

# 2015 INVASIVE SPECIES REPORT

FOR THE  
MOSINEE HYDROELECTRIC PROJECT  
MARATHON COUNTY, WISCONSIN  
FERC Project No. 2207



Submitted By  
Mosinee Paper Corporation

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**APPENDIX A – Purple Loosestrife Survey Results**

**APPENDIX B – Eurasian Water Milfoil Survey Results**

**APPENDIX C – Curly-leaf Pondweed Survey Results**

**APPENDIX D – Mosinee Reservoir Elevations during Survey Dates**

**APPENDIX E – FERC ORDER AMENDING INVASIVE PLANT MONITORING PLAN PURSUANT TO  
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**APPENDIX F – Agency Correspondence**

- **Agency Invitation to Comment dated November 4, 2015**
- **WI DNR comments dated November 13, 2015**
- **US FWS comments dated November 20, 2015**

## 1.0 Executive Summary

Article 408 of the Mosinee Hydroelectric Project (issued September 13, 2006) required the Licensee to conduct annual surveys for purple loosestrife (*Lythrum salicaria*), Eurasian water milfoil (*Myriophyllum spicatum*), and curly-leaf pondweed (*Potamogeton crispus*) for a minimum of 5 consecutive years, beginning in 2007. A comprehensive report containing all the data was required with the fifth monitoring report and was filed January 5, 2012, including the Licensee's proposed recommendations for future monitoring. The Licensee monitored for Galerucella (Cella) beetle population in 2012 (filed on January 15, 2013) awaiting Commission action on the Licensee's proposed recommendations. Subsequently, on May 2, 2013 the Commission issued its ORDER amending Article 408 (attached as Appendix E) lengthening the invasive plant monitoring frequency from annually to every three years and commencing in 2015. That Commission ORDER also modified the curly-leaf pondweed monitoring window. Curly-leaf pondweed is now to be monitored in June, rather than concurrently with the purple loosestrife and Eurasian water milfoil in late July or early August.

Purple Loosestrife (PL) was once again found throughout the entire survey area. However, the overall sightings, densities and plant vigor have decreased since 2011, which is consistent with the continuing increase in beetle populations as described below. Of the nearly 190 previously documented PL sites visited on this survey, approximately 50% of the PL sites have been downgraded in density, about 40% remained the same, and only about 10% have increased. Typically, the areas where no PL was found tended to be undisturbed wooded shorelines with northern exposures that limit sunlight penetration.

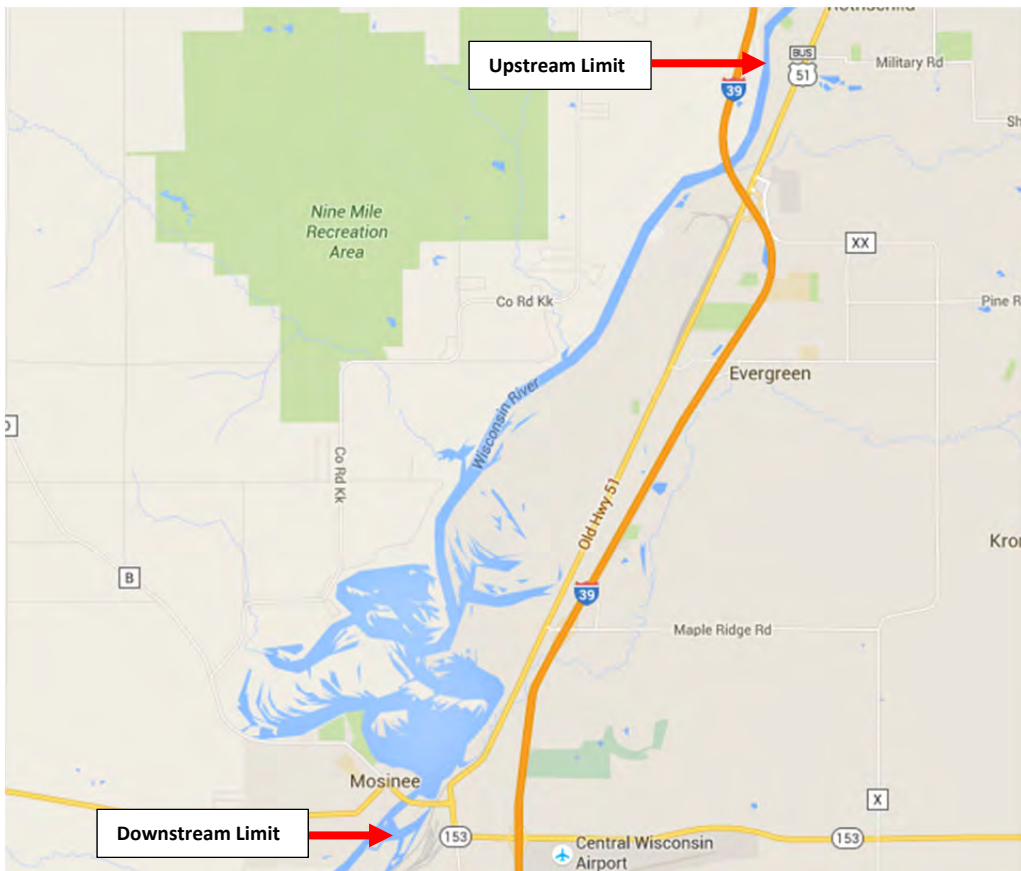
Galerucella (Cella) beetle populations have spread throughout most of the survey area since the low in 2011, and the upward trend observed in the 2012 survey continues. In fact, of the selected sites from the 2012 survey, about a 50% increase in beetle densities was observed. Of the documented sites, very few were observed to have decreased in beetle density. Approximately 54% of the documented beetle density sites appear to have increased in density, with about 42% remaining the same. It is apparent that the beetle populations are continuing to spread and readily finding the PL plants. As has been expected with no detrimental incidents such as high water, the number of beetles is increasing, and corresponds with the number of PL plant sites that show stunted growth or are completely brown due to beetle activity.

EWM was found in a few shallow waters, generally consistent with past surveys. Wherever EWM was found, densities were low and did not cause navigational difficulties for the survey crew. No EWM was found in the canal, bypass reach, tailrace, or Half-Moon Lake. Much of what was documented was occurrences of stray singular plants as observed during the meander survey. Past surveys have commented on a decreasing trend and the 2015 survey work generally agrees with that as well. More plants were documented in the Mosinee and Cemetery Slough impoundments from the meander survey observations as mentioned above, and not from the rake methods.

Noteworthy, CLP has not reappeared in any of the project survey waters since its disappearance as documented in the 2011 survey. We conclude that CLP has been eliminated from the project reservoirs.

## 2.0 Methods

The upstream and downstream survey limits for PL, CLP, and EWM are shown on the following map labeled Survey Limits and were defined as follows. The waters and shoreline of the Wisconsin River and Mosinee Flowage from  $N44^{\circ} 52' 48.4'' W89^{\circ} 38' 16.6''$  WGS84 approximately 1.0 miles upstream of the I-39 Bridge to the dam at the Mosinee Hydroelectric Project; the waters and shoreline of the power canal, bypass reach, and tailrace from the dam at the Mosinee Hydroelectric Project downstream to  $N44^{\circ} 47' 10.6'' W89^{\circ} 42' 08.6''$  WGS84 approximately 0.5 miles downstream of the HWY 153 Bridge; the waters and shoreline of Half-Moon Lake and Cemetery Slough.



**Map of Survey Limits**

All previous years monitoring reports and results were reviewed and analyzed prior to performing the 2015 monitoring work for crew familiarity the previous results and to assist in the planning of the 2015 work.

The WI DNR's most recent monitoring protocols for AIS has continued to be used as a guide and basis for all the survey work. In November 2006, point intercept sampling locations were acquired from the WIDNR for the Mosinee Flowage (716 acres, 518 sample points), Half-Moon Lake (218 acres, 154 sample points), and Cemetery Slough (135 acres, 102 sample points). These locations were formatted and uploaded to a handheld GPS device with WAAS capability.

No PL plants were manually pulled during this survey. This was due to the large degree of active beetles on the PL plants and to promote Cella distribution. Additionally, and as reported in previous reports, the manual control methods that had been employed in project waters were difficult and negligible in reduction of plant numbers.

## **2.1 Purple Loosestrife**

PL meander surveys were conducted on the following dates:

|               |                |
|---------------|----------------|
| July 25, 2015 | August 1, 2015 |
| July 26, 2015 | August 2, 2015 |
| July 30, 2015 | August 8, 2015 |

The PL meander surveys were accomplished by scanning the shoreline and shallow areas of the project waters by two people from a boat. Certain areas were surveyed from land where it was not practical or possible to observe from the boat. These would include the area from the boat barrier to the dam and the head gates of the power canal, the bypass reach, the power canal, the tail race, and the western side of Cemetery Slough along County HWY B. High powered (15 x 50) image stabilization binoculars were used to facilitate the spotting of plants. A handheld Global Positioning System (GPS) unit with Wide Area Augmentation System (WAAS) enabled was used to locate all the previous locations that have previously been identified, as well as document any new locations.

Maps and comparative results of these surveys are included in Appendix A in this report.

## **2.2 Eurasian Water Milfoil**

A Eurasian Water Milfoil meander survey and a point intercept survey were conducted concurrently with the PL meander surveys, and on the following dates:

|               |                |
|---------------|----------------|
| July 25, 2015 | August 1, 2015 |
| July 26, 2015 | August 2, 2015 |
| July 30, 2015 | August 8, 2015 |

EWM surveys were performed by visually scanning shallow areas of the project waters during the PL meander survey by two people from a boat. If a suspected plant was observed, a sample was grabbed and identified. During launch and recovery of the survey boat, boat ramps and parking areas were scanned for the presence of EWM plants. These would include River Park, Half-Moon Lake, and Chuck's Landing boat ramps. No EWM was found at any of these boat ramps during the survey.

Besides the standard safety devices located in the survey boat, the following equipment was used; handheld GPS unit with WAAS enabled (with all site locations already loaded), lake maps, field data sheets, 18-foot pole-mounted rake, push pole, depth finder, electric trolling motor, and polarized sunglasses. When navigating to the sites using the GPS unit, the zoom level was set to 80 feet. Once the GPS navigation arrow covered the sample point, a rake was dropped to the bottom and dragged for about 2.5 feet. Weeds retrieved were sorted for the presence of EWM. For each site, the sample point number, latitude, longitude, depth, sediment type, EWM density, and comments were recorded. If northern water milfoil was observed at a sample point, it was noted in the comments field.

For hard to reach sites where no sample could be taken (blocked by logs, blocked by fallen trees, etc.), the depth, sediment type, and EWM and density fields were left blank and N/A (no access) was recorded in the comments field. In the case of inaccessible shallow sloughs with deep muck, the sediment type field was designated as muck even though the survey crew could not actually reach the sample point.

If a sample site produced no weeds, the depth was recorded and a notation was made in the comments field. After the depth of the deepest weed growth was established, for all deeper points, depth was recorded, but no samples were taken and a notation was made in the comments field.

In general, wherever EWM did occur, densities were low and did not cause navigational difficulties for the survey crew.

Maps and comparative results of these surveys are included in Appendix B in this report.

### **2.3 Curly-leaf Pondweed**

Curly-leaf Pondweed meander surveys and a point intercept survey was conducted on the following dates:

|               |               |
|---------------|---------------|
| May 29, 2015  | June 14, 2015 |
| May 30, 2015  | June 15, 2015 |
| June 13, 2015 | June 19, 2015 |

CLP surveys were performed by visually scanning shallow areas of the project waters by two people from a boat. During launch and recovery of the survey boat, boat ramps and parking areas were scanned for the presence of CLP plants. These would include River Park, Half-Moon Lake, and Chuck's Landing boat ramps. No CLP was found at any of these boat ramps during the survey.

Besides the standard safety devices located in the survey boat, the following equipment was used; handheld GPS unit with WAAS enabled (with all site locations already loaded), lake maps, field data sheets, 18-foot pole-mounted rake, push pole, depth finder, electric trolling motor, and polarized sunglasses. When navigating to the sites using the GPS unit, the zoom level was set to 80 feet. Once the GPS navigation arrow covered the sample point, a rake was dropped to the bottom and dragged for about 2.5 feet. Weeds retrieved were sorted for the presence of CLP. For each site, the sample point number, latitude, longitude, depth, sediment type, CLP density, and comments were recorded. If northern water milfoil was observed at a sample point, it was noted in the comments field.

For hard to reach sites where no sample could be taken (blocked by logs, blocked by fallen trees, etc.), the depth, sediment type, CLP density fields were left blank and N/A (no access) was recorded in the comments field. In the case of inaccessible shallow sloughs with deep muck, the sediment type field was designated as muck even though the survey crew could not actually reach the sample point.

If a sample site produced no weeds, the depth was recorded and a notation was made in the comments field. After the depth of the deepest weed growth was established, for all deeper points, depth was recorded, but no samples were taken and a notation was made in the comments field.

Maps and comparative results of these surveys are included in Appendix C in this report.

## **2.4 Miscellaneous**

Previous to initially launching into Mosinee Hydroelectric Project waters, the survey boat and survey equipment were treated with a bleach solution to prevent possible spread of invasive species from other locations. After the survey was completed and before launching into other waters, the survey boat and survey equipment were again treated with a bleach solution. Weeds were removed from boat and trailer after each recovery and before leaving the boat launch.

### 3.0 Observations

#### 3.1 Purple Loosestrife

Purple Loosestrife (PL) was once again found throughout the entire survey area. However, the overall sightings, densities and plant vigor have decreased since 2011, which is consistent with the continuing increase in beetle populations as described below. Of the nearly 190 documented PL sites visited on this survey, approximately 50% of the PL sites have been downgraded in density, about 40% remained the same, and only about 10% have increased.



**Severely stunted PL plants. (Typical 2015)**

Galerucella (Cella) beetle populations have spread throughout most of the survey area since the low in 2011, and their upward trend observed in the 2012 survey continues. In fact, of the selected sites from the 2012 survey, about a 50% increase in beetle densities was observed. Of the documented sites, very few were observed to have decreased in beetle density. Approximately 54% of the documented beetle density sites appear to have increased in density, with about 42% remaining the same. It is apparent that the beetle populations are continuing to spread and readily finding the



PL plants. As has been expected, with no detrimental incidents such as high water, the number of beetles is increasing, and corresponds with the number of PL plant sites that show stunted growth or are completely brown due to beetle activity.



**PL defoliating and severely stunted due to Galerucella (Cella) beetle activity (2015)**

Rather than record every single occurrence of PL, (and consistent with the previous survey), a density rating method was used to estimate the quantity and locations of plants and a density rating was used for all shoreline areas. Values were assigned for the estimated amount of PL plants per 1000 square feet of area and are categorized as follows:

- L (Light) = 1 – 5 plants
- M (Medium) = 6 – 25 plants
- H (Heavy) = 26 – 100 plants
- VH (Very Heavy) = +100 plants

Individual shoreline maps were created at the time of the surveys for all project areas showing PL locations and densities using this method with colors. Although not

required by the scope of these surveys, Cella beetle damage at key locations was also noted on the maps.

Cella beetle damage recorded was rated as follows:

Light (or Minor) – There were a few holes and/or some “window paining” on the leaves of one or more PL plants. Overall damage was observed on less than 25% of total leaf area of any individual PL plant, however, many or even most of the PL plants may have exhibited no damage at all. *Depending on time of year, one or more life stages of Cella beetle may have been observed on one or more plants, although it is more likely that no Cella would be observed. Light damage may indicate a recovering population or pioneering beetles that have recently migrated into the area.*

Medium – Beetle damage was obvious. There were many holes and/or much “window paining” on the leaves of one or more PL plants. Overall damage was observed on between 25% and 50% of total leaf area of any individual PL plant, however, a number of the PL plants may have exhibited no damage at all. *Depending on time of year, it would not be unusual to see one or more life stages of Cella beetle on one or more plants. Medium damage may indicate an established population that has not reached a critical mass where migration to find new food sources is a necessity, yet.*

Heavy – Beetle damage was very obvious. There were many holes and/or much “window paining” on the leaves of most of the PL plants, although a few plants may have still remained untouched. Overall damage was 50% or greater of total leaf area of any individual PL plant. Some plants may be completely brown or defoliated. *Depending on time of year, it would be likely to find one or more life stages of Cella beetle on one or more plants provided there were still enough green plants remaining to supply adequate food. Heavy damage may indicate that an established population has reached a critical mass and needs to begin migrating to find new food sources to sustain themselves.*

Maps and comparative results of these surveys are included in Appendix A in this report.



**Galerucella (Cella) beetles (2015)**

### **3.2 Eurasian Water Milfoil**

After the 2007 survey, occurrences of EWM steadily declined in each of the subsequent survey years. In 2011, EWM occurrences and coverage was at its lowest numbers within the survey limits. During the 2015 survey, EWM was found in a few shallow waters, generally consistent with past surveys. Wherever EWM was found, densities were low and did not cause navigational difficulties for the survey crew. No EWM was found in the canal, bypass reach, tailrace, or Half-Moon Lake. Much of what was documented was occurrences of stray singular plants as observed during the meander survey. Past surveys have commented on a decreasing trend and the 2015 survey work generally agrees with that as well. More plants were documented in the Mosinee and Cemetery Slough impoundments from the meander survey observations as mentioned above, and not from the rake methods.

When EWM was found, densities were very low and did not cause navigational difficulties for the survey crew.

### **3.3 Curly-leaf Pondweed**

CLP had been decreasing since 2007 with none at all found in project waters in 2011. None was found in any of the survey limits for 2015. We conclude that CLP has been eliminated from the project reservoirs.

Maps and results of this survey are included in Appendix C in this report.

### **3.4 Miscellaneous**

The survey crew again noted that PL is abundant in the Mosinee area outside of the project boundary, particularly within the Interstate I-39 corridor which crosses the Wisconsin River near the upstream survey limit. It is likely that seeds and plant fragments from these locations are transferring into the survey area and establishing new PL plants. EWM and CLP have been reported to be found in the Wisconsin River both upstream and downstream of the Mosinee Hydroelectric Project. Spotted knapweed was observed along roadways and in fields surrounding the Mosinee Project corridor, but no plants were observed within the survey boundary. Reed canary grass and Japanese honeysuckle have also been observed in the project area, but were not included in the scope of these surveys.

## **4.0 Recommendations**

### **4.1 Purple Loosestrife**

Biological control for PL is already in place at the Mosinee project in the form of Galerucella beetles. This has been proven as one of the most effective and economical methods of controlling the spread of PL. Considering the quantity of PL and the terrain in the survey area, chemical and/or mechanical control methods would be very difficult and, most likely, not as effective and is not recommended. Manual control methods of pulling and cutting small occurrences of PL plants were tested within the survey area during the 5-year survey. They were found to have little effect and are not recommended.

Cella beetle populations continue to spread and are readily finding new occurrences of PL. There continues to be an increasing trend in Cella numbers since 2011 when an unusually high water condition occurred.

It is recommended that the current tri-annual PL surveys continue, with the next survey year being conducted in 2018.

## **4.2 Eurasian Water Milfoil**

Comparison of the 2007, 2008, 2009, 2010, and 2011 survey results indicate that quantities of EWM decreased year after year in the entire survey area with 2011 being the year when the least amount of plants were detected. For 2015 there appears to be a slight increase in the Mosinee and Cemetery Slough impoundments over the 2011 survey. However, as commented on earlier, much of what was documented in 2015 were occurrences of stray singular plants as observed during the meander survey. It is recommended that the current tri-annual EWM surveys continue, with the next survey year being conducted in 2018.

## **4.3 Curly-leaf Pondweed**

As mentioned earlier in this report, CLP has not re-appeared in any of the project survey waters since its disappearance as documented in the 2011 survey. We conclude that CLP has been eliminated from the project reservoirs. For that reason, we recommend discontinuing the CLP survey work.

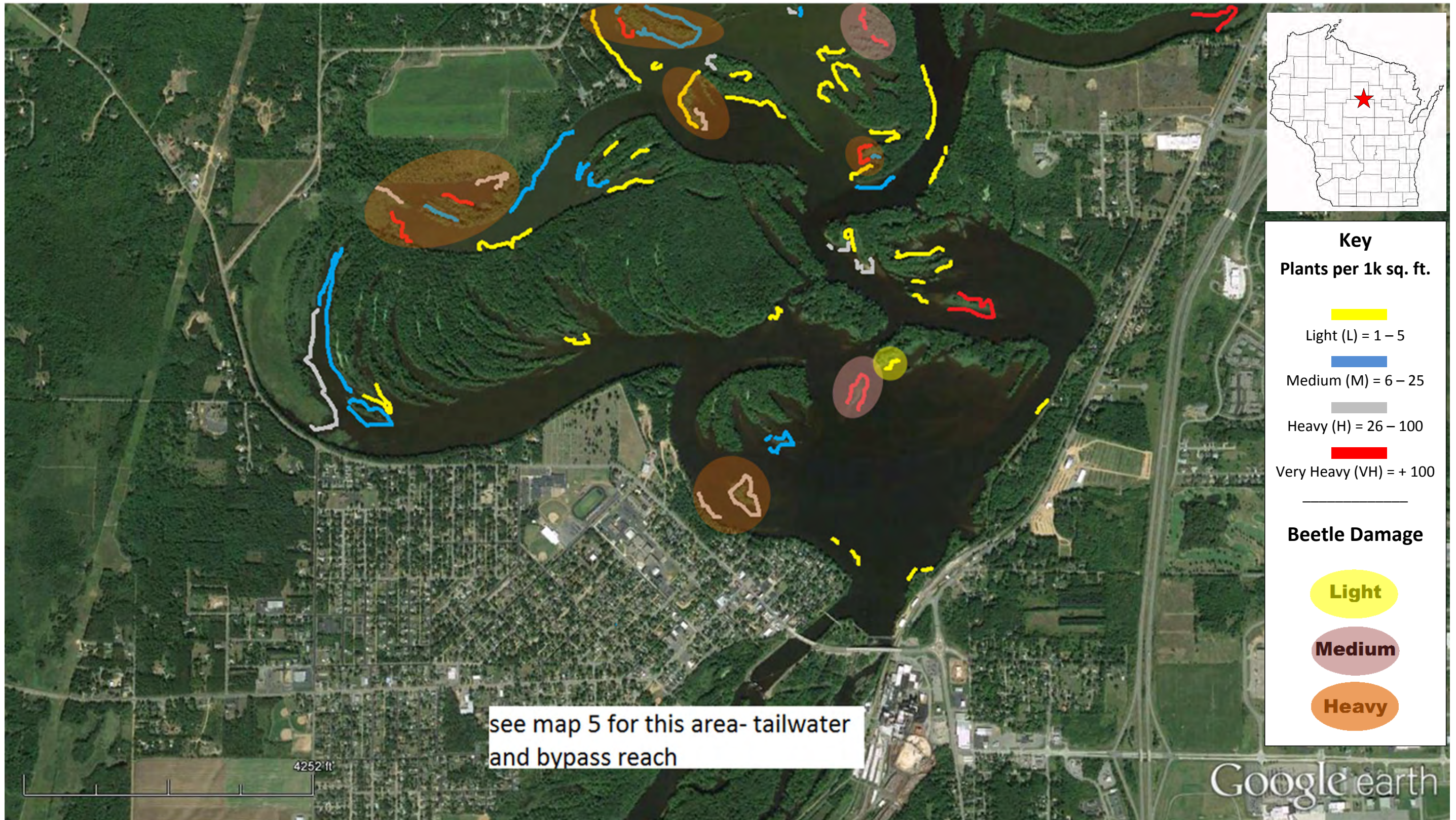
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**APPENDIX A**

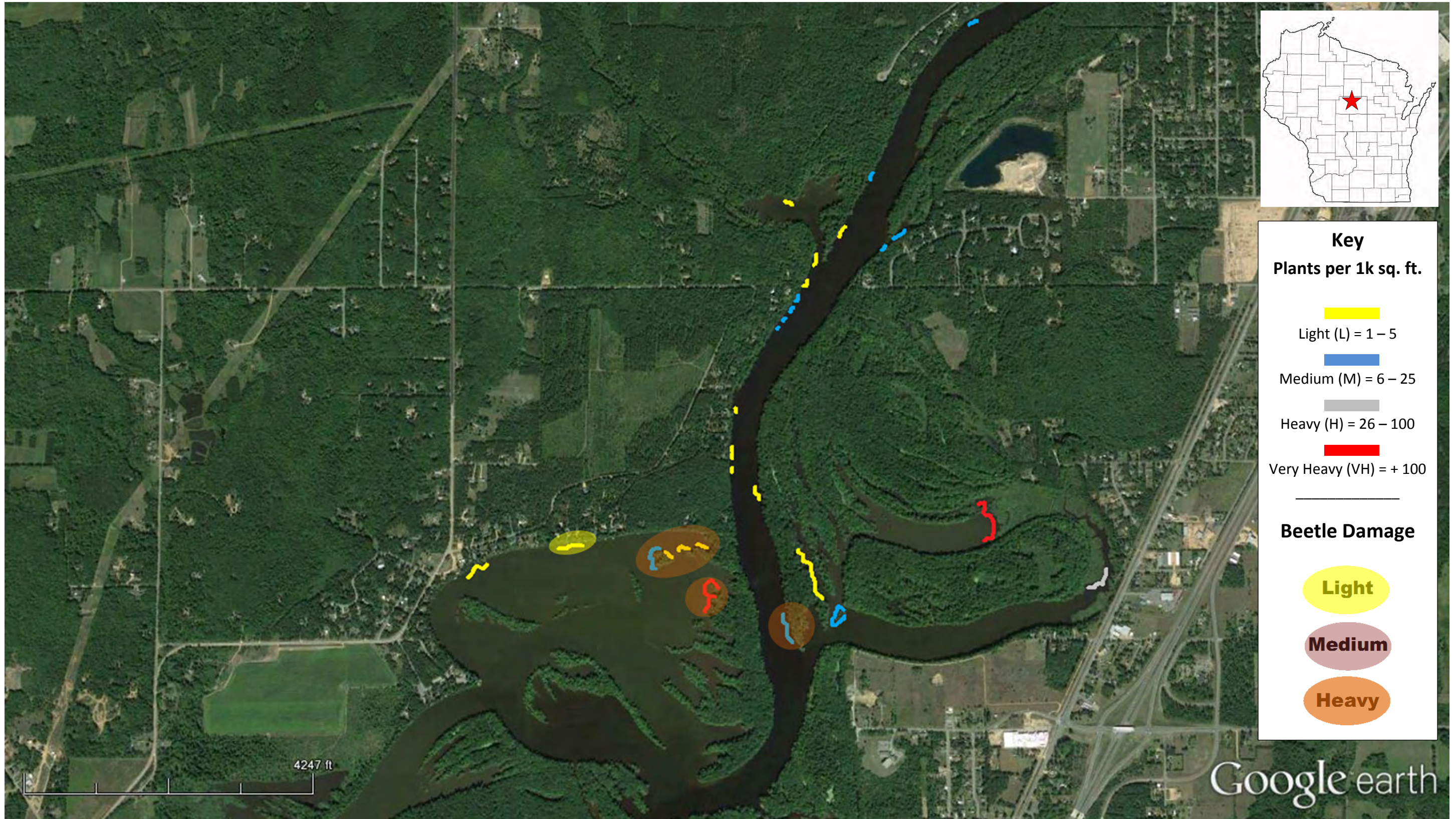
**Purple Loosestrife Survey Results**

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# Mosinee Purple Loosestrife Survey 2015 – Map 01

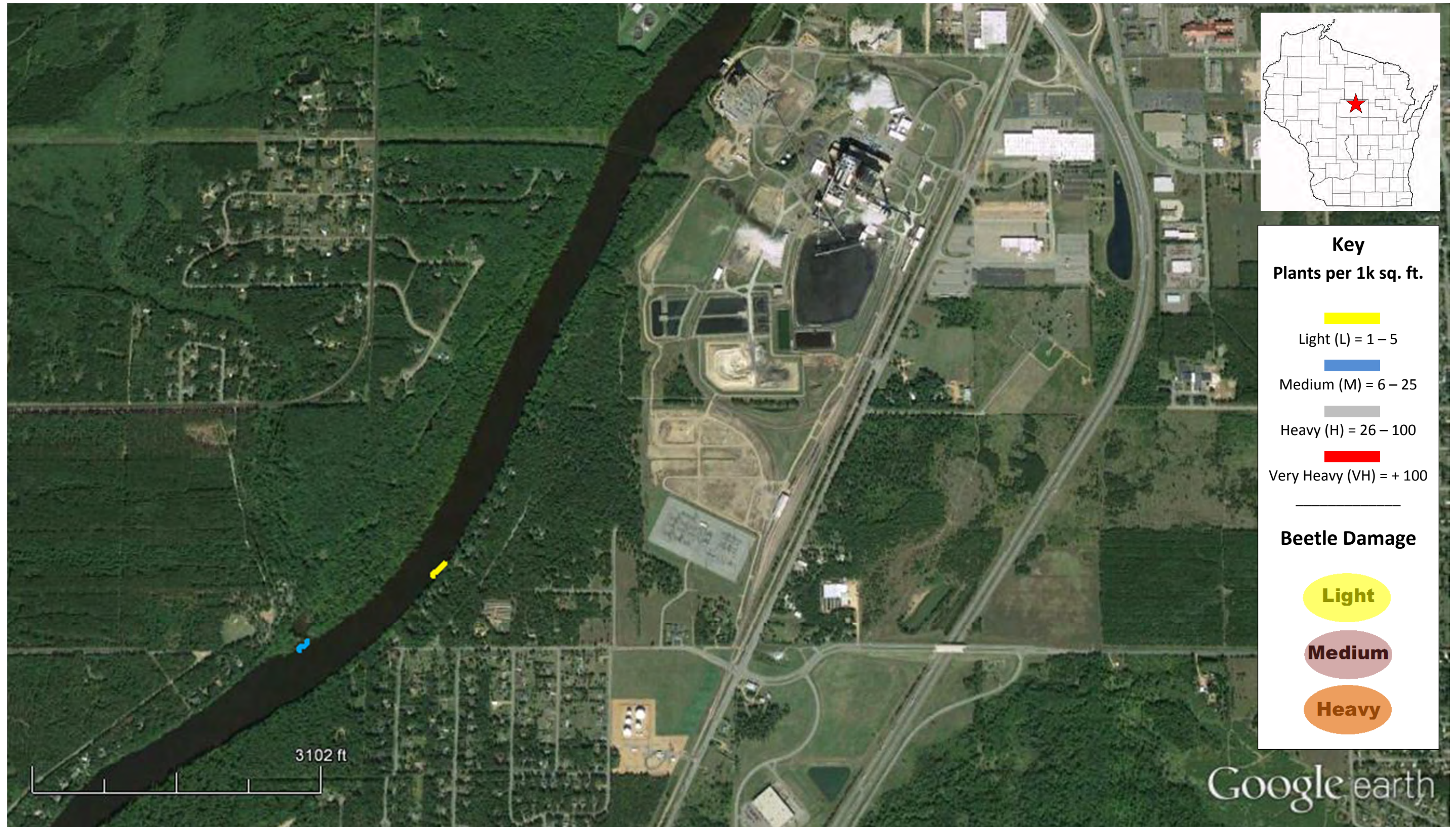


# Mosinee Purple Loosestrife Survey 2015 – Map 02





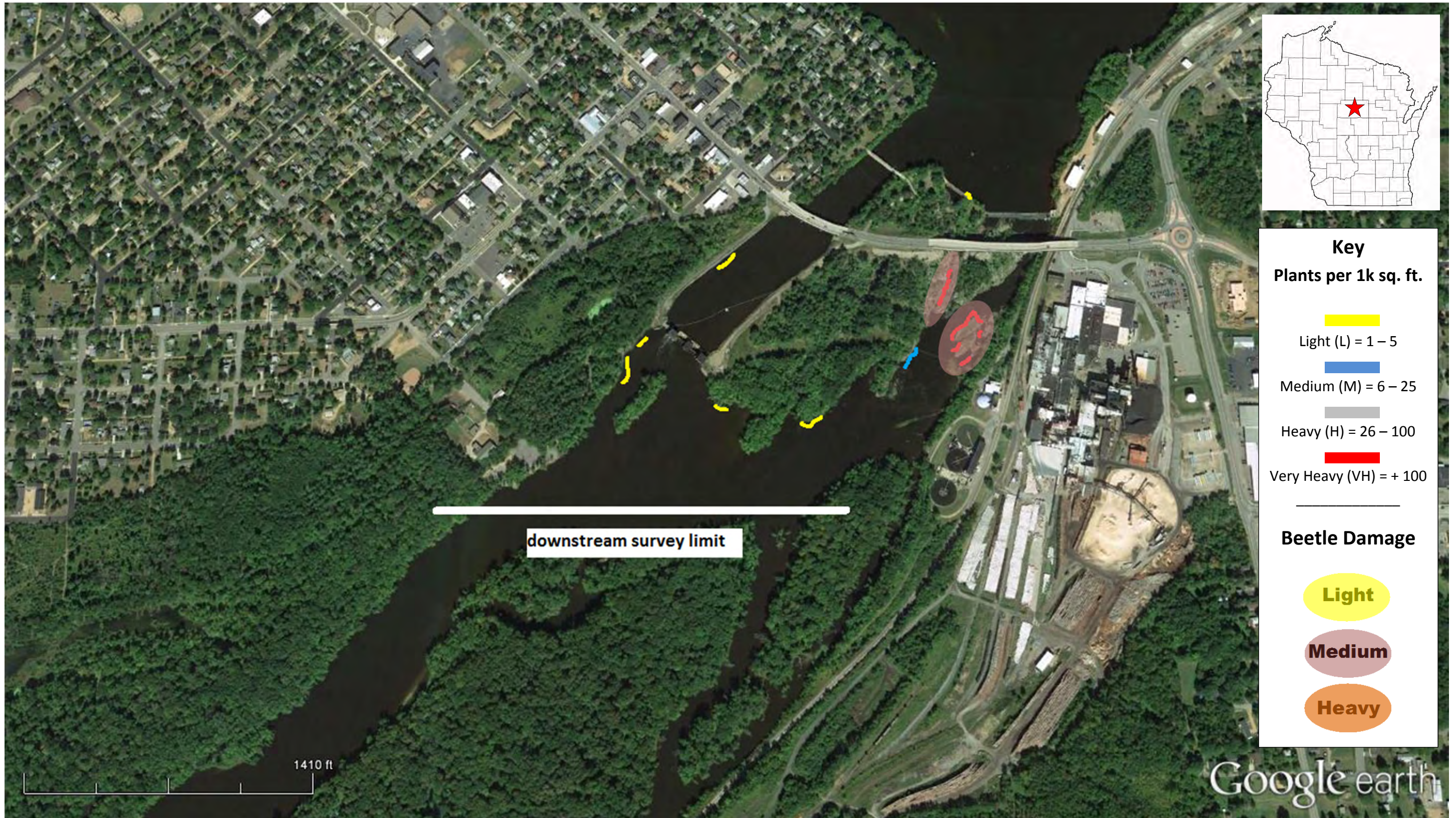
# Mosinee Purple Loosestrife Survey 2015 – Map 03



