



Half Moon Lake EWM Removal Report 2022

PO Box 1134 Minocqua, WI 54548



Half Moon Lake EWM Treatment Summary 2022

Dive & Treatment Background: On August 1st Aquatic Plant Management LLC (APM) completed ProcellaCOR treatment on Half Moon Lake in Polk County, WI. Subsequently, between August 8th and 12, (APM) conducted five (5) days of Diver Assisted Suction Harvesting (DASH) for Eurasian Watermilfoil (EWM) on Half Moon Lake. The DASH team focused their efforts at 10 main sites prioritized by the Half Moon Lakes Association that were outside of the ProcellaCOR treatment areas. In total the DASH team was able to remove **158.0 cubic feet of EWM** from Half Moon Lake.

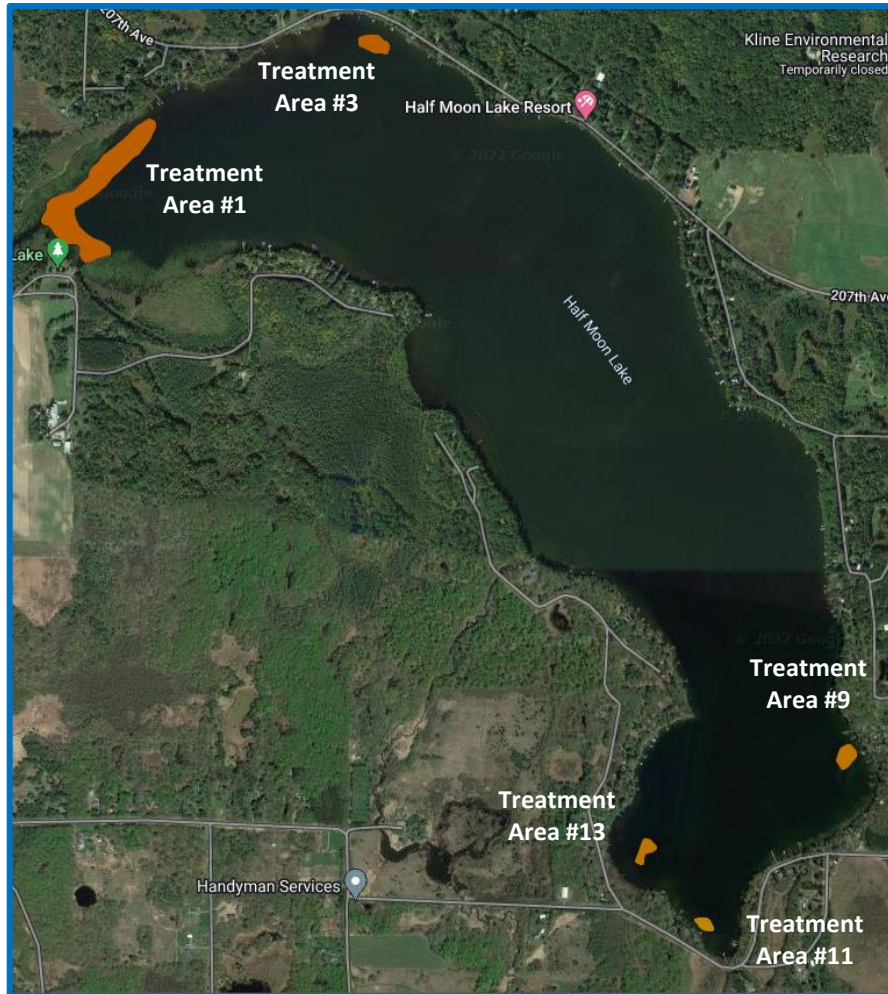
Manual Removal Summary

Date	Weather Conditions	Water Temp (F)	Underwater Dive Time (hrs)	AIS Removed (cubic ft)
8/8/2022	Partly Cloudy	72	4.6	13.5
8/9/2022	Sunny	72	7.1	70.5
8/10/2022	Partly Cloudy	72	6.8	35.0
8/11/2022	Sunny	72	6.6	24.0
8/12/2022	Rain	72	2.2	15.0
Grand Total			27.2	158.0

Dive Location	Avg. Water Depth	# of Dives	Underwater Dive Time	AIS Removed (cubic feet)
Treatment Area #2	3.0	1	0.7	0.5
Treatment Area #4	7.7	3	2.8	4.5
Treatment Area #5	6.0	8	8.9	81.5
Treatment Area #6	7.0	4	4.0	22.0
Treatment Area #7	11.0	1	0.9	1.5
Treatment Area #8	8.3	3	3.6	27.0
Treatment Area #9	11.0	1	2.2	15.0
Treatment Area #10	7.5	2	1.9	4.0
Treatment Area #12	5.0	1	1.5	2.0
Treatment Area #14	3.0	1	0.7	0.0
Grand Total	6.9	25	27.2	158.0

Dive Highlights and Recommendations: Based on late season survey results from Barr Engineering, both the ProcellaCOR and DASH efforts seem to have been effective at significantly reducing the EWM in Half Moon Lake. Ideally the ProcellaCOR treatment should occur earlier in the growing season, and future herbicide efforts should be planned to enable a June or July treatment. Overall, Half Moon Lake should continue to take an Integrated Pest Management (IPM) approach and evaluate different strategies to manage the EWM population on the lake. Continued monitoring and management efforts are important to prevent the spread of EWM throughout Half Moon Lake.

