



Forest Lake EWM Removal Report 2023

PO Box 1134 Minocqua, WI 54548



Forest Lake EWM Removal Summary 2023

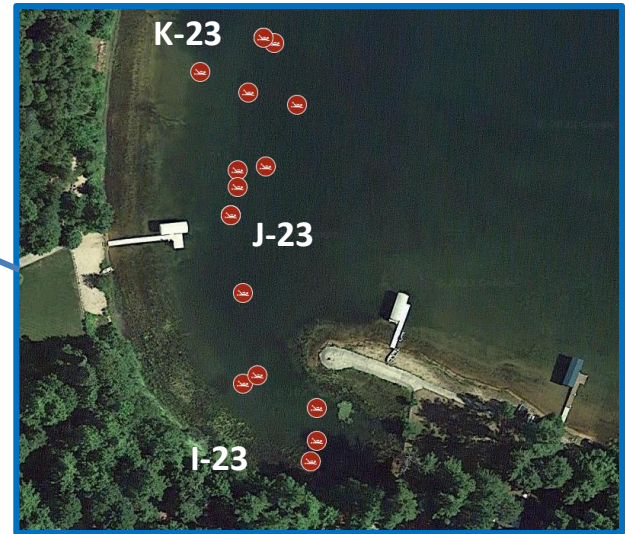
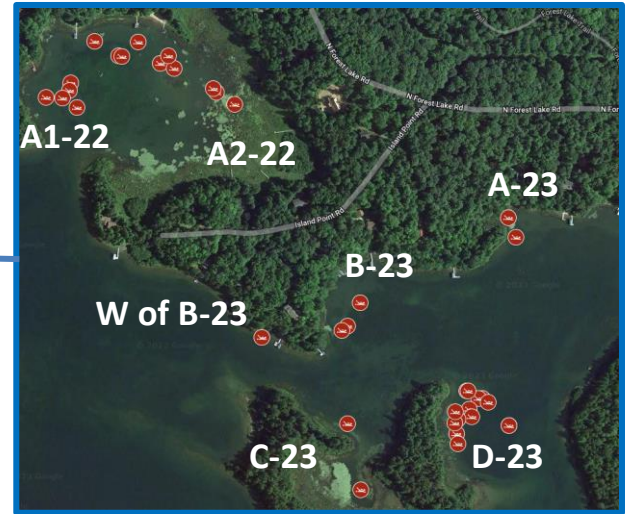
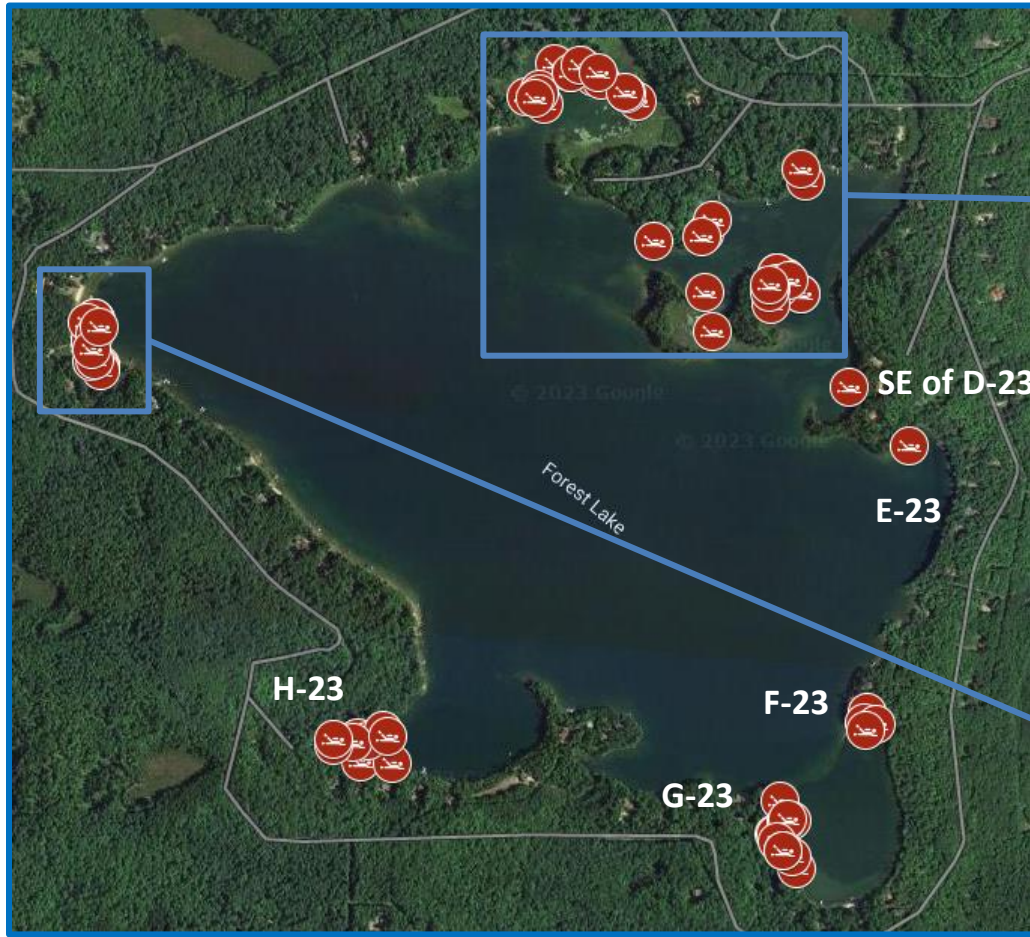
Dive Background: In July, August, and September, Aquatic Plant Management LLC (APM) conducted five (5) days of Diver Assisted Suction Harvesting (DASH) and thirteen (13) days of Hand Harvesting for Eurasian Watermilfoil (EWM) on Forest Lake in Vilas County, WI. The team focused their efforts at 15 sites as prioritized by the Forest Lake Association and Onterra LLC. In total APM was able to remove **283.5 cubic feet of EWM** from Forest Lake.