# Mosinee Purple Loosestrife Survey 2015 – Map 04



# Mosinee Purple Loosestrife Survey 2015 – Tailwater and Bypass Reach



**Purple Loosestrife Survey****Project:** Mosinee #2207**Datum:** WGS 84

July 25, 26, 30 &amp; August 1,

**Date:** 2, 8**Crew:** JAK, SJK, SRK, BJK

| GPS Point  | Latitude     | Longitude    | Plant Height | Stand Area   | Beetle Damage | Comments                                      |
|------------|--------------|--------------|--------------|--------------|---------------|---|
| MOSN PL001 | N44° 49.021' | W89° 41.724' | N/A          | N/A          | N/A           | see Half-moon Lake Distribution               |
| MOSN PL002 | N44° 49.096' | W89° 41.878' |              |              |               | discontinued- see Half-moon Lake Distribution |
| MOSN PL003 | N44° 49.040' | W89° 42.221' |              |              |               | discontinued- see Half-moon Lake Distribution |
| MOSN PL004 | N44° 48.983' | W89° 42.514' |              |              |               | discontinued                                  |
| MOSN PL005 | N44° 48.800' | W89° 42.362' |              |              |               | discontinued                                  |
| MOSN PL006 | N44° 48.103' | W89° 41.600' | N/A          | N/A          | N/A           |   |
| MOSN PL007 | N44° 48.025' | W89° 41.133' | N/A          | N/A          | N/A           |   |
| MOSN PL008 | N44° 48.438' | W89° 41.802' | 1'-3'        | 100 +        | Medium        |   |
| MOSN PL009 | N44° 48.461' | W89° 42.106' | N/A          | N/A          | N/A           |   |
| MOSN PL010 | N44° 48.293' | W89° 42.031' | N/A          | N/A          | N/A           |   |
| MOSN PL011 | N44° 48.622' | W89° 42.674' | N/A          | N/A          | N/A           |   |
| MOSN PL012 | N44° 48.496' | W89° 43.352' | 2' - 6'      | >1000 Plants | Light         |   |
| MOSN PL013 | N44° 48.222' | W89° 41.971' | N/A          | N/A          | N/A           |   |
| MOSN PL014 | N44° 48.388' | W89° 41.148' | N/A          | N/A          | N/A           |   |
| MOSN PL015 | N44° 49.142' | W89° 41.286' | N/A          | N/A          | N/A           |   |

**Purple Loosestrife Survey****Project:** Mosinee #2207**Datum:** WGS 84

July 25, 26, 30 &amp; August 1,

**Date:** 2, 8**Crew:** JAK, SJK, SRK, BJK

|            |              |              |         |           |       |   |
|------------|--------------|--------------|---------|-----------|-------|---|
| MOSN PL016 | N44° 49.207' | W89° 41.669' | N/A     | N/A       | N/A   |   |
| MOSN PL017 | N44° 49.303' | W89° 41.689' | 3'      | 4 Plants  | None  |   |
| MOSN PL018 | N44° 49.436' | W89° 41.672' | 2'-3'   | 15 Plants | Light |   |
| MOSN PL019 | N44° 49.635' | W89° 41.560' | N/A     | N/A       | N/A   |   |
| MOSN PL020 | N44° 49.716' | W89° 41.477' |         |           |       | grouped site, see point #142                        |
| MOSN PL021 | N44° 49.832' | W89° 41.403' |         |           |       | grouped site, see point #23                         |
| MOSN PL022 | N44° 49.848' | W89° 41.341' |         |           |       | grouped site, see point #23                         |
| MOSN PL023 | N44° 50.074' | W89° 41.174' | 2'-4'   | 25 Plants | None  | grouped with point #'s 21, 23, 162, 177, 178        |
| MOSN PL024 | N44° 50.157' | W89° 41.105' | N/A     | N/A       | N/A   |   |
| MOSN PL025 | N44° 50.357' | W89° 40.957' | N/A     | N/A       | N/A   |   |
| MOSN PL026 | N44° 50.454' | W89° 40.795' | 2'-4'   | 15 Plants | Light |   |
| MOSN PL027 | N44° 50.589' | W89° 40.518' | N/A     | N/A       | N/A   |   |
| MOSN PL028 | N44° 50.655' | W89° 40.369' | 2' - 3' | 10 Platns | None  | grouped with Point #30                              |
| MOSN PL029 | N44° 50.683' | W89° 40.393' | N/A     | N/A       | N/A   |   |
| MOSN PL030 | N44° 50.685' | W89° 40.248' |         |           |       | grouped with Point #28                              |
| MOSN PL031 | N44° 50.751' | W89° 40.158' | N/A     | N/A       | N/A   |   |
| MOSN PL032 | N44° 50.841' | W89° 40.065' | N/A     | N/A       | N/A   |   |
| MOSN PL033 | N44° 50.911' | W89° 40.011' | N/A     | N/A       | N/A   |   |
| MOSN PL034 | N44° 50.957' | W89° 39.986' | N/A     | N/A       | N/A   |   |
| MOSN PL035 | N44° 50.997' | W89° 39.964' | N/A     | N/A       | N/A   |   |
| MOSN PL036 | N44° 51.092' | W89° 39.903' | N/A     | N/A       | N/A   | Point # 36 and 144 are grouped as a continuous site |
| MOSN PL037 | N44° 51.345' | W89° 39.733' | N/A     | N/A       | N/A   |   |
| MOSN PL038 | N44° 51.405' | W89° 39.693' | N/A     | N/A       | N/A   |   |

## Purple Loosestrife Survey

**Project:** Mosinee #2207

**Datum:** WGS 84

July 25, 26, 30 & August 1,

**Date:** 2, 8

**Crew:** JAK, SJK, SRK, BJK

|            |              |              |         |           |       |  |
|------------|--------------|--------------|---------|-----------|-------|--|
| MOSN PL039 | N44° 51.460' | W89° 39.654' | N/A     | N/A       | N/A   |  |
| MOSN PL040 | N44° 51.568' | W89° 39.591' | N/A     | N/A       | N/A   |  |
| MOSN PL041 | N44° 51.623' | W89° 39.556' | N/A     | N/A       | N/A   |  |
| MOSN PL042 | N44° 51.893' | W89° 39.243' | N/A     | N/A       | N/A   |  |
| MOSN PL043 | N44° 51.999' | W89° 39.021' | N/A     | N/A       | N/A   |  |
| MOSN PL044 | N44° 52.018' | W89° 38.882' | N/A     | N/A       | N/A   |  |
| MOSN PL045 | N44° 52.100' | W89° 38.670' | N/A     | N/A       | N/A   |  |
| MOSN PL046 | N44° 52.156' | W89° 38.591' | N/A     | N/A       | N/A   |  |
| MOSN PL047 | N44° 52.244' | W89° 38.516' | N/A     | N/A       | N/A   |  |
| MOSN PL048 | N44° 52.329' | W89° 38.459' | N/A     | N/A       | N/A   |  |
| MOSN PL049 | N44° 52.396' | W89° 38.433' | 1'-4'   | 25 Plants | None  |  |
| MOSN PL050 | N44° 52.467' | W89° 38.411' |         |           |       |  |
| MOSN PL051 | N44° 52.506' | W89° 38.401' |         |           |       |  |
| MOSN PL052 | N44° 52.545' | W89° 38.396' |         |           |       |  |
| MOSN PL053 | N44° 52.639' | W89° 38.373' |         |           |       | grouped with Point #49                   |
| MOSN PL054 | N44° 52.680' | W89° 38.348' |         |           |       | grouped with Point #49                   |
| MOSN PL055 | N44° 52.717' | W89° 38.333' |         |           |       | grouped with Point #49                   |
| MOSN PL056 | N44° 52.803' | W89° 38.322' |         |           |       | grouped with Point #49                   |
| MOSN PL057 | N44° 52.758' | W89° 38.235' |         |           |       | grouped with Point #49                   |
| MOSN PL058 | N44° 52.612' | W89° 38.267' |         |           |       | grouped with Point #49                   |
| MOSN PL059 | N44° 52.426' | W89° 38.335' | N/A     | N/A       | N/A   |  |
| MOSN PL060 | N44° 52.362' | W89° 38.344' | N/A     | N/A       | N/A   |  |
| MOSN PL061 | N44° 52.284' | W89° 38.385' |         |           |       | grouped with Point #62                   |
| MOSN PL062 | N44° 52.186' | W89° 38.444' | 1'-3'   | 5 plants  | None  | Point #'s 61 and 62 are grouped together |
| MOSN PL063 | N44° 52.118' | W89° 38.510' | N/A     | N/A       | N/a   |  |
| MOSN PL064 | N44° 51.992' | W89° 38.722' | 3' - 4' | 5 Plants  | Light |  |
| MOSN PL065 | N44° 51.977' | W89° 38.797' | 2' - 3' | 4 Plants  | Heavy |  |

**Purple Loosestrife Survey****Project:** Mosinee #2207**Datum:** WGS 84

July 25, 26, 30 &amp; August 1,

**Date:** 2, 8**Crew:** JAK, SJK, SRK, BJK

|            |              |              |         |             |        |  |
|------------|--------------|--------------|---------|-------------|--------|--|
| MOSN PL066 | N44° 51.694' | W89° 39.311' | 4' - 6' | 10 Plants   | None   |  |
| MOSN PL067 | N44° 51.486' | W89° 39.532' | N/A     | N/A         | N/A    |  |
| MOSN PL068 | N44° 50.974' | W89° 39.870' | N/A     | N/A         | N/A    |  |
| MOSN PL069 | N44° 50.827' | W89° 39.975' | N/A     | N/A         | N/A    |  |
| MOSN PL070 | N44° 50.761' | W89° 40.041' | 2'      | 1 Plant     | None   |  |
| MOSN PL071 | N44° 50.640' | W89° 40.197' | N/A     | N/A         | N/A    |  |
| MOSN PL072 | N44° 50.466' | W89° 40.569' | N/A     | N/A         | N/A    |  |
| MOSN PL073 | N44° 50.428' | W89° 40.670' | N/A     | N/A         | N/A    |  |
| MOSN PL074 | N44° 50.153' | W89° 41.034' | N/A     | N/A         | N/A    |  |
| MOSN PL075 | N44° 50.179' | W89° 40.930' | N/A     | N/A         | N/A    |  |
| MOSN PL076 | N44° 49.981' | W89° 41.120' | N/A     | N/A         | N/A    |  |
| MOSN PL077 | N44° 49.677' | W89° 41.362' | N/A     | N/A         | N/A    |  |
| MOSN PL078 | N44° 49.488' | W89° 41.556' | N/A     | N/A         | N/A    |  |
| MOSN PL079 | N44° 49.015' | W89° 41.505' | N/A     | N/A         | N/A    |  |
| MOSN PL080 | N44° 48.935' | W89° 41.480' | N/A     | N/A         | N/A    |  |
| MOSN PL081 | N44° 48.903' | W89° 41.468' | N/A     | N/A         | N/A    |  |
| MOSN PL082 | N44° 47.267' | W89° 41.822' | N/A     | N/A         | N/A    |  |
| MOSN PL083 | N44° 47.285' | W89° 41.802' | N/A     | N/A         | N/A    |  |
| MOSN PL084 | N44° 47.305' | W89° 41.805' | N/A     | N/A         | N/A    |  |
| MOSN PL085 | N44° 47.344' | W89° 41.756' | 1'-3'   | 100+ Plants | Light  |  |
| MOSN PL086 | N44° 47.348' | W89° 41.754' |         |             |        |  |
| MOSN PL087 | N44° 47.272' | W89° 42.096' | 2'      | 1 Plant     | Medium |  |
| MOSN PL088 | N44° 47.246' | W89° 42.061' | 2'      | 1 Plant     | Medium |  |
| MOSN PL089 | N44° 47.427' | W89° 41.727' | N/A     | N/A         | N/A    |  |
| MOSN PL090 | N44° 47.407' | W89° 41.813' | 1'-2'   | 100+ Plants | Heavy  |  |
| MOSN PL091 | N44° 47.447' | W89° 42.014' | N/A     | N/A         | N/A    |  |

## Purple Loosestrife Survey

**Project:** Mosinee #2207

**Datum:** WGS 84

July 25, 26, 30 & August 1,

**Date:** 2, 8

**Crew:** JAK, SJK, SRK, BJK

|  |  |  |         |  |        |                         |
|--|--|--|---------|--|--------|-------------------------|
| MOSN PL092<br>MOSN PL133               | N44° 47.309'                                 | W89° 42.217'                                 | 1'-3'   | 2 plants   | Medium | grouped with Point #133 |
| MOSN PL093                             | N44° 47.296'                                 | W89° 42.165'                                 | N/A     | N/A  | N/A    |                         |
| MOSN PL094                             | N44° 47.195'                                 | W89° 41.952'                                 | N/A     | N/A  | N/A    |                         |
| MOSN PL095                             | N44° 47.215'                                 | W89° 41.919'                                 | N/A     | N/A  | N/A    |                         |
| MOSN PL096<br>MOSN PL123               | N44° 47.319'<br>N44° 47.350'                 | W89° 41.862'<br>W89° 41.846'                 | 1'-2'   | 20 Plants  | Medium |                         |
| MOSN PL097<br>MOSN PL098<br>MOSN PL099 | N44° 47.330'<br>N44° 47.338'<br>N44° 47.327' | W89° 41.789'<br>W89° 41.784'<br>W89° 41.764' | 1'-3'   | ~200 -<br>300 Plants   | Light  |                         |
| MOSN PL100                             | N44° 48.856'                                 | W89° 42.476'                                 | 3"      | 2 Plants-<br>20'<br>diameter<br>island<br>diameter<br>island | Medium |                         |
| MOSN PL101                             | N44° 47.998'                                 | W89° 43.769'                                 | 2' - 9' | >1000<br>Plants  | None   |                         |
| MOSN PL102                             | N44° 48.433'                                 | W89° 42.097'                                 | N/A     | N/A  | N/A    |                         |
| MOSN PL103                             | N44° 49.258'                                 | W89° 41.687.                                 | 2'      | 2 Plants   | None   | grouped with Point #139 |
| MOSN PL104                             | N44° 49.506'                                 | W89° 41.658'                                 | N/A     | N/A  | N/A    |                         |
| MOSN PL105                             | N44° 49.593'                                 | W89° 41.581'                                 | N/A     | N/A  | N/A    |                         |
| MOSN PL106                             | N44° 49.686'                                 | W89° 41.507'                                 |         |  |        | grouped -see Point #142 |
| MOSN PL107                             | N44° 49.769'                                 | W89° 41.431'                                 |         |  |        | grouped with Point #23  |
| MOSN PL108                             | N44° 50.216'                                 | W89° 41.075'                                 | N/A     | N/A  | N/A    |                         |
| MOSN PL109                             | N44° 50.776'                                 | W89° 40.121'                                 | N/A     | N/A  | N/A    |                         |
| MOSN PL110                             | N44° 51.251'                                 | W89° 39.797'                                 | N/A     | N/A  | N/A    |                         |
| MOSN PL111                             | N44° 51.746'                                 | W89° 39.395'                                 | 1'-4'   | 8 Plants   | None   |                         |



## Purple Loosestrife Survey

**Project:** Mosinee #2207

**Datum:** WGS 84

July 25, 26, 30 & August 1,

**Date:** 2, 8

**Crew:** JAK, SJK, SRK, BJK

|            |              |              |       |           |       |                         |
|------------|--------------|--------------|-------|-----------|-------|-------------------------|
| MOSN PL112 | N44° 51.305' | W89° 39.660' | N/A   | N/A       | N/A   |                         |
| MOSN PL113 | N44° 51.196' | W89° 39.744' | N/A   | N/A       | N/A   |                         |
| MOSN PL114 | N44° 50.271  | W89° 40.953' | N/A   | N/A       | N/A   |                         |
| MOSN PL115 | N44° 50.161' | W89° 40.978' | N/A   | N/A       | N/A   |                         |
| MOSN PL116 | N44° 50.096' | W89° 41.043' | N/A   | N/A       | N/A   |                         |
| MOSN PL117 | N44° 49.896' | W89° 41.133' | 1'-4' | 25 Plants | Heavy |                         |
| MOSN PL118 | N44° 49.931' | W89° 41.008' |       |           |       | grouped with Point #117 |
| MOSN PL119 | N44° 49.788' | W89° 41.264' | N/A   | N/A       | N/A   |                         |
| MOSN PL120 | N44° 49.429' | W89° 41.586' | N/A   | N/A       | N/A   |                         |
| MOSN PL121 | N44° 49.336' | W89° 41.596' | N/A   | N/A       | N/A   |                         |
| MOSN PL122 | N44° 49.261' | W89° 41.586' | N/A   | N/A       | N/A   |                         |
| MOSN PL123 | N44° 47.350' | W89° 41.846' | -     | -         | -     | see Point #96           |
| MOSN PL124 | N44° 47.373' | W89° 41.772' | N/A   | N/A       | N/A   |                         |
| MOSN PL125 | N44° 47.395' | W89° 41.731' | N/A   | N/A       | N/A   |                         |
| MOSN PL126 | N44° 47.445' | W89° 41.755' | N/A   | N/A       | N/A   |                         |
| MOSN PL127 | N44° 47.453' | W89° 41.810' | N/A   | N/A       | N/A   |                         |
| MOSN PL128 | N44° 47.465' | W89° 41.888' | N/A   | N/A       | N/A   |                         |
| MOSN PL129 | N44° 47.377' | W89° 42.021' | N/A   | N/A       | N/A   |                         |
| MOSN PL130 | N44° 47.331' | W89° 42.083' | N/A   | N/A       | N/A   |                         |
| MOSN PL131 | N44° 47.332' | W89° 42.121' | N/A   | N/A       | N/A   |                         |
| MOSN PL132 | N44° 47.274' | W89° 42.176' | N/A   | N/A       | N/A   |                         |
| MOSN PL133 | N44° 47.216' | W89° 42.313' | -     | -         | -     | grouped with Point #92  |
| MOSN PL134 | N44° 47.297' | W89° 42.105' | N/A   | N/A       | N/A   |                         |
| MOSN PL135 | N44° 48.963' | W89° 41.486' | N/A   | N/A       | N/A   |                         |
| MOSN PL136 | N44° 49.713' | W89° 41.331' | N/A   | N/A       | N/A   |                         |
| MOSN PL137 | N44° 49.817' | W89° 41.222' | N/A   | N/A       | N/A   |                         |

## Purple Loosestrife Survey

**Project:** Mosinee #2207

**Datum:** WGS 84

July 25, 26, 30 & August 1,

**Date:** 2, 8

**Crew:** JAK, SJK, SRK, BJK

|            |              |              |         |          |        |  |
|------------|--------------|--------------|---------|----------|--------|--|
| MOSN PL138 | N44° 49.245' | W89° 41.682' | N/A     | N/A      | N/A    |  |
| MOSN PL139 | N44° 49.270' | W89° 41.684' |         |          |        | grouped with Point #103  |
| MOSN PL140 | N44° 49.442' | W89° 41.674' | 3'      | 2 Plants | None   |  |
| MOSN PL141 | N44° 49.544' | W89° 41.630' | N/A     | N/A      | N/A    |  |
| MOSN PL142 | N44° 49.757' | W89° 41.442' | 3'      | 1 Plant  |        | grouped with Point #'s 20, 176, 106  |
| MOSN PL143 | N44° 49.785' | W89° 41.420' | 2' - 4' | 5 Plants | Light  |  |
| MOSN PL144 | N44° 51.115' | W89° 39.885' |         |          |        | grouped with Point #36   |
| MOSN PL145 | N44° 51.178' | W89° 39.844' | N/A     | N/A      | N/A    |  |
| MOSN PL146 | N44° 51.984' | W89° 39.089' | N/A     | N/A      | N/A    |  |
| MOSN PL147 | N44° 52.009' | W89° 38.955' | N/A     | N/A      | N/A    |  |
| MOSN PL148 | N44° 52.658' | W89° 38.256' |         |          |        | grouped site. See Point # 49 for detail. Points grouped are #'s 53-58, 148, 166, and 190 |
| MOSN PL149 | N44° 51.962' | W89° 38.892' | N/A     | N/A      | N/A    |  |
| MOSN PL150 | N44° 50.693' | W89° 40.122' | N/A     | N/A      | N/A    |  |
| MOSN PL151 | N44° 50.549' | W89° 40.378' | N/A     | N/A      | N/A    |  |
| MOSN PL152 | N44° 49.817' | W89° 41.397' | 3'      | 2 Plants | Medium |  |
| MOSN PL153 | N44° 48.130' | W89° 41.064' | 3'      | 1 Plant  | Light  | First observed in 2009. All plants pulled in 2009.                                       |
| MOSN PL154 | N44° 47.367' | W89° 42.046' |         |          |        | shallow water  |
| MOSN PL155 | N44° 47.575' | W89° 41.626' | N/A     | N/A      | N/A    |  |
| MOSN PL156 | N44° 47.464  | W89° 41.808' | N/A     | N/A      | N/A    |  |
| MOSN PL157 | N44° 47.442' | W89° 41.928' | N/A     | N/A      | N/A    |  |
| MOSN PL158 | N44° 47.289' | W89° 41.934' | 2' - 4' | 2 Plants | Light  | First observed in 2009. No treatment in 2009.  |

## Purple Loosestrife Survey

**Project:** Mosinee #2207

**Datum:** WGS 84

July 25, 26, 30 & August 1,

**Date:** 2, 8

**Crew:** JAK, SJK, SRK, BJK

|            |              |              |         |              |         |  |
|------------|--------------|--------------|---------|--------------|---------|--|
| MOSN PL159 | N44° 47.250' | W89° 41.871' | 2' - 4' | 5 - 8 Plants | Unknown | First observed in 2009. Blooming plants on gravel/rock bar. Could not get close enough to see if there was beetle damage. No treatment in 2009.                            |
| MOSN PL160 | N44° 47.441' | W89° 41.670' | 5' - 6' | 2 Plants     | Unknown | First observed in 2009. Blooming plants next to water intake at east side of spillway. Could not get close enough to see if there was beetle damage. No treatment in 2009. |
| MOSN PL161 | N44° 48.006' | W89° 41.151' | N/A     | N/A          | N/A     |  |
| MOSN PL162 | N44° 49.994' | W89° 41.235' | N/A     | N/A          | N/A     |  |
| MOSN PL163 | N44° 50.264' | W89° 41.052' | N/A     | N/A          | N/A     |  |
| MOSN PL164 | N44° 50.287' | W89° 41.030' | N/A     | N/A          | N/A     |  |
| MOSN PL165 | N44° 50.879' | W89° 41.041' | N/A     | N/A          | N/A     |  |
| MOSN PL166 | N44° 52.507' | W89° 38.313' |         |              |         | grouped site. See Point # 49 for detail. Points grouped are #'s 53-58, 148, 166, and 190   |
| MOSN PL167 | N44° 51.053' | W89° 38.822' | N/A     | N/A          | N/A     |  |
| MOSN PL168 | N44° 50.517' | W89° 40.452' | N/A     | N/A          | N/A     |  |
| MOSN PL169 | N44° 49.494' | W89° 41.680' | N/A     | N/A          | N/A     |  |
| MOSN PL170 | N44° 50.020' | W89° 41.380' | 3'      | 4 Plants     | Medium  |  |
| MOSN PL171 | N44° 47.758' | W89° 41.277' | 2'-3'   | 5 Plants     | Heavy   |  |
| MOSN PL172 | N44° 47.544' | W89° 41.858' | N/A     | N/A          | N/A     |  |
| MOSN PL173 | N44° 48.928' | W89° 41.590' | N/A     | N/A          | N/A     |  |
| MOSN PL174 | N44° 49.156' | W89° 41.666' | N/A     | N/A          | N/A     |  |
| MOSN PL175 | N44° 49.376' | W89° 41.685' | N/A     | N/A          | N/A     |  |

**Purple Loosestrife Survey****Project:** Mosinee #2207**Datum:** WGS 84

July 25, 26, 30 &amp; August 1,

**Date:** 2, 8**Crew:** JAK, SJK, SRK, BJK

|            |              |              |       |          |       |  |
|------------|--------------|--------------|-------|----------|-------|--|
| MOSN PL176 | N44° 49.695' | W89° 41.498' |       |          |       | grouped- see Point #142  |
| MOSN PL177 | N44° 49.870' | W89° 41.325' | 2'-3' | 4 Plants | Light |  |
| MOSN PL178 | N44° 49.940' | W89° 41.271' | N/A   | N/A      | N/A   |  |
| MOSN PL179 | N44° 50.110' | W89° 41.143' | N/A   | N/A      | N/A   |  |
| MOSN PL180 | N44° 50.628' | W89° 40.427' | N/A   | N/A      | N/A   |  |
| MOSN PL181 | N44° 50.635' | W89° 40.388' | N/A   | N/A      | N/A   |  |
| MOSN PL182 | N44° 51.918' | W89° 39.043' | N/A   | N/A      | N/A   |  |
| MOSN PL183 | N44° 51.545' | W89° 39.500' | N/A   | N/A      | N/A   |  |
| MOSN PL184 | N44° 51.230' | W89° 39.720' | N/A   | N/A      | N/A   |  |
| MOSN PL185 | N44° 50.590' | W89° 40.282' | N/A   | N/A      | N/A   |  |
| MOSN PL186 | N44° 50.330' | W89° 40.865' | N/A   | N/A      | N/A   |  |
| MOSN PL187 | N44° 50.045' | W89° 41.075' | N/A   | N/A      | N/A   |  |
| MOSN PL188 | N44° 49.197' | W89° 41.563' | N/A   | N/A      | N/A   |  |
| MOSN PL189 | N44° 47.457' | W89° 41.972' | N/A   | N/A      | N/A   |  |
| MOSN PL190 | N44° 52.803' | W89° 38.228' |       |          |       | grouped site. See Point # 49 for detail.<br>Points grouped are #'s 53-58, 148, 166,<br>and 190 |

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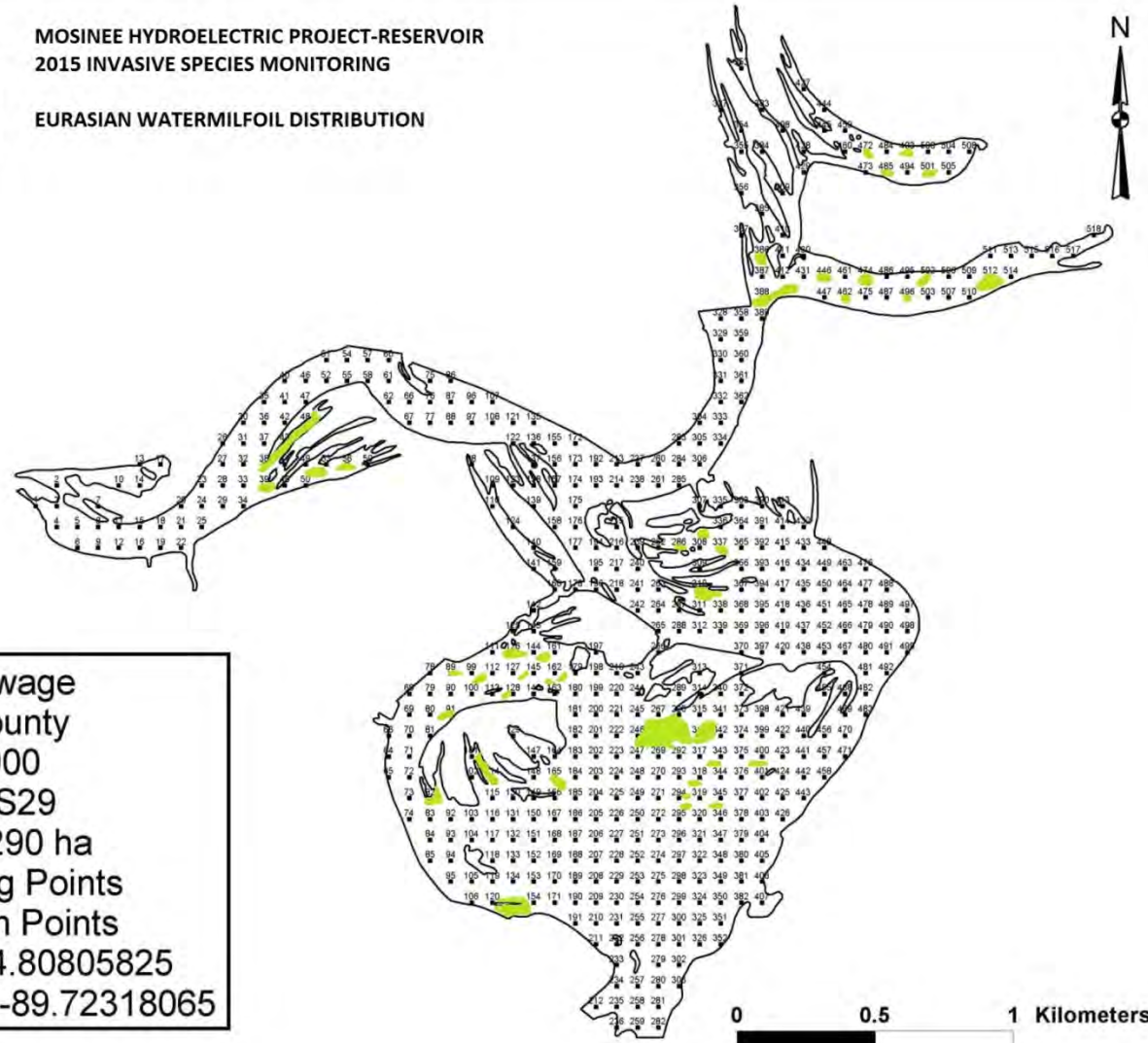
**APPENDIX B**  
**Eurasian Water Milfoil**  
**Survey Results**

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MOSINEE HYDROELECTRIC PROJECT-RESERVOIR  
2015 INVASIVE SPECIES MONITORING

EURASIAN WATERMILFOIL DISTRIBUTION



Mosinee Flowage  
Marathon County  
WBIC 1434900  
T27N R07E S29  
716 acres / 290 ha  
518 Sampling Points  
75m between Points  
Site1: Lat. 44.80805825  
Long. -89.72318065

