

---

# LATIMER LAKE, TODD COUNTY: AQUATIC VEGETATION MANAGEMENT REPORT

**Report by the Invasive Species Program-** Division of Ecological and Water Resources  
Minnesota Department of Natural Resources

---



**Prepared by:**

Christine Jurek and Emelia Hauck Jacobs  
Division of Ecological and Water Resources  
Minnesota Department of Natural Resources  
December 10, 2021

## Project Details

**Lake:** Latimer (DOW# 77010500)

**Lake Surface Area:** 201.9 acres

**Littoral Area:** 83.1 acres

**County:** Todd County

**Survey Type:** Point-intercept

**Date of Survey (most recent):** September 16, 2014

**Observer[s]:** MN DNR, Invasive Species Program (ISP): 2014: Chris Jurek and Courtney Millaway;  
2010- 2011: Nathan Olson and 2009: Dan Swanson

**Report Updated:** November 8, 2021

**Author[s]:**

Christine Jurek (MN DNR), [christine.jurek@state.mn.us](mailto:christine.jurek@state.mn.us), 320-223-7847

Emelia Hauck Jacobs (MN DNR), [emelia.hauck-jacobs@state.mn.us](mailto:emelia.hauck-jacobs@state.mn.us), 320-223-7855

## Report Details

C. Jurek and E. Hauck Jacobs. 2021. Latimer Lake, Todd County: MN DNR Aquatic Vegetation Report. Minnesota Department of Natural Resources, Division of Ecological and Water Resources, Invasive Species Program, 1035 South Benton Drive, Sauk Rapids, MN 56379. 13 pp.

## Summary

The most recent aquatic vegetation point-intercept survey of Latimer Lake (DOW #77010500) occurred on September 16, 2014. Plants were present throughout the lake to a depth of 12.3 feet. Within the littoral zone (zone in lake from the 0-15 foot depth range), 39% of the points had native submersed taxa. The average number of native submersed taxa per sample point was 0.5. In total, four submersed taxa, and three floating-leaf taxa were observed during the 2014 survey.

## Lake Description

Latimer Lake is a 201.9- acre lake located five miles south of Long Prairie, MN in Todd County. The lake has one invasive plant species: curly-leaf pondweed (*Potamogeton crispus*). The maximum depth of water in Latimer Lake is 30.5 feet, and 41% of the lake is classified as littoral (areas of water depth between 0 to 15 feet, where aquatic plants are most likely to grow). Water clarity during the summer averaged 1.5 meters feet in 2020. According to surveys from the Minnesota Pollution Control Agency (MPCA, 2020), Latimer Lake is classified as a eutrophic lake, based on its Trophic State Index (TSI) of approximately 64. For more information on water quality, go to [Latimer Lake water quality](#) on the MPCA website (<https://webapp.pca.state.mn.us/wqd/surface-water/waterunit-details?wid=77-0105-00>).

## Management History

Invasive aquatic plant management in Latimer Lake has focused on Curly-leaf pondweed using an endothall herbicide. The most recent treatment was for curly-leaf pondweed in 2021 was for 8.0 acres, organized by the Latimer Lake Association (Figure 1, Table 1). Past treatments have ranged from 8.0 to 27.8 acres.

**Table 1 - Invasive Plant Management Summary.** Characteristics and history of partial lake invasive plant treatments for Latimer Lake, Todd County (DOW#77010500). Total acres: 201.9, Littoral acres: 83.1, 15% of Littoral acres: 12.5). Abbreviations are as followed: curly-leaf pondweed (CLP), Professional Lake Management (PLM). Note: Total acres permitted does not reflect the actual treatment or known acreage of the taxa in the lake. Acreage is rounded to the nearest tenth.

