

Lake Demontreville Olson Association 2018 EWM Treatment Program

Executive Summary

The Lake Demontreville and Olson Association worked with Washington County, Minnesota Department of Natural Resources, Valley Branch Watershed District, University of Minnesota Aquatic Invasive Research Center and PLM Lake and Land Management Inc. to create a Eurasian Water Milfoil (EWM) treatment program for 2018. This plan consisted of pretreatment lake delineation surveys, resident shoreline surveys and herbicide applications to selected mid-lake high-density EWM concentrations and shoreline areas for residents. The primary goal of the 2018 program was to provide seasonal relief from EWM surface matting enabling all residents unobstructed recreational use of the lakes. The herbicide applications were applied on June 19th with results clearly visible within two weeks. The treatment program had excellent results inside treatment areas and extending across most all of the lakes. The results were similar to the 2017 program using 2-4D at a fraction of the cost. It also has not had an impact on native species. The natives are strong and the diversity remains wide.

History:

Eurasian Water Milfoil (EWM), a non-native invasive aquatic plant, was discovered in Lake Demontreville in 2008. Small spot treatments were applied in 2009 and EWM was not found again until 2011. By 2014 it had spread to Lake Olson and increased in density on Lake Demontreville. Over the next several years, the LDO made many attempts to gather funding for EWM treatment but was unsuccessful due to permitting and having matching funds available. The LDO obtained grant money in 2015-2016 that was used along with LDO member contributions for a mid-lake treatment providing seasonal relief. In 2017 grants and membership contributions were used for mid-lake treatment and the resident shoreline treatment was coordinated with mid-lake to increase effectiveness, it was a great success. For the 2018 treatment program the LDO, along with the DNR and PLM changed the herbicide from 2-4D to Diquat and again combined the treatments for increased effectiveness. The treatment has provided excellent seasonal relief with hopes for possible multi-year effects.

Organization support and funding:

- Washington County
- Valley Branch Watershed District
- MN DNR
- Washington County Conservation District
- City of Lake Elmo
- Barr Engineering
- PLM Lake and Land Management

2018 EWM Treatment plan:

Working with the DNR, Barr engineering and others, the LDO developed a plan to treat the EWM in the in both lakes using Diquat. This treatment builds off the previous year's success of applying both mid-lake and shoreline treatments the same day for increased herbicide concentration.

Treatment Application:

PLM provided the mid-lake and dockside treatment application on June 19st with a single boat. The Mid-Lake was treated first with the shoreline application immediately following. Diquat was used this year as the herbicide as it allows for the mixing of copper sulfate in the same tank so it could be applied to the shorelines simultaneously. Diquat is also a much more concentrated herbicide which allowed PLM to transport all the herbicide in the boat at once increasing application efficiency.

Results:

Observations one week after treatment showed all EWM laying down on the bottom, and, in some of the deeper areas, it was falling over. Two weeks after treatment EWM could only be found on the bottom, brown and lifeless, starting to decay; this result included areas around the lake outside of the treatment zones. Six weeks later, we have yet to notice any surface matting or trouble areas. Some EWM can be detected in shallow areas amongst the lily pads but no troublesome growth in treated areas. We thank the City of Lake Elmo, the Valley Branch Watershed District, Washington County and the DNR along with residents who contributed to the LDO for sponsoring the cost of the mid-lake treatment.

Application data and maps and photos

Lake Delineation Surveys

The following two pages contain the delineation surveys for both lakes. The red dots represent the EWM density and are used to select the highest concentrations of EWM for treatment. The DNR only authorizes 15% of the littoral area of the lakes to be treated including the shoreline treatment areas. When selecting the locations to treat, we first must deduct the area residents treat along their shorelines. We then take the remaining allowed treatable area and focus on the highest EWM concentrations and the potential impact on the lakes that would prevent or hamper use by all residents.

Application Treatment Tracks

This map of Lakes Demontreville and Olson show the exact location of the boat while it is applying the herbicide to the DNR approved treatment areas.

Resident Shoreline Treatment Maps

These maps display the shoreline footage treated for each property. This data is important when calculating herbicide concentrations and mixing around the lakes.

Treatment Area Photos

Before and after photos of treatment areas were taken prior to treatment and approximately 3 weeks following. Note: not all areas were photographed due to weather, lighting and various conditions that affect capturing the images.

Lake Demontreville Delineation Survey

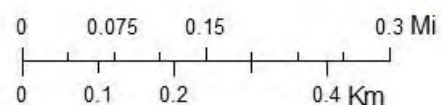
DeMontreville 82010100 Eurasian watermilfoil Survey 06/04/2018



Eurasian watermilfoil

- 0 - Not Found
- 1 - Sparse/Scattered
- 2 - Common
- 3 - Abundant
-  Approved EWM Treatment= 16 acres

Zoomed to Lake Boundary



Lake Olson Delineation Survey

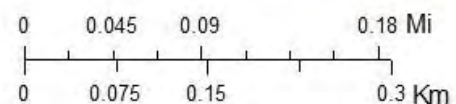
Olson 82010300 Eurasian watermilfoil Survey 06/04/2018



Eurasian watermilfoil Treatment Areas

- 0 - Not Found
 - 1 - Sparse/Scattered
 - 2 - Common
 - 3 - Abundant
-  Approved EWM Treatment= 8.5 acres

Zoomed to Lake Boundary





**2018 Eurasian Water Milfoil Treatment
Demontreville & Olson Lake
Washington County
Treat Date: June 19, 2018
Demontreville Acres: 16
Olson Acres: 8.5**

PLM Lake & Land
Management Corp.

PHONE: 218-270-3338
FAX: 866-527-6399
EMAIL: servicemw@plmcorp.net
WEBSITE: www.plmcorp.net

LDO Resident Shoreline Treatment Map

Demontreville North



June 5, 2018
★ Property supports LDO but does not request shoreline treatments
XX Represents the number of shoreline feet treated

2018 Lake Demontreville & Olson
Shoreline treatment areas and contributors.
Link Lavey, LDO President 612-845-8011

Disclaimer: Map and parcel data are believed to be accurate, but accuracy is not guaranteed. This is not a legal document and should not be substituted for a title search, appraisal, survey, or for zoning verification.

Demontreville South



June 5, 2018
★ Property supports LDO but does not request shoreline treatments
XX Represents the number of shoreline feet treated

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2018 Lake Demontreville & Olson Treatment Photos

Area A Pre-Treatment



Area A Post Treatment



Area B Pre-treatment



Area B Post Treatment



Area C Pre-Treatment



Area C Post treatment



2018 Lake Demontreville & Olson Treatment Photos

Area C2 Pre-Treatment



Area C2 Post treatment



Area D Pre-treatment



Area D Post Treatment



Area D2 Pre-treatment



Area D2 Post Treatment



2018 Lake Demontreville & Olson Treatment Photos

Area E Pre-treatment



Area E Post Treatment



Area F Pre-treatment



Area F Post Treatment



Area H Pre-treatment



Area H Post Treatment





2018 Lake Demontreville & Olson Treatment Photos

Area I Pre-treatment



Area I Post Treatment



Area J Pre-treatment



Area J Post Treatment



Area K Pre-treatment



Area K Post Treatment



2018 Lake Demontreville & Olson Treatment Photos

Area M Pre-treatment



Area M Post Treatment



Area N Pre-treatment



Area N Post Treatment



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