



EWM Found in Lake Frances, October 18, 2018

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# Eurasian Watermilfoil Removal and Survey For Lake Frances, Le Sueur Co, Minnesota, October 18, 2018

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2018 Eurasian Watermilfoil Removal Date: October 18, 2018

Prepared for:  
Le Sueur County and  
MnDNR



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# Eurasian Watermilfoil Removal and Survey For Lake Frances, Le Sueur Co, Minnesota, October 18, 2018

On October 18, 2018 staff from Blue Water Science surveyed areas where Eurasian watermilfoil (EWM) was previously found growing by the MnDNR as well as looking for new occurrences of EWM. For EWM removal and control, hand pulling was the preferred method because of the number of native species present including northern watermilfoil. On October 28, 2018, Blue Water Science hand pulled all the Eurasian watermilfoil that was observed around the lake and within the main 4.0 acre area delineated by the MnDNR (Figure 1) as well as 4 other areas scattered around the lake. A total of 41.5 cubic feet of plant material was removed. Eurasian watermilfoil (EWM) was initially documented in Lake Frances by the MnDNR in 2017 and hand removal occurred in the northern site in 2017. Approximately 10 cubic feet of EWM was removed in 2017.

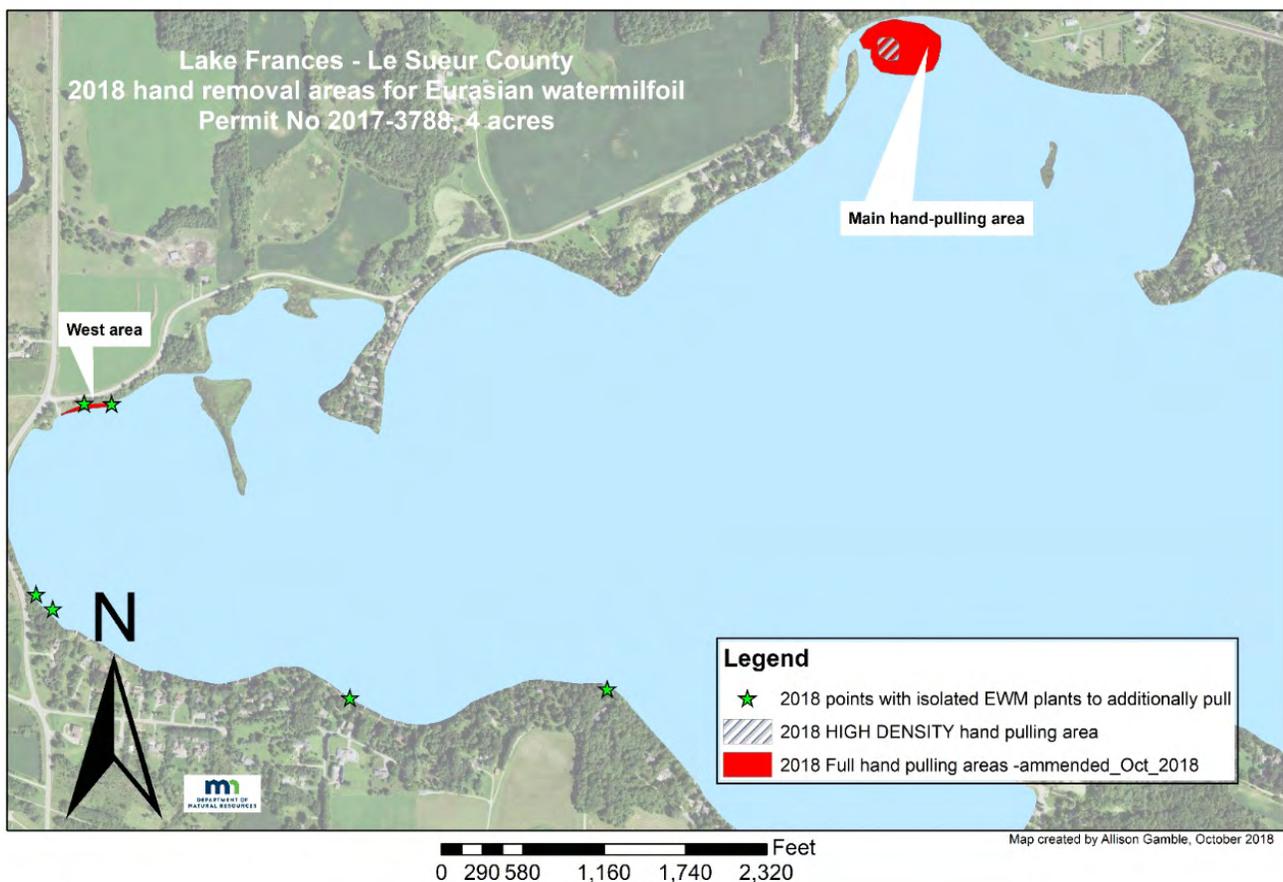


Figure 1. MnDNR permitted hand removal areas for Eurasian watermilfoil (map is from MnDNR).

**Survey:** First, a survey using rakes and visual observations were conducted at all sites previously marked by the MNDNR including the main 4 acre hand pulling area. In addition, the survey also looked for any other occurrence of EWM not previously identified(Figure 2). When EWM was observed, it was hand pulled and removed. A majority of the EWM growth outside of the main 4 acre areas was single stem growth or small patches of EWM.

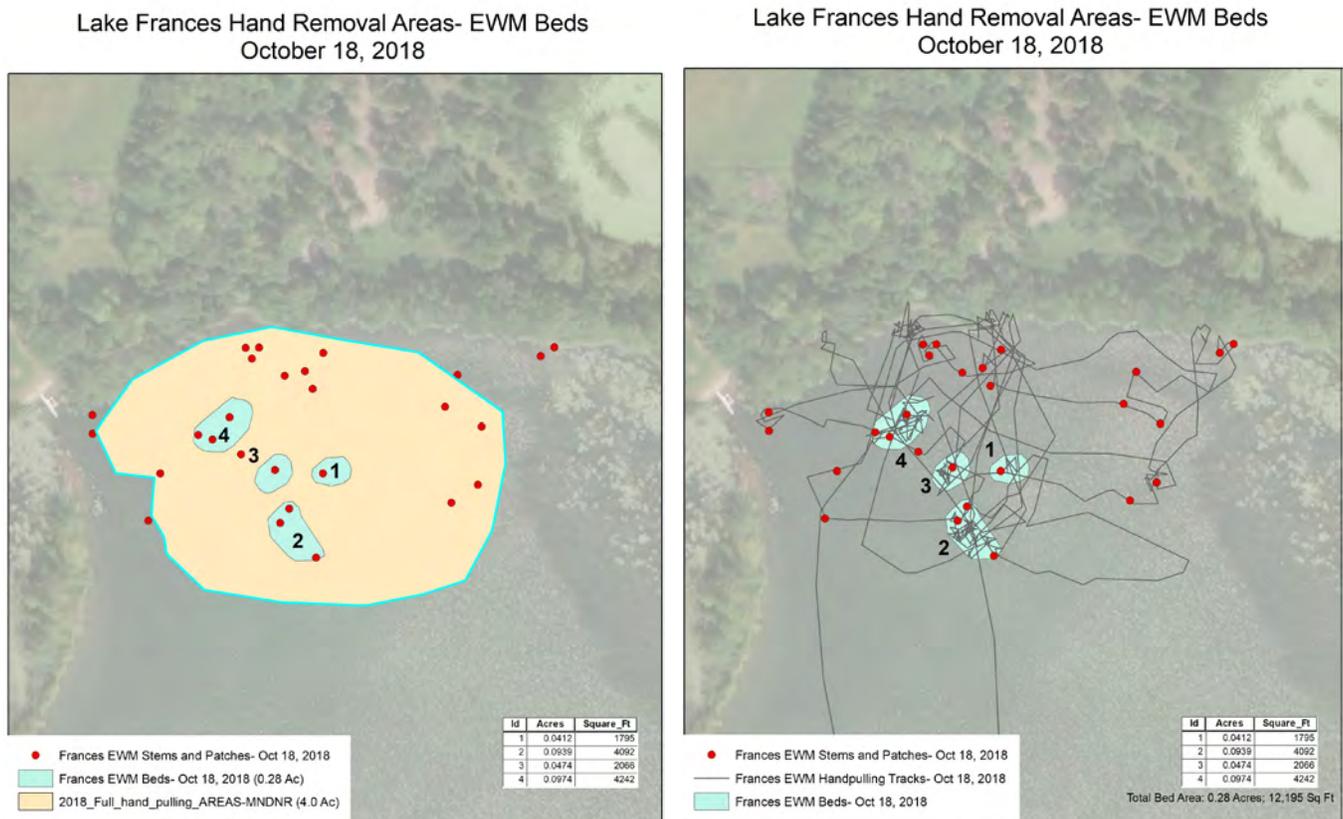
### Lake Frances Eurasian Watermilfoil Hand Removing Areas October 18, 2018