Service	Dive Locations	Avg. Water Depth	# of Dives	Underwater Dive Time	AIS Removed (cubic feet)
DASH	10	7.2	27	31.3	64.0
HH	15	6.4	57	79.4	219.5
Grand Total		6.7	84	110.7	283.5

Date	Weather Conditions	Water Temp (F)	Underwater Dive Time (hrs)	AIS Removed (cubic ft)
7/10/2023	Cloudy	73	8.2	13.5
7/11/2023	Sunny	73	7.3	37.0
7/12/2023	Partly Cloudy	72	6.9	5.5
7/13/2023	Cloudy	73	7.0	5.5
7/14/2023	Cloudy	72	1.8	2.5
7/21/2023	Sunny	72	6.1	13.5
7/24/2023	Sunny	73	6.7	18.5
7/25/2023	Periods of rain	69	5.4	6.0
8/8/2023	Partly Cloudy	70	6.5	38.0
8/10/2023	Partly Cloudy	70	6.7	11.0
8/18/2023	Sunny	72	5.8	38.0
8/21/2023	Cloudy	72	5.7	13.0
8/22/2023	Cloudy	70	4.4	5.0
8/24/2023	Sunny	69	12.6	25.5
8/28/2023	Sunny	70	7.3	16.0
8/29/2023	Partly Cloudy	70	5.4	11.0
9/1/2023	Sunny	71	6.9	24.0
Grand Total			110.7	283.5

Dive Highlights and Recommendations: The DASH crew came for the first week of 7/10 – 7/14 and spent the majority of their time at site D-22 in the northeastern section of the lake. The hand harvesting teams followed up of the next several weeks targeting lower density sites throughout the lake, along with return visits to some DASH sites. Overall, Forest 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 Forest Lake.

