Delavan Lake Sanitary District

of the Towns of Delavan and Walworth

October 30, 2024

Heidi Bunk, Lakes Biologist
Wisconsin Department of Natural Resources
141 NW Barstow St., Room 180
Waukesha, WI 53188

Re: Aquatic Plant Harvesting Report - 2024
Delavan Lake, Wisconsin

Dear Heidi:

The Delavan Lake Sanitary District (DLSD) is the local agency responsible for the aquatic plant harvesting program conducted on Delavan Lake. In order to implement the harvesting program for Delavan Lake, DLSD applied for and received a permit under Administrative Code NR 109. One of the conditions of the NR 109 permit required DLSD to submit an annual report summarizing the aquatic plant harvesting activities conducted by DLSD. We have enclosed a copy of the aquatic plant management activities completed by DLSD for 2024.

If you have any questions or require additional information, please feel free to contact me.

Sincerely,

Delavan Lake Sanitary District

James DeLuca
District Administrator

Encl.: Aquatic Plant Harvesting Report – 2024

2990 County Road F South . Delavan, WI 53115 . 262-728-4100 . Fax: 262-728-4100

AQUATIC PLANT HARVESTING REPORT

- 2024 -

DELAVAN LAKE, WISCONSIN

DELAVAN LAKE SANITARY DISTRICT
of the Towns of Delavan and Walworth

2990 County Road F South
Delavan, Wisconsin 53115

October, 2024

AQUATIC PLANT HARVESTING REPORT

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Aquatic Plant Harvesting - 2024

The adopted APM plan in May, 2011 (revised in 2017) for Delavan Lake recommended that mechanical harvesting be implemented as the primary method of controlling nuisance aquatic plants. The plan emphasized that harvesting be used to remove only those nuisance plants necessary to facilitate recreational use, rather than simply 100% plant removal. Prior to June 15, the plan limits aquatic plant harvesting to cutting only access channels in those areas necessary to facilitate boating to piers and channels. This practice was recommended to minimize loss of newly spawned fish by the harvesting equipment. After mid-June, harvesting operations could be expanded to include all areas of the lake where nuisance plant conditions prevailed.

DLSD utilized several pieces of mechanical equipment to harvest aquatic plants. This equipment included four harvesters, one high-speed transport barge, four off-loading shore conveyors, two dump trucks and three other support vehicles. The maximum cutting width ranged from 7 feet for the three larger harvesters to five feet for the smallest harvester. Each of the four harvesters was capable of harvesting plants up to a maximum depth of five feet.

During 2024, mechanical harvesting ran from May 23rd thru October 24th. Harvesting work was done on weekdays as weather permitted. The harvesters were operated a total of 78 calendar days during that period.

DLSD had one full time employee assigned to manage portions of the aquatic plant harvesting operations. Eleven part time persons were hired for the harvesting program this past summer. These seasonal persons were available from the middle of May through the middle of October. The estimated costs for the DLSD harvesting program for the year 2024 was approximately $195,900. These costs included labor costs ($148,100), supplies ($12,600) and equipment expenses ($35,200). Off-season equipment maintenance and repair work were included in these costs.

For purposes of the APM program, the lake was divided into 12 harvesting areas as shown on Figure - 1. A description of the location along the shoreline for each management area was shown in Table - 1. During 2024, aquatic plants were harvested in all 12 harvesting areas. The approximate location of the harvesting activities is shown as the shaded areas on Figure - 1. Nuisance aquatic plants were harvested in approximately 302 acres as noted in Table - 1. The harvesters passed through each area of the lake an average of 12 times, during the harvesting season depending upon nuisance plant conditions in any given area.

An estimate of the volume and species of aquatic plants harvested in each area of the lake has been shown in Table – 2. Wild Celery, Milfoil and Algae accounted for approximately 58%, 27% and 8% respectfully of the total volume harvested. Curly Leaf accounted for another 2% of the total plant volume removed from the lake. The two areas of the lake where the largest volume

of aquatic plants were harvested from were in Area 12 and Area 9. Area 12 is the Outlet – North Shore Drive bridge west to the dam and Area 9 is Silver Sands Point to the Town Park. The total estimated volume of plants harvested during the summer of 2024 was 8,028 cubic yards as shown in Table - 2.

Harvested plants were transported to one of four off-loading sites located at various points on the lakeshore. Due to low water levels this year, DLSD was unable to utilize the Blue Gill Road site for off-loading most of the season. As a result, aquatic plant material was transported to the other end of the lake to the Town Park off-load site increasing off-load times. DLSD utilized four shore conveyors that allowed harvesting operations to occur at four separate portions of the lake simultaneously. The shore conveyors were used to lift the harvested plants from the harvesters into a dump truck. 100% of harvested plants were taken to an agricultural site for composting and use as a soil-conditioning agent in their farm operations. DLSD was not aware of any permit violations occurring during the harvesting season.

Pier Pick Up Service

In response to requests from lake front property owners, DLSD, for the 24th year in a row, provided pier pick up service. The pier pick up service was offered for those lake front owners who wanted to clean aquatic plants from their respective shore areas. Property owners were required to place their plant material on the end of their pier and call the DLSD office in advance for pier pick up. Where the work crew found trash, garbage or other debris mixed in with the aquatic plants, the crew did not pick up the non-aquatic plant materials on that pier. Pier pick up was conducted on Monday of every other week, or as soon thereafter as the weather permitted. Pier pick up began the week of June 10th and continued every other week through the week of August 6th. An estimated 20 cubic yards of plants were picked up during 11 pier stops during the 2024 season.