Figure 2. Areas where Eurasian Milfoil was observed and removed by hand pulling.

## Primary Hand-pulling Area (4.01 acres)

The main 4 acre hand pulling area was surveyed to characterize the growth and check the abundance of Eurasian watermilfoil. Large beds of EWM were marked with buoys while small patches and individual stems were hand pulled and removed when observed. The larger beds of EWM were pulled with a combination of rakes, snorkeling and diving (Figure 3).



**Figure 3. Large 4.0 acre area where EWM was found growing at light to moderate densities. Greenish polygons within the 4 acre area mark where EWM growth was heavy and matting near the surface.**

## EWM Removed

A total of 9 tubs of EWM or approximately 41.5 cubic feet of EWM was removed from all sites on October 18, 2018.

# Lake Francis EWM Conditions on October 23, 2018



Figure 4. [top] Eurasian watermilfoil within the main 4 acre handpulling area. [middle] Diving and snorkeling. [bottom-left] Hand pulling was effective for selectively removing only the EWM while leaving the native plants in place. [bottom-right] A EWM fragment that had started to regrow.

**Eurasian Watermilfoil Removal:** An estimated 40.5 cubic feet (9 tubs) of EWM was removed.



**Figure 5. Nine tubs Eurasian watermilfoil were pulled, removed, and disposed of for a total of approximately 40.5 cubic feet of Eurasain watermilfoil removed.**

# APPENDIX:

## Eurasian Watermilfoil Removal and Survey For Lake Frances, Le Sueur Co, Minnesota, October 3, 2017

Eurasian watermilfoil (EWM) was documented by the MnDNR survey in Lake Frances on August 23 and 29, 2017. For EWM control, hand pulling was the preferred method because of the number of native species present including northern watermilfoil. On October 3, 2017, Blue Water Science hand pulled all the EWM that was observed within a 2.13 acre area (Figure 1). Approximately 10 cubic feet of EWM was removed in 2017.