Map of Forest Lake Dive Sites





Detailed Diving Activities - July

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
7/10/2023	D-23	46.15240	-89.37044	1.33	5.0	Single or Few	9.0	Northern Milfoil	0.5	Organic/Sand
7/10/2023	D-23	46.15240	-89.37051	0.83	2.0	Small Plant Colony	7.5	Northern Milfoil	0.0	Organic
7/10/2023	D-23	46.15249	-89.37071	0.50	1.0	Single or Few	6.0	Northern Milfoil	0.0	Organic/Sand
7/10/2023	D-23	46.15249	-89.37069	1.58	2.0	Single or Few	8.0	Northern Milfoil	0.5	Organic/Sand
7/10/2023	G-23	46.14205	-89.37061	0.42	1.0	Single or Few	4.5	None	0.0	Organic/Sand
7/10/2023	G-23	46.14141	-89.37075	3.50	2.5	Scattered	4.0	Northern Milfoil	1.0	Organic
7/11/2023	G-23	46.14141	-89.37079	0.58	1.5	Single or Few	3.5	Northern Milfoil	0.0	Organic/Sand
7/11/2023	A1-22	46.15644	-89.37663	2.75	15.0	Clumps	8.0	Northern Milfoil	0.0	Organic/Sand
7/11/2023	K-23	46.15157	-89.39013	2.00	11.0	Small Plant Colony	14.0	Northern Milfoil	1.0	Organic/Sand
7/11/2023	I-23	46.15068	-89.38998	2.00	9.5	Scattered	5.0	Northern Milfoil	1.0	Organic/Sand
7/12/2023	I-23	46.15060	-89.38998	1.25	1.0	Single or Few	4.0	Northern Milfoil	0.0	Organic/Sand
7/12/2023	H-23	46.14328	-89.38272	1.42	0.5	Single or Few	7.0	Northern Milfoil	0.0	Gravel
7/12/2023	B-23	46.15325	-89.37274	0.67	1.0	Clumps	6.0	Northern Milfoil	0.0	Organic
7/12/2023	F-23	46.14381	-89.36812	0.33	0.5	Single or Few	5.5	Northern Milfoil	0.0	Organic
7/12/2023	D-23	46.15198	-89.37088	2.50	2.0	Single or Few	14.5	Grasses	0.5	Organic
7/12/2023	A1-22	46.15595	-89.37787	0.75	0.5	Clumps	5.0	Northern Milfoil	0.0	Organic
7/13/2023	D-23	46.15208	-89.36999	0.92	0.5	Single or Few	8.0	Northern Milfoil	0.0	Organic
7/13/2023	H-23	46.14328	-89.38272	0.25	0.0	Single or Few	6.0	Northern Milfoil	0.0	Organic
7/13/2023	A1-22	46.15661	-89.37704	1.67	1.5	Single or Few	5.5	Northern Milfoil	0.0	Organic/Sand
7/13/2023	A2-22	46.15635	-89.37592	0.58	0.5	Single or Few	6.0	Northern Milfoil	0.0	Gravel
7/13/2023	J-23	46.15126	-89.39026	1.67	2.0	Clumps	11.0	Northern Milfoil	0.5	Organic