Created: 2006

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1334900

County: Marathon

Crew: JAK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                           |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------------|
| 1     | N44.80805825 | W89.72318065 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 2     | N44.80873111 | W89.72222899 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 3     | N44.80805595 | W89.72223223 | 1     | M        | Pole Rake | 0   | No Weeds                           |
| 4     | N44.80738079 | W89.72223547 | 1     | M        | Pole Rake | 0   | No Weeds                           |
| 5     | N44.80737848 | W89.72128706 | 2     | M        | Pole Rake | 0   | No Weeds                           |
| 6     | N44.80670332 | W89.72129031 | 2     | M        | Pole Rake | 0   | No Weeds Secchi Reading 0.7', carp |
| 7     | N44.80805132 | W89.72033539 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 8     | N44.80737616 | W89.72033865 | 2     | M        | Pole Rake | 0   | No Weeds                           |
| 9     | N44.806701   | W89.72034191 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 10    | N44.80872415 | W89.7193837  | -     | M        | -         | -   | N/A Shallow Muck                   |
| 11    | N44.80737384 | W89.71939024 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 12    | N44.80669868 | W89.71939352 | 3     | M/W      | Pole Rake | 0   | No Weeds                           |
| 13    | N44.80939698 | W89.71843198 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 14    | N44.80872182 | W89.71843527 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 15    | N44.8073715  | W89.71844184 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 16    | N44.80669634 | W89.71844512 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 17    | N44.80939464 | W89.71748354 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 18    | N44.80736916 | W89.71749343 | 4     | M/W      | Pole Rake | 0   | No Weeds                           |
| 19    | N44.806694   | W89.71749672 | 3     | M/W      | Pole Rake | 0   | No Weeds                           |
| 20    | N44.80804197 | W89.71654171 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 21    | N44.80736681 | W89.71654502 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 22    | N44.80669165 | W89.71654833 | 2     | S        | Pole Rake | 0   | No Weeds                           |
| 23    | N44.80871477 | W89.71558998 | 4     | S/W      | Pole Rake | 0   | No Weeds                           |
| 24    | N44.80803961 | W89.71559329 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 25    | N44.80736445 | W89.71559661 | 5     | W        | Pole Rake | 0   | No Weeds                           |
| 26    | N44.81006272 | W89.71463489 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 27    | N44.80938756 | W89.71463822 | 5     | W        | Pole Rake | 0   | No Weeds                           |
| 28    | N44.8087124  | W89.71464155 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 29    | N44.80803725 | W89.71464488 | 5     | W        | Pole Rake | 0   | No Weeds                           |
| 30    | N44.81073551 | W89.7136831  | 5     | W        | Pole Rake | 0   | No Weeds                           |
| 31    | N44.81006035 | W89.71368644 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 32    | N44.80938519 | W89.71368978 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 33    | N44.80871003 | W89.71369312 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 34    | N44.80803487 | W89.71369646 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 35    | N44.81140828 | W89.71273128 | 5     | W        | Pole Rake | 0   | No Weeds Secchi Reading 1.2'       |
| 36    | N44.81073312 | W89.71273463 | 5     | S        | Pole Rake | 0   | No Weeds                           |
| 37    | N44.81005797 | W89.71273799 | 4     | S/M      | Pole Rake | 0   | No Weeds                           |
| 38    | N44.80938281 | W89.71274134 | 1     | S        | Pole Rake | 0   | No Weeds                           |
| 39    | N44.80870765 | W89.71274469 | 1     | S        | Pole Rake | 0   | No Weeds                           |
| 40    | N44.81208105 | W89.71177945 | 6     | -        | -         | -   | N/A No Reading                     |
| 41    | N44.81140589 | W89.71178281 | 6     | -        | -         | -   | N/A No Reading                     |
| 42    | N44.81073074 | W89.71178617 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 43    | N44.81005558 | W89.71178953 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 44    | N44.80938042 | W89.7117929  | -     | -        | -         | -   | N/A Land                           |
| 45    | N44.80870526 | W89.71179626 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 46    | N44.81207865 | W89.71083096 | 6     | -        | -         | -   | N/A No Reading                     |
| 47    | N44.8114035  | W89.71083434 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 48    | N44.81072834 | W89.71083771 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 49    | N44.80937802 | W89.71084446 | 1     | M/S      | Pole Rake | 0   | No Weeds                           |
| 50    | N44.80870286 | W89.71084783 | 1     | S/W      | Pole Rake | 0   | No Weeds                           |
| 51    | N44.81275141 | W89.70987909 | 6     | -        | -         | -   | N/A No Reading                     |
| 52    | N44.81207625 | W89.70988248 | 6     | -        | -         | -   | N/A No Reading                     |
| 53    | N44.80937562 | W89.70989602 | 2     | M        | Pole Rake | 0   | No Weeds                           |
| 54    | N44.81274899 | W89.7089306  | 7     | -        | -         | -   | N/A No Reading                     |
| 55    | N44.81207384 | W89.70893399 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 56    | N44.8093732  | W89.70894758 | 2     | M        | Pole Rake | 0   | No Weeds                           |
| 57    | N44.81274657 | W89.7079821  | 10    | -        | -         | -   | N/A No Reading                     |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1334900

County: Marathon

Crew: JAK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 58    | N44.81207141 | W89.70798551 | 9     | -        | -         | -   | N/A No Reading               |
| 59    | N44.80937078 | W89.70799914 | -     | -        | -         | -   | N/A Land                     |
| 60    | N44.81274414 | W89.70703361 | 9     | -        | -         | -   | N/A No Reading               |
| 61    | N44.81206898 | W89.70703702 | 10    | -        | -         | -   | N/A No Reading               |
| 62    | N44.81139383 | W89.70704044 | 12    | -        | -         | -   | N/A No Reading               |
| 63    | N44.80059129 | W89.70709511 | 2     | W        | Pole Rake | 0   | No Weeds                     |
| 64    | N44.79991613 | W89.70709853 | 8     | -        | -         | -   | N/A No Reading               |
| 65    | N44.79924097 | W89.70710195 | 8     | -        | -         | -   | N/A No Reading               |
| 66    | N44.81139139 | W89.70609197 | 10    | -        | -         | -   | N/A No Reading               |
| 67    | N44.81071623 | W89.7060954  | 10    | -        | -         | -   | N/A No Reading               |
| 68    | N44.80193917 | W89.70613996 | 7     | -        | -         | -   | N/A No Reading               |
| 69    | N44.80126401 | W89.70614339 | 7     | -        | -         | -   | N/A No Reading               |
| 70    | N44.80058885 | W89.70614682 | 5     | W        | Pole Rake | 0   | No Weeds                     |
| 71    | N44.79991369 | W89.70615025 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 72    | N44.79923853 | W89.70615367 | 4     | S        | Pole Rake | 0   | No Weeds Secchi Reading 2.5' |
| 73    | N44.79856337 | W89.7061571  | 7     | -        | -         | -   | N/A No Reading               |
| 74    | N44.79788821 | W89.70616053 | 9     | -        | -         | -   | N/A No Reading               |
| 75    | N44.8120641  | W89.70514006 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 76    | N44.81138895 | W89.7051435  | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 77    | N44.81071379 | W89.70514694 | 10    | -        | -         | -   | N/A No Reading               |
| 78    | N44.80261188 | W89.70518821 | 6     | -        | -         | -   | N/A No Reading               |
| 79    | N44.80193673 | W89.70519165 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 80    | N44.80126157 | W89.70519508 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 81    | N44.80058641 | W89.70519852 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 82    | N44.79856093 | W89.70520884 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 83    | N44.79788577 | W89.70521227 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 84    | N44.79721061 | W89.70521571 | 7     | -        | -         | -   | N/A No Reading               |
| 85    | N44.79653545 | W89.70521915 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 86    | N44.81206165 | W89.70419157 | 4     | S/W      | Pole Rake | 0   | No Weeds                     |
| 87    | N44.81138649 | W89.70419502 | 7     | -        | -         | -   | N/A No Reading               |
| 88    | N44.81071133 | W89.70419848 | 10    | -        | -         | -   | N/A No Reading               |
| 89    | N44.80260943 | W89.70423988 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 90    | N44.80193427 | W89.70424333 | 4     | M/S      | Pole Rake | 0   | No Weeds                     |
| 91    | N44.80125911 | W89.70424678 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 92    | N44.79788332 | W89.70426402 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 93    | N44.79720816 | W89.70426747 | 3     | W        | Pole Rake | 0   | -                            |
| 94    | N44.796533   | W89.70427092 | 7     | -        | -         | -   | N/A No Reading               |
| 95    | N44.79585784 | W89.70427437 | 3     | W        | Pole Rake | 0   | No Weeds                     |
| 96    | N44.81138403 | W89.70324655 | 7     | -        | -         | -   | N/A No Reading               |
| 97    | N44.81070887 | W89.70325001 | 9     | -        | -         | -   | N/A No Reading               |
| 98    | N44.80935856 | W89.70325694 | -     | M        | -         | -   | N/A Shallow Muck             |
| 99    | N44.80260697 | W89.70329155 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 100   | N44.80193181 | W89.70329501 | 3     | S/W      | Pole Rake | 0   | No Weeds                     |
| 101   | N44.79990634 | W89.70330539 | 1     | M        | Pole Rake | 0   | -                            |
| 102   | N44.79923118 | W89.70330885 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 103   | N44.79788086 | W89.70331577 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 104   | N44.7972057  | W89.70331923 | 3     | M/S      | Pole Rake | 0   | No Weeds                     |
| 105   | N44.79585538 | W89.70332615 | 7     | -        | -         | -   | N/A No Reading               |
| 106   | N44.79518022 | W89.70332961 | 2     | S/G      | Pole Rake | 0   | No Weeds                     |
| 107   | N44.81138156 | W89.70229808 | 7     | -        | -         | -   | N/A No Reading               |
| 108   | N44.81070641 | W89.70230155 | 9     | -        | -         | -   | N/A No Reading               |
| 109   | N44.80868093 | W89.70231197 | -     | M        | -         | -   | N/A Shallow Muck             |
| 110   | N44.80800577 | W89.70231544 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 111   | N44.80327966 | W89.70233975 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 112   | N44.80260451 | W89.70234322 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 113   | N44.80192935 | W89.70234669 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 114   | N44.79922871 | W89.70236058 | 2     | M        | Pole Rake | 0   | No Weeds                     |



**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1334900

County: Marathon

Crew: JAK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 115   | N44.79855355 | W89.70236405 | 3     | S        | Pole Rake | 0   | -                            |
| 116   | N44.79787839 | W89.70236752 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 117   | N44.79720323 | W89.70237099 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 118   | N44.79652807 | W89.70237446 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 119   | N44.79585291 | W89.70237793 | 6     | -        | -         | -   | N/A No Reading               |
| 120   | N44.79517775 | W89.7023814  | 1     | S        | Pole Rake | 0   | -                            |
| 121   | N44.81070393 | W89.70135309 | 9     | -        | -         | -   | N/A No Reading               |
| 122   | N44.81002877 | W89.70135658 | -     | -        | -         | -   | Land                         |
| 123   | N44.80867846 | W89.70136354 | 1     | M/S      | Pole Rake | 0   | No Weeds                     |
| 124   | N44.80732814 | W89.70137051 | -     | -        | -         | -   | N/A Land                     |
| 125   | N44.80395235 | W89.70138793 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 126   | N44.80327719 | W89.70139141 | 2     | S        | Pole Rake | 0   | -                            |
| 127   | N44.80260203 | W89.70139489 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 128   | N44.80192687 | W89.70139838 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 129   | N44.80057655 | W89.70140534 | -     | M        | -         | -   | N/A Shallow Muck             |
| 130   | N44.79855108 | W89.70141579 | 2     | M        | Pole Rake | 0   | -                            |
| 131   | N44.79787592 | W89.70141927 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 132   | N44.79720076 | W89.70142275 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 133   | N44.7965256  | W89.70142623 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 134   | N44.79585044 | W89.70142971 | 6     | -        | -         | -   | N/A No Reading               |
| 135   | N44.81070145 | W89.70040463 | 8     | -        | -         | -   | N/A No Reading               |
| 136   | N44.81002629 | W89.70040813 | -     | -        | -         | -   | N/A Blocked By Down Tree     |
| 137   | N44.80935113 | W89.70041162 | -     | -        | -         | -   | N/A Land                     |
| 138   | N44.80867597 | W89.70041512 | 2     | M/S      | Pole Rake | 0   | No Weeds Fresh water sponges |
| 139   | N44.80800081 | W89.70041861 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 140   | N44.8066505  | W89.7004256  | -     | -        | -         | -   | N/A Land                     |
| 141   | N44.80597534 | W89.70042909 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 142   | N44.80462502 | W89.70043608 | 4     | S        | Pole Rake | 0   | No Weeds Secchi Reading 2.4' |
| 143   | N44.80394986 | W89.70043958 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 144   | N44.8032747  | W89.70044307 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 145   | N44.80259955 | W89.70044656 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 146   | N44.80192439 | W89.70045006 | 4     | S/W      | Pole Rake | 0   | No Weeds                     |
| 147   | N44.79989891 | W89.70046054 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 148   | N44.79922375 | W89.70046403 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 149   | N44.79854859 | W89.70046753 | 2     | S/M      | Pole Rake | 0   | No Weeds                     |
| 150   | N44.79787343 | W89.70047102 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 151   | N44.79719827 | W89.70047451 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 152   | N44.79652311 | W89.700478   | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 153   | N44.79584795 | W89.7004815  | 6     | M        | Pole Rake | 0   | No Weeds                     |
| 154   | N44.7951728  | W89.70048499 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 155   | N44.8100238  | W89.69945968 | 9     | -        | -         | -   | N/A No Reading               |
| 156   | N44.80934864 | W89.69946318 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 157   | N44.80867348 | W89.69946669 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 158   | N44.80732316 | W89.6994737  | 10    | -        | -         | -   | N/A No Reading               |
| 159   | N44.80597285 | W89.69948071 | -     | -        | -         | -   | N/A Land                     |
| 160   | N44.80529769 | W89.69948422 | 9     | -        | -         | -   | N/A No Reading               |
| 161   | N44.80327221 | W89.69949473 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 162   | N44.80259705 | W89.69949824 | 5     | M/W      | Pole Rake | 0   | No Weeds                     |
| 163   | N44.8019219  | W89.69950174 | 2     | S        | Pole Rake | 0   | -                            |
| 164   | N44.79989642 | W89.69951225 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 165   | N44.79922126 | W89.69951576 | 3     | W        | Pole Rake | 0   | No Weeds                     |
| 166   | N44.7985461  | W89.69951926 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 167   | N44.79787094 | W89.69952277 | 7     | -        | -         | -   | N/A No Reading               |
| 168   | N44.79719578 | W89.69952627 | 7     | -        | -         | -   | N/A No Reading               |
| 169   | N44.79652062 | W89.69952978 | 7     | -        | -         | -   | N/A No Reading               |
| 170   | N44.79584546 | W89.69953328 | 7     | -        | -         | -   | N/A No Reading               |
| 171   | N44.7951703  | W89.69953678 | 6     | -        | -         | -   | N/A No Reading               |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

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| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                 |
|-------|--------------|--------------|-------|----------|-----------|-----|--------------------------|
| 172   | N44.8100213  | W89.69851123 | 9     | -        | -         | -   | N/A No Reading           |
| 173   | N44.80934614 | W89.69851474 | 10    | -        | -         | -   | N/A No Reading           |
| 174   | N44.80867098 | W89.69851826 | 15    | -        | -         | -   | N/A No Reading           |
| 175   | N44.80799582 | W89.69852178 | 10    | -        | -         | -   | N/A No Reading           |
| 176   | N44.80732066 | W89.69852529 | 12    | -        | -         | -   | N/A No Reading           |
| 177   | N44.80664551 | W89.69852881 | 11    | -        | -         | -   | N/A No Reading           |
| 178   | N44.80529519 | W89.69853584 | 7     | -        | -         | -   | N/A No Reading           |
| 179   | N44.80259456 | W89.69854991 | 3     | S        | Pole Rake | 1   | Sparse individual plants |
| 180   | N44.8019194  | W89.69855342 | 4     | S        | Pole Rake | 0   | No Weeds                 |
| 181   | N44.80124424 | W89.69855694 | 4     | S/W      | Pole Rake | 0   | No Weeds                 |
| 182   | N44.80056908 | W89.69856046 | 7     | -        | -         | -   | N/A No Reading           |
| 183   | N44.79989392 | W89.69856397 | 4     | S        | Pole Rake | 0   | No Weeds                 |
| 184   | N44.79921876 | W89.69856749 | 3     | S        | Pole Rake | 0   | No Weeds                 |
| 185   | N44.7985436  | W89.698571   | 6     | -        | -         | -   | N/A No Reading           |
| 186   | N44.79786844 | W89.69857452 | 7     | -        | -         | -   | N/A No Reading           |
| 187   | N44.79719328 | W89.69857803 | 8     | -        | -         | -   | N/A No Reading           |
| 188   | N44.79651812 | W89.69858155 | 8     | -        | -         | -   | N/A No Reading           |
| 189   | N44.79584297 | W89.69858506 | 9     | -        | -         | -   | N/A No Reading           |
| 190   | N44.79516781 | W89.69858858 | 9     | -        | -         | -   | N/A No Reading           |
| 191   | N44.79449265 | W89.69859209 | 3     | M        | Pole Rake | 0   | No Weeds                 |
| 192   | N44.80934363 | W89.6975663  | 7     | -        | -         | -   | N/A No Reading           |
| 193   | N44.80866847 | W89.69756983 | 9     | -        | -         | -   | N/A No Reading           |
| 194   | N44.806643   | W89.69758042 | 1     | S        | -         | -   | No weeds                 |
| 195   | N44.80596784 | W89.69758394 | 9     | -        | -         | -   | N/A No Reading           |
| 196   | N44.80529268 | W89.69758747 | 11    | -        | -         | -   | N/A No Reading           |
| 197   | N44.80326721 | W89.69759805 | 2     | S        | Pole Rake | 0   | -                        |
| 198   | N44.80259205 | W89.69760158 | 3     | S        | Pole Rake | 1   | Sparse individual plants |
| 199   | N44.80191689 | W89.69760511 | 5     | S/W      | Pole Rake | 0   | No Weeds                 |
| 200   | N44.80124173 | W89.69760863 | 3     | S        | Pole Rake | 0   | No Weeds                 |
| 201   | N44.80056657 | W89.69761216 | 3     | S        | Pole Rake | 0   | No Weeds                 |
| 202   | N44.79989141 | W89.69761569 | 3     | S        | Pole Rake | 0   | No Weeds                 |
| 203   | N44.79921625 | W89.69761921 | 5     | S        | Pole Rake | 0   | No Weeds                 |
| 204   | N44.7985411  | W89.69762274 | 7     | -        | -         | -   | N/A No Reading           |
| 205   | N44.79786594 | W89.69762627 | 8     | -        | -         | -   | N/A No Reading           |
| 206   | N44.79719078 | W89.69762979 | 8     | -        | -         | -   | N/A No Reading           |
| 207   | N44.79651562 | W89.69763332 | 8     | -        | -         | -   | N/A No Reading           |
| 208   | N44.79584046 | W89.69763684 | 8     | -        | -         | -   | N/A No Reading           |
| 209   | N44.7951653  | W89.69764037 | 9     | -        | -         | -   | N/A No Reading           |
| 210   | N44.79449014 | W89.6976439  | 8     | -        | -         | -   | N/A No Reading           |
| 211   | N44.79381498 | W89.69764742 | 3     | R/S      | Pole Rake | 0   | No Weeds                 |
| 212   | N44.7917895  | W89.697658   | -     | -        | -         | -   | Boat Barrier             |
| 213   | N44.80934111 | W89.69661787 | 1     | S        | Pole Rake | 0   | No Weeds                 |
| 214   | N44.80866596 | W89.69662141 | 10    | -        | -         | -   | N/A No Reading           |
| 215   | N44.80731564 | W89.69662848 | 1     | S        | Pole Rake | 0   | No Weeds                 |
| 216   | N44.80664048 | W89.69663202 | 2     | S        | Pole Rake | 0   | No Weeds                 |
| 217   | N44.80596533 | W89.69663556 | 4     | S        | Pole Rake | 0   | No Weeds                 |
| 218   | N44.80529017 | W89.6966391  | 13    | -        | -         | -   | N/A No Reading           |
| 219   | N44.80258953 | W89.69665325 | 2     | S        | Pole Rake | 0   | No Weeds                 |
| 220   | N44.80191438 | W89.69665679 | 5     | G        | Pole Rake | 0   | No Weeds                 |
| 221   | N44.80123922 | W89.69666033 | 3     | G        | Pole Rake | 0   | No Weeds                 |
| 222   | N44.80056406 | W89.69666387 | 1     | S        | Pole Rake | 1   | Sparse individual plants |
| 223   | N44.7998889  | W89.6966674  | 3     | S        | Pole Rake | 1   | Sparse individual plants |
| 224   | N44.79921374 | W89.69667094 | 6     | -        | -         | -   | N/A No Reading           |
| 225   | N44.79853858 | W89.69667448 | 5     | S        | Pole Rake | 0   | No Weeds                 |
| 226   | N44.79786342 | W89.69667802 | 6     | -        | -         | -   | N/A No Reading           |
| 227   | N44.79718826 | W89.69668155 | 7     | -        | -         | -   | N/A No Reading           |
| 228   | N44.7965131  | W89.69668509 | 7     | -        | -         | -   | N/A No Reading           |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1334900

County: Marathon

Crew: JAK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 229   | N44.79583794 | W89.69668863 | 8     | -        | -         | -   | N/A No Reading               |
| 230   | N44.79516279 | W89.69669216 | 9     | -        | -         | -   | N/A No Reading               |
| 231   | N44.79448763 | W89.6966957  | 9     | -        | -         | -   | N/A No Reading               |
| 232   | N44.79381247 | W89.69669924 | 3     | G/S      | Pole Rake | 0   | No Weeds                     |
| 233   | N44.79313731 | W89.69670277 | 9     | -        | -         | -   | N/A No Reading               |
| 234   | N44.79246215 | W89.69670631 | 10    | -        | -         | -   | N/A No Reading               |
| 235   | N44.79178699 | W89.69670985 | -     | -        | -         | -   | Boat Barrier                 |
| 236   | N44.79111183 | W89.69671338 | -     | -        | -         | -   | Boat Barrier                 |
| 237   | N44.80933859 | W89.69566943 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 238   | N44.80866343 | W89.69567298 | 12    | -        | -         | -   | N/A No Reading               |
| 239   | N44.80663796 | W89.69568363 | -     | -        | -         | -   | N/A Land                     |
| 240   | N44.8059628  | W89.69568718 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 241   | N44.80528764 | W89.69569073 | 7     | -        | -         | -   | N/A No Reading               |
| 242   | N44.80461249 | W89.69569428 | 12    | -        | -         | -   | N/A No Reading               |
| 243   | N44.80258701 | W89.69570492 | 7     | -        | -         | -   | N/A No Reading               |
| 244   | N44.80191185 | W89.69570847 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 245   | N44.80123669 | W89.69571202 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 246   | N44.80056154 | W89.69571557 | 3     | R        | Pole Rake | 0   | No Weeds Secchi Reading 2.0' |
| 247   | N44.79988638 | W89.69571912 | 5     | M/S      | Pole Rake | 0   | No Weeds                     |
| 248   | N44.79921122 | W89.69572267 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 249   | N44.79853606 | W89.69572622 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 250   | N44.7978609  | W89.69572977 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 251   | N44.79718574 | W89.69573331 | 5     | W        | Pole Rake | 0   | No Weeds                     |
| 252   | N44.79651058 | W89.69573686 | 6     | -        | -         | -   | N/A No Reading               |
| 253   | N44.79583542 | W89.69574041 | 7     | -        | -         | -   | N/A No Reading               |
| 254   | N44.79516026 | W89.69574396 | 9     | -        | -         | -   | N/A No Reading               |
| 255   | N44.7944851  | W89.6957475  | 15    | -        | -         | -   | N/A No Reading               |
| 256   | N44.79380994 | W89.69575105 | 6     | -        | -         | -   | N/A No Reading               |
| 257   | N44.79245963 | W89.69575815 | 10    | -        | -         | -   | N/A No Reading               |
| 258   | N44.79178447 | W89.69576169 | -     | -        | -         | -   | Boat Barrier                 |
| 259   | N44.79110931 | W89.69576524 | -     | -        | -         | -   | Boat Barrier                 |
| 260   | N44.80933606 | W89.69472099 | 3     | G        | Pole Rake | 0   | No Weeds                     |
| 261   | N44.8086609  | W89.69472455 | 12    | -        | -         | -   | N/A No Reading               |
| 262   | N44.80663543 | W89.69473523 | -     | -        | -         | -   | N/A Land                     |
| 263   | N44.80528511 | W89.69474236 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 264   | N44.80460995 | W89.69474592 | 7     | -        | -         | -   | N/A No Reading               |
| 265   | N44.8039348  | W89.69474948 | 8     | -        | -         | -   | N/A No Reading               |
| 266   | N44.80325964 | W89.69475304 | 9     | -        | -         | -   | N/A No Reading               |
| 267   | N44.80123416 | W89.69476372 | 3     | S/W      | Pole Rake | 0   | No Weeds                     |
| 268   | N44.800559   | W89.69476728 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 269   | N44.79988385 | W89.69477084 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 270   | N44.79920869 | W89.6947744  | 5     | S        | Pole Rake | 0   | No Weeds Secchi Reading 2.5' |
| 271   | N44.79853353 | W89.69477796 | 5     | M/S      | Pole Rake | 0   | No Weeds                     |
| 272   | N44.79785837 | W89.69478152 | 5     | M/W      | Pole Rake | 0   | No Weeds                     |
| 273   | N44.79718321 | W89.69478507 | 7     | -        | -         | -   | N/A No Reading               |
| 274   | N44.79650805 | W89.69478863 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 275   | N44.79583289 | W89.69479219 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 276   | N44.79515773 | W89.69479575 | 6     | -        | -         | -   | N/A No Reading               |
| 277   | N44.79448257 | W89.69479931 | 15    | -        | -         | -   | N/A No Reading               |
| 278   | N44.79380741 | W89.69480287 | 15    | -        | -         | -   | N/A No Reading               |
| 279   | N44.79313225 | W89.69480643 | 16    | -        | -         | -   | N/A No Reading               |
| 280   | N44.7924571  | W89.69480999 | 17    | -        | -         | -   | N/A No Reading               |
| 281   | N44.79178194 | W89.69481354 | 14    | -        | -         | -   | N/A No Reading               |
| 282   | N44.79110678 | W89.6948171  | -     | -        | -         | -   | Boat Barrier                 |
| 283   | N44.81000868 | W89.69376898 | 2     | G        | Pole Rake | 0   | No Weeds                     |
| 284   | N44.80933352 | W89.69377255 | 7     | -        | -         | -   | N/A No Reading               |
| 285   | N44.80865836 | W89.69377612 | 12    | -        | -         | -   | N/A No Reading               |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1334900

County: Marathon

Crew: JAK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

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M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 286   | N44.80663289 | W89.69378684 | -     | M        | -         | -   | N/A Shallow Muck             |
| 287   | N44.80460742 | W89.69379756 | -     | -        | -         | -   | N/A Blocked By Down Tree     |
| 288   | N44.80393226 | W89.69380113 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 289   | N44.80190678 | W89.69381184 | 2     | M/S      | Pole Rake | 0   | No Weeds                     |
| 290   | N44.80123162 | W89.69381541 | 2     | S/W      | Pole Rake | 0   | No Weeds                     |
| 291   | N44.80055647 | W89.69381898 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 292   | N44.79988131 | W89.69382255 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 293   | N44.79920615 | W89.69382612 | 5     | M        | Pole Rake | 1   | Low density EWM mat          |
| 294   | N44.79853099 | W89.69382969 | 4     | M/S      | Pole Rake | 1   | Low density EWM mat          |
| 295   | N44.79785583 | W89.69383327 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 296   | N44.79718067 | W89.69383684 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 297   | N44.79650551 | W89.69384041 | 7     | S        | Pole Rake | 0   | No Weeds                     |
| 298   | N44.79583035 | W89.69384398 | 11    | -        | -         | -   | N/A No Reading               |
| 299   | N44.7951552  | W89.69384755 | 9     | -        | -         | -   | N/A No Reading               |
| 300   | N44.79448004 | W89.69385112 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 301   | N44.79380488 | W89.69385468 | 9     | -        | -         | -   | N/A No Reading               |
| 302   | N44.79312972 | W89.69385825 | 13    | -        | -         | -   | N/A No Reading               |
| 303   | N44.79245456 | W89.69386182 | 13    | -        | -         | -   | N/A No Reading               |
| 304   | N44.81068129 | W89.69281695 | 3     | G/W      | Pole Rake | 0   | No Weeds                     |
| 305   | N44.81000613 | W89.69282053 | 11    | -        | -         | -   | N/A No Reading               |
| 306   | N44.80933097 | W89.69282411 | 14    | -        | -         | -   | N/A No Reading               |
| 307   | N44.80798066 | W89.69283128 | -     | -        | -         | -   | N/A Blocked By Logs          |
| 308   | N44.80663034 | W89.69283845 | 1     | M/S      | Pole Rake | 0   | -                            |
| 309   | N44.80595519 | W89.69284203 | -     | M        | -         | -   | N/A Shallow Muck             |
| 310   | N44.80528003 | W89.69284561 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 311   | N44.80460487 | W89.69284919 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 312   | N44.80392971 | W89.69285278 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 313   | N44.80257939 | W89.69285994 | -     | M        | -         | -   | N/A Shallow Muck             |
| 314   | N44.80190424 | W89.69286352 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 315   | N44.80122908 | W89.69286711 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 316   | N44.80055392 | W89.69287069 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 317   | N44.79987876 | W89.69287427 | 3     | M        | Pole Rake | 1   | EWM mat area                 |
| 318   | N44.7992036  | W89.69287785 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 319   | N44.79852844 | W89.69288143 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 320   | N44.79785329 | W89.69288502 | 7     | -        | -         | -   | N/A No Reading               |
| 321   | N44.79717813 | W89.6928886  | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 322   | N44.79650297 | W89.69289218 | 8     | -        | -         | -   | N/A No Reading               |
| 323   | N44.79582781 | W89.69289576 | 8     | -        | -         | -   | N/A No Reading               |
| 324   | N44.79515265 | W89.69289934 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 325   | N44.79447749 | W89.69290292 | 7     | -        | -         | -   | N/A No Reading               |
| 326   | N44.79380233 | W89.6929065  | 11    | -        | -         | -   | N/A No Reading               |
| 327   | N44.82080608 | W89.69181455 | -     | M        | -         | -   | N/A Shallow Muck             |
| 328   | N44.81405452 | W89.69185051 | 9     | -        | -         | -   | N/A No Reading               |
| 329   | N44.81337936 | W89.69185411 | 10    | -        | -         | -   | N/A No Reading               |
| 330   | N44.8127042  | W89.6918577  | 11    | -        | -         | -   | N/A No Reading               |
| 331   | N44.81202905 | W89.6918613  | 11    | -        | -         | -   | N/A No Reading               |
| 332   | N44.81135389 | W89.69186489 | 13    | -        | -         | -   | N/A No Reading               |
| 333   | N44.81067873 | W89.69186849 | 15    | -        | -         | -   | N/A No Reading               |
| 334   | N44.81000358 | W89.69187208 | 11    | -        | -         | -   | N/A No Reading               |
| 335   | N44.8079781  | W89.69188286 | -     | -        | -         | -   | N/A Land                     |
| 336   | N44.80730295 | W89.69188646 | 2     | M        | Pole Rake | 0   | -                            |
| 337   | N44.80662779 | W89.69189005 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 338   | N44.80460231 | W89.69190083 | -     | -        | -         | -   | N/A Blocked By Bullrush      |
| 339   | N44.80392716 | W89.69190443 | 3     | S        | Pole Rake | 0   | No Weeds Secchi Reading 2.2' |
| 340   | N44.80190168 | W89.69191521 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 341   | N44.80122652 | W89.6919188  | 3     | S/W      | Pole Rake | 0   | No Weeds                     |
| 342   | N44.80055137 | W89.69192239 | 3     | W        | Pole Rake | 0   | No Weeds                     |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1334900