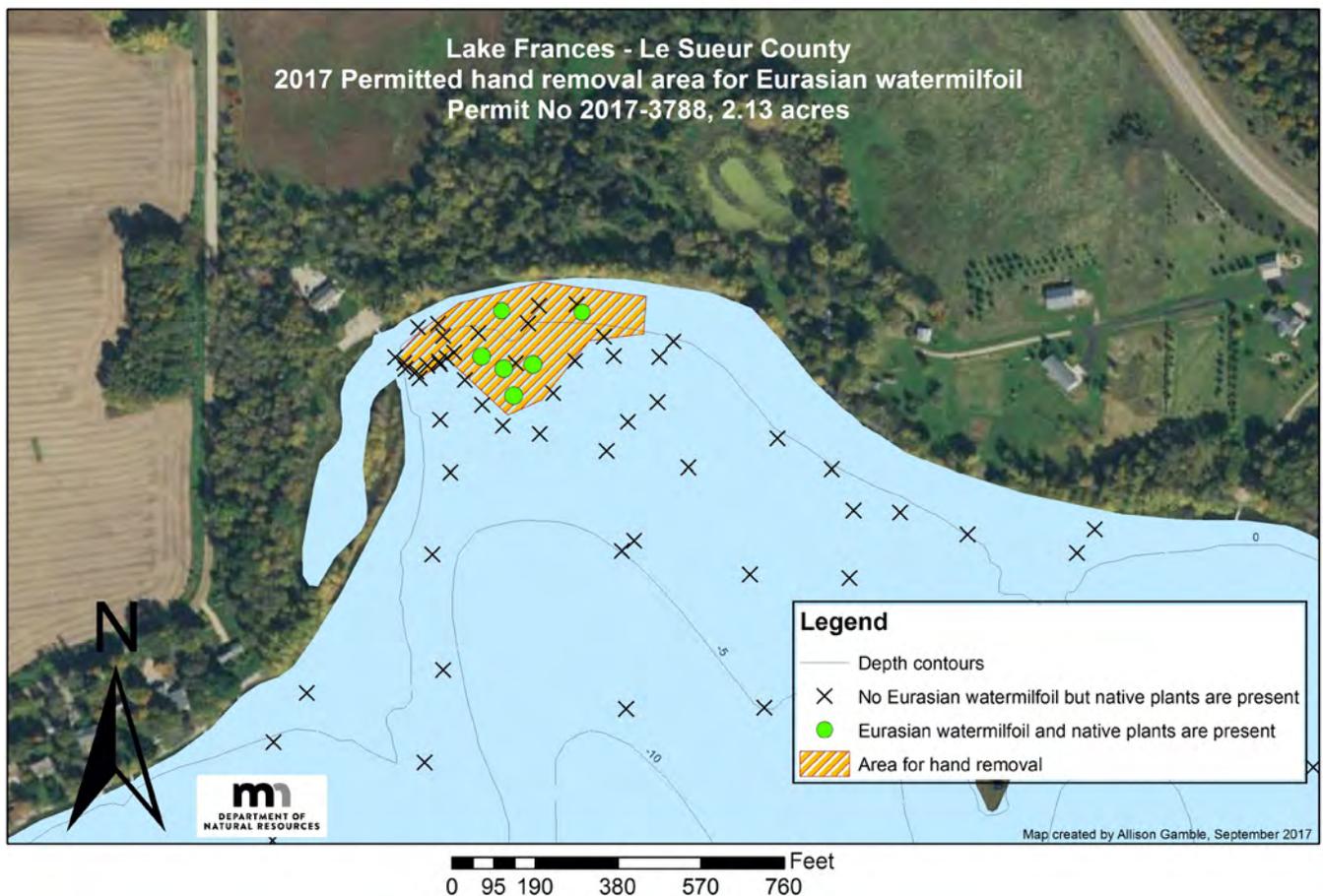


Figure 1. MnDNR permitted hand removal area for Eurasian watermilfoil (map is from MnDNR).