7/13/2023	D-23	46.15208	-89.36999	1.92	1.0	Single or Few	9.0	Northern Milfoil	0.0	Organic
7/14/2023	G-23	46.14167	-89.37025	0.42	1.0	Small Plant Colony	7.0	None	0.0	Organic
7/14/2023	G-23	46.14072	-89.37012	0.58	0.5	Small Plant Colony	8.0	None	0.0	Sand
7/14/2023	D-23	46.15227	-89.37067	0.33	0.0	Single or Few	8.5	Northern Milfoil	0.0	Organic/Sand
7/14/2023	H-23	46.14283	-89.38256	0.25	0.5	Clumps	7.0	Northern Milfoil	0.0	Organic
7/14/2023	A1-22	46.15583	-89.37734	0.25	0.5	Clumps	6.5	Northern Milfoil	0.0	Organic/Sand
7/21/2023	D-23	46.15218	-89.37062	1.17	5.5	Scattered	8.0	Pondweeds	0.5	Organic
7/21/2023	D-23	46.15235	-89.37035	0.75	1.0	Scattered	9.0	Pondweeds	0.5	Organic
7/21/2023	D-23	46.15186	-89.37086	0.92	1.0	Scattered	8.0	Pondweeds	0.5	Organic
7/21/2023	G-23	46.14162	-89.37043	1.33	3.0	Scattered	4.0	Pondweeds	0.5	Organic/Sand
7/21/2023	G-23	46.14110	-89.37051	1.92	3.0	Scattered	4.0	Pondweeds	0.5	Organic/Sand
7/24/2023	G-23	46.14095	-89.37025	2.00	3.5	Single or Few	5.0	None	0.0	Organic/Sand
7/24/2023	F-23	46.14359	-89.36819	0.50	1.0	Single or Few	6.0	Northern Milfoil	0.0	Organic/Sand
7/24/2023	A2-22	46.15629	-89.37569	1.08	4.0	Clumps	6.0	Northern Milfoil	0.0	Organic/Sand
7/24/2023	A1-22	46.15612	-89.37745	1.50	3.5	Single or Few	7.0	Northern Milfoil	0.0	Organic/Sand
7/24/2023	A2-22	46.15587	-89.37466	0.83	6.0	Clumps	4.5	Northern Milfoil	0.5	Organic
7/24/2023	K-23	46.15145	-89.39022	0.75	0.5	Single or Few	7.0	Northern Milfoil	0.0	Organic/Sand
7/25/2023	E-23	46.14906	-89.36693	1.25	1.0	Single or Few	10.0	Grasses	0.0	Organic/Sand
7/25/2023	H-23	46.14280	-89.38169	1.08	1.0	Single or Few	10.0	Grasses	0.0	Organic/Sand
7/25/2023	H-23	46.14330	-89.38268	0.58	1.0	Single or Few	10.0	Grasses	0.0	Organic/Sand
7/25/2023	A-23	46.15430	-89.36987	1.00	1.0	Single or Few	10.0	Grasses	0.0	Organic/Sand
7/25/2023	B-23	46.15353	-89.37252	0.75	1.0	Single or Few	10.0	Grasses	0.0	Organic/Sand
7/25/2023	J-23	46.15122	-89.39026	0.75	1.0	Single or Few	10.0	Grasses	0.0	Organic/Sand
Total	44			49.41	102.0					