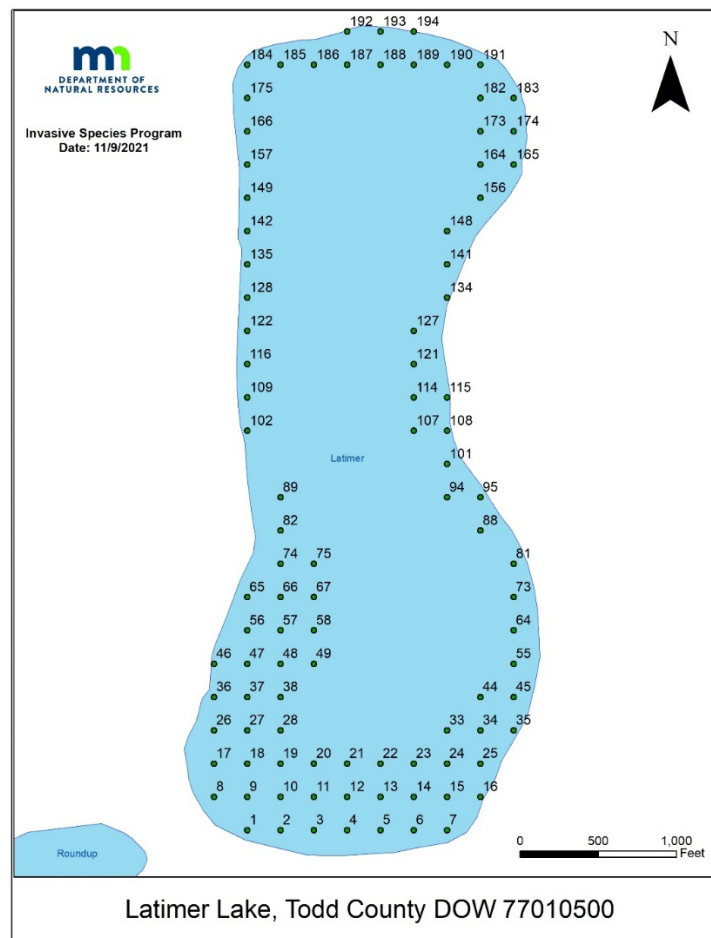
<b>Date</b>	<b>Target Species</b>	<b>Total Acres Permitted</b>	<b>Herbicide</b>	<b>Licensed Commercial Applicator</b>
<b>2012</b>	CLP	27.8	Endothall	PLM
<b>2013*</b>	CLP	27.8	Endothall	PLM
<b>2014</b>	CLP	27.8	Endothall	PLM
<b>2015</b>	CLP	11.0	Endothall	PLM
<b>2016</b>	CLP	11.0	Endothall	PLM
<b>2017</b>	CLP	11.6	Endothall	PLM
<b>2018</b>	CLP	10.4	Endothall	PLM
<b>2019</b>	CLP	10.4	Endothall	PLM
<b>2020</b>	CLP	8.0	Endothall	PLM
<b>2021</b>	CLP	8.0	Endothall	PLM

### Survey Objectives

A point-intercept survey was used to assess the distribution of aquatic plants in Latimer Lake. The primary purpose for this type of survey is to 1) develop baseline knowledge of the current plant community in a lake, and over time, 2) compare year to year plant variation (in plant presence and spatial location). Moreover, this survey will help the DNR and our partners to monitor native plant communities and evaluate possible responses to invasive aquatic plant management via herbicide control. It is important to note that distributions of aquatic plants may vary from year to year due to effects such as differences in weather, as well as the effects from management efforts.

**Survey Methods**

MN DNR surveyors used a point-intercept survey method developed by John Madsen in “Aquatic Plant Control Technical Note MI-02, 1999”. Sampling points were placed 65 meters apart using a Geographic Information System. A total of 96 points within 15 feet were established on a grid (Figure 1). Although depending on the year, not all points were accessible by boat due to shallow depths and thick emergent and floating-leaf vegetation. Plant samples were collected by throwing and dragging a double-sided rake along the lake bottom at each point. Frequencies of occurrence percentages (i.e., how often a plant species was sampled in the lake) were calculated based on the littoral zone.



**Figure 1 – Point-intercept Survey Grid.** Point-intercept survey grid for Latimer Lake, Todd County (DOW#77010500). Point-intercept survey included 96 points, 65 meters apart.

