



## **Roberts Lake EWM Removal Report 2017**

PO Box 1134 Minocqua, WI 54548



# Roberts Lake EWM Removal Summary 2017

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**Summary:** On June 22nd, 23rd, and 26th, Aquatic Plant Management LLC (APM) conducted hand-harvesting services of Eurasian Watermilfoil (EWM) on Roberts Lake in Forest County, WI. Our divers spent a combined total of 72.00 hours on the water and were able to successfully remove 23.25 cubic feet of EWM from the lake. Upon our arrival, we began our hand-harvesting efforts at the small plant colony in the northeast bay of the lake. We then moved on to the clumps of plants near the Wild Rose boat landing. After targeting the clumps of plants, we began tackling the single or few plants, beginning with the southernmost occurrences before moving north toward the Wild Rose boat landing. We were also able to remove a couple of plants from beneath a swim raft in the center of the north shoreline of the lake.

**Dive Conditions:** Conditions on June 22nd were acceptable for hand-harvesting, with overcast skies with periods of rain, an air temperature of 70 degrees, and water temperature of 72 degrees. Conditions on June 23rd consisted of clear skies with high winds. We recorded an air temperature of 74 degrees, and water temperature of 71 degrees. Conditions on June 26th consisted of overcast skies with periods of rain, an air temperature of 48 degrees, and water temperature of 69 degrees. Secchi disk readings on all days indicated water visibility of roughly 9.5 feet.

**Recommendations:** While we were able to remove all visible EWM we encountered from the sites we visited, heavy native aquatic vegetation (mainly near the Wild Rose boat landing) may be obscuring smaller EWM plants. Due to this factor, continued monitoring and management efforts are vital to preventing proliferation of EWM throughout Roberts Lake

# Detailed Diving Activities

| Date    | Latitude | Longitude | Hours Underwater | Avg Plant Height | Avg Water Depth | EWM Density Rating | Cubic Feet Removed | Substrate Type | EWM Condition | Native Growth |
|---------|----------|-----------|------------------|------------------|-----------------|--------------------|--------------------|----------------|---------------|---------------|
| 6/22/17 | 45.46061 | 88.77889  | 1.50             | 6                | 14              | 6                  | 9                  | Organic        | Healthy       | Abundant      |
| 6/22/17 | 45.46061 | 88.77889  | 0.92             | 3                | 14              | 1                  | 2                  | Organic        | Healthy       | Abundant      |
| 6/22/17 | 45.46202 | 88.77802  | 0.83             | 6                | 10              | 3                  | 2                  | Organic        | Healthy       | Abundant      |
| 6/22/17 | 45.45924 | 88.77788  | 0.25             | 5                | 6               | 0.5                | 1                  | Organic        | Healthy       | Abundant      |
| 6/22/17 | 45.46032 | 88.77784  | 0.17             | 4                | 7               | 0.5                | 0.25               | Organic        | Healthy       | Abundant      |
| 6/22/17 | 45.4612  | 88.77827  | 0.08             | 5                | 8               | 2                  | 0.5                | Organic        | Healthy       | Abundant      |
| 6/22/17 | 45.46149 | 88.77781  | 0.25             | 4                | 7               | 0.5                | 0.25               | Organic        | Healthy       | Abundant      |
| 6/22/17 | 45.46194 | 88.77798  | 0.17             | 3.5              | 10              | 0.5                | 0.25               | Organic        | Healthy       | Abundant      |
| 6/22/17 | 45.46228 | 88.77778  | 0.17             | 5                | 7               | 0.5                | 1                  | Sandy          | Healthy       | Abundant      |

|                                  |   |     |     |     |     |      |       |       |       |       |       |
|----------------------------------|---|-----|-----|-----|-----|------|-------|-------|-------|-------|-------|
| <b>EWM Density Rating</b>        | 0 | 1   | 2   | 3   | 4   | 5    | 6     | 7     | 8     | 9     | 10    |
| <b>Plants per 5 Square Yards</b> | 0 | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 | 11-12 | 13-14 | 15-16 | 17-18 | 19-20 |