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M = Muck

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S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                      |
|-------|--------------|--------------|-------|----------|-----------|-----|-------------------------------|
| 343   | N44.79987621 | W89.69192599 | 4     | S        | Pole Rake | 1   | EWM low density (part of mat) |
| 344   | N44.79920105 | W89.69192958 | 3     | S        | Pole Rake | 0   | No Weeds                      |
| 345   | N44.79852589 | W89.69193317 | 3     | W        | Pole Rake | 0   | No Weeds                      |
| 346   | N44.79785073 | W89.69193677 | 8     | -        | -         | -   | N/A No Reading                |
| 347   | N44.79717557 | W89.69194036 | 7     | -        | -         | -   | N/A No Reading                |
| 348   | N44.79650041 | W89.69194395 | 8     | -        | -         | -   | N/A No Reading                |
| 349   | N44.79582525 | W89.69194754 | 3     | S        | Pole Rake | 0   | No Weeds                      |
| 350   | N44.7951501  | W89.69195113 | 9     | -        | -         | -   | N/A No Reading                |
| 351   | N44.79447494 | W89.69195473 | 9     | -        | -         | -   | N/A No Reading                |
| 352   | N44.79379978 | W89.69195832 | 2     | G        | Pole Rake | 0   | No Weeds                      |
| 353   | N44.82215383 | W89.69085871 | -     | -        | -         | -   | N/A Blocked By Logs           |
| 354   | N44.82012836 | W89.69086953 | -     | -        | -         | -   | N/A Blocked By Down Tree      |
| 355   | N44.81945321 | W89.69087314 | 2     | M        | Pole Rake | 0   | -                             |
| 356   | N44.81810289 | W89.69088035 | -     | M        | -         | -   | N/A Shallow Muck              |
| 357   | N44.81675258 | W89.69088757 | -     | -        | -         | -   | N/A Land                      |
| 358   | N44.81405196 | W89.69090199 | 8     | -        | -         | -   | N/A No Reading                |
| 359   | N44.8133768  | W89.6909056  | 9     | -        | -         | -   | N/A No Reading                |
| 360   | N44.81270164 | W89.69090921 | 10    | -        | -         | -   | N/A No Reading                |
| 361   | N44.81202648 | W89.69091281 | 10    | -        | -         | -   | N/A No Reading                |
| 362   | N44.81135133 | W89.69091642 | 4     | G        | Pole Rake | 0   | No Weeds                      |
| 363   | N44.80797554 | W89.69093445 | 3     | S        | Pole Rake | 0   | No Weeds                      |
| 364   | N44.80730038 | W89.69093805 | -     | -        | -         | -   | N/A Land                      |
| 365   | N44.80662523 | W89.69094166 | 2     | M        | Pole Rake | 0   | -                             |
| 366   | N44.80595007 | W89.69094526 | 2     | M/S      | Pole Rake | 0   | No Weeds                      |
| 367   | N44.80527491 | W89.69094887 | 1     | S        | Pole Rake | 0   | No Weeds                      |
| 368   | N44.80459975 | W89.69095247 | -     | -        | -         | -   | N/A Land                      |
| 369   | N44.80392459 | W89.69095608 | 2     | S        | Pole Rake | 0   | -                             |
| 370   | N44.80324944 | W89.69095968 | 5     | S        | Pole Rake | 0   | No Weeds                      |
| 371   | N44.80257428 | W89.69096329 | -     | -        | -         | -   | N/A Land                      |
| 372   | N44.80189912 | W89.69096689 | 2     | M/S      | Pole Rake | 0   | No Weeds                      |
| 373   | N44.80122396 | W89.6909705  | 3     | M        | Pole Rake | 0   | No Weeds                      |
| 374   | N44.8005488  | W89.6909741  | 3     | W        | Pole Rake | 0   | No Weeds                      |
| 375   | N44.79987365 | W89.6909777  | 3     | S        | Pole Rake | 0   | No Weeds                      |
| 376   | N44.79919849 | W89.69098131 | 3     | S/W      | Pole Rake | 0   | No Weeds                      |
| 377   | N44.79852333 | W89.69098491 | 3     | S        | Pole Rake | 0   | No Weeds                      |
| 378   | N44.79784817 | W89.69098852 | 8     | -        | -         | -   | N/A No Reading                |
| 379   | N44.79717301 | W89.69099212 | 8     | -        | -         | -   | N/A No Reading                |
| 380   | N44.79649785 | W89.69099572 | 7     | -        | -         | -   | N/A No Reading                |
| 381   | N44.79582269 | W89.69099933 | 3     | S        | Pole Rake | 0   | No Weeds                      |
| 382   | N44.79514753 | W89.69100293 | 3     | G        | Pole Rake | 0   | No Weeds                      |
| 383   | N44.82080095 | W89.6899173  | -     | -        | -         | -   | N/A Blocked By Logs           |
| 384   | N44.81945064 | W89.68992453 | -     | -        | -         | -   | N/A Blocked By Logs           |
| 385   | N44.81742517 | W89.68993539 | 2     | M        | Pole Rake | 0   | -                             |
| 386   | N44.81607485 | W89.68994263 | 2     | M        | Pole Rake | 1   | No Weeds                      |
| 387   | N44.8153997  | W89.68994624 | 3     | M/W      | Pole Rake | 0   | -                             |
| 388   | N44.81472454 | W89.68994986 | 3     | M        | Pole Rake | 0   | No Weeds                      |
| 389   | N44.81404938 | W89.68995348 | 6     | -        | -         | -   | N/A No Reading                |
| 390   | N44.80797297 | W89.68998603 | 1     | S/W      | Pole Rake | 0   | No Weeds                      |
| 391   | N44.80729781 | W89.68998965 | 2     | M/S      | Pole Rake | 0   | No Weeds                      |
| 392   | N44.80662266 | W89.68999327 | 2     | S/W      | Pole Rake | 0   | No Weeds                      |
| 393   | N44.8059475  | W89.68999688 | 2     | M/S      | Pole Rake | 0   | No Weeds                      |
| 394   | N44.80527234 | W89.69000005 | 4     | S        | Pole Rake | 0   | No Weeds                      |
| 395   | N44.80459718 | W89.69000411 | 1     | M/S      | Pole Rake | 0   | No Weeds                      |
| 396   | N44.80392202 | W89.69000773 | 2     | S        | Pole Rake | 0   | No Weeds                      |
| 397   | N44.80324687 | W89.69001135 | 5     | S        | Pole Rake | 0   | No Weeds                      |
| 398   | N44.80122139 | W89.69002219 | 3     | S/W      | Pole Rake | 0   | No Weeds                      |
| 399   | N44.80054623 | W89.69002581 | 3     | S        | Pole Rake | 0   | No Weeds                      |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1334900

County: Marathon

Crew: JAK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments             |
|-------|--------------|--------------|-------|----------|-----------|-----|----------------------|
| 400   | N44.79987108 | W89.69002942 | 3     | M        | Pole Rake | 1   | EWM – part of a mat  |
| 401   | N44.79919592 | W89.69003304 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 402   | N44.79852076 | W89.69003665 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 403   | N44.7978456  | W89.69004027 | 10    | -        | -         | -   | N/A No Reading       |
| 404   | N44.79717044 | W89.69004388 | 9     | -        | -         | -   | N/A No Reading       |
| 405   | N44.79649528 | W89.69004749 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 406   | N44.79582012 | W89.69005111 | 2     | G/S      | Pole Rake | 0   | No Weeds             |
| 407   | N44.79514496 | W89.69005472 | 1     | S        | Pole Rake | 0   | No Weeds             |
| 408   | N44.82012321 | W89.6889723  | -     | -        | -         | -   | N/A Blocked By Logs  |
| 409   | N44.81809774 | W89.68898319 | 2     | M        | Pole Rake | 0   | -                    |
| 410   | N44.81674743 | W89.68899045 | 3     | M        | Pole Rake | 0   | -                    |
| 411   | N44.81607227 | W89.68899408 | 3     | M        | Pole Rake | 0   | No Weeds             |
| 412   | N44.81539712 | W89.68899771 | 3     | M        | Pole Rake | 0   | No Weeds Secchi 2.2' |
| 413   | N44.80797039 | W89.68903762 | -     | -        | -         | -   | N/A Land             |
| 414   | N44.80729523 | W89.68904125 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 415   | N44.80662008 | W89.68904487 | 4     | M/S      | Pole Rake | 0   | No Weeds             |
| 416   | N44.80594492 | W89.6890485  | 3     | M        | Pole Rake | 0   | No Weeds             |
| 417   | N44.80526976 | W89.68905213 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 418   | N44.8045946  | W89.68905575 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 419   | N44.80391945 | W89.68905938 | -     | -        | -         | -   | N/A Land             |
| 420   | N44.80324429 | W89.68906301 | 5     | S        | Pole Rake | 0   | No Weeds             |
| 421   | N44.80121881 | W89.68907389 | 3     | S/W      | Pole Rake | 0   | No Weeds             |
| 422   | N44.80054366 | W89.68907751 | 3     | M        | Pole Rake | 0   | No Weeds             |
| 423   | N44.7998685  | W89.68908114 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 424   | N44.79919334 | W89.68908477 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 425   | N44.79851818 | W89.68908839 | 9     | -        | -         | -   | N/A No Reading       |
| 426   | N44.79784302 | W89.68909202 | 13    | -        | -         | -   | N/A No Reading       |
| 427   | N44.82147094 | W89.6880164  | 1     | M/S      | Pole Rake | 0   | -                    |
| 428   | N44.81944547 | W89.68802733 | -     | -        | -         | -   | N/A Blocked By Logs  |
| 429   | N44.81877031 | W89.68803097 | 2     | M        | Pole Rake | 0   | Blocked by logs      |
| 430   | N44.81606969 | W89.68804553 | 1     | M/W      | Pole Rake | 1   | -                    |
| 431   | N44.81539453 | W89.68804917 | 3     | M        | Pole Rake | 1   | -                    |
| 432   | N44.80729265 | W89.68809284 | 2     | M        | Pole Rake | 0   | -                    |
| 433   | N44.80661749 | W89.68809648 | 3     | S        | Pole Rake | 0   | -                    |
| 434   | N44.80594233 | W89.68810012 | 4     | M        | Pole Rake | 0   | No Weeds             |
| 435   | N44.80526718 | W89.68810376 | 3     | S        | Pole Rake | 0   | No Weeds             |
| 436   | N44.80459202 | W89.68810739 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 437   | N44.80391686 | W89.68811103 | -     | -        | -         | 0   | NA too shallow       |
| 438   | N44.8032417  | W89.68811467 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 439   | N44.80121623 | W89.68812558 | 1     | S        | Pole Rake | 0   | No Weeds             |
| 440   | N44.80054107 | W89.68812922 | 2     | M        | Pole Rake | 0   | No Weeds             |
| 441   | N44.79986591 | W89.68813286 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 442   | N44.79919075 | W89.68813649 | 8     | -        | -         | -   | N/A No Reading       |
| 443   | N44.7985156  | W89.68814013 | 12    | -        | -         | -   | N/A No Reading       |
| 444   | N44.82079318 | W89.68707142 | -     | -        | -         | 0   | Blocked by logs      |
| 445   | N44.82011803 | W89.68707507 | -     | M        | -         | -   | N/A Shallow Muck     |
| 446   | N44.81539194 | W89.68710063 | 4     | M        | Pole Rake | 1   | -                    |
| 447   | N44.81471678 | W89.68710428 | 4     | M        | Pole Rake | 0   | No Weeds             |
| 448   | N44.8066149  | W89.68714809 | 4     | M        | Pole Rake | 1   | -                    |
| 449   | N44.80593974 | W89.68715174 | 4     | M        | Pole Rake | 0   | No Weeds             |
| 450   | N44.80526458 | W89.68715539 | 3     | S/W      | Pole Rake | 0   | No Weeds             |
| 451   | N44.80458942 | W89.68715903 | 5     | M        | Pole Rake | 0   | No Weeds             |
| 452   | N44.80391427 | W89.68716268 | 3     | S        | Pole Rake | 0   | No Weeds             |
| 453   | N44.80323911 | W89.68716633 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 454   | N44.80256395 | W89.68716998 | -     | M        | -         | -   | N/A Shallow Muck     |
| 455   | N44.80188879 | W89.68717363 | -     | M        | -         | -   | N/A Shallow Muck     |
| 456   | N44.80053848 | W89.68718093 | 2     | S        | Pole Rake | 0   | No Weeds             |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1334900

County: Marathon

Crew: JAK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                  |
|-------|--------------|--------------|-------|----------|-----------|-----|---------------------------|
| 457   | N44.79986332 | W89.68718457 | 8     | -        | -         | -   | N/A No Reading            |
| 458   | N44.79918816 | W89.68718822 | 14    | -        | -         | -   | N/A No Reading            |
| 459   | N44.82011543 | W89.68612646 | 1     | M        | Pole Rake | 0   | No Weeds                  |
| 460   | N44.81944027 | W89.68613012 | 1     | M/W      | Pole Rake | 0   | No Weeds                  |
| 461   | N44.81538933 | W89.6861521  | 4     | S        | Pole Rake | 0   | No Weeds                  |
| 462   | N44.81471418 | W89.68615576 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 463   | N44.80593714 | W89.68620335 | 3     | M        | Pole Rake | 0   | No Weeds                  |
| 464   | N44.80526198 | W89.68620701 | 5     | M        | Pole Rake | 0   | No Weeds                  |
| 465   | N44.80458682 | W89.68621067 | 6     | -        | -         | -   | N/A No Reading            |
| 466   | N44.80391166 | W89.68621433 | 4     | S        | Pole Rake | 0   | No Weeds                  |
| 467   | N44.80323651 | W89.68621799 | 4     | S        | Pole Rake | 0   | No Weeds                  |
| 468   | N44.80188619 | W89.68622531 | 1     | M        | Pole Rake | 0   | No Weeds                  |
| 469   | N44.80121103 | W89.68622897 | 2     | M/S      | Pole Rake | 0   | No Weeds                  |
| 470   | N44.80053588 | W89.68623263 | 10    | -        | -         | -   | N/A No Reading            |
| 471   | N44.79986072 | W89.68623629 | 11    | -        | -         | -   | N/A No Reading            |
| 472   | N44.81943766 | W89.68518152 | -     | M        | -         | 0   | N/A Blocked by Down Tree  |
| 473   | N44.8187625  | W89.68518519 | -     | -        | -         | -   | N/A Blocked By Down Tree  |
| 474   | N44.81538672 | W89.68520356 | 4     | M/W      | Pole Rake | 0   | No Weeds                  |
| 475   | N44.81471157 | W89.68520723 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 476   | N44.80593453 | W89.68525497 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 477   | N44.80525937 | W89.68525864 | 6     | -        | -         | -   | N/A No Reading            |
| 478   | N44.80458421 | W89.68526232 | 6     | -        | -         | -   | N/A No Reading            |
| 479   | N44.80390906 | W89.68526599 | 7     | -        | -         | -   | N/A No Reading            |
| 480   | N44.8032339  | W89.68526966 | 18    | -        | -         | -   | N/A No Reading            |
| 481   | N44.80255874 | W89.68527333 | 15    | -        | -         | -   | N/A No Reading            |
| 482   | N44.80188358 | W89.685277   | 16    | -        | -         | -   | N/A No Reading            |
| 483   | N44.80120842 | W89.68528067 | 13    | -        | -         | -   | N/A No Reading            |
| 484   | N44.81943504 | W89.68423292 | 2     | M/S      | Pole Rake | 0   | No Weeds                  |
| 485   | N44.81875988 | W89.6842366  | 2     | M        | Pole Rake | 0   | No Weeds                  |
| 486   | N44.8153841  | W89.68425502 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 487   | N44.81470895 | W89.68425871 | 4     | M        | Pole Rake | 1   | -                         |
| 488   | N44.80525675 | W89.68431027 | 6     | -        | -         | -   | N/A No Reading            |
| 489   | N44.8045816  | W89.68431396 | 6     | -        | -         | -   | N/A No Reading            |
| 490   | N44.80390644 | W89.68431764 | 7     | -        | -         | -   | N/A No Reading            |
| 491   | N44.80323128 | W89.68432132 | 10    | -        | -         | -   | N/A No Reading            |
| 492   | N44.80255612 | W89.684325   | 8     | -        | -         | -   | N/A No Reading            |
| 493   | N44.81943241 | W89.68328431 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 494   | N44.81875726 | W89.68328801 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 495   | N44.81538148 | W89.68330649 | 4     | M        | Pole Rake | 0   | -                         |
| 496   | N44.81470632 | W89.68331018 | 3     | M        | Pole Rake | 1   | - Secchi Reading 1.9'     |
| 497   | N44.80457897 | W89.6833656  | 6     | -        | -         | -   | N/A No Reading            |
| 498   | N44.80390381 | W89.68336929 | 6     | -        | -         | -   | N/A No Reading            |
| 499   | N44.80322865 | W89.68337298 | 4     | S/G      | Pole Rake | 0   | No Weeds                  |
| 500   | N44.81942978 | W89.68233571 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 501   | N44.81875462 | W89.68233942 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 502   | N44.81537884 | W89.68235795 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 503   | N44.81470369 | W89.68236166 | 3     | M        | Pole Rake | 0   | -                         |
| 504   | N44.81942714 | W89.68138711 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 505   | N44.81875198 | W89.68139083 | -     | M        | -         | -   | N/A Shallow Muck          |
| 506   | N44.8153762  | W89.68140942 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 507   | N44.81470105 | W89.68141313 | 3     | M/W      | Pole Rake | 1   | -                         |
| 508   | N44.81942449 | W89.68043851 | -     | M        | -         | -   | N/A Shallow Muck          |
| 509   | N44.81537355 | W89.68046088 | 3     | M        | Pole Rake | 1   | -                         |
| 510   | N44.8146984  | W89.68046461 | 2     | M        | Pole Rake | 0   | -                         |
| 511   | N44.81604605 | W89.6795086  | 3     | M        | Pole Rake | 0   | No Weeds                  |
| 512   | N44.81537089 | W89.67951234 | 2     | M        | Pole Rake | 0   | -                         |
| 513   | N44.81604338 | W89.67856006 | 3     | M        | Pole Rake | 0   | No Weeds                  |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1334900

County: Marathon

Crew: JAK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

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NWM = Northern Water Milfoil

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M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments |
|-------|--------------|--------------|-------|----------|-----------|-----|----------|
| 514   | N44.81536823 | W89.67856381 | 1     | M        | Pole Rake | 0   | -        |
| 515   | N44.81604071 | W89.67761151 | 2     | M        | Pole Rake | 0   | No Weeds |
| 516   | N44.81603803 | W89.67666296 | 2     | M        | Pole Rake | 0   | No Weeds |
| 517   | N44.81603534 | W89.67571442 | 2     | M        | Pole Rake | 0   | No Weeds |
| 518   | N44.8167078  | W89.67476208 | 1     | M        | Pole Rake | 0   | No Weeds |



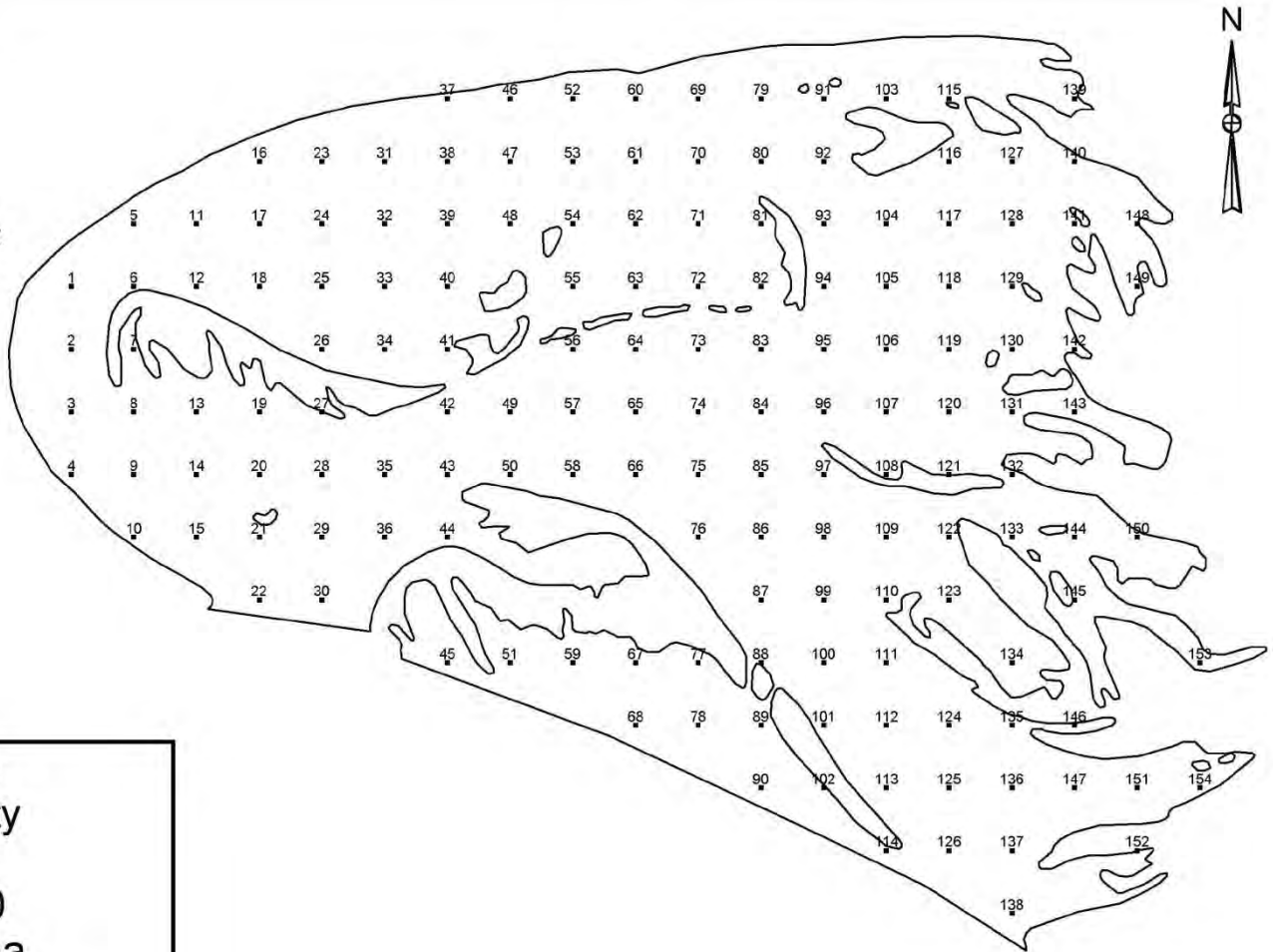


**MOSINEE HYDROELECTRIC  
PROJECT- HALF MOON LAKE  
2015 INVASIVE SPECIES  
MONITORING**

**EURASIAN WATERMILFOIL  
DISTRIBUTION**

**NONE FOUND IN 2015**

Half Moon Lake  
Marathon County  
WBIC 1435800  
T27N R07E S20  
218 acres / 88 ha  
154 Sampling Points  
75m between Points  
Site1: Lat. 44.81669222  
Long. -89.7109471



**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Half Moon Lake (154 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1435800

County: Marathon

Crew: JBK, SJK, SRK, BJK

Datum: WGS84

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S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                          |
|-------|--------------|--------------|-------|----------|-----------|-----|-----------------------------------|
| 1     | N44.81669222 | W89.7109471  | 9     | -        | -         | -   | N/A No Reading                    |
| 2     | N44.81601706 | W89.71095047 | 6     | -        | -         | -   | N/A No Reading                    |
| 3     | N44.8153419  | W89.71095385 | 8     | -        | -         | -   | N/A No Reading                    |
| 4     | N44.81466675 | W89.71095722 | 7     | -        | -         | -   | N/A No Reading                    |
| 5     | N44.81736497 | W89.70999516 | 9     | -        | -         | -   | N/A No Reading                    |
| 6     | N44.81668981 | W89.70999854 | 6     | W        | Pole Rake | 0   | No Weeds Secchi Reading 1.8' alga |
| 7     | N44.81601466 | W89.71000192 | 2     | M        | Pole Rake | 0   | No Weeds                          |
| 8     | N44.8153395  | W89.71000531 | 6     | -        | -         | -   | N/A No Reading                    |
| 9     | N44.81466434 | W89.71000869 | 7     | -        | -         | -   | N/A No Reading                    |
| 10    | N44.81398918 | W89.71001207 | 6     | -        | -         | -   | N/A No Reading                    |
| 11    | N44.81736256 | W89.70904658 | 8     | -        | -         | -   | N/A No Reading                    |
| 12    | N44.8166874  | W89.70904998 | 7     | -        | -         | -   | N/A No Reading                    |
| 13    | N44.81533709 | W89.70905677 | 6     | -        | -         | -   | N/A No Reading                    |
| 14    | N44.81466193 | W89.70906016 | 4     | S/W      | Pole Rake | 0   | No Weeds                          |
| 15    | N44.81398677 | W89.70906356 | 6     | -        | -         | -   | N/A No Reading                    |
| 16    | N44.8180353  | W89.70809461 | 7     | -        | -         | -   | N/A No Reading                    |
| 17    | N44.81736014 | W89.70809801 | 6     | -        | -         | -   | N/A No Reading                    |
| 18    | N44.81668498 | W89.70810142 | 7     | -        | -         | -   | N/A No Reading                    |
| 19    | N44.81533467 | W89.70810823 | 6     | -        | -         | -   | N/A No Reading                    |
| 20    | N44.81465951 | W89.70811164 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 21    | N44.81398435 | W89.70811504 | 6     | -        | -         | -   | N/A No Reading                    |
| 22    | N44.81330919 | W89.70811845 | 9     | -        | -         | -   | N/A No Reading                    |
| 23    | N44.81803287 | W89.70714603 | 6     | -        | -         | -   | N/A No Reading                    |
| 24    | N44.81735771 | W89.70714944 | 6     | -        | -         | -   | N/A No Reading                    |
| 25    | N44.81668255 | W89.70715286 | 5     | M/W      | Pole Rake | 0   | No Weeds                          |
| 26    | N44.8160074  | W89.70715628 | 3     | W        | Pole Rake | 0   | No Weeds                          |
| 27    | N44.81533224 | W89.70715969 | 1     | S        | Pole Rake | 0   | No Weeds                          |
| 28    | N44.81465708 | W89.70716311 | 10    | -        | -         | -   | N/A No Reading                    |
| 29    | N44.81398192 | W89.70716653 | 11    | -        | -         | -   | N/A No Reading                    |
| 30    | N44.81330676 | W89.70716995 | 10    | -        | -         | -   | N/A No Reading                    |
| 31    | N44.81803043 | W89.70619744 | 6     | -        | -         | -   | N/A No Reading                    |
| 32    | N44.81735527 | W89.70620087 | 5     | M/W      | Pole Rake | 0   | No Weeds                          |
| 33    | N44.81668012 | W89.7062043  | 4     | W        | Pole Rake | 0   | No Weeds                          |
| 34    | N44.81600496 | W89.70620773 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 35    | N44.81465464 | W89.70621459 | 11    | -        | -         | -   | N/A No Reading                    |
| 36    | N44.81397949 | W89.70621801 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 37    | N44.81870314 | W89.70524542 | 6     | -        | -         | -   | N/A No Reading                    |
| 38    | N44.81802799 | W89.70524886 | 6     | -        | -         | -   | N/A No Reading                    |
| 39    | N44.81735283 | W89.7052523  | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 40    | N44.81667767 | W89.70525574 | 1     | S        | Pole Rake | 0   | No Weeds                          |
| 41    | N44.81600251 | W89.70525918 | 1     | S        | Pole Rake | 0   | No Weeds                          |
| 42    | N44.81532736 | W89.70526262 | 10    | -        | -         | -   | N/A No Reading                    |
| 43    | N44.8146522  | W89.70526606 | 8     | S        | Pole Rake | 0   | No Weeds                          |
| 44    | N44.81397704 | W89.7052695  | 2     | S        | Pole Rake | 0   | No Weeds                          |
| 45    | N44.81262673 | W89.70527638 | 3     | M        | Pole Rake | 0   | No Weeds                          |
| 46    | N44.81870069 | W89.70429683 | 4     | S        | Pole Rake | 0   | No Weeds                          |
| 47    | N44.81802553 | W89.70430028 | 5     | M        | Pole Rake | 0   | No Weeds                          |
| 48    | N44.81735038 | W89.70430373 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 49    | N44.81532491 | W89.70431408 | 11    | -        | -         | -   | N/A No Reading                    |
| 50    | N44.81464975 | W89.70431753 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 51    | N44.81262428 | W89.70432788 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 52    | N44.81869823 | W89.70334824 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 53    | N44.81802307 | W89.7033517  | 1     | S        | Pole Rake | 0   | No Weeds                          |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Half Moon Lake (154 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1435800

County: Marathon

Crew: JBK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                           |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------------|
| 54    | N44.81734792 | W89.70335516 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 55    | N44.81667276 | W89.70335862 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 56    | N44.8159976  | W89.70336208 | 4     | M/S      | Pole Rake | 0   | No Weeds                           |
| 57    | N44.81532245 | W89.70336555 | 10    | -        | -         | -   | N/A No Reading                     |
| 58    | N44.81464729 | W89.70336901 | 7     | -        | -         | -   | N/A No Reading                     |
| 59    | N44.81262182 | W89.70337939 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 60    | N44.81869576 | W89.70239965 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 61    | N44.81802061 | W89.70240312 | 4     | M/S      | Pole Rake | 0   | No Weeds                           |
| 62    | N44.81734545 | W89.70240659 | 3     | W        | Pole Rake | 0   | No Weeds                           |
| 63    | N44.81667029 | W89.70241006 | 3     | M/W      | Pole Rake | 0   | No Weeds                           |
| 64    | N44.81599514 | W89.70241354 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 65    | N44.81531998 | W89.70241701 | 9     | -        | -         | -   | N/A No Reading                     |
| 66    | N44.81464482 | W89.70242048 | 9     | -        | -         | -   | N/A No Reading                     |
| 67    | N44.81261935 | W89.7024309  | 4     | W        | Pole Rake | 0   | No Weeds                           |
| 68    | N44.81194419 | W89.70243437 | 6     | -        | -         | -   | N/A No Reading                     |
| 69    | N44.81869329 | W89.70145105 | 4     | M/W      | Pole Rake | 0   | No Weeds                           |
| 70    | N44.81801813 | W89.70145454 | 2     | S        | Pole Rake | 0   | No Weeds                           |
| 71    | N44.81734297 | W89.70145802 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 72    | N44.81666782 | W89.7014615  | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 73    | N44.81599266 | W89.70146499 | 3     | S/W      | Pole Rake | 0   | No Weeds                           |
| 74    | N44.8153175  | W89.70146847 | 4     | W        | Pole Rake | 0   | No Weeds                           |
| 75    | N44.81464235 | W89.70147195 | 9     | -        | -         | -   | N/A No Reading                     |
| 76    | N44.81396719 | W89.70147544 | 9     | -        | -         | -   | N/A No Reading                     |
| 77    | N44.81261687 | W89.7014824  | 4     | W        | Pole Rake | 0   | No Weeds                           |
| 78    | N44.81194172 | W89.70148589 | 3     | W        | Pole Rake | 0   | No Weeds                           |
| 79    | N44.8186908  | W89.70050246 | 3     | M/S      | Pole Rake | 0   | No Weeds                           |
| 80    | N44.81801565 | W89.70050596 | 3     | S/W      | Pole Rake | 0   | No Weeds                           |
| 81    | N44.81734049 | W89.70050945 | 2     | M/S      | Pole Rake | 0   | No Weeds                           |
| 82    | N44.81666533 | W89.70051295 | 2     | S        | Pole Rake | 0   | No Weeds                           |
| 83    | N44.81599018 | W89.70051644 | 4     | W        | Pole Rake | 0   | No Weeds                           |
| 84    | N44.81531502 | W89.70051993 | 4     | M/S      | Pole Rake | 0   | No Weeds                           |
| 85    | N44.81463986 | W89.70052343 | 5     | S        | Pole Rake | 0   | No Weeds                           |
| 86    | N44.8139647  | W89.70052692 | 8     | -        | -         | -   | N/A No Reading                     |
| 87    | N44.81328955 | W89.70053042 | 8     | -        | -         | -   | N/A No Reading                     |
| 88    | N44.81261439 | W89.70053391 | 4     | S        | Pole Rake | 0   | No Weeds                           |
| 89    | N44.81193923 | W89.70053741 | 4     | S/W      | Pole Rake | 0   | No Weeds                           |
| 90    | N44.81126407 | W89.7005409  | 7     | -        | -         | -   | N/A No Reading                     |
| 91    | N44.81868831 | W89.69955387 | 2     | M/W      | Pole Rake | 0   | No Weeds                           |
| 92    | N44.81801316 | W89.69955738 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 93    | N44.817338   | W89.69956088 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 94    | N44.81666284 | W89.69956439 | 4     | M/W      | Pole Rake | 0   | No Weeds Secchi Reading 1.0' algae |
| 95    | N44.81598769 | W89.69956789 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 96    | N44.81531253 | W89.6995714  | 3     | M/W      | Pole Rake | 0   | No Weeds                           |
| 97    | N44.81463737 | W89.6995749  | 3     | M/S      | Pole Rake | 0   | No Weeds                           |
| 98    | N44.81396221 | W89.69957841 | 4     | W        | Pole Rake | 0   | No Weeds                           |
| 99    | N44.81328706 | W89.69958191 | 7     | -        | -         | -   | N/A No Reading                     |
| 100   | N44.8126119  | W89.69958542 | 7     | -        | -         | -   | N/A No Reading                     |
| 101   | N44.81193674 | W89.69958892 | 7     | -        | -         | -   | N/A No Reading                     |
| 102   | N44.81126158 | W89.69959243 | 1     | S        | Pole Rake | 0   | No Weeds                           |
| 103   | N44.81868581 | W89.69860528 | 1     | S        | Pole Rake | 0   | No Weeds                           |
| 104   | N44.8173355  | W89.69861231 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 105   | N44.81666034 | W89.69861583 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 106   | N44.81598519 | W89.69861935 | 3     | W        | Pole Rake | 0   | No Weeds                           |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Half Moon Lake (154 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1435800