## Survey Observations

In 2014, aquatic plants in Latimer Lake ranged in water depths from 1 to 18 feet. Most plants were growing in the depth range between 2 and 13 feet. In the littoral zone, 39% of the surveyed points had submersed native vegetation (Table 2). In total, we found four submersed taxa and three floating-leaf species during the survey (Table 3). Coontail (*Ceratophyllum demersum*) was the most commonly occurring plant, at 35% of all sites in the littoral zone (Figure 2), followed by star duckweed (*Lemna trisulca*, Figure 3), and water celery (*Vallisneria americana*, Figure 4). Curly- leaf pondweed is the only invasive species in the lake and was not found during the survey in 2014 due to the fact that the plant senesces late June/ early July. Latimer Lake has a low diversity of aquatic plants with an average of 0.48 species per a sampling site (Figure 5).

**Table 2 - Point-intercept Metrics.** Summary of point-intercept metrics for Latimer Lake, Todd County (DOW#77010500). Shaded values were calculated from littoral depth range (0-15 feet).

Metric	JUNE 2009	JULY 2010	AUG 2011	SEPT 2014
Surveyor	MN DNR	MN DNR	MN DNR	MN DNR
Total # Points Sampled	76	75	90	91
Depth Range of Rooted Veg (ft.)	1-10	2-12	1-10	2-12
Max Depth of Growth (95%)	9	10	8	8
# Points in Littoral (0-15 feet)	76	75	86	89
% Points w/ Submersed Native Taxa	37	52	44	39
Mean Submersed Native Taxa/ Point	0.6	0.7	1.0	0.5
# Submersed Native Taxa	5	9	10	4
# Submersed Non-Native Taxa	1	0	1	0
% Points w/ Submersed Non- native Taxa	57	0	7	0

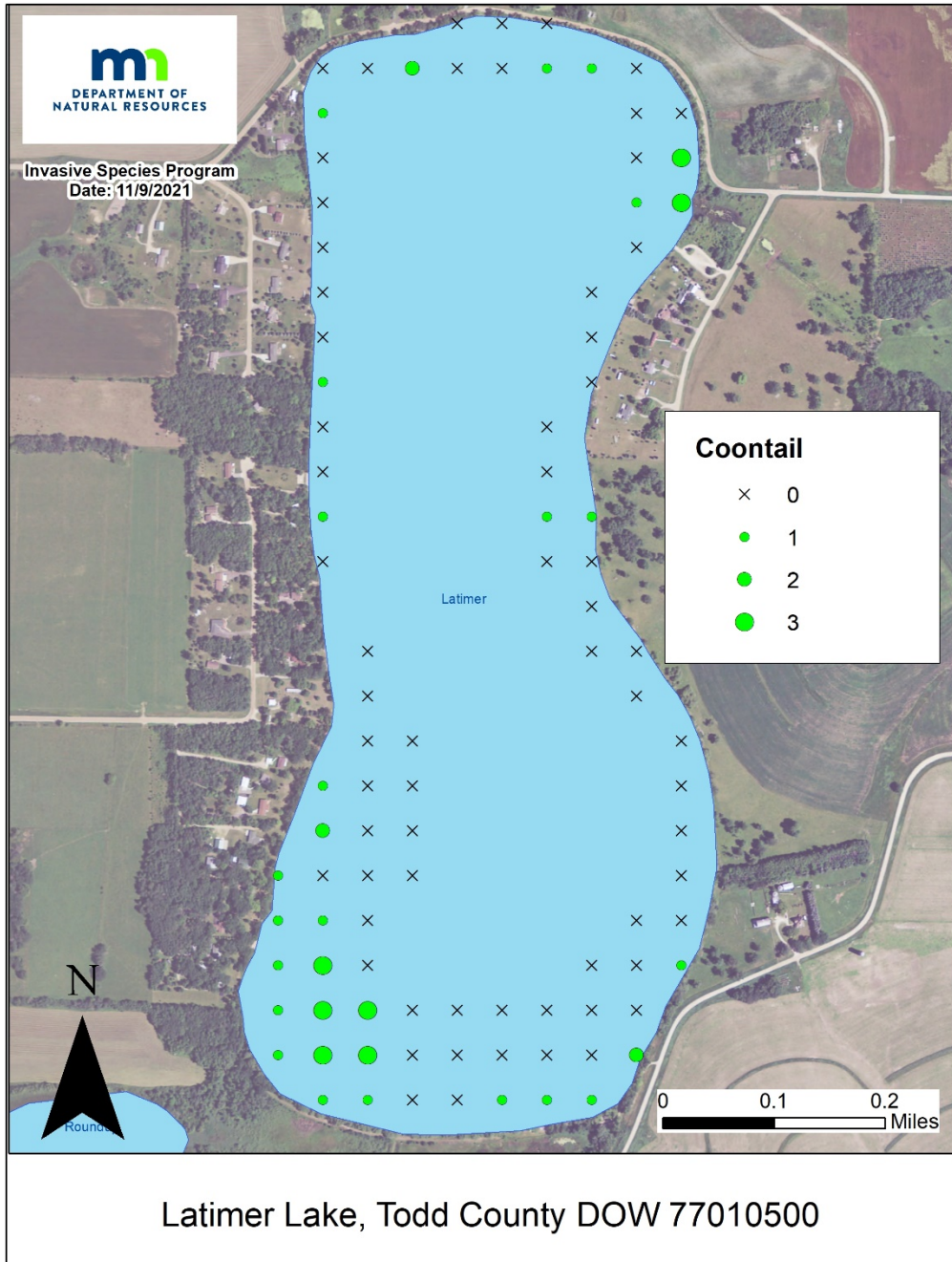
**Table 3 - Plant Frequency of Occurrence.** Percent frequency of occurrence for observed plant species within the littoral zone (0-15 feet) in Latimer Lake, Todd County (DOW#77010500).

