophyllum spicatum*) and other exotic plants. The presence of plants was determined using surface observations and rake tows. The entire littoral zone (area of shoreline that can produce aquatic plants) of the lake was surveyed. Locations where plants were found were recorded on a depth map using land features as references. GPS coordinates were also recorded at each location.

**Management History**

By 2000, Eurasian watermilfoil had dominated much of the plant community in Johns Lake. In 2001 all of the Eurasian watermilfoil found in the lake was treated with Navigate® (granular 2,4-D) at a rate of 150 lbs/acre. Since then Eurasian watermilfoil has been maintained at very low densities in Johns Lake with annual surveys and spot treatments. During the latest treatment, in May of 2009, 0.8 acres of Eurasian watermilfoil were treated using Navigate® at a rate of 150 lbs/acre.

**Survey Results**

During the September 2009 survey, the only aquatic invasive plant found in Johns Lake was Eurasian watermilfoil. Eurasian watermilfoil was found in only two locations along the west shoreline of the lake, as seen in **Figure 1**. These locations are in the same area that they have been in the past few years, so it appears that the milfoil does not seem to be spreading to new locations on the lake. The total amount found is again less than 1 acre. The GPS coordinates of the two locations where the Eurasian watermilfoil was identified are:

N 44° 04.775’ W 89° 12.964’
N 44° 04.817’ W 89° 12.856’

Northern watermilfoil (*Myriophyllum sibiricum*) was also found in the lake. Northern watermilfoil looks very similar to Eurasian watermilfoil, but is a native plant that is not of
concern. Several reports of Eurasian watermilfoil on the lake were found to be the native northern watermilfoil.

**Conclusions and Recommendations:**
Eurasian watermilfoil remains below nuisance levels in Johns Lake. It is important to remain proactive and keep the plant from spreading throughout the lake. Annual surveys to determine the extent of the plant and catch new infestations will be critical. The options recommended for controlling Eurasian watermilfoil in Johns Lake are physical removal (hand-pulling) and chemical control. Education and prevention are also important components of an effective exotic plant control program.

Hand-pulling is an effective method of controlling Eurasian watermilfoil when it is done correctly, and when Eurasian watermilfoil occurs in low densities. It is important to make sure that the entire plant is removed, including the entire root mass, in order for your efforts to be effective. Not doing so could result in the plant quickly regenerating. Also, Eurasian watermilfoil spreads mainly through fragmentation, so taking care not to fragment the plant is important.

Chemical treatment has been effective on Johns Lake. Treatments should be done in spring and all Eurasian watermilfoil found should be targeted. Again, Navigate® should be used at a rate of 150 lbs/acre.

A recommended budget for treatment in 2010 is $850. An additional $450 should be budgeted for surveys.

Involvement of Lake District members will continue to be an important factor in the success of this program. The District should strongly consider implementing an ongoing program to educate members and other lake users on the threats posed by exotic species, as well as how to properly identify both exotic and look-alike native species. This can be done through newsletters, emails, special meetings and/or on-site training. The focus of the educational program should not only be on Eurasian watermilfoil, but also on other exotic species such as curly-leaf pondweed, purple loosestrife, zebra mussels, the VHS virus and rusty crayfish, to name a few. An excellent resource for educational materials is the Clean Boats – Clean Waters Program sponsored by the UW Extension (www.uwsp.edu/cnr/uwexlakes/CBCW).
Figure 1. Location of Eurasian watermilfoil on September 15, 2009 in Johns Lake, Waushara County, Wisconsin