## Results of EWM Hand Removal Conducted on October 3, 2017

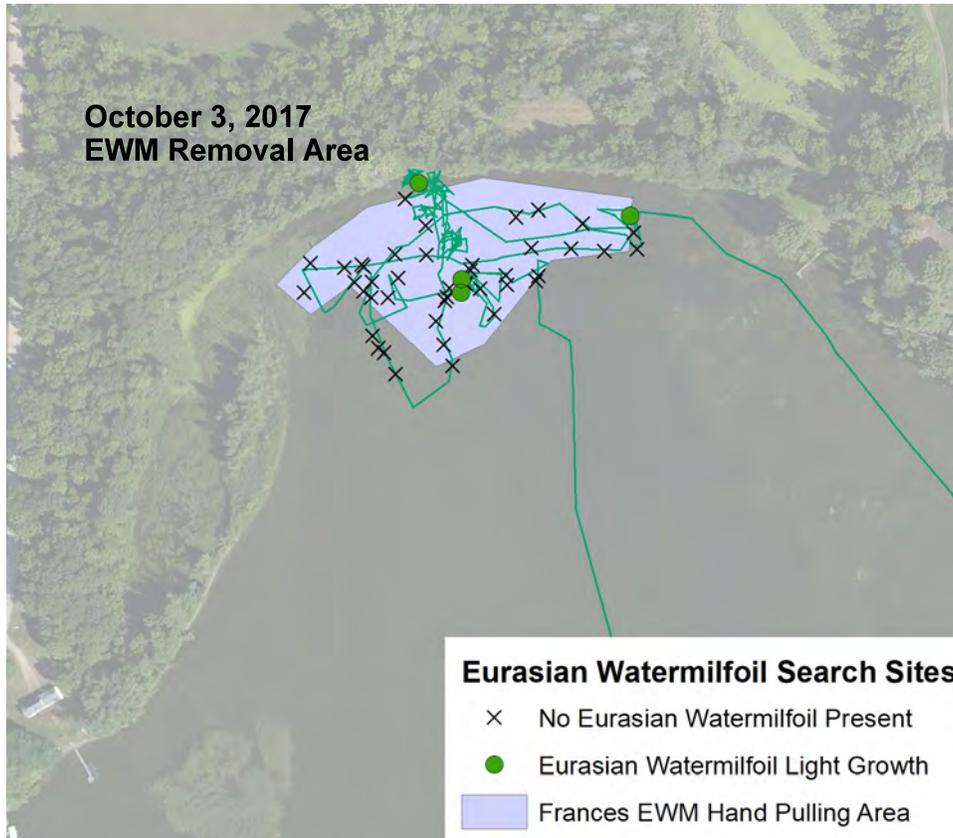


Figure 2. Eurasian watermilfoil hand-pulling removal location on October 3, 2017.



Figure 3. [left] EWM was removed from Lake Frances on October 3, 2017. Plants were put into tubs and removed from the lake. Plants were disposed in a compost site.

[right] Some EWM floating fragments in the removal area were found to have rootlets growing. It is possible floating fragments had previously drifted to other parts of Lake Frances. Autofragmentation by EWM is natural and occurs annually with EWM stems.