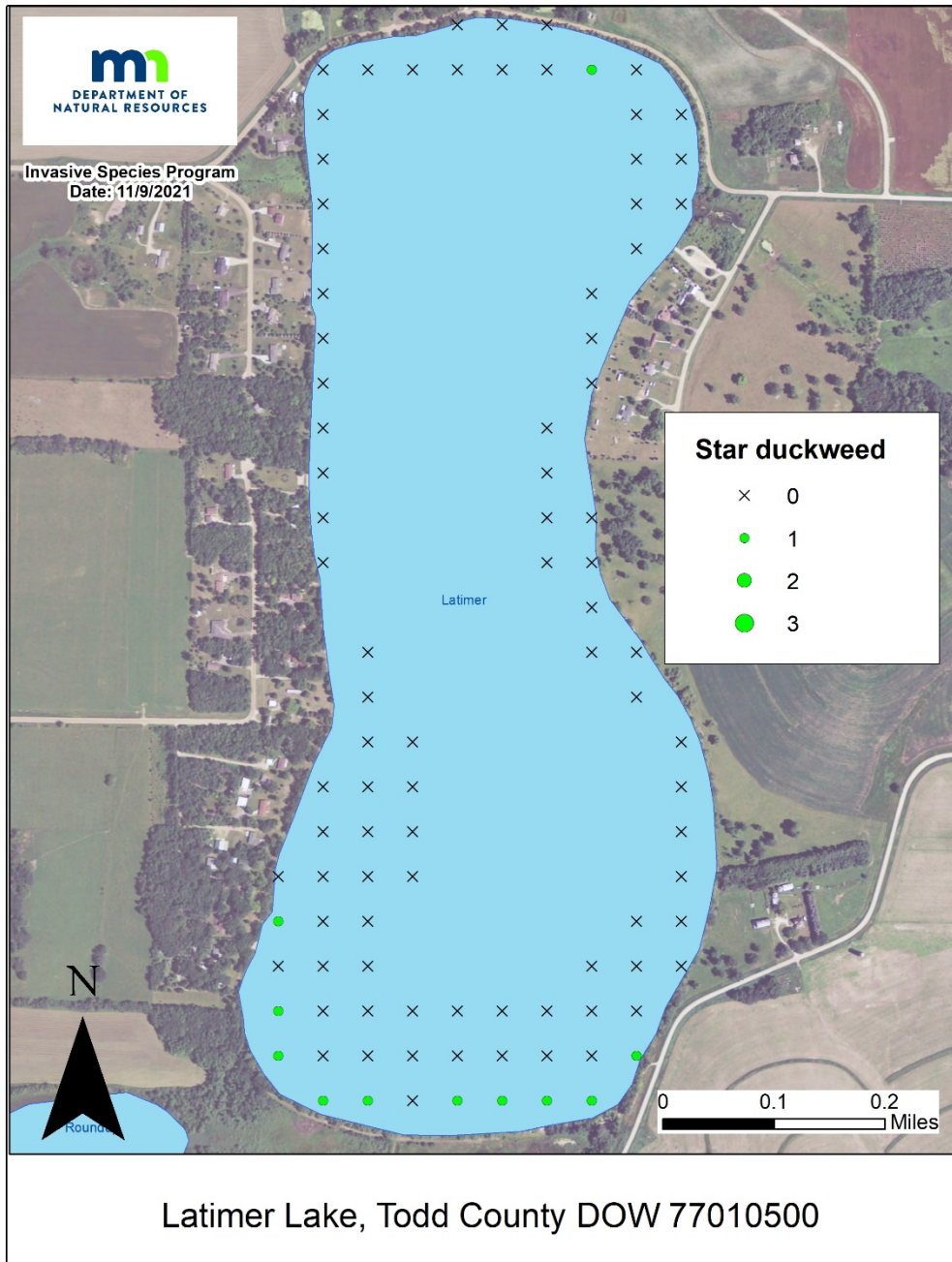
Taxonomic Name	Common Name	JUNE 2009	JULY 2010	AUG 2011	SEP 2014
<b>SUBMERSED NON-NATIVE</b>					
<i>Potamogeton crispus</i>	Curly-leaf pondweed	57	0	7	0
<b>SUBMERSED NATIVE</b>					
<i>Ceratophyllum demersum</i>	Coontail	12	51	40	35
<i>Chara sp.</i>	Muskgrass	0	0	5	0
<i>Elodea canadensis</i>	Canadian waterweed	0	1	6	0
<i>Heteranthera dubia</i>	Water star-grass	0	3	0	0
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	22	7	19	6
<i>Najas flexilis</i>	Northern naiad	0	3	6	0
<i>Potamogeton praelongus</i>	White-stem pondweed	1	1	1	1
<i>Potamogeton sp.</i>	Narrow-leaf pondweed	7	1	5	0
<i>Potamogeton zosteriformis</i>	Flat-stem pondweed	21	0	0	0
<i>Ranunculus sp.</i>	Buttercup species	0	0	2	0
<i>Stuckenia pectinata</i>	Sago pondweed	0	4	9	0
<i>Vallisneria americana</i>	Water celery	0	3	6	7
<b>FLOATING LEAF</b>					
<i>Lemna spp.</i>	Duckweed species	0	0	0	1
<i>Lemna trisulca</i>	Star duckweed	18	83	33	12
<i>Nuphar variegata</i>	Yellow waterlily	0	0	0	1