County: Marathon

Crew: JBK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

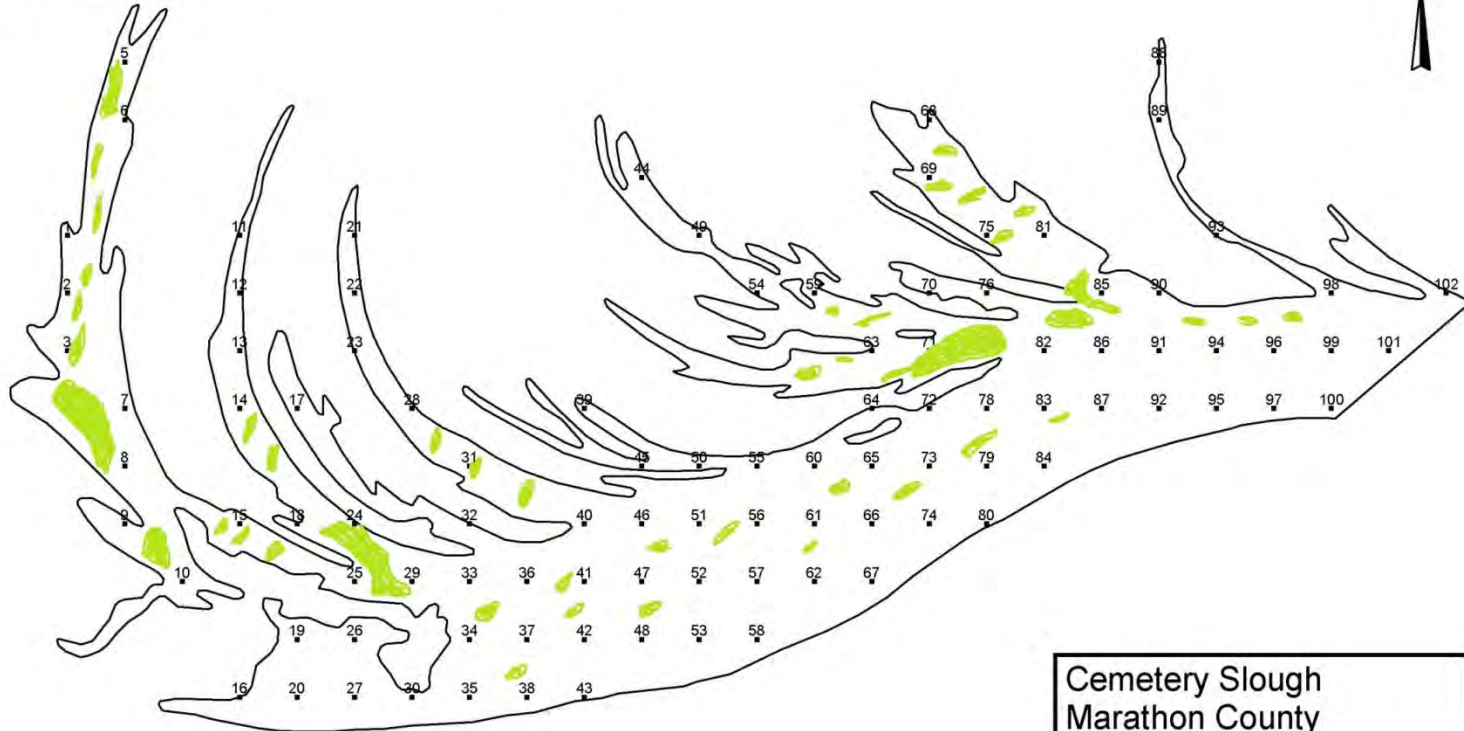
Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments         |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------|
| 107   | N44.81531003 | W89.69862286 | 3     | W        | Pole Rake | 0   | No Weeds         |
| 108   | N44.81463487 | W89.69862638 | 1     | W        | Pole Rake | 0   | No Weeds         |
| 109   | N44.81395971 | W89.69862989 | 3     | S        | Pole Rake | 0   | No Weeds         |
| 110   | N44.81328456 | W89.69863341 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 111   | N44.8126094  | W89.69863693 | 6     | -        | -         | -   | N/A No Reading   |
| 112   | N44.81193424 | W89.69864044 | 6     | -        | -         | -   | N/A No Reading   |
| 113   | N44.81125908 | W89.69864396 | 6     | S        | Pole Rake | 0   | No Weeds         |
| 114   | N44.81058393 | W89.69864748 | 4     | S        | Pole Rake | 0   | No Weeds         |
| 115   | N44.81868331 | W89.69765669 | -     | -        | -         | -   | N/A Land         |
| 116   | N44.81800815 | W89.69766021 | 4     | M        | Pole Rake | 0   | No Weeds         |
| 117   | N44.81733299 | W89.69766374 | 3     | W        | Pole Rake | 0   | No Weeds         |
| 118   | N44.81665784 | W89.69766727 | 3     | W        | Pole Rake | 0   | No Weeds         |
| 119   | N44.81598268 | W89.6976708  | 4     | S        | Pole Rake | 0   | No Weeds         |
| 120   | N44.81530752 | W89.69767433 | 3     | S        | Pole Rake | 0   | No Weeds         |
| 121   | N44.81463236 | W89.69767785 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 122   | N44.81395721 | W89.69768138 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 123   | N44.81328205 | W89.69768491 | 3     | M        | Pole Rake | 0   | No Weeds         |
| 124   | N44.81193174 | W89.69769196 | 5     | M/S      | Pole Rake | 0   | No Weeds         |
| 125   | N44.81125658 | W89.69769549 | 4     | W        | Pole Rake | 0   | No Weeds         |
| 126   | N44.81058142 | W89.69769902 | 4     | W        | Pole Rake | 0   | No Weeds         |
| 127   | N44.81800563 | W89.69671163 | 3     | M        | Pole Rake | 0   | No Weeds         |
| 128   | N44.81733048 | W89.69671517 | 3     | S        | Pole Rake | 0   | No Weeds         |
| 129   | N44.81665532 | W89.69671871 | 3     | M        | Pole Rake | 0   | No Weeds         |
| 130   | N44.81598016 | W89.69672225 | 2     | S/W      | Pole Rake | 0   | No Weeds         |
| 131   | N44.81530501 | W89.69672579 | 2     | M        | Pole Rake | 0   | No Weeds         |
| 132   | N44.81462985 | W89.69672933 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 133   | N44.81395469 | W89.69673287 | 1     | M        | Pole Rake | -   | No Weeds         |
| 134   | N44.81260438 | W89.69673994 | 1     | M        | Pole Rake | 0   | No Weeds         |
| 135   | N44.81192922 | W89.69674348 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 136   | N44.81125406 | W89.69674702 | 3     | S        | Pole Rake | 0   | No Weeds         |
| 137   | N44.81057891 | W89.69675056 | 2     | S        | Pole Rake | 0   | No Weeds         |
| 138   | N44.80990375 | W89.6967541  | 3     | S        | Pole Rake | 0   | No Weeds         |
| 139   | N44.81867827 | W89.6957595  | -     | -        | -         | -   | N/A Land         |
| 140   | N44.81800311 | W89.69576305 | 3     | M        | Pole Rake | 0   | No Weeds         |
| 141   | N44.81732795 | W89.6957666  | -     | S        | -         | -   | N/A Shallow Sand |
| 142   | N44.81597764 | W89.6957737  | -     | -        | -         | -   | N/A Land         |
| 143   | N44.81530248 | W89.69577725 | -     | M        | -         | -   | N/A Shallow Muck |
| 144   | N44.81395217 | W89.69578435 | -     | M        | -         | -   | N/A Shallow Muck |
| 145   | N44.81327701 | W89.6957879  | -     | -        | -         | -   | N/A Too Shallow  |
| 146   | N44.8119267  | W89.695795   | -     | -        | -         | -   | N/A Land         |
| 147   | N44.81125154 | W89.69579855 | 2     | S        | Pole Rake | 0   | No Weeds         |
| 148   | N44.81732542 | W89.69481803 | -     | -        | -         | -   | N/A Land         |
| 149   | N44.81665027 | W89.6948216  | -     | -        | -         | -   | N/A Land         |
| 150   | N44.81394964 | W89.69483584 | -     | -        | -         | -   | N/A Too Shallow  |
| 151   | N44.81124901 | W89.69485008 | 2     | M        | Pole Rake | 0   | No Weeds         |
| 152   | N44.81057385 | W89.69485364 | -     | -        | -         | -   | N/A Land         |
| 153   | N44.81259679 | W89.69389447 | -     | -        | -         | -   | N/A Too Shallow  |
| 154   | N44.81124647 | W89.69390161 | -     | -        | -         | -   | N/A Land         |



MOSINEE HYDROELECTRIC PROJECT-CEMETERY SLOUGH  
2015 INVASIVE SPECIES MONITORING

EURASIAN WATERMIFOIL DISTRIBUTION



Cemetery Slough  
Marathon County  
WBIC 1435700  
T27N R07E S20  
135 acres / 54.8 ha  
102 Sampling Points  
75m between Points  
Site1: Lat. 44.80391252  
Long. -89.72766825



Created: 2006

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report For 2015

Project/Lake: Mosinee/Cemetery Slough (102 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1435700

County: Marathon

Crew: JSK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                              |
|-------|--------------|--------------|-------|----------|-----------|-----|---------------------------------------|
| 1     | N44.80391252 | W89.72766825 | 1     | M        | Pole Rake | 0   | Plants visible within 50'             |
| 2     | N44.80323736 | W89.72767143 | 2     | M        | Pole Rake | 0   | Plants visible within 50'             |
| 3     | N44.8025622  | W89.7276746  | 3     | M        | Pole Rake | 0   | Plants visible within 50'             |
| 4     | N44.80188704 | W89.72767778 | 2     | M        | Pole Rake | 0   | No Weeds Secchi Reading 1.4'          |
| 5     | N44.80593573 | W89.72671033 | 2     | M/S      | Pole Rake | 0   | No Weeds                              |
| 6     | N44.80526057 | W89.72671352 | 2     | M        | Pole Rake | 0   | No Weeds                              |
| 7     | N44.80188477 | W89.72672946 | 2     | M        | Pole Rake | 0   | No Weeds                              |
| 8     | N44.80120961 | W89.72673265 | 2     | M        | Pole Rake | 0   | No Weeds                              |
| 9     | N44.80053445 | W89.72673583 | -     | M        | -         | -   | N/A Shallow Muck                      |
| 10    | N44.79985702 | W89.72579073 | 1     | M        | Pole Rake | 0   | No Weeds                              |
| 11    | N44.8039057  | W89.72482319 | -     | M        | -         | -   | N/A Shallow Muck                      |
| 12    | N44.80323054 | W89.7248264  | -     | -        | -         | 0   | N/A Blocked by logs                   |
| 13    | N44.80255538 | W89.72482961 | -     | -        | -         | 0   | N/A Blocked by logs                   |
| 14    | N44.80188022 | W89.72483282 | -     | M        | -         | -   | Shallow, muck                         |
| 15    | N44.8005299  | W89.72483924 | 1     | M        | Pole Rake | 0   | No Weeds                              |
| 16    | N44.79850442 | W89.72484887 | -     | -        | -         | -   | N/A Land                              |
| 17    | N44.80187793 | W89.7238845  | -     | M        | -         | -   | N/A Shallow Muck                      |
| 18    | N44.80052761 | W89.72389094 | 2     | M        | Pole Rake | 0   | No Weeds                              |
| 19    | N44.79917729 | W89.72389738 | -     | M        | -         | -   | N/A Shallow Muck                      |
| 20    | N44.79850213 | W89.7239006  | 1     | M        | Pole Rake | 0   | No Weeds                              |
| 21    | N44.80390111 | W89.72292649 | -     | -        | -         | -   | N/A Blocked By Logs                   |
| 22    | N44.80322595 | W89.72292972 | -     | -        | -         | -   | N/A Blocked By Logs                   |
| 23    | N44.80255079 | W89.72293295 | -     | M        | -         | -   | N/A Shallow Muck                      |
| 24    | N44.80052531 | W89.72294265 | 1     | S/W      | Pole Rake | 0   | No Weeds                              |
| 25    | N44.79985015 | W89.72294588 | 2     | M        | Pole Rake | 1   |                                       |
| 26    | N44.79917499 | W89.72294911 | -     | M        | -         | -   | N/A Shallow Muck                      |
| 27    | N44.79849983 | W89.72295234 | 2     | M        | Pole Rake | 0   | No Weeds                              |
| 28    | N44.80187333 | W89.72198787 | -     | M        | -         | -   | N/A Shallow Muck                      |
| 29    | N44.79984785 | W89.72199759 | 2     | M/S      | Pole Rake | 0   | -                                     |
| 30    | N44.79849753 | W89.72200408 | 2     | M        | Pole Rake | 0   | No Weeds                              |
| 31    | N44.80119586 | W89.7210428  | 1     | M        | Pole Rake | 0   | No Weeds                              |
| 32    | N44.8005207  | W89.72104606 | 1     | S/M      | Pole Rake | 0   | No Weeds                              |
| 33    | N44.79984554 | W89.72104931 | 3     | M        | Pole Rake | 0   | No Weeds                              |
| 34    | N44.79917038 | W89.72105256 | 3     | M        | Pole Rake | 0   | No Weeds                              |
| 35    | N44.79849522 | W89.72105581 | 2     | M        | Pole Rake | 0   | No Weeds                              |
| 36    | N44.79984322 | W89.72010102 | 3     | M        | Pole Rake | 0   | Some individual EWM plants within 50' |
| 37    | N44.79916806 | W89.72010429 | 3     | M        | Pole Rake | 0   | No Weeds                              |
| 38    | N44.7984929  | W89.72010755 | 3     | M        | Pole Rake | 0   | No Weeds                              |
| 39    | N44.80186637 | W89.71914291 | -     | -        | -         | -   | N/A Blocked By Logs                   |
| 40    | N44.80051605 | W89.71914946 | 2     | M/S      | Pole Rake | 0   | No Weeds                              |
| 41    | N44.79984089 | W89.71915274 | 3     | M        | Pole Rake | 0   | No Weeds                              |
| 42    | N44.79916573 | W89.71915601 | 3     | M        | Pole Rake | 0   | Some individual EWM plants within 50' |
| 43    | N44.79849057 | W89.71915929 | 1     | S        | Pole Rake | 0   | No Weeds                              |
| 44    | N44.80456467 | W89.71818145 | -     | M        | -         | -   | N/A Shallow Muck                      |
| 45    | N44.80118887 | W89.71819788 | -     | -        | -         | -   | N/A Blocked By Logs                   |
| 46    | N44.80051371 | W89.71820117 | 3     | M        | Pole Rake | 0   | Some EWM plants observed within 50'   |
| 47    | N44.79983855 | W89.71820445 | 3     | M        | Pole Rake | 0   | No Weeds                              |
| 48    | N44.79916339 | W89.71820774 | 3     | M        | Pole Rake | 0   | No Weeds                              |
| 49    | N44.80388717 | W89.71723638 | -     | M        | -         | -   | N/A Shallow Muck                      |
| 50    | N44.80118653 | W89.71724957 | -     | -        | -         | -   | N/A Blocked By Logs                   |
| 51    | N44.80051137 | W89.71725287 | 3     | M/W      | Pole Rake | 0   | No Weeds                              |
| 52    | N44.79983621 | W89.71725617 | 3     | M        | Pole Rake | 0   | No Weeds                              |
| 53    | N44.79916105 | W89.71725947 | 3     | M        | Pole Rake | 0   | Some EWM plants observed within 50'   |
| 54    | N44.80320966 | W89.71629134 | -     | -        | -         | -   | N/A Land                              |
| 55    | N44.80118418 | W89.71630127 | 2     | S        | Pole Rake | 0   | No Weeds                              |
| 56    | N44.80050902 | W89.71630458 | 3     | M        | Pole Rake | 0   | No Weeds                              |

**EURASIAN WATER MILFOIL** Invasive Species Point Intercept Survey Report For 2015

Project/Lake: Mosinee/Cemetery Slough (102 Sample Points)

Dates: July 25, 26, 30, August 1, 2, 8

WBIC: 1435700

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Crew: JSK, SJK, SRK, BJK

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Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | EWM | Comments                            |
|-------|--------------|--------------|-------|----------|-----------|-----|-------------------------------------|
| 57    | N44.79983386 | W89.71630789 | 3     | M        | Pole Rake | 0   | No Weeds                            |
| 58    | N44.7991587  | W89.71631119 | 3     | M        | Pole Rake | 0   | No Weeds                            |
| 59    | N44.8032073  | W89.715343   | -     | M        | -         | -   | N/A Shallow Muck                    |
| 60    | N44.80118182 | W89.71535296 | 3     | M        | Pole Rake | 0   | Some EWM plants observed within 50' |
| 61    | N44.80050666 | W89.71535628 | 3     | M        | Pole Rake | 0   | No Weeds                            |
| 62    | N44.7998315  | W89.7153596  | 3     | M        | Pole Rake | 0   | No Weeds                            |
| 63    | N44.80252977 | W89.71439799 | -     | M        | -         | -   | N/A Shallow Muck                    |
| 64    | N44.80185461 | W89.71440132 | 1     | S        | Pole Rake | 0   | No Weeds Secchi Reading 0.9'        |
| 65    | N44.80117945 | W89.71440466 | 4     | M        | Pole Rake | 0   | No Weeds                            |
| 66    | N44.80050429 | W89.71440799 | 3     | M        | Pole Rake | 0   | Some EWM plants observed within 50' |
| 67    | N44.79982913 | W89.71441132 | 3     | M        | Pole Rake | 0   | No Weeds                            |
| 68    | N44.80522803 | W89.7134363  | -     | M        | -         | -   | N/A Shallow Muck                    |
| 69    | N44.80455287 | W89.71343964 | 1     | M        | Pole Rake | 1   | -                                   |
| 70    | N44.80320255 | W89.71344632 | -     | M        | -         | -   | N/A Shallow Muck                    |
| 71    | N44.80252739 | W89.71344967 | 3     | M        | Pole Rake | 0   | -                                   |
| 72    | N44.80185223 | W89.71345301 | 1     | S        | Pole Rake | 0   | No Weeds                            |
| 73    | N44.80117707 | W89.71345635 | 4     | M        | Pole Rake | 0   | No Weeds                            |
| 74    | N44.80050191 | W89.71345969 | 3     | M        | Pole Rake | 0   | No Weeds                            |
| 75    | N44.80387533 | W89.71249463 | -     | M        | -         | -   | N/A Shallow Muck                    |
| 76    | N44.80320017 | W89.71249798 | -     | M        | -         | -   | N/A Shallow Muck                    |
| 77    | N44.80252501 | W89.71250134 | 2     | M        | Pole Rake | 0   | No Weeds                            |
| 78    | N44.80184985 | W89.71250469 | 4     | M        | Pole Rake | 0   | No Weeds                            |
| 79    | N44.80117469 | W89.71250804 | 4     | M        | Pole Rake | 0   | No Weeds                            |
| 80    | N44.80049953 | W89.7125114  | 3     | W        | Pole Rake | 0   | No Weeds                            |
| 81    | N44.80387294 | W89.71154628 | 2     | M        | Pole Rake | 0   | No Weeds                            |
| 82    | N44.80252262 | W89.71155301 | 3     | S        | Pole Rake | 0   | No Weeds                            |
| 83    | N44.80184746 | W89.71155637 | 5     | M        | Pole Rake | 0   | No Weeds                            |
| 84    | N44.8011723  | W89.71155974 | 5     | M        | Pole Rake | 0   | No Weeds                            |
| 85    | N44.80319538 | W89.71060131 | 3     | M        | Pole Rake | 0   | No Weeds                            |
| 86    | N44.80252022 | W89.71060468 | 5     | M        | Pole Rake | 0   | No Weeds                            |
| 87    | N44.80184506 | W89.71060806 | 5     | M        | Pole Rake | 0   | No Weeds                            |
| 88    | N44.80589361 | W89.70963942 | -     | M        | -         | -   | N/A Shallow Muck                    |
| 89    | N44.80521845 | W89.70964281 | -     | M        | -         | -   | N/A Shallow Muck                    |
| 90    | N44.80319297 | W89.70965297 | 1     | S        | Pole Rake | 0   | No Weeds                            |
| 91    | N44.80251781 | W89.70965635 | 5     | M        | Pole Rake | 0   | No Weeds Secchi Reading 1.5'        |
| 92    | N44.80184265 | W89.70965974 | 6     | -        | -         | -   | N/A No Reading                      |
| 93    | N44.80386572 | W89.70870123 | -     | M        | -         | -   | N/A Shallow Muck                    |
| 94    | N44.8025154  | W89.70870803 | 6     | -        | -         | -   | N/A No Reading                      |
| 95    | N44.80184024 | W89.70871142 | 6     | -        | -         | -   | N/A No Reading                      |
| 96    | N44.80251298 | W89.7077597  | 6     | -        | -         | -   | N/A No Reading                      |
| 97    | N44.80183782 | W89.70776311 | 4     | S/W      | Pole Rake | 0   | No Weeds                            |
| 98    | N44.8031857  | W89.70680795 | 1     | S        | Pole Rake | 0   | No Weeds                            |
| 99    | N44.80251054 | W89.70681137 | 6     | -        | -         | -   | N/A No Reading                      |
| 100   | N44.80183539 | W89.70681479 | 4     | S/W      | Pole Rake | 0   | No Weeds                            |
| 101   | N44.80250811 | W89.70586304 | 5     | W        | Pole Rake | 0   | No Weeds                            |
| 102   | N44.80318082 | W89.70491127 | 1     | S        | Pole Rake | 0   | No Weeds                            |

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**APPENDIX C**  
**Curly-leaf Pondweed**  
**Survey Results**

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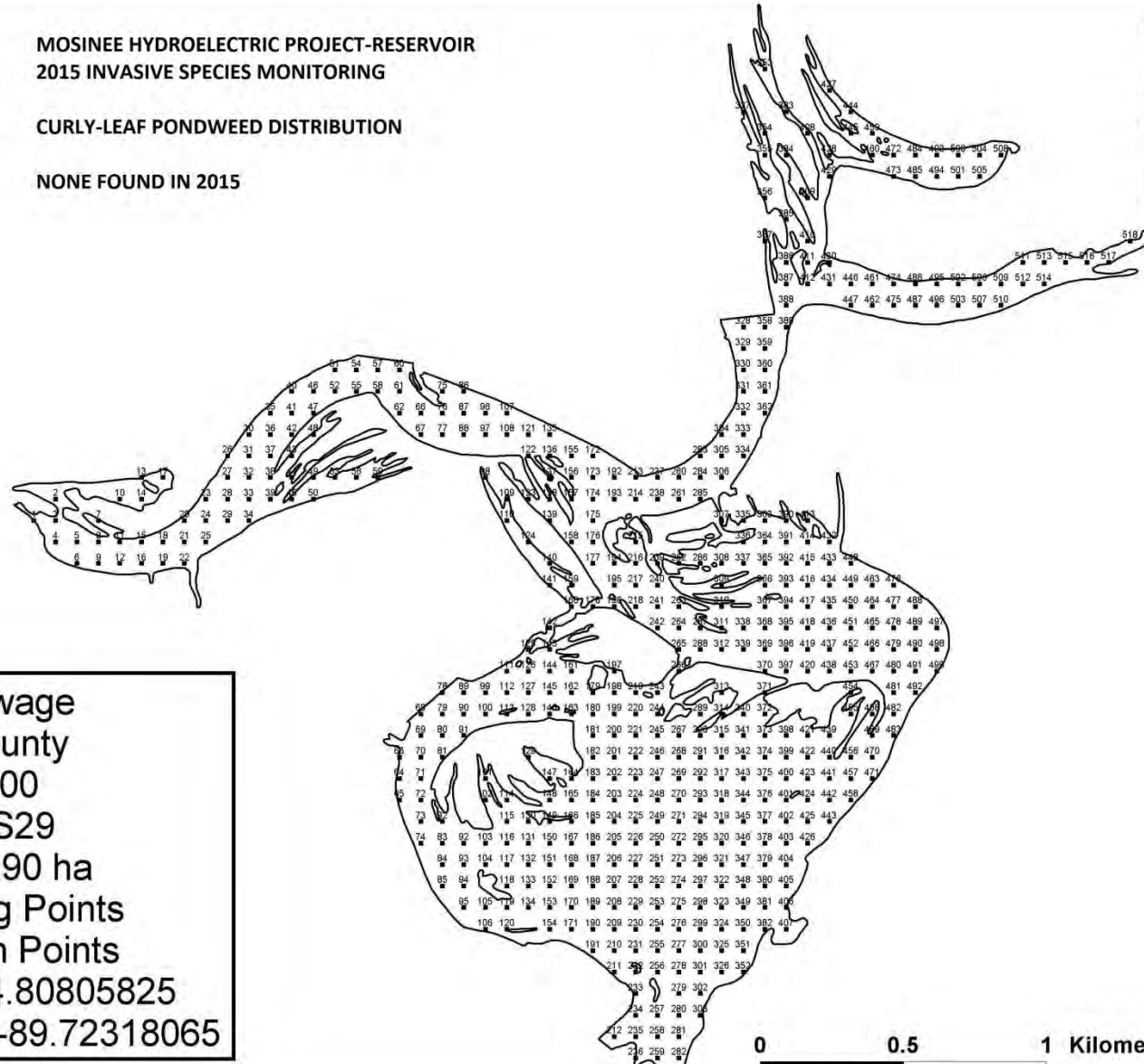




MOSINEE HYDROELECTRIC PROJECT-RESERVOIR  
2015 INVASIVE SPECIES MONITORING

CURLY-LEAF PONDWEED DISTRIBUTION

NONE FOUND IN 2015



Mosinee Flowage  
Marathon County  
WBIC 1434900  
T27N R07E S29  
716 acres / 290 ha  
518 Sampling Points  
75m between Points  
Site1: Lat. 44.80805825  
Long. -89.72318065

Created: 2006

**CURLY-LEAF PONDWEED** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: May 29, 30, June 13, 14, 15, 19

WBIC: 1334900

County: Marathon

Crew: JAK, SKK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                           |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------------|
| 1     | N44.80805825 | W89.72318065 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 2     | N44.80873111 | W89.72222899 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 3     | N44.80805595 | W89.72223223 | 1     | M        | Pole Rake | 0   | No Weeds                           |
| 4     | N44.80738079 | W89.72223547 | 1     | M        | Pole Rake | 0   | No Weeds                           |
| 5     | N44.80737848 | W89.72128706 | 2     | M        | Pole Rake | 0   | No Weeds                           |
| 6     | N44.80670332 | W89.72129031 | 2     | M        | Pole Rake | 0   | No Weeds Secchi Reading 0.6', carp |
| 7     | N44.80805132 | W89.72033539 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 8     | N44.80737616 | W89.72033865 | 2     | M        | Pole Rake | 0   | No Weeds                           |
| 9     | N44.806701   | W89.72034191 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 10    | N44.80872415 | W89.7193837  | -     | M        | -         | -   | N/A Shallow Muck                   |
| 11    | N44.80737384 | W89.71939024 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 12    | N44.80669868 | W89.71939352 | 3     | M/W      | Pole Rake | 0   | No Weeds                           |
| 13    | N44.80939698 | W89.71843198 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 14    | N44.80872182 | W89.71843527 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 15    | N44.8073715  | W89.71844184 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 16    | N44.80669634 | W89.71844512 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 17    | N44.80939464 | W89.71748354 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 18    | N44.80736916 | W89.71749343 | 4     | M/W      | Pole Rake | 0   | No Weeds                           |
| 19    | N44.806694   | W89.71749672 | 3     | M/W      | Pole Rake | 0   | No Weeds                           |
| 20    | N44.80804197 | W89.71654171 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 21    | N44.80736681 | W89.71654502 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 22    | N44.80669165 | W89.71654833 | 2     | S        | Pole Rake | 0   | No Weeds                           |
| 23    | N44.80871477 | W89.71558998 | 4     | S/W      | Pole Rake | 0   | No Weeds                           |
| 24    | N44.80803961 | W89.71559329 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 25    | N44.80736445 | W89.71559661 | 5     | W        | Pole Rake | 0   | No Weeds                           |
| 26    | N44.81006272 | W89.71463489 | 3     | G/S      | Pole Rake | 0   | No Weeds                           |
| 27    | N44.80938756 | W89.71463822 | 5     | W        | Pole Rake | 0   | No Weeds                           |
| 28    | N44.8087124  | W89.71464155 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 29    | N44.80803725 | W89.71464488 | 5     | W        | Pole Rake | 0   | No Weeds                           |
| 30    | N44.81073551 | W89.7136831  | 5     | W        | Pole Rake | 0   | No Weeds                           |
| 31    | N44.81006035 | W89.71368644 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 32    | N44.80938519 | W89.71368978 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 33    | N44.80871003 | W89.71369312 | 5     | M        | Pole Rake | 0   | No Weeds                           |
| 34    | N44.80803487 | W89.71369646 | 3     | S/W      | Pole Rake | 0   | No Weeds                           |
| 35    | N44.81140828 | W89.71273128 | 5     | W        | Pole Rake | 0   | No Weeds Secchi Reading 1.2'       |
| 36    | N44.81073312 | W89.71273463 | 5     | S        | Pole Rake | 0   | No Weeds                           |
| 37    | N44.81005797 | W89.71273799 | 4     | M        | Pole Rake | 0   | No Weeds                           |
| 38    | N44.80938281 | W89.71274134 | 1     | S        | Pole Rake | 0   | No Weeds                           |
| 39    | N44.80870765 | W89.71274469 | 1     | S        | Pole Rake | 0   | No Weeds                           |
| 40    | N44.81208105 | W89.71177945 | 6     | -        | -         | -   | N/A No Reading                     |
| 41    | N44.81140589 | W89.71178281 | 6     | -        | -         | -   | N/A No Reading                     |
| 42    | N44.81073074 | W89.71178617 | 3     | S/W      | Pole Rake | 0   | No Weeds                           |
| 43    | N44.81005558 | W89.71178953 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 44    | N44.80938042 | W89.7117929  | -     | -        | -         | -   | N/A Land                           |
| 45    | N44.80870526 | W89.71179626 | 3     | M        | Pole Rake | 0   | No Weeds                           |
| 46    | N44.81207865 | W89.71083096 | 6     | -        | -         | -   | N/A No Reading                     |
| 47    | N44.8114035  | W89.71083434 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 48    | N44.81072834 | W89.71083771 | -     | M        | -         | -   | N/A Shallow Muck                   |
| 49    | N44.80937802 | W89.71084446 | 1     | M/S      | Pole Rake | 0   | No Weeds                           |
| 50    | N44.80870286 | W89.71084783 | 1     | S/W      | Pole Rake | 0   | No Weeds                           |
| 51    | N44.81275141 | W89.70987909 | 6     | -        | -         | -   | N/A No Reading                     |
| 52    | N44.81207625 | W89.70988248 | 6     | -        | -         | -   | N/A No Reading                     |
| 53    | N44.80937562 | W89.70989602 | 2     | M        | Pole Rake | 0   | No Weeds                           |
| 54    | N44.81274899 | W89.7089306  | 7     | -        | -         | -   | N/A No Reading                     |
| 55    | N44.81207384 | W89.70893399 | 3     | S        | Pole Rake | 0   | No Weeds                           |
| 56    | N44.8093732  | W89.70894758 | 2     | M        | Pole Rake | 0   | No Weeds                           |
| 57    | N44.81274657 | W89.7079821  | 10    | -        | -         | -   | N/A No Reading                     |