ProcellaCOR Treatment Summary | 8.1.22

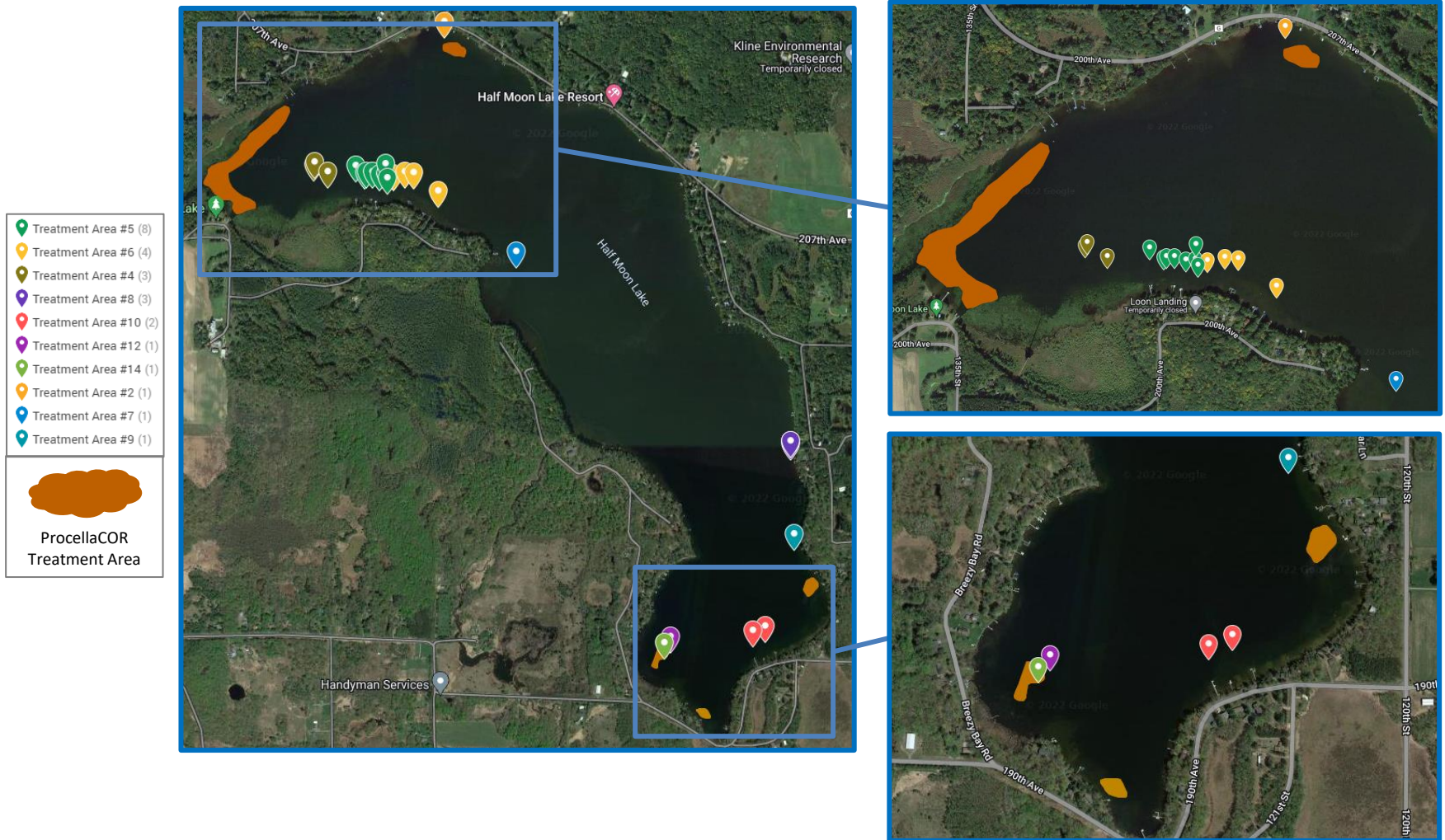


Treatment Overview and Conditions

- APM treated **13.8 acres of EWM with ProcellaCOR at 5 sites** in the north and south ends of the lake on August 1st, 2022
- The treatment occurred over a **3 hour period** from 7:30 am to 10:30 am
- Ambient air temperature was 70 degrees with a **northwestern wind** averaging 13 miles per hour
- The water temperature was 78 degrees