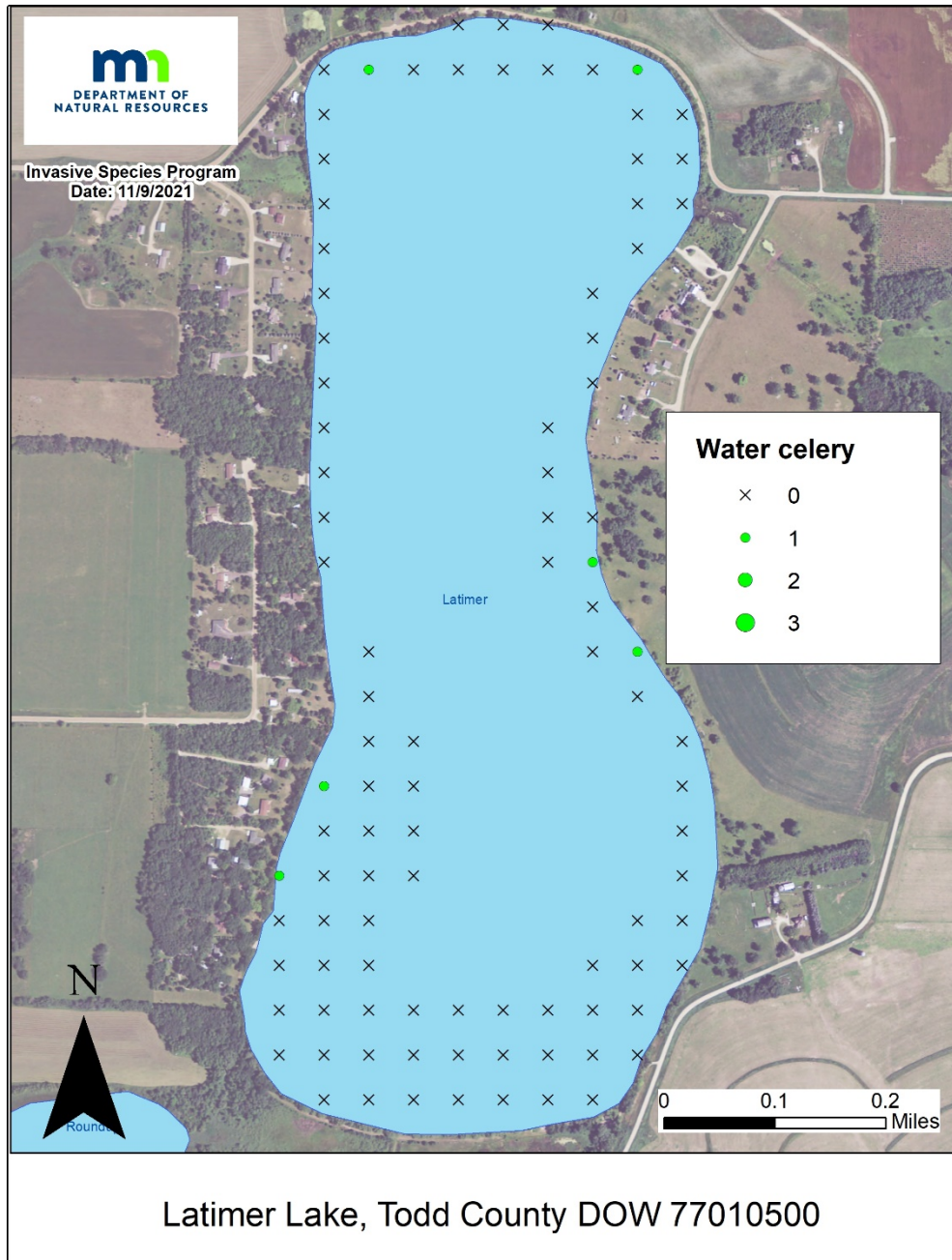
### Comparison to previous years

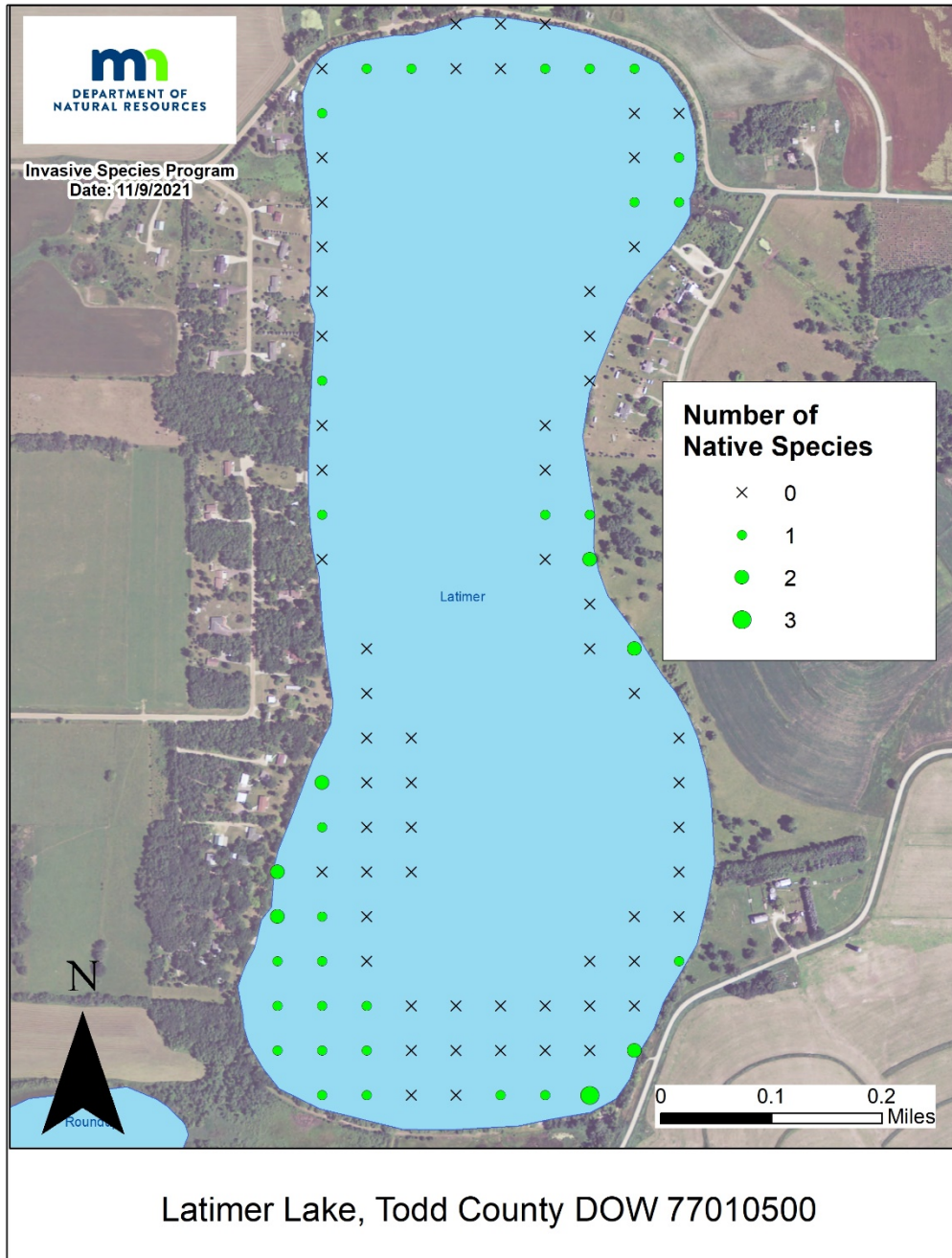
The MN DNR Invasive Species Program conducted point-intercept surveys on Latimer Lake from 2009-2011 as well as the survey in 2014. Some of the most commonly found plants from 2009-2011 include coontail, northern watermilfoil, and star duckweed. Curly- leaf pondweed occupied 57% of the lake in 2009. It should be noted that surveys in 2010, 2011, and 2014 were performed past curly-leaf pondweed growing season in July, August, and September; therefore current percent frequencies of curly-leaf pondweed have not been observed.











## Literature Cited

Crow, G.E. and C.B. Hellquist. 2000. Aquatic and wetland plants of Northeastern North America. 2 volumes. The University of Wisconsin Press.

Madsen, J. 1999. Point intercept and line intercept methods for aquatic macrophytes management. APCRP Technical Notes Collection (TN APCRP-M1-02). U.S. Army Engineer Research and Development Center, Vicksburg, MS.