**CURLY-LEAF PONDWEED** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: May 29, 30, June 13, 14, 15, 19

WBIC: 1334900

County: Marathon

Crew: JAK, SKK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 58    | N44.81207141 | W89.70798551 | 9     | -        | -         | -   | N/A No Reading               |
| 59    | N44.80937078 | W89.70799914 | -     | -        | -         | -   | N/A Land                     |
| 60    | N44.81274414 | W89.70703361 | 9     | -        | -         | -   | N/A No Reading               |
| 61    | N44.81206898 | W89.70703702 | 10    | -        | -         | -   | N/A No Reading               |
| 62    | N44.81139383 | W89.70704044 | 12    | -        | -         | -   | N/A No Reading               |
| 63    | N44.80059129 | W89.70709511 | 2     | W        | Pole Rake | 0   | No Weeds                     |
| 64    | N44.79991613 | W89.70709853 | 8     | -        | -         | -   | N/A No Reading               |
| 65    | N44.79924097 | W89.70710195 | 8     | -        | -         | -   | N/A No Reading               |
| 66    | N44.81139139 | W89.70609197 | 10    | -        | -         | -   | N/A No Reading               |
| 67    | N44.81071623 | W89.7060954  | 10    | -        | -         | -   | N/A No Reading               |
| 68    | N44.80193917 | W89.70613996 | 7     | -        | -         | -   | N/A No Reading               |
| 69    | N44.80126401 | W89.70614339 | 7     | -        | -         | -   | N/A No Reading               |
| 70    | N44.80058885 | W89.70614682 | 5     | W        | Pole Rake | 0   | No Weeds                     |
| 71    | N44.79991369 | W89.70615025 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 72    | N44.79923853 | W89.70615367 | 4     | W        | Pole Rake | 0   | No Weeds Secchi Reading 2.5' |
| 73    | N44.79856337 | W89.7061571  | 7     | -        | -         | -   | N/A No Reading               |
| 74    | N44.79788821 | W89.70616053 | 9     | -        | -         | -   | N/A No Reading               |
| 75    | N44.8120641  | W89.70514006 | 3     | M/S      | Pole Rake | 0   | No Weeds                     |
| 76    | N44.81138895 | W89.7051435  | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 77    | N44.81071379 | W89.70514694 | 10    | -        | -         | -   | N/A No Reading               |
| 78    | N44.80261188 | W89.70518821 | 6     | -        | -         | -   | N/A No Reading               |
| 79    | N44.80193673 | W89.70519165 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 80    | N44.80126157 | W89.70519508 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 81    | N44.80058641 | W89.70519852 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 82    | N44.79856093 | W89.70520884 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 83    | N44.79788577 | W89.70521227 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 84    | N44.79721061 | W89.70521571 | 7     | -        | -         | -   | N/A No Reading               |
| 85    | N44.79653545 | W89.70521915 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 86    | N44.81206165 | W89.70419157 | 4     | S/W      | Pole Rake | 0   | No Weeds                     |
| 87    | N44.81138649 | W89.70419502 | 7     | -        | -         | -   | N/A No Reading               |
| 88    | N44.81071133 | W89.70419848 | 10    | -        | -         | -   | N/A No Reading               |
| 89    | N44.80260943 | W89.70423988 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 90    | N44.80193427 | W89.70424333 | 4     | M/S      | Pole Rake | 0   | No Weeds                     |
| 91    | N44.80125911 | W89.70424678 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 92    | N44.79788332 | W89.70426402 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 93    | N44.79720816 | W89.70426747 | 3     | W        | Pole Rake | 0   | -                            |
| 94    | N44.796533   | W89.70427092 | 7     | -        | -         | -   | N/A No Reading               |
| 95    | N44.79585784 | W89.70427437 | 3     | W        | Pole Rake | 0   | No Weeds                     |
| 96    | N44.81138403 | W89.70324655 | 7     | -        | -         | -   | N/A No Reading               |
| 97    | N44.81070887 | W89.70325001 | 9     | -        | -         | -   | N/A No Reading               |
| 98    | N44.80935856 | W89.70325694 | -     | M        | -         | -   | N/A Shallow Muck             |
| 99    | N44.80260697 | W89.70329155 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 100   | N44.80193181 | W89.70329501 | 3     | S/W      | Pole Rake | 0   | No Weeds                     |
| 101   | N44.79990634 | W89.70330539 | 1     | M        | Pole Rake | 0   | -                            |
| 102   | N44.79923118 | W89.70330885 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 103   | N44.79788086 | W89.70331577 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 104   | N44.7972057  | W89.70331923 | 3     | M/S      | Pole Rake | 0   | No Weeds                     |
| 105   | N44.79585538 | W89.70332615 | 7     | -        | -         | -   | N/A No Reading               |
| 106   | N44.79518022 | W89.70332961 | 2     | S/G      | Pole Rake | 0   | No Weeds                     |
| 107   | N44.81138156 | W89.70229808 | 7     | -        | -         | -   | N/A No Reading               |
| 108   | N44.81070641 | W89.70230155 | 9     | -        | -         | -   | N/A No Reading               |
| 109   | N44.80868093 | W89.70231197 | -     | M        | -         | -   | N/A Shallow Muck             |
| 110   | N44.80800577 | W89.70231544 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 111   | N44.80327966 | W89.70233975 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 112   | N44.80260451 | W89.70234322 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 113   | N44.80192935 | W89.70234669 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 114   | N44.79922871 | W89.70236058 | 2     | M        | Pole Rake | 0   | No Weeds                     |

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R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 115   | N44.79855355 | W89.70236405 | 3     | S        | Pole Rake | 0   | -                            |
| 116   | N44.79787839 | W89.70236752 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 117   | N44.79720323 | W89.70237099 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 118   | N44.79652807 | W89.70237446 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 119   | N44.79585291 | W89.70237793 | 6     | -        | -         | -   | N/A No Reading               |
| 120   | N44.79517775 | W89.7023814  | 2     | M        | Pole Rake | 0   | -                            |
| 121   | N44.81070393 | W89.70135309 | 9     | -        | -         | -   | N/A No Reading               |
| 122   | N44.81002877 | W89.70135658 | -     | -        | -         | -   | N/A Land                     |
| 123   | N44.80867846 | W89.70136354 | 1     | M/S      | Pole Rake | 0   | No Weeds                     |
| 124   | N44.80732814 | W89.70137051 | -     | -        | -         | -   | N/A Land                     |
| 125   | N44.80395235 | W89.70138793 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 126   | N44.80327719 | W89.70139141 | 2     | S        | Pole Rake | 0   | -                            |
| 127   | N44.80260203 | W89.70139489 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 128   | N44.80192687 | W89.70139838 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 129   | N44.80057655 | W89.70140534 | -     | M        | -         | -   | N/A Shallow Muck             |
| 130   | N44.79855108 | W89.70141579 | 2     | M        | Pole Rake | 0   | -                            |
| 131   | N44.79787592 | W89.70141927 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 132   | N44.79720076 | W89.70142275 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 133   | N44.7965256  | W89.70142623 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 134   | N44.79585044 | W89.70142971 | 6     | -        | -         | -   | N/A No Reading               |
| 135   | N44.81070145 | W89.70040463 | 8     | -        | -         | -   | N/A No Reading               |
| 136   | N44.81002629 | W89.70040813 | -     | -        | -         | -   | N/A Blocked By Down Tree     |
| 137   | N44.80935113 | W89.70041162 | -     | -        | -         | -   | N/A Land                     |
| 138   | N44.80867597 | W89.70041512 | 2     | M/S      | Pole Rake | 0   | No Weeds Fresh water sponges |
| 139   | N44.80800081 | W89.70041861 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 140   | N44.8066505  | W89.7004256  | -     | -        | -         | -   | N/A Land                     |
| 141   | N44.80597534 | W89.70042909 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 142   | N44.80462502 | W89.70043608 | 4     | S        | Pole Rake | 0   | No Weeds Secchi Reading 2.4' |
| 143   | N44.80394986 | W89.70043958 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 144   | N44.8032747  | W89.70044307 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 145   | N44.80259955 | W89.70044656 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 146   | N44.80192439 | W89.70045006 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 147   | N44.79989891 | W89.70046054 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 148   | N44.79922375 | W89.70046403 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 149   | N44.79854859 | W89.70046753 | 2     | S/M      | Pole Rake | 0   | No Weeds                     |
| 150   | N44.79787343 | W89.70047102 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 151   | N44.79719827 | W89.70047451 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 152   | N44.79652311 | W89.700478   | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 153   | N44.79584795 | W89.7004815  | 6     | M        | Pole Rake | 0   | No Weeds                     |
| 154   | N44.7951728  | W89.70048499 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 155   | N44.8100238  | W89.69945968 | 9     | -        | -         | -   | N/A No Reading               |
| 156   | N44.80934864 | W89.69946318 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 157   | N44.80867348 | W89.69946669 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 158   | N44.80732316 | W89.6994737  | 10    | -        | -         | -   | N/A No Reading               |
| 159   | N44.80597285 | W89.69948071 | -     | -        | -         | -   | N/A Land                     |
| 160   | N44.80529769 | W89.69948422 | 9     | -        | -         | -   | N/A No Reading               |
| 161   | N44.80327221 | W89.69949473 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 162   | N44.80259705 | W89.69949824 | 5     | M/W      | Pole Rake | 0   | No Weeds                     |
| 163   | N44.8019219  | W89.69950174 | 2     | S        | Pole Rake | 0   | -                            |
| 164   | N44.79989642 | W89.69951225 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 165   | N44.79922126 | W89.69951576 | 3     | W        | Pole Rake | 0   | No Weeds                     |
| 166   | N44.7985461  | W89.69951926 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 167   | N44.79787094 | W89.69952277 | 7     | -        | -         | -   | N/A No Reading               |
| 168   | N44.79719578 | W89.69952627 | 7     | -        | -         | -   | N/A No Reading               |
| 169   | N44.79652062 | W89.69952978 | 7     | -        | -         | -   | N/A No Reading               |
| 170   | N44.79584546 | W89.69953328 | 7     | -        | -         | -   | N/A No Reading               |
| 171   | N44.7951703  | W89.69953678 | 6     | -        | -         | -   | N/A No Reading               |

**CURLY-LEAF PONDWEED** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Mosinee Flowage (518 Sample Points)

Dates: May 29, 30, June 13, 14, 15, 19

WBIC: 1334900

County: Marathon

Crew: JAK, SKK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments       |
|-------|--------------|--------------|-------|----------|-----------|-----|----------------|
| 172   | N44.8100213  | W89.69851123 | 9     | -        | -         | -   | N/A No Reading |
| 173   | N44.80934614 | W89.69851474 | 10    | -        | -         | -   | N/A No Reading |
| 174   | N44.80867098 | W89.69851826 | 15    | -        | -         | -   | N/A No Reading |
| 175   | N44.80799582 | W89.69852178 | 10    | -        | -         | -   | N/A No Reading |
| 176   | N44.80732066 | W89.69852529 | 12    | -        | -         | -   | N/A No Reading |
| 177   | N44.80664551 | W89.69852881 | 11    | -        | -         | -   | N/A No Reading |
| 178   | N44.80529519 | W89.69853584 | 7     | -        | -         | -   | N/A No Reading |
| 179   | N44.80259456 | W89.69854991 | 3     | S        | Pole Rake | 0   | EWM present    |
| 180   | N44.8019194  | W89.69855342 | 4     | S        | Pole Rake | 0   | No Weeds       |
| 181   | N44.80124424 | W89.69855694 | 4     | S/W      | Pole Rake | 0   | No Weeds       |
| 182   | N44.80056908 | W89.69856046 | 7     | -        | -         | -   | N/A No Reading |
| 183   | N44.79989392 | W89.69856397 | 4     | S        | Pole Rake | 0   | No Weeds       |
| 184   | N44.79921876 | W89.69856749 | 3     | S        | Pole Rake | 0   | No Weeds       |
| 185   | N44.7985436  | W89.698571   | 6     | -        | -         | -   | N/A No Reading |
| 186   | N44.79786844 | W89.69857452 | 7     | -        | -         | -   | N/A No Reading |
| 187   | N44.79719328 | W89.69857803 | 8     | -        | -         | -   | N/A No Reading |
| 188   | N44.79651812 | W89.69858155 | 8     | -        | -         | -   | N/A No Reading |
| 189   | N44.79584297 | W89.69858506 | 9     | -        | -         | -   | N/A No Reading |
| 190   | N44.79516781 | W89.69858858 | 9     | -        | -         | -   | N/A No Reading |
| 191   | N44.79449265 | W89.69859209 | 3     | M        | Pole Rake | 0   | No Weeds       |
| 192   | N44.80934363 | W89.6975663  | 7     | -        | -         | -   | N/A No Reading |
| 193   | N44.80866847 | W89.69756983 | 9     | -        | -         | -   | N/A No Reading |
| 194   | N44.806643   | W89.69758042 | 1     | S        | -         | -   | No Weeds       |
| 195   | N44.80596784 | W89.69758394 | 9     | -        | -         | -   | N/A No Reading |
| 196   | N44.80529268 | W89.69758747 | 11    | -        | -         | -   | N/A No Reading |
| 197   | N44.80326721 | W89.69759805 | 2     | S        | Pole Rake | 0   | -              |
| 198   | N44.80259205 | W89.69760158 | 3     | S        | Pole Rake | 0   | EWM present    |
| 199   | N44.80191689 | W89.69760511 | 5     | S/W      | Pole Rake | 0   | No Weeds       |
| 200   | N44.80124173 | W89.69760863 | 3     | S        | Pole Rake | 0   | No Weeds       |
| 201   | N44.80056657 | W89.69761216 | 3     | S        | Pole Rake | 0   | No Weeds       |
| 202   | N44.79989141 | W89.69761569 | 3     | S        | Pole Rake | 0   | No Weeds       |
| 203   | N44.79921625 | W89.69761921 | 5     | S        | Pole Rake | 0   | No Weeds       |
| 204   | N44.7985411  | W89.69762274 | 7     | -        | -         | -   | N/A No Reading |
| 205   | N44.79786594 | W89.69762627 | 8     | -        | -         | -   | N/A No Reading |
| 206   | N44.79719078 | W89.69762979 | 8     | -        | -         | -   | N/A No Reading |
| 207   | N44.79651562 | W89.69763332 | 8     | -        | -         | -   | N/A No Reading |
| 208   | N44.79584046 | W89.69763684 | 8     | -        | -         | -   | N/A No Reading |
| 209   | N44.7951653  | W89.69764037 | 9     | -        | -         | -   | N/A No Reading |
| 210   | N44.79449014 | W89.6976439  | 8     | -        | -         | -   | N/A No Reading |
| 211   | N44.79381498 | W89.69764742 | 3     | R/S      | Pole Rake | 0   | No Weeds       |
| 212   | N44.7917895  | W89.697658   | -     | -        | -         | -   | Boat Barrier   |
| 213   | N44.80934111 | W89.69661787 | 1     | S        | Pole Rake | 0   | No Weeds       |
| 214   | N44.80866596 | W89.69662141 | 10    | -        | -         | -   | N/A No Reading |
| 215   | N44.80731564 | W89.69662848 | 1     | S        | Pole Rake | 0   | No Weeds       |
| 216   | N44.80664048 | W89.69663202 | 2     | S        | Pole Rake | 0   | No Weeds       |
| 217   | N44.80596533 | W89.69663556 | 4     | S        | Pole Rake | 0   | No Weeds       |
| 218   | N44.80529017 | W89.6966391  | 13    | -        | -         | -   | N/A No Reading |
| 219   | N44.80258953 | W89.69665325 | 2     | S        | Pole Rake | 0   | No Weeds       |
| 220   | N44.80191438 | W89.69665679 | 5     | G        | Pole Rake | 0   | No Weeds       |
| 221   | N44.80123922 | W89.69666033 | 3     | G        | Pole Rake | 0   | No Weeds       |
| 222   | N44.80056406 | W89.69666387 | 1     | S        | Pole Rake | 0   | -              |
| 223   | N44.7998889  | W89.6966674  | 3     | S        | Pole Rake | 0   | -              |
| 224   | N44.79921374 | W89.69667094 | 6     | -        | -         | -   | N/A No Reading |
| 225   | N44.79853858 | W89.69667448 | 5     | S        | Pole Rake | 0   | No Weeds       |
| 226   | N44.79786342 | W89.69667802 | 6     | -        | -         | -   | N/A No Reading |
| 227   | N44.79718826 | W89.69668155 | 7     | -        | -         | -   | N/A No Reading |
| 228   | N44.7965131  | W89.69668509 | 7     | -        | -         | -   | N/A No Reading |

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R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 229   | N44.79583794 | W89.69668863 | 8     | -        | -         | -   | N/A No Reading               |
| 230   | N44.79516279 | W89.69669216 | 9     | -        | -         | -   | N/A No Reading               |
| 231   | N44.79448763 | W89.6966957  | 9     | -        | -         | -   | N/A No Reading               |
| 232   | N44.79381247 | W89.69669924 | 3     | G/S      | Pole Rake | 0   | No Weeds                     |
| 233   | N44.79313731 | W89.69670277 | 9     | -        | -         | -   | N/A No Reading               |
| 234   | N44.79246215 | W89.69670631 | 10    | -        | -         | -   | N/A No Reading               |
| 235   | N44.79178699 | W89.69670985 | -     | -        | -         | -   | Boat Barrier                 |
| 236   | N44.79111183 | W89.69671338 | -     | -        | -         | -   | Boat Barrier                 |
| 237   | N44.80933859 | W89.69566943 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 238   | N44.80866343 | W89.69567298 | 12    | -        | -         | -   | N/A No Reading               |
| 239   | N44.80663796 | W89.69568363 | -     | -        | -         | -   | N/A Land                     |
| 240   | N44.8059628  | W89.69568718 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 241   | N44.80528764 | W89.69569073 | 7     | -        | -         | -   | N/A No Reading               |
| 242   | N44.80461249 | W89.69569428 | 12    | -        | -         | -   | N/A No Reading               |
| 243   | N44.80258701 | W89.69570492 | 7     | -        | -         | -   | N/A No Reading               |
| 244   | N44.80191185 | W89.69570847 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 245   | N44.80123669 | W89.69571202 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 246   | N44.80056154 | W89.69571557 | 3     | R        | Pole Rake | 0   | No Weeds Secchi Reading 2.0' |
| 247   | N44.79988638 | W89.69571912 | 5     | M/S      | Pole Rake | 0   | No Weeds                     |
| 248   | N44.79921122 | W89.69572267 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 249   | N44.79853606 | W89.69572622 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 250   | N44.7978609  | W89.69572977 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 251   | N44.79718574 | W89.69573331 | 5     | W        | Pole Rake | 0   | No Weeds                     |
| 252   | N44.79651058 | W89.69573686 | 6     | -        | -         | -   | N/A No Reading               |
| 253   | N44.79583542 | W89.69574041 | 7     | -        | -         | -   | N/A No Reading               |
| 254   | N44.79516026 | W89.69574396 | 9     | -        | -         | -   | N/A No Reading               |
| 255   | N44.7944851  | W89.6957475  | 15    | -        | -         | -   | N/A No Reading               |
| 256   | N44.79380994 | W89.69575105 | 6     | -        | -         | -   | N/A No Reading               |
| 257   | N44.79245963 | W89.69575815 | 10    | -        | -         | -   | N/A No Reading               |
| 258   | N44.79178447 | W89.69576169 | -     | -        | -         | -   | Boat Barrier                 |
| 259   | N44.79110931 | W89.69576524 | -     | -        | -         | -   | Boat Barrier                 |
| 260   | N44.80933606 | W89.69472099 | 3     | G        | Pole Rake | 0   | No Weeds                     |
| 261   | N44.8086609  | W89.69472455 | 12    | -        | -         | -   | N/A No Reading               |
| 262   | N44.80663543 | W89.69473523 | -     | -        | -         | -   | N/A Land                     |
| 263   | N44.80528511 | W89.69474236 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 264   | N44.80460995 | W89.69474592 | 7     | -        | -         | -   | N/A No Reading               |
| 265   | N44.8039348  | W89.69474948 | 8     | -        | -         | -   | N/A No Reading               |
| 266   | N44.80325964 | W89.69475304 | 9     | -        | -         | -   | N/A No Reading               |
| 267   | N44.80123416 | W89.69476372 | 3     | S/W      | Pole Rake | 0   | No Weeds                     |
| 268   | N44.800559   | W89.69476728 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 269   | N44.79988385 | W89.69477084 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 270   | N44.79920869 | W89.6947744  | 5     | S        | Pole Rake | 0   | No Weeds Secchi Reading 2.5' |
| 271   | N44.79853353 | W89.69477796 | 5     | M/S      | Pole Rake | 0   | No Weeds                     |
| 272   | N44.79785837 | W89.69478152 | 5     | M/W      | Pole Rake | 0   | No Weeds                     |
| 273   | N44.79718321 | W89.69478507 | 7     | -        | -         | -   | N/A No Reading               |
| 274   | N44.79650805 | W89.69478863 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 275   | N44.79583289 | W89.69479219 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 276   | N44.79515773 | W89.69479575 | 6     | -        | -         | -   | N/A No Reading               |
| 277   | N44.79448257 | W89.69479931 | 15    | -        | -         | -   | N/A No Reading               |
| 278   | N44.79380741 | W89.69480287 | 15    | -        | -         | -   | N/A No Reading               |
| 279   | N44.79313225 | W89.69480643 | 16    | -        | -         | -   | N/A No Reading               |
| 280   | N44.7924571  | W89.69480999 | 17    | -        | -         | -   | N/A No Reading               |
| 281   | N44.79178194 | W89.69481354 | 14    | -        | -         | -   | N/A No Reading               |
| 282   | N44.79110678 | W89.6948171  | -     | -        | -         | -   | Boat Barrier                 |
| 283   | N44.81000868 | W89.69376898 | 2     | G        | Pole Rake | 0   | No Weeds                     |
| 284   | N44.80933352 | W89.69377255 | 7     | -        | -         | -   | N/A No Reading               |
| 285   | N44.80865836 | W89.69377612 | 12    | -        | -         | -   | N/A No Reading               |

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| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 286   | N44.80663289 | W89.69378684 | -     | M        | -         | -   | N/A Shallow Muck             |
| 287   | N44.80460742 | W89.69379756 | -     | -        | -         | -   | N/A Blocked By Down Tree     |
| 288   | N44.80393226 | W89.69380113 | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 289   | N44.80190678 | W89.69381184 | 2     | M/S      | Pole Rake | 0   | No Weeds                     |
| 290   | N44.80123162 | W89.69381541 | 2     | S/W      | Pole Rake | 0   | No Weeds                     |
| 291   | N44.80055647 | W89.69381898 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 292   | N44.79988131 | W89.69382255 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 293   | N44.79920615 | W89.69382612 | 5     | M        | Pole Rake | 0   | -                            |
| 294   | N44.79853099 | W89.69382969 | 4     | M/S      | Pole Rake | 0   | -                            |
| 295   | N44.79785583 | W89.69383327 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 296   | N44.79718067 | W89.69383684 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 297   | N44.79650551 | W89.69384041 | 7     | S        | Pole Rake | 0   | No Weeds                     |
| 298   | N44.79583035 | W89.69384398 | 11    | -        | -         | -   | N/A No Reading               |
| 299   | N44.7951552  | W89.69384755 | 9     | -        | -         | -   | N/A No Reading               |
| 300   | N44.79448004 | W89.69385112 | 4     | S        | Pole Rake | 0   | No Weeds                     |
| 301   | N44.79380488 | W89.69385468 | 9     | -        | -         | -   | N/A No Reading               |
| 302   | N44.79312972 | W89.69385825 | 13    | -        | -         | -   | N/A No Reading               |
| 303   | N44.79245456 | W89.69386182 | 13    | -        | -         | -   | N/A No Reading               |
| 304   | N44.81068129 | W89.69281695 | 3     | G/W      | Pole Rake | 0   | No Weeds                     |
| 305   | N44.81000613 | W89.69282053 | 11    | -        | -         | -   | N/A No Reading               |
| 306   | N44.80933097 | W89.69282411 | 14    | -        | -         | -   | N/A No Reading               |
| 307   | N44.80798066 | W89.69283128 | -     | -        | -         | -   | N/A Blocked By Logs          |
| 308   | N44.80663034 | W89.69283845 | 1     | M/S      | Pole Rake | 0   | -                            |
| 309   | N44.80595519 | W89.69284203 | -     | M        | -         | -   | N/A Shallow Muck             |
| 310   | N44.80528003 | W89.69284561 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 311   | N44.80460487 | W89.69284919 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 312   | N44.80392971 | W89.69285278 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 313   | N44.80257939 | W89.69285994 | -     | M        | -         | -   | N/A Shallow Muck             |
| 314   | N44.80190424 | W89.69286352 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 315   | N44.80122908 | W89.69286711 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 316   | N44.80055392 | W89.69287069 | 4     | W        | Pole Rake | 0   | No Weeds                     |
| 317   | N44.79987876 | W89.69287427 | 3     | M        | Pole Rake | 0   | EWM present                  |
| 318   | N44.7992036  | W89.69287785 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 319   | N44.79852844 | W89.69288143 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 320   | N44.79785329 | W89.69288502 | 7     | -        | -         | -   | N/A No Reading               |
| 321   | N44.79717813 | W89.6928886  | 5     | S        | Pole Rake | 0   | No Weeds                     |
| 322   | N44.79650297 | W89.69289218 | 8     | -        | -         | -   | N/A No Reading               |
| 323   | N44.79582781 | W89.69289576 | 8     | -        | -         | -   | N/A No Reading               |
| 324   | N44.79515265 | W89.69289934 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 325   | N44.79447749 | W89.69290292 | 7     | -        | -         | -   | N/A No Reading               |
| 326   | N44.79380233 | W89.6929065  | 11    | -        | -         | -   | N/A No Reading               |
| 327   | N44.82080608 | W89.69181455 | -     | M        | -         | -   | N/A Shallow Muck             |
| 328   | N44.81405452 | W89.69185051 | 9     | -        | -         | -   | N/A No Reading               |
| 329   | N44.81337936 | W89.69185411 | 10    | -        | -         | -   | N/A No Reading               |
| 330   | N44.8127042  | W89.6918577  | 11    | -        | -         | -   | N/A No Reading               |
| 331   | N44.81202905 | W89.6918613  | 11    | -        | -         | -   | N/A No Reading               |
| 332   | N44.81135389 | W89.69186489 | 13    | -        | -         | -   | N/A No Reading               |
| 333   | N44.81067873 | W89.69186849 | 15    | -        | -         | -   | N/A No Reading               |
| 334   | N44.81000358 | W89.69187208 | 11    | -        | -         | -   | N/A No Reading               |
| 335   | N44.8079781  | W89.69188286 | -     | -        | -         | -   | N/A Land                     |
| 336   | N44.80730295 | W89.69188646 | 2     | M        | Pole Rake | 0   | -                            |
| 337   | N44.80662779 | W89.69189005 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 338   | N44.80460231 | W89.69190083 | -     | -        | -         | -   | N/A Blocked By Bullrush      |
| 339   | N44.80392716 | W89.69190443 | 3     | S        | Pole Rake | 0   | No Weeds Secchi Reading 2.2' |
| 340   | N44.80190168 | W89.69191521 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 341   | N44.80122652 | W89.6919188  | 3     | S/W      | Pole Rake | 0   | No Weeds                     |
| 342   | N44.80055137 | W89.69192239 | 3     | W        | Pole Rake | 0   | No Weeds                     |

**CURLY-LEAF PONDWEED** Invasive Species Point Intercept Survey Report for 2015

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Dates: May 29, 30, June 13, 14, 15, 19

WBIC: 1334900

County: Marathon

Crew: JAK, SKK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                 |
|-------|--------------|--------------|-------|----------|-----------|-----|--------------------------|
| 343   | N44.79987621 | W89.69192599 | 4     | S        | Pole Rake | 0   | -                        |
| 344   | N44.79920105 | W89.69192958 | 3     | S        | Pole Rake | 0   | No Weeds                 |
| 345   | N44.79852589 | W89.69193317 | 3     | W        | Pole Rake | 0   | No Weeds                 |
| 346   | N44.79785073 | W89.69193677 | 8     | -        | -         | -   | N/A No Reading           |
| 347   | N44.79717557 | W89.69194036 | 7     | -        | -         | -   | N/A No Reading           |
| 348   | N44.79650041 | W89.69194395 | 8     | -        | -         | -   | N/A No Reading           |
| 349   | N44.79582525 | W89.69194754 | 3     | S        | Pole Rake | 0   | No Weeds                 |
| 350   | N44.7951501  | W89.69195113 | 9     | -        | -         | -   | N/A No Reading           |
| 351   | N44.79447494 | W89.69195473 | 9     | -        | -         | -   | N/A No Reading           |
| 352   | N44.79379978 | W89.69195832 | 2     | G        | Pole Rake | 0   | No Weeds                 |
| 353   | N44.82215383 | W89.69085871 | -     | -        | -         | -   | N/A Blocked By Logs      |
| 354   | N44.82012836 | W89.69086953 | -     | -        | -         | -   | N/A Blocked By Down Tree |
| 355   | N44.81945321 | W89.69087314 | 2     | M        | Pole Rake | 0   | -                        |
| 356   | N44.81810289 | W89.69088035 | -     | M        | -         | -   | N/A Shallow Muck         |
| 357   | N44.81675258 | W89.69088757 | -     | -        | -         | -   | N/A Land                 |
| 358   | N44.81405196 | W89.69090199 | 8     | -        | -         | -   | N/A No Reading           |
| 359   | N44.8133768  | W89.6909056  | 9     | -        | -         | -   | N/A No Reading           |
| 360   | N44.81270164 | W89.69090921 | 10    | -        | -         | -   | N/A No Reading           |
| 361   | N44.81202648 | W89.69091281 | 10    | -        | -         | -   | N/A No Reading           |
| 362   | N44.81135133 | W89.69091642 | 4     | G        | Pole Rake | 0   | No Weeds                 |
| 363   | N44.80797554 | W89.69093445 | 3     | S        | Pole Rake | 0   | No Weeds                 |
| 364   | N44.80730038 | W89.69093805 | -     | -        | -         | -   | N/A Land                 |
| 365   | N44.80662523 | W89.69094166 | 2     | M        | Pole Rake | 0   | -                        |
| 366   | N44.80595007 | W89.69094526 | 2     | M/S      | Pole Rake | 0   | No Weeds                 |
| 367   | N44.80527491 | W89.69094887 | 1     | S        | Pole Rake | 0   | No Weeds                 |
| 368   | N44.80459975 | W89.69095247 | -     | -        | -         | -   | N/A Land                 |
| 369   | N44.80392459 | W89.69095608 | 2     | S        | Pole Rake | 0   | -                        |
| 370   | N44.80324944 | W89.69095968 | 5     | S        | Pole Rake | 0   | No Weeds                 |
| 371   | N44.80257428 | W89.69096329 | -     | -        | -         | -   | N/A Land                 |
| 372   | N44.80189912 | W89.69096689 | 2     | M/S      | Pole Rake | 0   | No Weeds                 |
| 373   | N44.80122396 | W89.6909705  | 3     | M        | Pole Rake | 0   | No Weeds                 |
| 374   | N44.8005488  | W89.6909741  | 3     | W        | Pole Rake | 0   | No Weeds                 |
| 375   | N44.79987365 | W89.6909777  | 3     | 3        | Pole Rake | 0   | No Weeds                 |
| 376   | N44.79919849 | W89.69098131 | 3     | S/W      | Pole Rake | 0   | No Weeds                 |
| 377   | N44.79852333 | W89.69098491 | 3     | S        | Pole Rake | 0   | No Weeds                 |
| 378   | N44.79784817 | W89.69098852 | 8     | -        | -         | -   | N/A No Reading           |
| 379   | N44.79717301 | W89.69099212 | 8     | -        | -         | -   | N/A No Reading           |
| 380   | N44.79649785 | W89.69099572 | 7     | -        | -         | -   | N/A No Reading           |
| 381   | N44.79582269 | W89.69099933 | 3     | S        | Pole Rake | 0   | No Weeds                 |
| 382   | N44.79514753 | W89.69100293 | 3     | G        | Pole Rake | 0   | No Weeds                 |
| 383   | N44.82080095 | W89.6899173  | -     | -        | -         | -   | N/A Blocked By Logs      |
| 384   | N44.81945064 | W89.68992453 | -     | -        | -         | -   | N/A Blocked By Logs      |
| 385   | N44.81742517 | W89.68993539 | 2     | M        | Pole Rake | 0   | -                        |
| 386   | N44.81607485 | W89.68994263 | 2     | M        | Pole Rake | 0   | No Weeds                 |
| 387   | N44.8153997  | W89.68994624 | 3     | M/W      | Pole Rake | 0   | -                        |
| 388   | N44.81472454 | W89.68994986 | 3     | M        | Pole Rake | 0   | No Weeds                 |
| 389   | N44.81404938 | W89.68995348 | 6     | -        | -         | -   | N/A No Reading           |
| 390   | N44.80797297 | W89.68998603 | 1     | S/W      | Pole Rake | 0   | No Weeds                 |
| 391   | N44.80729781 | W89.68998965 | 2     | M/S      | Pole Rake | 0   | No Weeds                 |
| 392   | N44.80662266 | W89.68999327 | 2     | S/W      | Pole Rake | 0   | No Weeds                 |
| 393   | N44.8059475  | W89.68999688 | 2     | M/S      | Pole Rake | 0   | No Weeds                 |
| 394   | N44.80527234 | W89.6900005  | 4     | S        | Pole Rake | 0   | No Weeds                 |
| 395   | N44.80459718 | W89.69000411 | 1     | M/S      | Pole Rake | 0   | No Weeds                 |
| 396   | N44.80392202 | W89.69000773 | 2     | S        | Pole Rake | 0   | No Weeds                 |
| 397   | N44.80324687 | W89.69001135 | 5     | S        | Pole Rake | 0   | No Weeds                 |
| 398   | N44.80122139 | W89.69002219 | 3     | S/W      | Pole Rake | 0   | No Weeds                 |
| 399   | N44.80054623 | W89.69002581 | 3     | S        | Pole Rake | 0   | No Weeds                 |