# Native Plants in the EWM Management Area

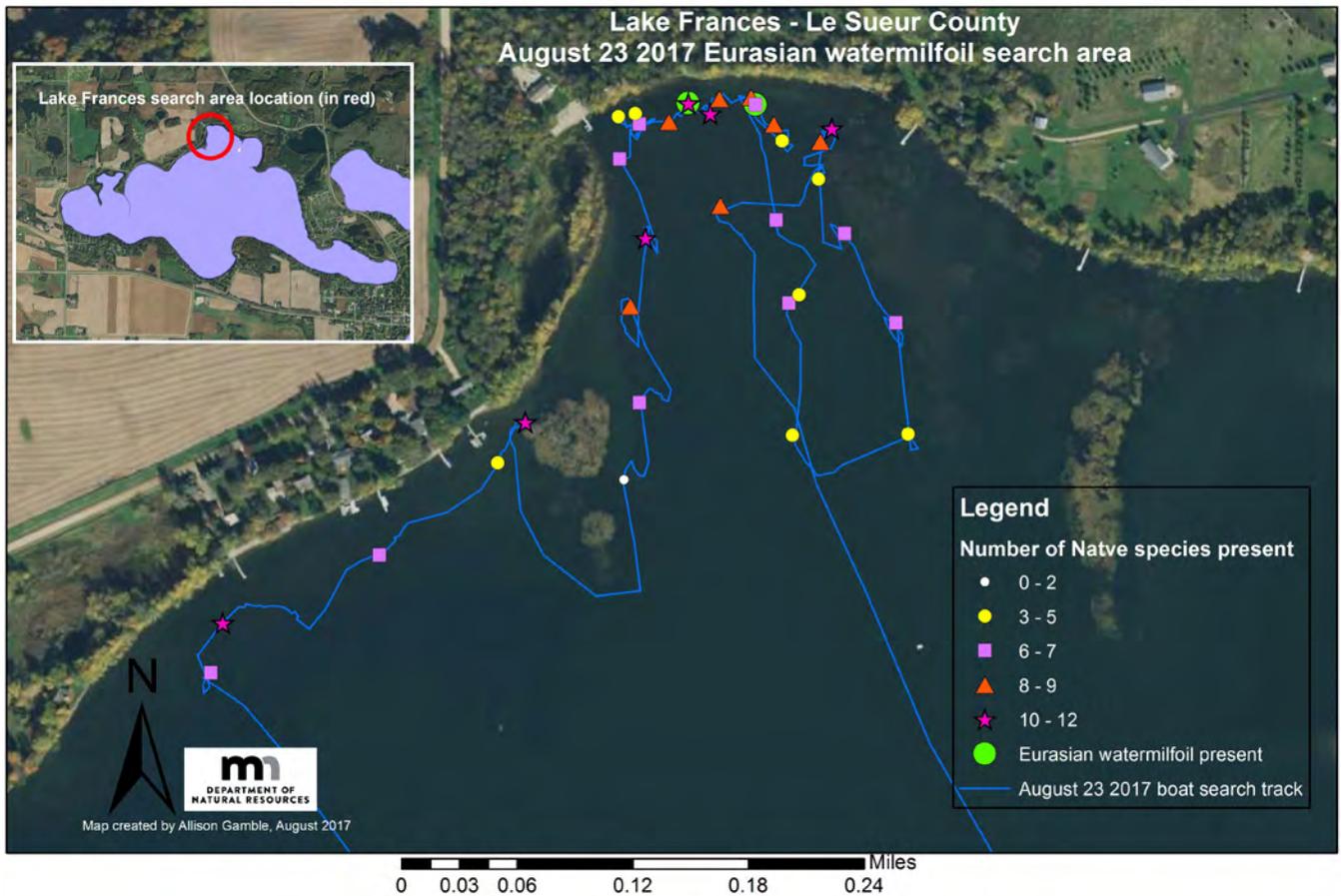


Figure 4. Native species were common in the EWM management area (source: MnDNR).

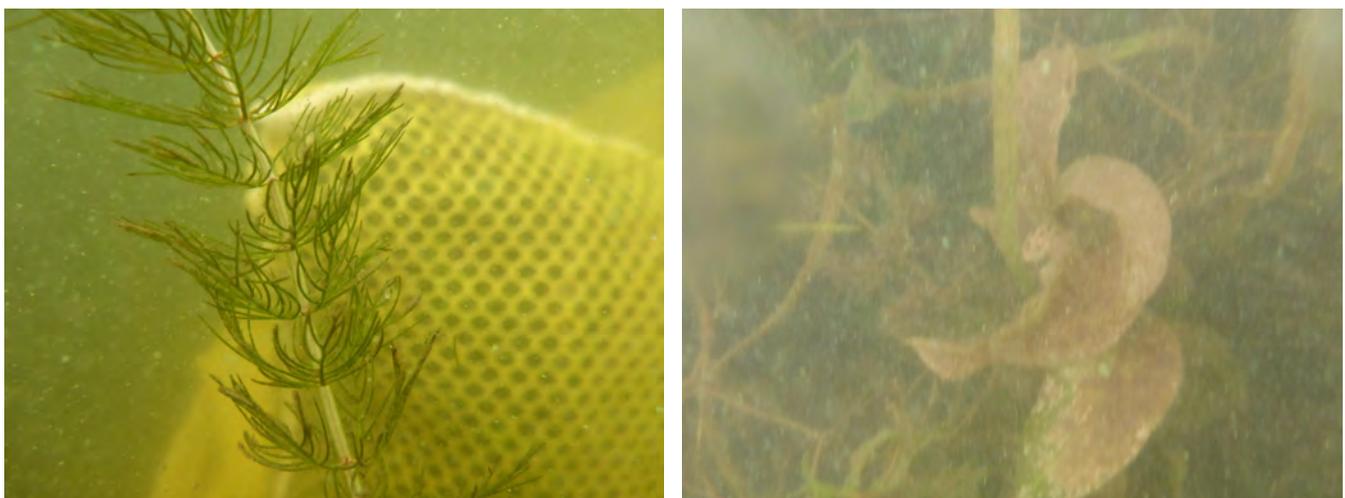


Figure 5. [left] Northern watermilfoil, a native species that looks a lot like Eurasian watermilfoil. [right] Broadleaf pondweed, a native species commonly found in the EWM management area.