# Detailed Diving Activities

| Date    | Latitude | Longitude | Hours Underwater | Avg Plant Height | Avg Water Depth | EWM Density Rating | Cubic Feet Removed | Substrate Type | EWM Condition | Native Growth |
|---------|----------|-----------|------------------|------------------|-----------------|--------------------|--------------------|----------------|---------------|---------------|
| 6/23/17 | 45.4641  | 88.78003  | 0.83             | 3                | 3               | 1                  | 1                  | Organic        | Healthy       | Abundant      |
| 6/23/17 | 45.46429 | 88.78043  | 0.83             | 1                | 1               | 2                  | 1                  | Sandy          | Healthy       | Abundant      |
| 6/23/17 | 45.4641  | 88.78039  | 0.92             | 3                | 4               | 1                  | 1.5                | Organic        | Healthy       | Abundant      |
| 6/23/17 | 45.46355 | 88.77957  | 0.25             | 5                | 8               | 1                  | 0.25               | Organic        | Healthy       | Abundant      |
| 6/23/17 | 45.46263 | 88.77813  | 0.25             | 8                | 4               | 1                  | 0.5                | Organic        | Healthy       | Abundant      |
| 6/23/17 | 45.4626  | 88.78741  | 0.50             | 4                | 8               | 1                  | 0.5                | Sandy          | Healthy       | Sparse        |
| 6/23/17 | 45.46376 | 88.78069  | 0.25             | 3                | 5               | 1                  | 1                  | Organic        | Healthy       | Abundant      |
| 6/23/17 | 45.4607  | 88.7788   | 0.67             | 4                | 14              | 1                  | 0.5                | Organic        | Healthy       | Abundant      |

|                                  |   |     |     |     |     |      |       |       |       |       |       |
|----------------------------------|---|-----|-----|-----|-----|------|-------|-------|-------|-------|-------|
| <b>EWM Density Rating</b>        | 0 | 1   | 2   | 3   | 4   | 5    | 6     | 7     | 8     | 9     | 10    |
| <b>Plants per 5 Square Yards</b> | 0 | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 | 11-12 | 13-14 | 15-16 | 17-18 | 19-20 |

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|---------|----------|-----------|------------------|------------------|-----------------|--------------------|--------------------|----------------|---------------|---------------|
| 6/26/17 | 45.46037 | 88.77852  | 0.25             | 1                | 11              | 1                  | 0.1                | Organic        | Healthy       | Sparse        |
| 6/26/17 | 45.46067 | 88.47876  | 0.92             | 1.5              | 13              | 1                  | 0.25               | Organic        | Healthy       | Sparse        |
| 6/26/17 | 45.46136 | 88.77803  | 0.42             | 0                | 7               | 0                  | 0                  | Organic        | Healthy       | Abundant      |
| 6/26/17 | 45.46203 | 88.77794  | 0.58             | 3                | 7               | 1                  | 0.1                | Organic        | Healthy       | Abundant      |
| 6/26/17 | 45.46231 | 88.77785  | 0.33             | 0                | 7               | 0                  | 0                  | Organic        | Healthy       | Abundant      |
| 6/26/17 | 45.46409 | 88.78007  | 0.42             | 1                | 6               | 1                  | 0.1                | Organic        | Healthy       | Abundant      |
| 6/26/17 | 45.46409 | 88.78013  | 0.58             | 0.5              | 5.5             | 1                  | 0.1                | Organic        | Healthy       | Abundant      |
| 6/26/17 | 45.46426 | 88.78046  | 0.75             | 1.5              | 3               | 1                  | 0.1                | Organic        | Healthy       | Abundant      |
| 6/26/17 | 45.46404 | 88.78062  | 0.25             | 0                | 5               | 0                  | 0                  | Organic        | Healthy       | Abundant      |

|                                  |   |     |     |     |     |      |       |       |       |       |       |
|----------------------------------|---|-----|-----|-----|-----|------|-------|-------|-------|-------|-------|
| <b>EWM Density Rating</b>        | 0 | 1   | 2   | 3   | 4   | 5    | 6     | 7     | 8     | 9     | 10    |
| <b>Plants per 5 Square Yards</b> | 0 | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 | 11-12 | 13-14 | 15-16 | 17-18 | 19-20 |

# EWM Pictures





# EWM Pictures





# EWM Pictures