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R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments             |
|-------|--------------|--------------|-------|----------|-----------|-----|----------------------|
| 400   | N44.79987108 | W89.69002942 | 3     | M        | Pole Rake | 0   | -                    |
| 401   | N44.79919592 | W89.69003304 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 402   | N44.79852076 | W89.69003665 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 403   | N44.7978456  | W89.69004027 | 10    | -        | -         | -   | N/A No Reading       |
| 404   | N44.79717044 | W89.69004388 | 9     | -        | -         | -   | N/A No Reading       |
| 405   | N44.79649528 | W89.69004749 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 406   | N44.79582012 | W89.69005111 | 2     | G/S      | Pole Rake | 0   | No Weeds             |
| 407   | N44.79514496 | W89.69005472 | 1     | S        | Pole Rake | 0   | No Weeds             |
| 408   | N44.82012321 | W89.6889723  | -     | -        | -         | -   | N/A Blocked By Logs  |
| 409   | N44.81809774 | W89.68898319 | 2     | M        | Pole Rake | 0   | -                    |
| 410   | N44.81674743 | W89.68899045 | 3     | M        | Pole Rake | 0   | -                    |
| 411   | N44.81607227 | W89.68899408 | 3     | M        | Pole Rake | 0   | No Weeds             |
| 412   | N44.81539712 | W89.68899771 | 3     | M        | Pole Rake | 0   | No Weeds Secchi 2.2' |
| 413   | N44.80797039 | W89.68903762 | -     | -        | -         | -   | N/A Land             |
| 414   | N44.80729523 | W89.68904125 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 415   | N44.80662008 | W89.68904487 | 4     | M/S      | Pole Rake | 0   | No Weeds             |
| 416   | N44.80594492 | W89.6890485  | 3     | M        | Pole Rake | 0   | No Weeds             |
| 417   | N44.80526976 | W89.68905213 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 418   | N44.8045946  | W89.68905575 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 419   | N44.80391945 | W89.68905938 | -     | -        | -         | -   | N/A Land             |
| 420   | N44.80324429 | W89.68906301 | 5     | S        | Pole Rake | 0   | No Weeds             |
| 421   | N44.80121881 | W89.68907389 | 3     | S/W      | Pole Rake | 0   | No Weeds             |
| 422   | N44.80054366 | W89.68907751 | 3     | M        | Pole Rake | 0   | No Weeds             |
| 423   | N44.7998685  | W89.68908114 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 424   | N44.79919334 | W89.68908477 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 425   | N44.79851818 | W89.68908839 | 9     | -        | -         | -   | N/A No Reading       |
| 426   | N44.79784302 | W89.68909202 | 13    | -        | -         | -   | N/A No Reading       |
| 427   | N44.82147094 | W89.6880164  | 1     | M/S      | Pole Rake | 0   | -                    |
| 428   | N44.81944547 | W89.68802733 | -     | -        | -         | -   | N/A Blocked By Logs  |
| 429   | N44.81877031 | W89.68803097 | 2     | M        | Pole Rake | 0   | Blocked by logs      |
| 430   | N44.81606969 | W89.68804553 | 1     | M/W      | Pole Rake | 0   | -                    |
| 431   | N44.81539453 | W89.68804917 | 3     | M        | Pole Rake | 0   | No Weeds             |
| 432   | N44.80729265 | W89.68809284 | 2     | M        | Pole Rake | 0   | -                    |
| 433   | N44.80661749 | W89.68809648 | 3     | S        | Pole Rake | 0   | -                    |
| 434   | N44.80594233 | W89.68810012 | 4     | M        | Pole Rake | 0   | No Weeds             |
| 435   | N44.80526718 | W89.68810376 | 3     | S        | Pole Rake | 0   | No Weeds             |
| 436   | N44.80459202 | W89.68810739 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 437   | N44.80391686 | W89.68811103 | -     | -        | -         | 0   | N/A too shallow      |
| 438   | N44.8032417  | W89.68811467 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 439   | N44.80121623 | W89.68812558 | 1     | S        | Pole Rake | 0   | No Weeds             |
| 440   | N44.80054107 | W89.68812922 | 2     | M        | Pole Rake | 0   | No Weeds             |
| 441   | N44.79986591 | W89.68813286 | 2     | S        | Pole Rake | 0   | No Weeds             |
| 442   | N44.79919075 | W89.68813649 | 8     | -        | -         | -   | N/A No Reading       |
| 443   | N44.7985156  | W89.68814013 | 12    | -        | -         | -   | N/A No Reading       |
| 444   | N44.82079318 | W89.68707142 | -     | -        | -         | 0   | Blocked by logs      |
| 445   | N44.82011803 | W89.68707507 | -     | M        | -         | -   | N/A Shallow Muck     |
| 446   | N44.81539194 | W89.68710063 | 4     | M        | Pole Rake | 0   | No Weeds             |
| 447   | N44.81471678 | W89.68710428 | 4     | M        | Pole Rake | 0   | No Weeds             |
| 448   | N44.8066149  | W89.68714809 | 4     | M        | Pole Rake | 0   | No Weeds             |
| 449   | N44.80593974 | W89.68715174 | 4     | M        | Pole Rake | 0   | No Weeds             |
| 450   | N44.80526458 | W89.68715539 | 3     | S/W      | Pole Rake | 0   | No Weeds             |
| 451   | N44.80458942 | W89.68715903 | 5     | M        | Pole Rake | 0   | No Weeds             |
| 452   | N44.80391427 | W89.68716268 | 3     | S        | Pole Rake | 0   | No Weeds             |
| 453   | N44.80323911 | W89.68716633 | 4     | S        | Pole Rake | 0   | No Weeds             |
| 454   | N44.80256395 | W89.68716998 | -     | M        | -         | -   | N/A Shallow Muck     |
| 455   | N44.80188879 | W89.68717363 | -     | M        | -         | -   | N/A Shallow Muck     |
| 456   | N44.80053848 | W89.68718093 | 2     | S        | Pole Rake | 0   | No Weeds             |

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| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                  |
|-------|--------------|--------------|-------|----------|-----------|-----|---------------------------|
| 457   | N44.79986332 | W89.68718457 | 8     | -        | -         | -   | N/A No Reading            |
| 458   | N44.79918816 | W89.68718822 | 14    | -        | -         | -   | N/A No Reading            |
| 459   | N44.82011543 | W89.68612646 | 1     | M        | Pole Rake | 0   | No Weeds                  |
| 460   | N44.81944027 | W89.68613012 | 1     | M/W      | Pole Rake | 0   | No Weeds                  |
| 461   | N44.81538933 | W89.6861521  | 4     | S        | Pole Rake | 0   | No Weeds                  |
| 462   | N44.81471418 | W89.68615576 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 463   | N44.80593714 | W89.68620335 | 3     | M        | Pole Rake | 0   | No Weeds                  |
| 464   | N44.80526198 | W89.68620701 | 5     | M        | Pole Rake | 0   | No Weeds                  |
| 465   | N44.80458682 | W89.68621067 | 6     | -        | -         | -   | N/A No Reading            |
| 466   | N44.80391166 | W89.68621433 | 4     | S        | Pole Rake | 0   | No Weeds                  |
| 467   | N44.80323651 | W89.68621799 | 4     | S        | Pole Rake | 0   | No Weeds                  |
| 468   | N44.80188619 | W89.68622531 | 1     | M        | Pole Rake | 0   | No Weeds                  |
| 469   | N44.80121103 | W89.68622897 | 2     | M/S      | Pole Rake | 0   | No Weeds                  |
| 470   | N44.80053588 | W89.68623263 | 10    | -        | -         | -   | N/A No Reading            |
| 471   | N44.79986072 | W89.68623629 | 11    | -        | -         | -   | N/A No Reading            |
| 472   | N44.81943766 | W89.68518152 | -     | -        | -         | 0   | N/A Blocked By Down Tree  |
| 473   | N44.8187625  | W89.68518519 | -     | -        | -         | -   | N/A Blocked By Down Tree  |
| 474   | N44.81538672 | W89.68520356 | 4     | M/W      | Pole Rake | 0   | No Weeds                  |
| 475   | N44.81471157 | W89.68520723 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 476   | N44.80593453 | W89.68525497 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 477   | N44.80525937 | W89.68525864 | 6     | -        | -         | -   | N/A No Reading            |
| 478   | N44.80458421 | W89.68526232 | 6     | -        | -         | -   | N/A No Reading            |
| 479   | N44.80390906 | W89.68526599 | 7     | -        | -         | -   | N/A No Reading            |
| 480   | N44.8032339  | W89.68526966 | 18    | -        | -         | -   | N/A No Reading            |
| 481   | N44.80255874 | W89.68527333 | 15    | -        | -         | -   | N/A No Reading            |
| 482   | N44.80188358 | W89.685277   | 16    | -        | -         | -   | N/A No Reading            |
| 483   | N44.80120842 | W89.68528067 | 13    | -        | -         | -   | N/A No Reading            |
| 484   | N44.81943504 | W89.68423292 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 485   | N44.81875988 | W89.6842366  | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 486   | N44.8153841  | W89.68425502 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 487   | N44.81470895 | W89.68425871 | 4     | M        | Pole Rake | 0   | -                         |
| 488   | N44.80525675 | W89.68431027 | 6     | -        | -         | -   | N/A No Reading            |
| 489   | N44.8045816  | W89.68431396 | 6     | -        | -         | -   | N/A No Reading            |
| 490   | N44.80390644 | W89.68431764 | 7     | -        | -         | -   | N/A No Reading            |
| 491   | N44.80323128 | W89.68432132 | 10    | -        | -         | -   | N/A No Reading            |
| 492   | N44.80255612 | W89.684325   | 8     | -        | -         | -   | N/A No Reading            |
| 493   | N44.81943241 | W89.68328431 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 494   | N44.81875726 | W89.68328801 | -     | -        | -         | 0   | N/A Blocked by down Trees |
| 495   | N44.81538148 | W89.68330649 | 4     | M        | Pole Rake | 0   | -                         |
| 496   | N44.81470632 | W89.68331018 | 3     | M        | Pole Rake | 0   | Secchi Reading 1.9'       |
| 497   | N44.80457897 | W89.6833656  | 6     | -        | -         | -   | N/A No Reading            |
| 498   | N44.80390381 | W89.68336929 | 6     | -        | -         | -   | N/A No Reading            |
| 499   | N44.80322865 | W89.68337298 | 4     | S/G      | Pole Rake | 0   | No Weeds                  |
| 500   | N44.81942978 | W89.68233571 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 501   | N44.81875462 | W89.68233942 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 502   | N44.81537884 | W89.68235795 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 503   | N44.81470369 | W89.68236166 | 3     | M        | Pole Rake | 0   | -                         |
| 504   | N44.81942714 | W89.68138711 | -     | -        | -         | 0   | N/A Blocked by Down Trees |
| 505   | N44.81875198 | W89.68139083 | -     | M        | -         | -   | N/A Shallow Muck          |
| 506   | N44.8153762  | W89.68140942 | 4     | M        | Pole Rake | 0   | No Weeds                  |
| 507   | N44.81470105 | W89.68141313 | 3     | M/W      | Pole Rake | 0   | -                         |
| 508   | N44.81942449 | W89.68043851 | -     | M        | -         | -   | N/A Shallow Muck          |
| 509   | N44.81537355 | W89.68046088 | 3     | M        | Pole Rake | 0   | -                         |
| 510   | N44.8146984  | W89.68046461 | 2     | M        | Pole Rake | 0   | -                         |
| 511   | N44.81604605 | W89.6795086  | 3     | M        | Pole Rake | 0   | No Weeds                  |
| 512   | N44.81537089 | W89.67951234 | 2     | M        | Pole Rake | 0   | -                         |
| 513   | N44.81604338 | W89.67856006 | 3     | M        | Pole Rake | 0   | No Weeds                  |

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N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments |
|-------|--------------|--------------|-------|----------|-----------|-----|----------|
| 514   | N44.81536823 | W89.67856381 | 1     | M        | Pole Rake | 0   | -        |
| 515   | N44.81604071 | W89.67761151 | 2     | M        | Pole Rake | 0   | No Weeds |
| 516   | N44.81603803 | W89.67666296 | 2     | M        | Pole Rake | 0   | No Weeds |
| 517   | N44.81603534 | W89.67571442 | 2     | M        | Pole Rake | 0   | No Weeds |
| 518   | N44.8167078  | W89.67476208 | 1     | M        | Pole Rake | 0   | No Weeds |

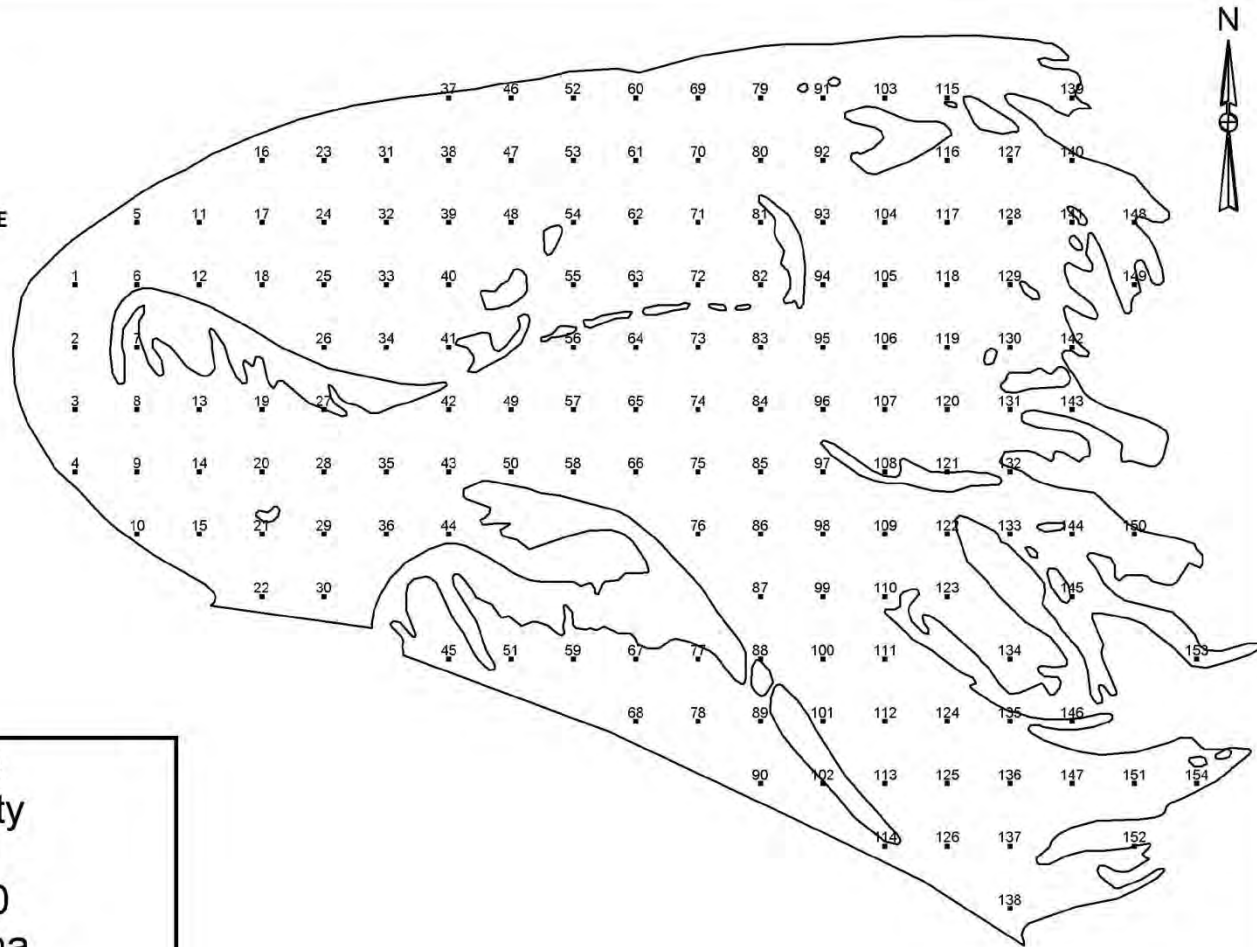


**MOSINEE HYDROELECTRIC  
PROJECT - HALF MOON LAKE  
2015 INVASIVE SPECIES  
MONITORING**

**CURLY-LEAF PONDWEED  
DISTRIBUTION**

**NONE FOUND IN 2015**

Half Moon Lake  
Marathon County  
WBIC 1435800  
T27N R07E S20  
218 acres / 88 ha  
154 Sampling Points  
75m between Points  
Site1: Lat. 44.81669222  
Long. -89.7109471



**CURLY – LEAF PONDWEED** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Half Moon Lake (154 Sample Points)

Dates: May 29, 30, June 13, 14, 15, 19

WBIC: 1435800

County: Marathon

Crew: JSK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                          |
|-------|--------------|--------------|-------|----------|-----------|-----|-----------------------------------|
| 1     | N44.81669222 | W89.7109471  | 9     | -        | -         | -   | N/A No Reading                    |
| 2     | N44.81601706 | W89.71095047 | 6     | -        | -         | -   | N/A No Reading                    |
| 3     | N44.8153419  | W89.71095385 | 8     | -        | -         | -   | N/A No Reading                    |
| 4     | N44.81466675 | W89.71095722 | 7     | -        | -         | -   | N/A No Reading                    |
| 5     | N44.81736497 | W89.70999516 | 9     | -        | -         | -   | N/A No Reading                    |
| 6     | N44.81668981 | W89.70999854 | 6     | W        | Pole Rake | 0   | No Weeds Secchi Reading 1.8' alga |
| 7     | N44.81601466 | W89.71000192 | 2     | M        | Pole Rake | 0   | No Weeds                          |
| 8     | N44.8153395  | W89.71000531 | 6     | -        | -         | -   | N/A No Reading                    |
| 9     | N44.81466434 | W89.71000869 | 7     | -        | -         | -   | N/A No Reading                    |
| 10    | N44.81398918 | W89.71001207 | 6     | -        | -         | -   | N/A No Reading                    |
| 11    | N44.81736256 | W89.70904658 | 8     | -        | -         | -   | N/A No Reading                    |
| 12    | N44.8166874  | W89.70904998 | 7     | -        | -         | -   | N/A No Reading                    |
| 13    | N44.81533709 | W89.70905677 | 6     | -        | -         | -   | N/A No Reading                    |
| 14    | N44.81466193 | W89.70906016 | 4     | S/W      | Pole Rake | 0   | No Weeds                          |
| 15    | N44.81398677 | W89.70906356 | 6     | -        | -         | -   | N/A No Reading                    |
| 16    | N44.8180353  | W89.70809461 | 7     | -        | -         | -   | N/A No Reading                    |
| 17    | N44.81736014 | W89.70809801 | 6     | -        | -         | -   | N/A No Reading                    |
| 18    | N44.81668498 | W89.70810142 | 7     | -        | -         | -   | N/A No Reading                    |
| 19    | N44.81533467 | W89.70810823 | 6     | -        | -         | -   | N/A No Reading                    |
| 20    | N44.81465951 | W89.70811164 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 21    | N44.81398435 | W89.70811504 | 6     | -        | -         | -   | N/A No Reading                    |
| 22    | N44.81330919 | W89.70811845 | 9     | -        | -         | -   | N/A No Reading                    |
| 23    | N44.81803287 | W89.70714603 | 6     | -        | -         | -   | N/A No Reading                    |
| 24    | N44.81735771 | W89.70714944 | 6     | -        | -         | -   | N/A No Reading                    |
| 25    | N44.81668255 | W89.70715286 | 5     | M/W      | Pole Rake | 0   | No Weeds                          |
| 26    | N44.8160074  | W89.70715628 | 3     | W        | Pole Rake | 0   | No Weeds                          |
| 27    | N44.81533224 | W89.70715969 | 1     | S        | Pole Rake | 0   | No Weeds                          |
| 28    | N44.81465708 | W89.70716311 | 10    | -        | -         | -   | N/A No Reading                    |
| 29    | N44.81398192 | W89.70716653 | 11    | -        | -         | -   | N/A No Reading                    |
| 30    | N44.81330676 | W89.70716995 | 10    | -        | -         | -   | N/A No Reading                    |
| 31    | N44.81803043 | W89.70619744 | 6     | -        | -         | -   | N/A No Reading                    |
| 32    | N44.81735527 | W89.70620087 | 5     | M/W      | Pole Rake | 0   | No Weeds                          |
| 33    | N44.81668012 | W89.7062043  | 4     | W        | Pole Rake | 0   | No Weeds                          |
| 34    | N44.81600496 | W89.70620773 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 35    | N44.81465464 | W89.70621459 | 11    | -        | -         | -   | N/A No Reading                    |
| 36    | N44.81397949 | W89.70621801 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 37    | N44.81870314 | W89.70524542 | 6     | -        | -         | -   | N/A No Reading                    |
| 38    | N44.81802799 | W89.70524886 | 6     | -        | -         | -   | N/A No Reading                    |
| 39    | N44.81735283 | W89.7052523  | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 40    | N44.81667767 | W89.70525574 | 1     | S        | Pole Rake | 0   | No Weeds                          |
| 41    | N44.81600251 | W89.70525918 | 1     | S        | Pole Rake | 0   | No Weeds                          |
| 42    | N44.81532736 | W89.70526262 | 10    | -        | -         | -   | N/A No Reading                    |
| 43    | N44.8146522  | W89.70526606 | 8     | S        | Pole Rake | 0   | No Weeds                          |
| 44    | N44.81397704 | W89.7052695  | 2     | S        | Pole Rake | 0   | No Weeds                          |
| 45    | N44.81262673 | W89.70527638 | 3     | M        | Pole Rake | 0   | No Weeds                          |
| 46    | N44.81870069 | W89.70429683 | 4     | S        | Pole Rake | 0   | No Weeds                          |
| 47    | N44.81802553 | W89.70430028 | 5     | M        | Pole Rake | 0   | No Weeds                          |
| 48    | N44.81735038 | W89.70430373 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 49    | N44.81532491 | W89.70431408 | 11    | -        | -         | -   | N/A No Reading                    |
| 50    | N44.81464975 | W89.70431753 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 51    | N44.81262428 | W89.70432788 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 52    | N44.81869823 | W89.70334824 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 53    | N44.81802307 | W89.7033517  | 1     | S        | Pole Rake | 0   | No Weeds                          |

**CURLY – LEAF PONDWEED** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Half Moon Lake (154 Sample Points)

Dates: May 29, 30, June 13, 14, 15, 19

WBIC: 1435800

County: Marathon

Crew: JSK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

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M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                          |
|-------|--------------|--------------|-------|----------|-----------|-----|-----------------------------------|
| 54    | N44.81734792 | W89.70335516 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 55    | N44.81667276 | W89.70335862 | 3     | M        | Pole Rake | 0   | No Weeds                          |
| 56    | N44.8159976  | W89.70336208 | 4     | M/S      | Pole Rake | 0   | No Weeds                          |
| 57    | N44.81532245 | W89.70336555 | 10    | -        | -         | -   | N/A No Reading                    |
| 58    | N44.81464729 | W89.70336901 | 7     | -        | -         | -   | N/A No Reading                    |
| 59    | N44.81262182 | W89.70337939 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 60    | N44.81869576 | W89.70239965 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 61    | N44.81802061 | W89.70240312 | 4     | M/S      | Pole Rake | 0   | No Weeds                          |
| 62    | N44.81734545 | W89.70240659 | 3     | W        | Pole Rake | 0   | No Weeds                          |
| 63    | N44.81667029 | W89.70241006 | 3     | M/W      | Pole Rake | 0   | No Weeds                          |
| 64    | N44.81599514 | W89.70241354 | 5     | M        | Pole Rake | 0   | No Weeds                          |
| 65    | N44.81531998 | W89.70241701 | 9     | -        | -         | -   | N/A No Reading                    |
| 66    | N44.81464482 | W89.70242048 | 9     | -        | -         | -   | N/A No Reading                    |
| 67    | N44.81261935 | W89.7024309  | 4     | W        | Pole Rake | 0   | No Weeds                          |
| 68    | N44.81194419 | W89.70243437 | 6     | -        | -         | -   | N/A No Reading                    |
| 69    | N44.81869329 | W89.70145105 | 4     | M/W      | Pole Rake | 0   | No Weeds                          |
| 70    | N44.81801813 | W89.70145454 | 2     | S        | Pole Rake | 0   | No Weeds                          |
| 71    | N44.81734297 | W89.70145802 | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 72    | N44.81666782 | W89.7014615  | 3     | S        | Pole Rake | 0   | No Weeds                          |
| 73    | N44.81599266 | W89.70146499 | 3     | S/W      | Pole Rake | 0   | No Weeds                          |
| 74    | N44.8153175  | W89.70146847 | 4     | W        | Pole Rake | 0   | No Weeds                          |
| 75    | N44.81464235 | W89.70147195 | 9     | -        | -         | -   | N/A No Reading                    |
| 76    | N44.81396719 | W89.70147544 | 9     | -        | -         | -   | N/A No Reading                    |
| 77    | N44.81261687 | W89.7014824  | 4     | W        | Pole Rake | 0   | No Weeds                          |
| 78    | N44.81194172 | W89.70148589 | 3     | W        | Pole Rake | 0   | No Weeds                          |
| 79    | N44.8186908  | W89.70050246 | 3     | M/S      | Pole Rake | 0   | No Weeds                          |
| 80    | N44.81801565 | W89.70050596 | 3     | S/W      | Pole Rake | 0   | No Weeds                          |
| 81    | N44.81734049 | W89.70050945 | 2     | M/S      | Pole Rake | 0   | No Weeds                          |
| 82    | N44.81666533 | W89.70051295 | 2     | S        | Pole Rake | 0   | No Weeds                          |
| 83    | N44.81599018 | W89.70051644 | 4     | W        | Pole Rake | 0   | No Weeds                          |
| 84    | N44.81531502 | W89.70051993 | 4     | M/S      | Pole Rake | 0   | No Weeds                          |
| 85    | N44.81463986 | W89.70052343 | 5     | S        | Pole Rake | 0   | No Weeds                          |
| 86    | N44.8139647  | W89.70052692 | 8     | -        | -         | -   | N/A No Reading                    |
| 87    | N44.81328955 | W89.70053042 | 8     | -        | -         | -   | N/A No Reading                    |
| 88    | N44.81261439 | W89.70053391 | 4     | S        | Pole Rake | 0   | No Weeds                          |
| 89    | N44.81193923 | W89.70053741 | 4     | S/W      | Pole Rake | 0   | No Weeds                          |
| 90    | N44.81126407 | W89.7005409  | 7     | -        | -         | -   | N/A No Reading                    |
| 91    | N44.81868831 | W89.69955387 | 2     | M/W      | Pole Rake | 0   | No Weeds                          |
| 92    | N44.81801316 | W89.69955738 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 93    | N44.817338   | W89.69956088 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 94    | N44.81666284 | W89.69956439 | 4     | M/W      | Pole Rake | 0   | No Weeds Secchi Reading 1.0' alga |
| 95    | N44.81598769 | W89.69956789 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 96    | N44.81531253 | W89.6995714  | 3     | M/W      | Pole Rake | 0   | No Weeds                          |
| 97    | N44.81463737 | W89.6995749  | 3     | M/S      | Pole Rake | 0   | No Weeds                          |
| 98    | N44.81396221 | W89.69957841 | 4     | W        | Pole Rake | 0   | No Weeds                          |
| 99    | N44.81328706 | W89.69958191 | 7     | -        | -         | -   | N/A No Reading                    |
| 100   | N44.8126119  | W89.69958542 | 7     | -        | -         | -   | N/A No Reading                    |
| 101   | N44.81193674 | W89.69958892 | 7     | -        | -         | -   | N/A No Reading                    |
| 102   | N44.81126158 | W89.69959243 | 1     | S        | Pole Rake | 0   | No Weeds                          |
| 103   | N44.81868581 | W89.69860528 | 1     | S        | Pole Rake | 0   | No Weeds                          |
| 104   | N44.8173355  | W89.69861231 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 105   | N44.81666034 | W89.69861583 | 4     | M        | Pole Rake | 0   | No Weeds                          |
| 106   | N44.81598519 | W89.69861935 | 3     | W        | Pole Rake | 0   | No Weeds                          |

**CURLY – LEAF PONDWEED** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Half Moon Lake (154 Sample Points)

Dates: May 29, 30, June 13, 14, 15, 19

WBIC: 1435800

County: Marathon

Crew: JSK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

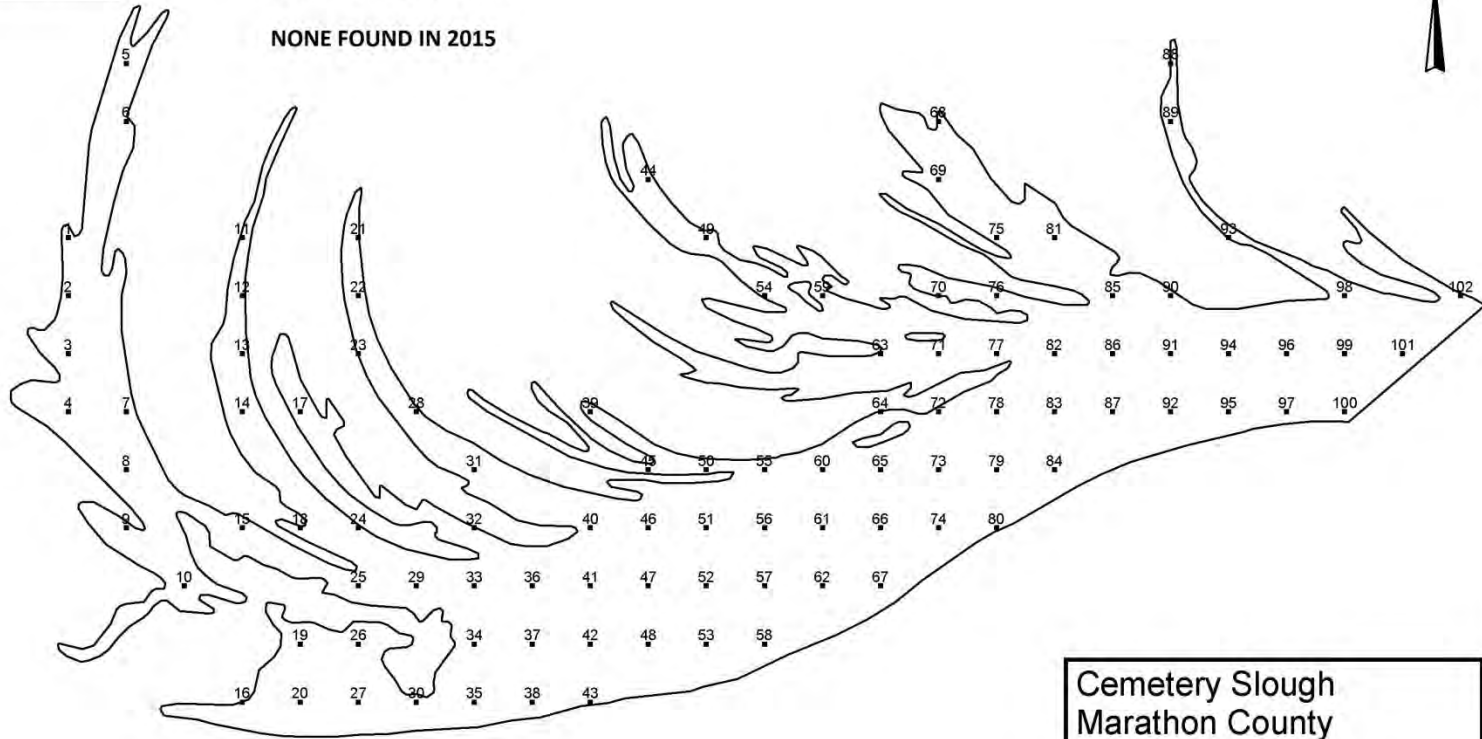
| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments         |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------|
| 107   | N44.81531003 | W89.69862286 | 3     | W        | Pole Rake | 0   | No Weeds         |
| 108   | N44.81463487 | W89.69862638 | 1     | W        | Pole Rake | 0   | No Weeds         |
| 109   | N44.81395971 | W89.69862989 | 3     | S        | Pole Rake | 0   | No Weeds         |
| 110   | N44.81328456 | W89.69863341 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 111   | N44.8126094  | W89.69863693 | 6     | -        | -         | -   | N/A No Reading   |
| 112   | N44.81193424 | W89.69864044 | 6     | -        | -         | -   | N/A No Reading   |
| 113   | N44.81125908 | W89.69864396 | 6     | S        | Pole Rake | 0   | No Weeds         |
| 114   | N44.81058393 | W89.69864748 | 4     | S        | Pole Rake | 0   | No Weeds         |
| 115   | N44.81868331 | W89.69765669 | -     | -        | -         | -   | N/A Land         |
| 116   | N44.81800815 | W89.69766021 | 4     | M        | Pole Rake | 0   | No Weeds         |
| 117   | N44.81733299 | W89.69766374 | 3     | W        | Pole Rake | 0   | No Weeds         |
| 118   | N44.81665784 | W89.69766727 | 3     | W        | Pole Rake | 0   | No Weeds         |
| 119   | N44.81598268 | W89.6976708  | 4     | S        | Pole Rake | 0   | No Weeds         |
| 120   | N44.81530752 | W89.69767433 | 3     | S        | Pole Rake | 0   | No Weeds         |
| 121   | N44.81463236 | W89.69767785 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 122   | N44.81395721 | W89.69768138 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 123   | N44.81328205 | W89.69768491 | 3     | M        | Pole Rake | 0   | No Weeds         |
| 124   | N44.81193174 | W89.69769196 | 5     | M/S      | Pole Rake | 0   | No Weeds         |
| 125   | N44.81125658 | W89.69769549 | 4     | W        | Pole Rake | 0   | No Weeds         |
| 126   | N44.81058142 | W89.69769902 | 4     | W        | Pole Rake | 0   | No Weeds         |
| 127   | N44.81800563 | W89.69671163 | 3     | M        | Pole Rake | 0   | No Weeds         |
| 128   | N44.81733048 | W89.69671517 | 3     | S        | Pole Rake | 0   | No Weeds         |
| 129   | N44.81665532 | W89.69671871 | 3     | M        | Pole Rake | 0   | No Weeds         |
| 130   | N44.81598016 | W89.69672225 | 2     | S/W      | Pole Rake | 0   | No Weeds         |
| 131   | N44.81530501 | W89.69672579 | 2     | M        | Pole Rake | 0   | No Weeds         |
| 132   | N44.81462985 | W89.69672933 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 133   | N44.81395469 | W89.69673287 | 1     | M        | Pole Rake | 0   | No Weeds         |
| 134   | N44.81260438 | W89.69673994 | 1     | M        | Pole Rake | 0   | No Weeds         |
| 135   | N44.81192922 | W89.69674348 | 1     | S        | Pole Rake | 0   | No Weeds         |
| 136   | N44.81125406 | W89.69674702 | 3     | S        | Pole Rake | 0   | No Weeds         |
| 137   | N44.81057891 | W89.69675056 | 2     | S        | Pole Rake | 0   | No Weeds         |
| 138   | N44.80990375 | W89.6967541  | 3     | S        | Pole Rake | 0   | No Weeds         |
| 139   | N44.81867827 | W89.6957595  | -     | -        | -         | -   | N/A Land         |
| 140   | N44.81800311 | W89.69576305 | 3     | M        | Pole Rake | 0   | No Weeds         |
| 141   | N44.81732795 | W89.6957666  | -     | S        | -         | -   | N/A Shallow Sand |
| 142   | N44.81597764 | W89.6957737  | -     | -        | -         | -   | N/A Land         |
| 143   | N44.81530248 | W89.69577725 | -     | M        | -         | -   | N/A Shallow Muck |
| 144   | N44.81395217 | W89.69578435 | -     | M        | -         | -   | N/A Shallow Muck |
| 145   | N44.81327701 | W89.6957879  | -     | -        | -         | -   | N/A Too Shallow  |
| 146   | N44.8119267  | W89.695795   | -     | -        | -         | -   | N/A Land         |
| 147   | N44.81125154 | W89.69579855 | 2     | S        | Pole Rake | 0   | No Weeds         |
| 148   | N44.81732542 | W89.69481803 | -     | -        | -         | -   | N/A Land         |
| 149   | N44.81665027 | W89.6948216  | -     | -        | -         | -   | N/A Land         |
| 150   | N44.81394964 | W89.69483584 | -     | -        | -         | -   | N/A Too Shallow  |
| 151   | N44.81124901 | W89.69485008 | 2     | M        | Pole Rake | 0   | No Weeds         |
| 152   | N44.81057385 | W89.69485364 | -     | -        | -         | -   | N/A Land         |
| 153   | N44.81259679 | W89.69389447 | -     | -        | -         | -   | N/A Too Shallow  |
| 154   | N44.81124647 | W89.69390161 | -     | -        | -         | -   | N/A Land         |