# EWM Distribution in Lake Frances

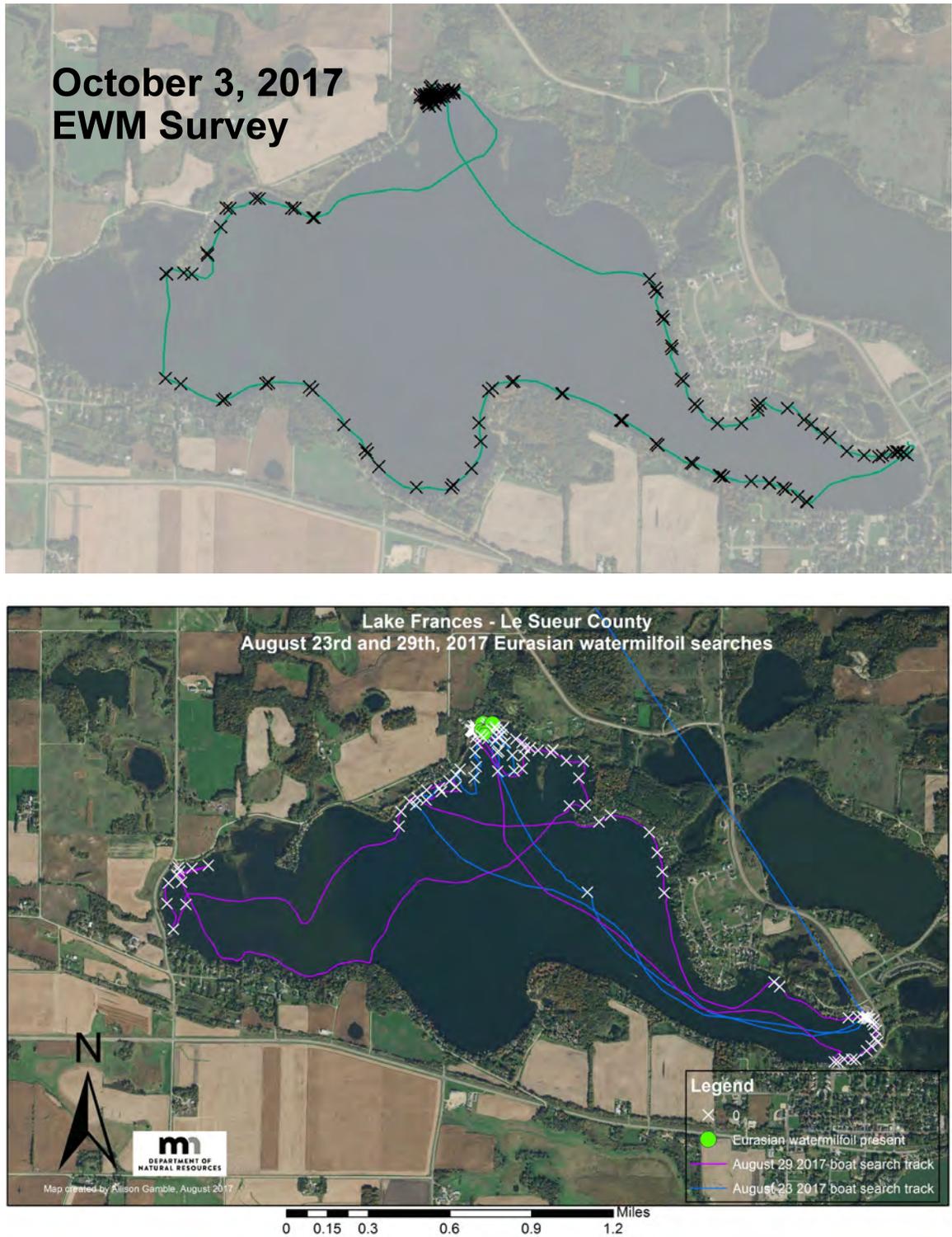


Figure 6. [top] Sample points were taken by Blue Water Science in a meander survey at locations around Lake Frances on October 3, 2017. These points complement the survey conducted by MnDNR [right] in August of 2017. Aquatic plant data for individual sites in October can be found in the Appendix.