Detailed Diving Activities – Aug & Sep

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
8/8/2023	J-23	46.15115	-89.39028	1.75	12.0	Scattered	5.5	Elodea	0.5	Organic/Sand
8/8/2023	C-23	46.15210	-89.37273	1.58	16.5	Dominant	7.5	Elodea	0.5	Organic/Sand
8/8/2023	J-23	46.15115	-89.39028	0.75	3.5	Scattered	5.5	Elodea	0.5	Organic/Sand
8/8/2023	J-23	46.15115	-89.39028	0.67	2.5	Highly Scattered	9.0	Elodea	0.0	Organic/Sand
8/8/2023	I-23	46.15055	-89.39000	1.33	2.0	Scattered	4.0	Grasses	0.0	Organic/Sand
8/8/2023	H-23	46.14343	-89.38193	0.42	1.5	Scattered	8.0	Grasses	0.0	Organic/Sand
8/10/2023	A-23	46.15453	-89.37000	1.50	0.5	Single or Few	3.5	Grasses	0.0	Organic
8/10/2023	K-23	46.15158	-89.39017	1.17	5.0	Small Plant Colony	8.0	None	0.0	Organic/Sand
8/10/2023	H-23	46.14325	-89.38238	1.33	1.0	Single or Few	7.5	None	0.0	Organic/Sand
8/10/2023	K-23	46.15158	-89.39017	1.17	4.0	Scattered	8.5	None	0.0	Organic/Sand
8/10/2023	G-23	46.14169	-89.37040	1.50	0.5	Single or Few	5.0	None	0.0	Sand
8/18/2023	C-23	46.15132	-89.37252	1.00	9.0	Scattered	5.5	Elodea	1.0	Organic
8/18/2023	A1-22	46.15643	-89.37658	1.58	13.5	Small Plant Colony	5.5	Grasses	2.0	Organic
8/18/2023	A1-22	46.15603	-89.37747	1.58	9.0	Scattered	5.5	Grasses	2.0	Organic
8/18/2023	A1-22	46.15660	-89.37630	1.17	4.5	Scattered	5.5	Grasses	1.0	Organic
8/18/2023	G-23	46.14125	-89.37068	0.50	2.0	Scattered	3.0	None	0.0	Organic
8/21/2023	G-23	46.14108	-89.37050	1.33	4.0	Scattered	3.0	Grasses	0.5	Organic
8/21/2023	G-23	46.14108	-89.37050	1.17	2.0	Scattered	3.0	Grasses	0.5	Organic
8/21/2023	A1-22	46.15594	-89.37759	0.92	1.0	Scattered	5.5	Northern Milfoil	0.5	Organic
8/21/2023	K-23	46.15150	-89.39039	1.00	3.0	Small Plant Colony	7.5	Northern Milfoil	0.5	Organic
8/21/2023	I-23	46.15074	-89.39024	1.25	3.0	Scattered	4.0	Northern Milfoil	0.5	Organic
8/22/2023	W of B-23	46.15312	-89.37420	0.50	0.5	Single or Few	3.5	None	0.0	Organic/Gravel
8/22/2023	I-23	46.15076	-89.39019	1.58	1.5	Scattered	4.5	Pondweeds	0.5	Organic/Gravel
8/22/2023	J-23	46.15127	-89.39016	1.00	1.5	Scattered	7.5	Pondweeds	0.5	Organic
8/22/2023	H-23	46.14322	-89.38281	1.33	1.5	Scattered	5.5	Northern Milfoil	0.5	Organic
8/24/2023	A2-22	46.15601	-89.37497	2.83	3.5	Clumps	6.0	Northern Milfoil	3.0	Organic
8/24/2023	H-23	46.14315	-89.38334	2.75	4.5	Clumps	7.5	Elodea	0.0	Organic/Sand
8/24/2023	D-23	46.15215	-89.37086	0.42	1.0	Clumps	7.0	None	0.0	Organic
8/24/2023	A2-22	46.15605	-89.37502	3.50	7.0	Clumps	6.0	Northern Milfoil	0.5	Organic/Sand
8/24/2023	H-23	46.14326	-89.38335	2.75	6.0	Single or Few	9.0	None	0.0	Organic/Sand
8/24/2023	D-23	46.15211	-89.37091	0.33	3.5	Single or Few	6.0	None	0.0	Organic/Sand
8/28/2023	H-23	46.14334	-89.38180	1.92	4.0	Scattered	5.5	Northern Milfoil	0.5	Organic/Sand
8/28/2023	B-23	46.15320	-89.37283	1.58	4.0	Scattered	4.0	Northern Milfoil	0.5	Organic/Sand
8/28/2023	D-23	46.15224	-89.37090	1.83	4.0	Scattered	7.0	Grasses	1.0	Organic/Sand
8/28/2023	F-23	46.14344	-89.36814	1.92	4.0	Scattered	6.5	Northern Milfoil	0.5	Organic/Sand
8/29/2023	A2-22	46.15644	-89.37579	1.83	3.0	Scattered	5.0	Grasses	0.5	Organic/Sand
8/29/2023	J-23	46.15096	-89.39024	1.08	1.0	Scattered	6.0	Grasses	0.5	Organic/Sand
8/29/2023	K-23	46.15142	-89.39005	0.83	4.0	Scattered	7.5	Grasses	0.5	Organic/Sand
8/29/2023	F-23	46.14358	-89.36785	1.67	3.0	Scattered	6.0	Grasses	0.5	Organic/Sand
9/1/2023	SE of D-23	46.15024	-89.36863	6.92	24.0	Clumps	8.0	Grasses	1.5	Organic/Sand
Total	40			61.24	181.5					