MOSINEE HYDROELECTRIC PROJECT-CEMETERY SLOUGH  
2105 INVASIVE SPECIES MONITORING

CURLY-LEAF PONDWEED

NONE FOUND IN 2015



Cemetery Slough  
Marathon County  
WBIC 1435700  
T27N R07E S20  
135 acres / 54.8 ha  
102 Sampling Points  
75m between Points  
Site1: Lat. 44.80391252  
Long. -89.72766825



Created: 2006



**CURLY – LEAF PONDWEED** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Cemetery Slough (102 Sample Points)

Dates: May 29, 30, June 13, 14, 15, 19

WBIC: 1435700

County: Marathon

Crew: JSK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 1     | N44.80391252 | W89.72766825 | 1     | M        | Pole Rake | 0   | No Weeds                     |
| 2     | N44.80323736 | W89.72767143 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 3     | N44.8025622  | W89.7276746  | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 4     | N44.80188704 | W89.72767778 | 2     | M        | Pole Rake | 0   | No Weeds Secchi Reading 1.4' |
| 5     | N44.80593573 | W89.72671033 | 2     | M/S      | Pole Rake | 0   | No Weeds                     |
| 6     | N44.80526057 | W89.72671352 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 7     | N44.80188477 | W89.72672946 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 8     | N44.80120961 | W89.72673265 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 9     | N44.80053445 | W89.72673583 | -     | M        | -         | -   | N/A Shallow Muck             |
| 10    | N44.79985702 | W89.72579073 | 1     | M        | Pole Rake | 0   | No Weeds                     |
| 11    | N44.8039057  | W89.72482319 | -     | M        | -         | -   | N/A Shallow Muck             |
| 12    | N44.80323054 | W89.7248264  | -     | -        | -         | 0   | N/A Blocked by logs          |
| 13    | N44.80255538 | W89.72482961 | -     | -        | -         | 0   | N/A Blocked by logs          |
| 14    | N44.80188022 | W89.72483282 | -     | M        | -         | 0   | Shallow, muck                |
| 15    | N44.8005299  | W89.72483924 | 1     | M        | Pole Rake | 0   | No Weeds                     |
| 16    | N44.79850442 | W89.72484887 | -     | -        | -         | -   | N/A Land                     |
| 17    | N44.80187793 | W89.7238845  | -     | M        | -         | -   | N/A Shallow Muck             |
| 18    | N44.80052761 | W89.72389094 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 19    | N44.79917729 | W89.72389738 | -     | M        | -         | -   | N/A Shallow Muck             |
| 20    | N44.79850213 | W89.7239006  | 1     | M        | Pole Rake | 0   | No Weeds                     |
| 21    | N44.80390111 | W89.72292649 | -     | -        | -         | -   | N/A Blocked By Logs          |
| 22    | N44.80322595 | W89.72292972 | -     | -        | -         | -   | N/A Blocked By Logs          |
| 23    | N44.80255079 | W89.72293295 | -     | M        | -         | -   | N/A Shallow Muck             |
| 24    | N44.80052531 | W89.72294265 | 1     | S/W      | Pole Rake | 0   | No Weeds                     |
| 25    | N44.79985015 | W89.72294588 | 2     | M        | Pole Rake | 0   | -                            |
| 26    | N44.79917499 | W89.72294911 | -     | M        | -         | -   | N/A Shallow Muck             |
| 27    | N44.79849983 | W89.72295234 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 28    | N44.80187333 | W89.72198787 | -     | M        | -         | -   | N/A Shallow Muck             |
| 29    | N44.79984785 | W89.72199759 | 2     | M/S      | Pole Rake | 0   | -                            |
| 30    | N44.79849753 | W89.72200408 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 31    | N44.80119586 | W89.7210428  | 1     | M        | Pole Rake | 0   | No Weeds                     |
| 32    | N44.8005207  | W89.72104606 | 1     | S/M      | Pole Rake | 0   | No Weeds                     |
| 33    | N44.79984554 | W89.72104931 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 34    | N44.79917038 | W89.72105256 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 35    | N44.79849522 | W89.72105581 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 36    | N44.79984322 | W89.72010102 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 37    | N44.79916806 | W89.72010429 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 38    | N44.7984929  | W89.72010755 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 39    | N44.80186637 | W89.71914291 | -     | -        | -         | -   | N/A Blocked By Logs          |
| 40    | N44.80051605 | W89.71914946 | 2     | M/S      | Pole Rake | 0   | No Weeds                     |
| 41    | N44.79984089 | W89.71915274 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 42    | N44.79916573 | W89.71915601 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 43    | N44.79849057 | W89.71915929 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 44    | N44.80456467 | W89.71818145 | -     | M        | -         | -   | N/A Shallow Muck             |
| 45    | N44.80118887 | W89.71819788 | -     | -        | -         | -   | N/A Blocked By Logs          |
| 46    | N44.80051371 | W89.71820117 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 47    | N44.79983855 | W89.71820445 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 48    | N44.79916339 | W89.71820774 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 49    | N44.80388717 | W89.71723638 | -     | M        | -         | -   | N/A Shallow Muck             |
| 50    | N44.80118653 | W89.71724957 | -     | -        | -         | -   | N/A Blocked By Logs          |
| 51    | N44.80051137 | W89.71725287 | 3     | M/W      | Pole Rake | 0   | No Weeds                     |
| 52    | N44.79983621 | W89.71725617 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 53    | N44.79916105 | W89.71725947 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 54    | N44.80320966 | W89.71629134 | -     | -        | -         | -   | N/A Land                     |
| 55    | N44.80118418 | W89.71630127 | 2     | S        | Pole Rake | 0   | No Weeds                     |
| 56    | N44.80050902 | W89.71630458 | 3     | M        | Pole Rake | 0   | No Weeds                     |

**CURLY – LEAF PONDWEED** Invasive Species Point Intercept Survey Report for 2015

Project/Lake: Mosinee/Cemetery Slough (102 Sample Points)

Dates: May 29, 30, June 13, 14, 15, 19

WBIC: 1435700

County: Marathon

Crew: JSK, SJK, SRK, BJK

Datum: WGS84

EWM = Eurasian Water Milfoil

CLP = Curly-leaf Pondweed

NWM = Northern Water Milfoil

N/A = Not Accessible

M = Muck

W = Woody Debris

S = Sand

G = Gravel

R = Root Mass (i.e. Lily Pads, Pickerel Weed, etc.)

Rk = Rock

| Point | Latitude     | Longitude    | Depth | Sediment | Method    | CLP | Comments                     |
|-------|--------------|--------------|-------|----------|-----------|-----|------------------------------|
| 57    | N44.79983386 | W89.71630789 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 58    | N44.7991587  | W89.71631119 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 59    | N44.8032073  | W89.715343   | -     | M        | -         | -   | N/A Shallow Muck             |
| 60    | N44.80118182 | W89.71535296 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 61    | N44.80050666 | W89.71535628 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 62    | N44.7998315  | W89.7153596  | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 63    | N44.80252977 | W89.71439799 | -     | M        | -         | -   | N/A Shallow Muck             |
| 64    | N44.80185461 | W89.71440132 | 1     | S        | Pole Rake | 0   | No Weeds Secchi Reading 0.9' |
| 65    | N44.80117945 | W89.71440466 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 66    | N44.80050429 | W89.71440799 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 67    | N44.79982913 | W89.71441132 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 68    | N44.80522803 | W89.7134363  | -     | M        | -         | -   | N/A Shallow Muck             |
| 69    | N44.80455287 | W89.71343964 | 1     | M        | Pole Rake | 0   | -                            |
| 70    | N44.80320255 | W89.71344632 | -     | M        | -         | -   | N/A Shallow Muck             |
| 71    | N44.80252739 | W89.71344967 | 3     | M        | Pole Rake | 0   | -                            |
| 72    | N44.80185223 | W89.71345301 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 73    | N44.80117707 | W89.71345635 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 74    | N44.80050191 | W89.71345969 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 75    | N44.80387533 | W89.71249463 | -     | M        | -         | -   | N/A Shallow Muck             |
| 76    | N44.80320017 | W89.71249798 | -     | M        | -         | -   | N/A Shallow Muck             |
| 77    | N44.80252501 | W89.71250134 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 78    | N44.80184985 | W89.71250469 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 79    | N44.80117469 | W89.71250804 | 4     | M        | Pole Rake | 0   | No Weeds                     |
| 80    | N44.80049953 | W89.7125114  | 3     | W        | Pole Rake | 0   | No Weeds                     |
| 81    | N44.80387294 | W89.71154628 | 2     | M        | Pole Rake | 0   | No Weeds                     |
| 82    | N44.80252262 | W89.71155301 | 3     | S        | Pole Rake | 0   | No Weeds                     |
| 83    | N44.80184746 | W89.71155637 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 84    | N44.8011723  | W89.71155974 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 85    | N44.80319538 | W89.71060131 | 3     | M        | Pole Rake | 0   | No Weeds                     |
| 86    | N44.80252022 | W89.71060468 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 87    | N44.80184506 | W89.71060806 | 5     | M        | Pole Rake | 0   | No Weeds                     |
| 88    | N44.80589361 | W89.70963942 | -     | M        | -         | -   | N/A Shallow Muck             |
| 89    | N44.80521845 | W89.70964281 | -     | M        | -         | -   | N/A Shallow Muck             |
| 90    | N44.80319297 | W89.70965297 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 91    | N44.80251781 | W89.70965635 | 5     | M        | Pole Rake | 0   | No Weeds Secchi Reading 1.5' |
| 92    | N44.80184265 | W89.70965974 | 6     | -        | -         | -   | N/A No Reading               |
| 93    | N44.80386572 | W89.70870123 | -     | M        | -         | -   | N/A Shallow Muck             |
| 94    | N44.8025154  | W89.70870803 | 6     | -        | -         | -   | N/A No Reading               |
| 95    | N44.80184024 | W89.70871142 | 6     | -        | -         | -   | N/A No Reading               |
| 96    | N44.80251298 | W89.7077597  | 6     | -        | -         | -   | N/A No Reading               |
| 97    | N44.80183782 | W89.70776311 | 4     | S/W      | Pole Rake | 0   | No Weeds                     |
| 98    | N44.8031857  | W89.70680795 | 1     | S        | Pole Rake | 0   | No Weeds                     |
| 99    | N44.80251054 | W89.70681137 | 6     | -        | -         | -   | N/A No Reading               |
| 100   | N44.80183539 | W89.70681479 | 4     | S/W      | Pole Rake | 0   | No Weeds                     |
| 101   | N44.80250811 | W89.70586304 | 5     | W        | Pole Rake | 0   | No Weeds                     |
| 102   | N44.80318082 | W89.70491127 | 1     | S        | Pole Rake | 0   | No Weeds                     |

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**APPENDIX D**

**Reservoir Elevations during Survey Dates**

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## Mosinee Hydroelectric Project

Impoundment operating levels for the dates of the 2015 invasive species survey as confirmed by operation personnel were as follows:

5/29/15 – 1139.15' MSL

5/30/15 – 1138.60' MSL

6/13/15 – 1139.18' MSL

6/14/15 – 1138.90' MSL

6/15/15 – 1138.90' MSL

6/19/15 – 1138.00' MSL

7/25/15 – 1137.92' MSL

7/26/15 – 1137.74' MSL

7/30/15 – 1137.90' MSL

8/1/15 – 1137.72' MSL

8/2/15 – 1137.80' MSL

8/8/15 – 1138.00' MSL

\* All Reservoir Elevations recorded at Hydro Plant Intake

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**APPENDIX E**

**FERC ORDER AMENDING INVASIVE PLANT MONITORING PLAN  
PURSUANT TO ARTICLE 408 (Issued May 2, 2013)**

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143 FERC ¶ 62,081  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Wausau Paper Mills, LLC

Project No. 2207-022

ORDER AMENDING INVASIVE PLANT MONITORING PLAN PURSUANT TO  
ARTICLE 408

(Issued May 2, 2013)

1. On January 5, 2012, Wausau Paper Mills, LLC, licensee for the Mosinee Hydroelectric Project,<sup>1</sup> filed its Invasive Species Five-Year Comprehensive Report containing a request to amend its Invasive Plant Monitoring Plan, as approved in the Commission's Order Modifying and Approving Invasive Plant Monitoring Plan Pursuant to Article 408 (September 13, 2006 Order).<sup>2</sup> The licensee filed its 2012 monitoring report on January 15, 2013. The project is located on the Wisconsin River in Marathon County, Wisconsin.

**Background**

2. Ordering paragraph (B) of the September 13, 2006 Order requires the licensee to conduct annual surveys for purple loosestrife (loosestrife) and Eurasian water milfoil (Eurasian milfoil) within the project boundary for a minimum of five consecutive years, beginning in 2007. Monitoring reports must include any recommended control methods for the management/elimination of these invasive species. Monitoring reports are due to the Commission by December 31 of each survey year and are required for at least five consecutive years. A comprehensive report containing a comparison of all the data collected over five years is required as the fifth monitoring report, due to the Commission by December 31, 2011. If after five consecutive years there are either no invasive plant species present or no spread of existing invasive plants, the licensee may then propose an alternative monitoring/reporting frequency in the 2011 report, after agency consultation. The licensee is required to continue monitoring for invasive plants annually until a

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<sup>1</sup> Order Issuing New License at 111 FERC ¶ 62,033 (2005).

<sup>2</sup> 116 FERC ¶ 62,206 (2006).

proposed alternative monitoring frequency is approved by the Commission. The Commission reserved the right to require modifications to the monitoring plan and implementation of control measures, based on the licensee's monitoring reports or on new information, as it becomes available.

### **Five-Year Study Results**

3. The five-year study period began in 2007 and extended through 2011 for loosestrife, Eurasian milfoil and curly leaf pondweed (CL pondweed) at three impoundments: Half-Moon Lake, Cemetery Slough and Mosinee Flowage. The licensee controlled loosestrife by hand pulling or cutting it off and removing the clusters. The licensee also used two species of *Galerucella* (cella) beetles for biological control. Combined results of loosestrife shoreline distribution at the three project reservoirs are summarized in the table below (source: staff):

| Year of loosestrife Survey | None Present (% distribution) | Light (1-5 plants) (% distribution) | Medium (6-25 plants) (% distrib) | Heavy (26-100 plants) (% distrib) | Very Heavy (>100 plants) (% distrib) |
|----------------------------|-------------------------------|-------------------------------------|----------------------------------|-----------------------------------|--------------------------------------|
| 2007                       | 45                            | 34                                  | 11                               | 3                                 | 7                                    |
| 2008                       | 35                            | 45                                  | 10                               | 4                                 | 6                                    |
| 2009                       | 47                            | 33                                  | 6                                | 4                                 | 10                                   |
| 2010                       | 69                            | 16                                  | 5                                | 2                                 | 8                                    |
| 2011                       | 44                            | 37                                  | 8                                | 2                                 | 9                                    |

4. The licensee also voluntarily monitored cella beetle density on stands of loosestrife throughout the project. Cella beetle density increased gradually since 2007 with the highest density found in 2010, which is when loosestrife was lowest in density. In 2011, cella beetles reduced to their lowest density due to unusually high water levels from high river flows at the Mosinee Project and the distribution of loosestrife began to increase.

5. The licensee monitored for Eurasian milfoil and CL pondweed using meander surveys and point intercept surveys. No Eurasian milfoil occurred in Half-Moon Lake, or in depths greater than five feet in Cemetery Slough and Mosinee Flowage. After 2007, the distribution of Eurasian milfoil continued to decline, with the least amount found in 2011. Likewise, no CL pondweed occurred in Half-Moon Lake and since 2007, the distribution of CL pondweed has declined with none found in the three impoundments in 2011.

### **Proposed Amendments**

6. In the January 5, 2012 filing, the licensee proposes amending the survey frequency for monitoring CL pondweed and Eurasian milfoil from annually to once every five years, with the next surveys occurring in 2016. The licensee surveyed cella beetles and loosestrife again in 2012 to see if the cella beetle population increased after the high flow incident in 2010/2011 and if the loosestrife distribution correspondingly decreased. If the cella beetle population rebounds and the loosestrife distribution decreases in 2012, the licensee recommends conducting less frequent loosestrife monitoring in addition to that for CL pondweed and Eurasian milfoil.

7. As a result of the 2012 cella beetle and loosestrife monitoring, on January 15, 2013, the licensee filed monitoring results indicating that cella beetle numbers increased since 2011 and loosestrife sightings and vigor appear the same in 2012 as in 2011 at the sites sampled for cella beetles. The licensee says cella beetle populations will continue to increase if there are no additional detrimental incidents to cella beetle development such as the high water events of 2010/2011.

### **Agency Consultation**

8. On November 14, 2011, the licensee sent a copy of the five-year comprehensive report to the U.S. Fish and Wildlife Service (FWS) – Green Bay Field Office and the Wisconsin Department of Natural Resources (Wisconsin DNR) for review and comment as required by the September 13, 2006 Order. The licensee asked the resource agencies to provide comments by December 16, 2011. The resource agencies did not file written comments by the licensee's deadline. However, by memorandum<sup>3</sup> dated February 24, 2012, Wisconsin DNR writes that the survey frequency should not be lengthened to once every five years as recommended by the licensee. The Wisconsin DNR recommends surveying once every three years using rake fullness surveys and to complete CL pondweed surveys in June followed by a complete survey in late July for all invasive species. The Wisconsin DNR also recognizes that the survey frequency may need to change if major pool elevation changes occur due to species response to fluctuating water levels.

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<sup>3</sup> Memorandum from Scott Provost, Water Resources Specialist at Wisconsin DNR, to Cheryl Laatsch, Rob McLennan and Scott Watson. This memorandum was filed by Commission staff on April 4, 2013.



### **Staff's Conclusions**

9. The licensee proposes no further monitoring until 2016. According to the September 13, 2006 Order, if the 2011 report finds no invasive plants present, or the existing populations show no sign of spread, the licensee may propose an alternative monitoring schedule at that time, and the licensee must continue monitoring annually for invasive plants until a proposed alternative is approved by the Commission.

10. Results in the comprehensive report show a decrease in CL pondweed and Eurasian milfoil since 2007, with no CL pondweed found in 2011. Continued monitoring is needed to determine if CL pondweed has been eliminated from the project reservoirs. Due to decreases in the distribution of Eurasian milfoil and CL pondweed since 2007, staff agrees that a decrease in monitoring frequency should be approved. Results show that loosestrife distribution was least in 2010. The licensee found the lowest quantity of cella beetles in 2011 due to high water levels. The licensee says the low quantity of cella beetles is correlated with the increase distribution of loosestrife; staff agrees.

11. Staff notes that loosestrife is extremely prolific. The literature indicates that a single, mature loosestrife plant can produce more than 2.5 million seeds annually (Southeast Exotic Pest Plant Council, 2013).<sup>4</sup> In addition, although it is a perennial, loosestrife is capable of producing viable seeds during its first growing season. Given its high seed output and its ability to produce seeds in its first growing season, loosestrife can establish substantial soil seed banks, remaining viable for years (Forest Service, 2013).<sup>5</sup> The Forest Service documents that loosestrife stands have contained an average of 37,963 loosestrife seeds per square foot in the top two inches of soil. While, every stand of loosestrife is different, the prolific nature of this invasive plant justifies using caution when reducing the frequency of monitoring. To lengthen the monitoring intervals from annually to every five years could result in increased quantities of invasive plants that could affect native species. An increased invasive population could also result in the more costly use of a combination of multiple control methods. While the numbers of invasive plants have decreased over the past five years, the quantity of seed in the seedbank is unknown; therefore, continued monitoring is prudent.

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<sup>4</sup> Published online March 19, 2013 at <http://www.se-eppc.org/manual/loosestrife.html>.

<sup>5</sup> Published online March 19, 2013 at <http://www.fs.fed.us/database/feis/plants/forb/lytsal/all.html>.

12. Likewise, while no CL pondweed occurred at the reservoirs in 2011, staff needs further surveys before confirming that CL pondweed has been eliminated from the project reservoirs. CL pondweed reproduces through the production of dormant vegetative propagules called turions. Each plant produces hundreds of turions in the spring just before the plant begins to die. Turions remain dormant in the sediment through the summer until the water cools in the fall when turions germinate. Turions can remain viable in the sediment for a number of years.<sup>6</sup>

13. Based upon the review of the above information, the September 13, 2006 Order should be amended to lengthen the invasive plant monitoring frequency from annually to every three years. Monitoring every five years as recommended by the licensee is not recommended at this time for the reasons stated above. Previous cases exist where the Commission stated that conducting surveys every five years may not be frequent enough for monitoring invasive species.<sup>7</sup>

14. Staff concurs with the Wisconsin DNR that the CL pondweed surveys should occur in June using the rake methods, followed by complete surveys for loosestrife and Eurasian milfoil in late July or early August. The licensee should file tri-annual monitoring reports containing data for all three species with the FWS and Wisconsin DNR by October 31, beginning in 2015. The monitoring reports should include any control methods used for the management of these invasive species, as necessary to protect native plant and animal species at the project. The licensee should allow for agency comments and subsequently file its monitoring reports with the Commission by December 31 every year that surveys are conducted. The licensee should allow the resource agencies a minimum of 30 days to submit comments and recommendations on the monitoring reports before filing the reports with the Commission. If the licensee does not adopt a recommendation from the resource agencies, the report should include the licensee's reasons, based on site-specific considerations. The Commission should reserve the right to require modifications to the monitoring plan and implementation of control measures, based on the licensee's monitoring reports and new information, as it becomes available.

The Director orders:

(A) The January 5, 2012 request to amend the Order Modifying and Approving

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<sup>6</sup> Published online March 19, 2013 at [http://www.in.gov/dnr/files/curleyleaf\\_pondweed.pdf](http://www.in.gov/dnr/files/curleyleaf_pondweed.pdf).

<sup>7</sup> See Rhinelander Project, 115 FERC ¶ 62,106 (2006); Grandmother Falls, 114 FERC ¶ 62,044 (2006); and Webber Project, 101 FERC ¶ 61,335 (2002).

Project No. 2207-022

- 6 -

Invasive Plan Monitoring Plan Pursuant to Article 408, issued September 13, 2006, is approved, as modified by Ordering paragraph (B) below:

(B) The licensee shall conduct tri-annual surveys for invasive plants within the project boundary, beginning in the summer of 2015. The surveys for curly leaf pondweed shall occur in June, using the rake methods, followed by complete surveys for purple loosestrife and Eurasian water milfoil in late July or early August. The licensee shall file tri-annual monitoring reports containing data for all three species with the U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources by October 31, beginning in 2015. The monitoring reports shall include any control methods used for the management of these invasive species, as necessary, to protect native plant and animal species at the project. The licensee shall allow for agency comments and subsequently file its monitoring reports with the Commission by December 31 every year that surveys are conducted. The licensee shall allow the resource agencies a minimum of 30 days to submit comments and recommendation on the monitoring reports before filing the reports with the Commission. If the licensee does not adopt a recommendation from the resource agencies, the report shall include the licensee's reasons, based on site-specific considerations. The Commission reserves the right to require modifications to the monitoring plan and implementation of control measures, based on the licensee's monitoring reports and new information, as it becomes available.

(C) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in Section 313(a) of the Federal Power Act, 16 U.S.C § 8251 (2006), and the Commission's regulations at 18 C.F.R § 385.713(2012). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Steve Hocking  
Chief, Environmental Review Branch  
Division of Hydropower Administration  
and Compliance

OEP/DHAC: Linton,C 5/2/13. 041  
Bc: dhac, e-library, linton

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**APPENDIX F**

**Agency Correspondence**

**Agency Invitation to Comment dated November 4, 2015**

**WI DNR comments dated November 13, 2015**

**US FWS comments dated November 20, 2015**

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November 4, 2015

Field Supervisor  
U.S. Fish and Wildlife Service  
Green Bay ES Field Office  
2661 Scott Tower Drive  
New Franken, WI 542229

Ms. Cheryl Laatsch  
State Wide FERC Coordinator  
Wisconsin Department of Natural Resources  
N7725 Hwy 28  
Horicon, WI 53032

Mr. Scott Provost  
Wisconsin Department of Natural Resources  
473 Griffith Avenue  
Wisconsin Rapids, WI 54494

RE: Mosinee Hydroelectric Project, FERC Project # 2207, Invasive Plant Survey 2015

Dear Field Supervisor, Ms. Laatsch, and Mr. Provost:

Article 408 of the FERC license for Project # 2207 requires that Wausau Mills LLC (Licensee) monitor invasive species for the Project. The monitoring has been conducted per the FERC ORDER AMMENDING INVASIVE PLANT MONITORING PLAN PURSUANT TO ARTICLE 408, (Issued May 2, 2013).

Please find enclosed a copy of the Licensee's 2015 survey. Thank you in advance for your review of our report and any comments within the 30 day time period. I can be reached at 715-692-3330 or by email at [jim.pauls@experaspecialty.com](mailto:jim.pauls@experaspecialty.com)

Sincerely,

*James N. Pauls 11/4/2015*

James N. Pauls  
Manager of Environmental Services  
Expera Specialty Solutions, LLC  
100 Main Street  
Mosinee, WI 54455

Enc: 2015 Invasive Plant Survey Report

**Mosinee Project FERC #2207 - 2015 Invasive Plant Survey**

Nov 6

Scott Klabunde <[scott.klabunde63@gmail.com](mailto:scott.klabunde63@gmail.com)>

To: cheryl.laatsch WI DNR, USFWS greenbay field office

Dear US FWS and WI DNR;

On behalf of the License, please find attached a DRAFT of the 2015 invasive plant survey work completed at the Mosinee project, (FERC project #2207), along with a formal request for comments on the report. A copy of the most recent FERC amendment with the requirements for the work has been included in the Report for your convenience.

Please forward these documents to the appropriate staff in your organization, and please address any comments/questions via email directly to;

Scott Klabunde  
[920-570-2156](tel:920-570-2156)  
[scott.klabunde63@gmail.com](mailto:scott.klabunde63@gmail.com)

Thank you in advance for your review! We look forward to any comments you may have.

2 Attachments

[Preview attachment 15-10-30 Mosinee Paper Mills 2015 invasive plant survey Agency comment invite letter.pdf](#)



[Preview attachment 15-10-30 Mosinee Paper Mills 2015 invasive plant survey DRAFT.pdf](#)



**Laatsch, Cheryl - DNR**

Nov 13

To: Scott Klabunde

See the email string below. We have no further comments.

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cheryl Laatsch

Phone: [920-387-7869](tel:920-387-7869)

[Cheryl.laatsch@wisconsin.gov](mailto:Cheryl.laatsch@wisconsin.gov)

**From:** Provost, Scott M - DNR

**Sent:** Thursday, November 12, 2015 2:23 PM

**To:** Lepsch, Jodi A - DNR; LaLiberte, Paul J - DNR

**Cc:** Laatsch, Cheryl - DNR

**Subject:** RE: Mosinee Project FERC #2207 - 2015 Invasive Plant Survey

Thanks!

**From:** Lepsch, Jodi A - DNR

**Sent:** Wednesday, November 11, 2015 2:06 PM

**To:** LaLiberte, Paul J - DNR

**Cc:** Laatsch, Cheryl - DNR; Provost, Scott M - DNR

**Subject:** RE: Mosinee Project FERC #2207 - 2015 Invasive Plant Survey

The report looks good. They incorporated Scott's comments from 2012 into their monitoring (i.e. rake samples and June CLP surveys). They used very thorough survey methods and no new management is proposed.

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Jodi Lepsch

Phone: [\(715\) 838-8385](tel:7158388385)

[Jodi.Lepsch@Wisconsin.gov](mailto:Jodi.Lepsch@Wisconsin.gov)

**From:** LaLiberte, Paul J - DNR  
**Sent:** Wednesday, November 11, 2015 12:46 PM  
**To:** Lepsch, Jodi A - DNR  
**Cc:** Laatsch, Cheryl - DNR; Provost, Scott M - DNR  
**Subject:** FW: Mosinee Project FERC #2207 - 2015 Invasive Plant Survey

Jodi – Please review these reports and share your findings with Cheryl, Scott and I. If they are delving into SAV management proposals, please involve Scott.

Paul

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Paul La Liberte  
[715-839-3724](tel:7158393724)

**From:** Laatsch, Cheryl - DNR  
**Sent:** Friday, November 06, 2015 1:01 PM  
**To:** Provost, Scott M - DNR; LaLiberte, Paul J - DNR  
**Subject:** FW: Mosinee Project FERC #2207 - 2015 Invasive Plant Survey

Hi Scott and Paul –

This AIS report is in need of agency review. Per my notes from last year, it looks like Scott provided comments. Please submit your comments back to me by November 26<sup>th</sup>. Thanks for the help.

FYI – all of the final WQ and AIS reports will be send to CO this year again, to be uploaded into SWIMS.

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cheryl Laatsch

Phone: [920-387-7869](tel:9203877869)

[Cheryl.laatsch@wisconsin.gov](mailto:Cheryl.laatsch@wisconsin.gov)



**Mosinee FERC #2207 - 2015 Plant Monitoring Report**

Nov 20 , 2015

Scott Klabunde <[scott.klabunde63@gmail.com](mailto:scott.klabunde63@gmail.com)>

to nick\_utrup  
USFWS

Good morning Nick-

I had left you a phone message yesterday on the 2015 plant monitoring work and report for the Mosinee FERC project #2207. I have been handling the 2015 work on behalf of Mosinee Papers.

We had sent it over to the Green Bay office email, but maybe should have sent it directly to you as well, as you are probably responsible for the comments. And perhaps it is on your desk already.

Non-the-less, it is also attached for your review. Should you have any questions, please email me or phone me. My number has stayed the same, but please use this email address for any email correspondence. We have received the WI DNR comments and are awaiting any you may have.

Thank You in advance for your review of the report!

Scott Klabunde  
[920-570-2156](tel:920-570-2156)

[scott.klabunde63@gmail.com](mailto:scott.klabunde63@gmail.com)

2 Attachments

[Preview attachment 15-10-30 Mosinee Paper Mills 2015 invasive plant survey Agency comment invite letter.pdf](#)



[Preview attachment 15-10-30 Mosinee Paper Mills 2015 invasive plant survey DRAFT.pdf](#)



Nov 20, 2015

Utrup, Nick

Hi Scott,

Yes, I received your report, thanks. I looked it over and don't have any comments or questions.

Thanks,

Nick

Nick Utrup  
U.S. Fish and Wildlife Service  
Twin Cities Field Office  
4101 American Boulevard East  
Bloomington, MN 55425

Office: [612-725-3548](tel:612-725-3548) Ext. 2204

Cell: [952-567-9616](tel:952-567-9616)

FAX: [612-725-3609](tel:612-725-3609)

Email: [Nick\\_Utrup@fws.gov](mailto:Nick_Utrup@fws.gov)



Scott Klabunde <[scott.klabunde63@gmail.com](mailto:scott.klabunde63@gmail.com)> Nov 20, 2015

to Nick

Nick-

Thanks for reviewing the report, and we appreciate your quick response.

Have a good weekend!