Aquatic Plant Management LLC

Minong Flowage EWM Removal Report Summer 2015

1696 Silver Beach Drive Lac du Flambeau, WI 54538

Minong Flowage EWM Removal Summary 2015

Summary: On June 29th and 30th, 2015 Aquatic Plant Management LLC (APM) conducted hand removal services of Eurasian Water Milfoil (EWM) on the Minong Flowage. Four experienced divers spent a combined total of 37 hours on the water and were able to successfully remove approximately **130 gallons** of EWM from the flowage.

Dive Conditions: Conditions on 6/29/2015 were very poor, with thunderstorms forcing us off of the water shortly after launching. Conditions on 6/30/2015 were good, with little to no cloud cover and a mild wind. Water clarity was ok, with underwater visibility of 4-5 feet. The soft substrate of the channel area allowed for complete removal of the EWM root systems, greatly decreasing the chance for regrowth. We were able to remove all of the emergent EWM that was located in these areas, but any plants obscured by the native plant growth may have been missed. The woody debris in the channel area did not seem to effect our ability to hand-harvest, nor pose a safety threat to divers in the area. The sandbar area had the most EWM that we encountered on the flowage, and we were able to eradicate 90-95 percent of the plants that we found, anything that was missed was due to the poor visibility on the flowage. The sandbar area has the greatest potential for regrowth, as the hard substrate prevented 100 percent removal of the root systems. The area on the NE side of the sawdust island had the densest clumps of EWM, but they were spread out sporadically, 30-40 feet apart. The abundant woody debris made complete removal of the plants difficult, but possible. However, the poor visibility combined with underwater snags posed a slight risk to diver safety.

Recommendations: Overall, the EWM infestation on the Minong Flowage was not terrible by our standards, and it didn't seem as if chemical treatment was necessary, but continued monitoring and an annual hand-harvesting effort is recommended to prevent proliferation of the problem.

Detailed Summary of Diving Activities – 6/24/15

Date	Dive Location	Latitude	Longitude	Time Underwater (Min)	Estimated EWM Removed (Gallons)	EWM Density Rating	Comments
6/30/15	N of Bridge	46.172091	91.92387	80	25	2	Substrate consisted of woody debris and decaying plant matter. Abundant native milfoils. Native vegetation cover rose about 3 feet off of the bottom. Several single EWM plants were located and removed. Soft substrate allowed for complete removal of the root ball.
6/30/15	Channel Bend	46.174174	91.928507	80	30	2	Substrate consisted of woody debris and decaying plant matter. Abundant native milfoils. Native vegetation cover rose about 3 feet off of the bottom. Several single EWM plants, along with a few small clumps of plants were located and removed. Soft substrate allowed for complete removal of the root ball.
6/30/15	Sandbar	46.12808	91.928284	100	40	4	Substrate consisted of hard-packed sand. Abundant EWM was present, spaced at distances from 5-6 feet apart. Plants were short (6-18 inches) and located at depths from 1-3 feet. The hard substrate made complete removal of the root ball somewhat difficult. Harvested an estimated 90+ percent of milfoil around the sandbar area.
6/30/15	NE Sawdust Island	46.15587	91.923773	35	20	3	Substrate was soft organic, with abundant woody debris (sticks/logs/stumps). EWM was sporadically located in dense clumps of 4-5 plants. Some EWM was wrapped up in submerged sticks, making complete removal difficult without fragmenting plants. Most EWM was located in 5-7 feet of water, with a few individual plants located in 3-4 feet of water near the shoreline.
6/30/15	NE Sawdust Island	46.154643	91.923472	35	15	2	Substrate was soft organic, with abundant woody debris (sticks/logs/stumps). EWM was sporadically located in dense clumps of 4-5 plants. Some EWM was wrapped up in submerged sticks, making complete removal difficult without fragmenting plants. Most EWM was located in 5-7 feet of water, with a few individual plants located in 3-4 feet of water near the shoreline.

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