#	Treatment Area	Acres	Avg Depth	Acre Feet	Amount of Product (PDU)
1	Treatment Area #1	11.1	7.8	86.5	355.0
2	Treatment Area #3	0.9	5.0	4.5	22.5
3	Treatment Area #9	0.8	8.6	6.5	33.8
4	Treatment Area #11	0.4	4.0	1.6	9.6
5	Treatment Area #13	0.6	7.3	4.2	23.9
Total	5	13.8	7.5	103.3	444.8

Map of Half Moon Lake Treatment Sites





Detailed Diving Activities

Date	Dive Location	Latitude	Longitude	Underwater Dive Time (hrs)	AIS Removed (cubic ft)	AIS Density	Avg Water Depth (ft)	Native Species	Native By-Catch	Substrate Type
8/8/2022	Treatment Area #4	45.49922	-92.43339	1.42	2.0	Single or Few	8.0	Grasses	1.5	Organic
8/8/2022	Treatment Area #4	45.49930	-92.43333	0.58	2.0	Single or Few	10.0	Charophytes	1.5	Organic/Gravel
8/8/2022	Treatment Area #4	45.49898	-92.43268	0.83	0.5	Single or Few	5.0	Grasses	0.5	Organic
8/8/2022	Treatment Area #5	45.49918	-92.43132	1.33	7.5	Clumps	7.5	Grasses	3.0	Organic/Gravel
8/8/2022	Treatment Area #5	45.49895	-92.43088	0.42	1.5	Clumps	7.0	Grasses	0.5	Organic
8/9/2022	Treatment Area #5	45.49898	-92.43080	1.08	9.0	Clumps	5.5	Grasses	3.0	Organic
8/9/2022	Treatment Area #5	45.49898	-92.43053	1.33	18.0	Scattered	5.5	Grasses	4.5	Organic
8/9/2022	Treatment Area #5	45.49890	-92.43016	1.42	21.0	Scattered	4.5	Grasses	6.0	Organic/Sand
8/9/2022	Treatment Area #5	45.49892	-92.42987	1.50	15.0	Clumps	4.0	Elodea	4.5	Organic/Sand
8/9/2022	Treatment Area #6	45.49888	-92.42947	0.83	1.5	Single or Few	4.0	Grasses	0.0	Organic/Sand
8/9/2022	Treatment Area #6	45.49897	-92.42892	0.92	6.0	Scattered	8.0	Charophytes	1.0	Organic
8/10/2022	Treatment Area #6	45.49894	-92.42850	1.50	12.0	Clumps	8.0	Grasses	2.0	Organic/Sand
8/10/2022	Treatment Area #6	45.49832	-92.42728	0.75	2.5	Single or Few	8.0	Northern Milfoil	1.0	Organic/Sand
8/10/2022	Treatment Area #2	45.50413	-92.42700	0.67	0.5	Single or Few	3.0	None	0.0	Gravel
8/10/2022	Treatment Area #7	45.49623	-92.42346	0.92	1.5	Single or Few	11.0	Northern Milfoil	0.5	Gravel
8/10/2022	Treatment Area #8	45.48964	-92.41005	1.42	16.5	Small Plant Colony	8.0	Grasses	1.5	Organic/Gravel
8/10/2022	Treatment Area #12	45.48303	-92.41590	1.50	2.0	Single or Few	5.0	Grasses	1.5	Organic
8/11/2022	Treatment Area #8	45.48974	-92.41004	1.33	6.0	Highly Scattered	8.0	Charophytes	2.0	Organic/Gravel
8/11/2022	Treatment Area #8	45.48974	-92.41004	0.83	4.5	Highly Scattered	9.0	Grasses	2.0	Organic/Gravel
8/11/2022	Treatment Area #10	45.48340	-92.41129	1.00	1.0	Single or Few	5.0	Northern Milfoil	0.5	Gravel
8/11/2022	Treatment Area #10	45.48323	-92.41189	0.92	3.0	Single or Few	10.0	Northern Milfoil	2.0	Organic
8/11/2022	Treatment Area #14	45.48282	-92.41620	0.67	0.0	Single or Few	3.0	None	0.0	Organic
8/11/2022	Treatment Area #5	45.49925	-92.42985	1.33	9.0	Scattered	10.0	Charophytes	3.0	Organic/Sand
8/11/2022	Treatment Area #5	45.49878	-92.42979	0.50	0.5	Single or Few	4.0	Grasses	0.0	Organic/Sand
8/12/2022	Treatment Area #9	45.48654	-92.40986	2.17	15.0	Dominant	11.0	Charophytes	2.0	Organic/Gravel
Total	25			27.17	158.0					