Harvesting Summary

During 2024, Wild Celery continued to be an increasing issue on the lake late in the season. The majority of the harvesting crews' time at the end of the year was spent skimming Wild Celery mats from the lake. The volume of aquatic plants harvested in the lake has varied from year to year as shown on Figure - 2. The smallest volume of plants was harvested during 2007 when only 1,332 cubic yards were removed from the lake. 2024 set a new record with the largest volume of plants harvested at 8,028 cubic yards. Data showing the number of days of harvesting, harvester loads and cubic yards of plants harvested for the period of 1997 through 2024 are shown in Table - 3. For the period of 1997 through 2024, the average volume of plants harvested was 3,729 cubic yards per year.

Encl.: Tables - 3
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TABLE - 1
ESTIMATED AQUATIC PLANT HARVESTING BY AREA FOR 2024
DELAVAN LAKE, WISCONSIN

AQUATIC PLANT MANAGEMENT AREA	LAKE SHORE LOCATION DESCRIPTION	ESTIMATED LENGTH OF SHORE LINE	ESTIMATED DISTANCE OUT FROM SHORE	ESTIMATED POTENTIAL MANAGEMENT ACRES	ESTIMATED TOTAL ACRES HARVESTED	VOLUME OF AQUATIC PLANTS HARVESTED
1	North Shore Dr to Windtree Condos	3925	650	59	59	233
2	Windtree Condos to Delavan Boat Co	5756	300	40	40	128
3	Delavan Boat Co to Chicago Club	7779	200	36	15	83
4	Chicago Club to Point on Island	4589	700	74	74	199
5	Point on Island to S Shore Manor Point	7262	400	67	67	1095
6	S Shore Manor Point to Del Oaks	6469	200	30	20	268
7	Del Oaks to Belivdere Park	3620	200	17	5	21
8	Belivdere Park to Silver Sands Point	5765	200	26	12	227
9	Silver Sands Point to Town Park	4530	200	21	21	1953
10	Inlet Upstream of S R 50	2664	200	12	12	493
11 *	Lake Lawn Resort	3312	500	38	4	111
12	Outlet- North Shore Dr to Dam	7380	200	34	34	3217
ESTIMATED TOTAL AQUATIC PLANT MANAGEMENT AREA :				**452**	**363**	**8028**

** Lake Lawn operates its own harvesting operations.*

TABLE - 2
AQUATIC PLANT HARVESTING - 2024
DELAVAN LAKE, WISCONSIN

LAKE MANAGEMENT AREA	ESTIMATED VOLUME OF PLANTS HARVESTED BY SPECIES							TOTAL CUBIC YARDS HARVESTED	% of Total
	MILFOIL	CURLY LEAF	ALGAE	WILD CELERY	COONTAIL	WaterStar Grass	OTHERS		
1	30.3	1.8	10.1	184.8	6.1	0.0	0.0	233.0	2.9%
2	25.8	0.0	6.6	93.3	2.4	0.0	0.0	128.0	1.6%
3	29.5	0.0	3.6	49.1	0.9	0.0	0.0	83.0	1.0%
4	42.4	0.0	2.1	152.7	1.9	0.0	0.0	199.0	2.5%
5	151.9	0.0	11.5	928.4	3.3	0.0	0.0	1,095.0	13.6%
6	81.1	15.9	31.4	137.3	2.5	0.0	0.0	268.0	3.3%
7	3.2	0.0	3.4	11.9	2.5	0.0	0.0	21.0	0.3%
8	62.7	0.0	24.0	140.4	0.0	0.0	0.0	227.0	2.8%
9	429.9	1.8	163.4	1193.8	37.9	0.0	126.4	1,953.0	24.3%
10	277.2	4.8	4.8	30.0	14.6	0.0	161.8	493.0	6.1%
11 **	14.1	0.0	75.3	21.7	0.0	0.0	0.0	111.0	1.4%
12	1010.0	134.5	325.0	1737.1	10.5	0.0	0.0	3,217.0	40.1%
TOTALS	2157	159	661	4681	82	0	288	8028	100.0%
PERCENT	27%	2%	8%	58%	1%	0%	4%	100%	

*** Lake Lawn operates its own harvesting operations.*

TABLE - 3
AQUATIC PLANT HARVESTING SUMMARY
FOR YEARS 1997 THROUGH 2024
DELAVAN LAKE, WISCONSIN

YEAR	DAYS WORKED	TOTAL HARVESTER LOADS	ESTIMATED CUBIC YARDS REMOVED
1997	71	556	3,835
1998	58	168	1,430
1999	71	262	1,765
2000	77	439	4,155
2001	74	373	2,869
2002	73	379	5,026
2003	78	635	5,949
2004	75	329	2,288
2005	78	487	4,177
2006	73	325	2,749
2007	47	169	1,332
2008	40	146	1,385
2009	49	174	1,746
2010	54	236	2,392
2011	55	188	1,864
2012	72	306	4,230
2013	71	218	2,717
2014	82	185	2,875
2015	85	372	4,891
2016	86	233	3,278
2017	62	213	3,453
2018	62	260	4,319
2019	67	340	3,845
2020	57	386	3,903
2021	69	658	7,406
2022	65	528	5,931
2023	71	597	6,586
2024	79	695	8,028
AVERAGE	68	352	3,729

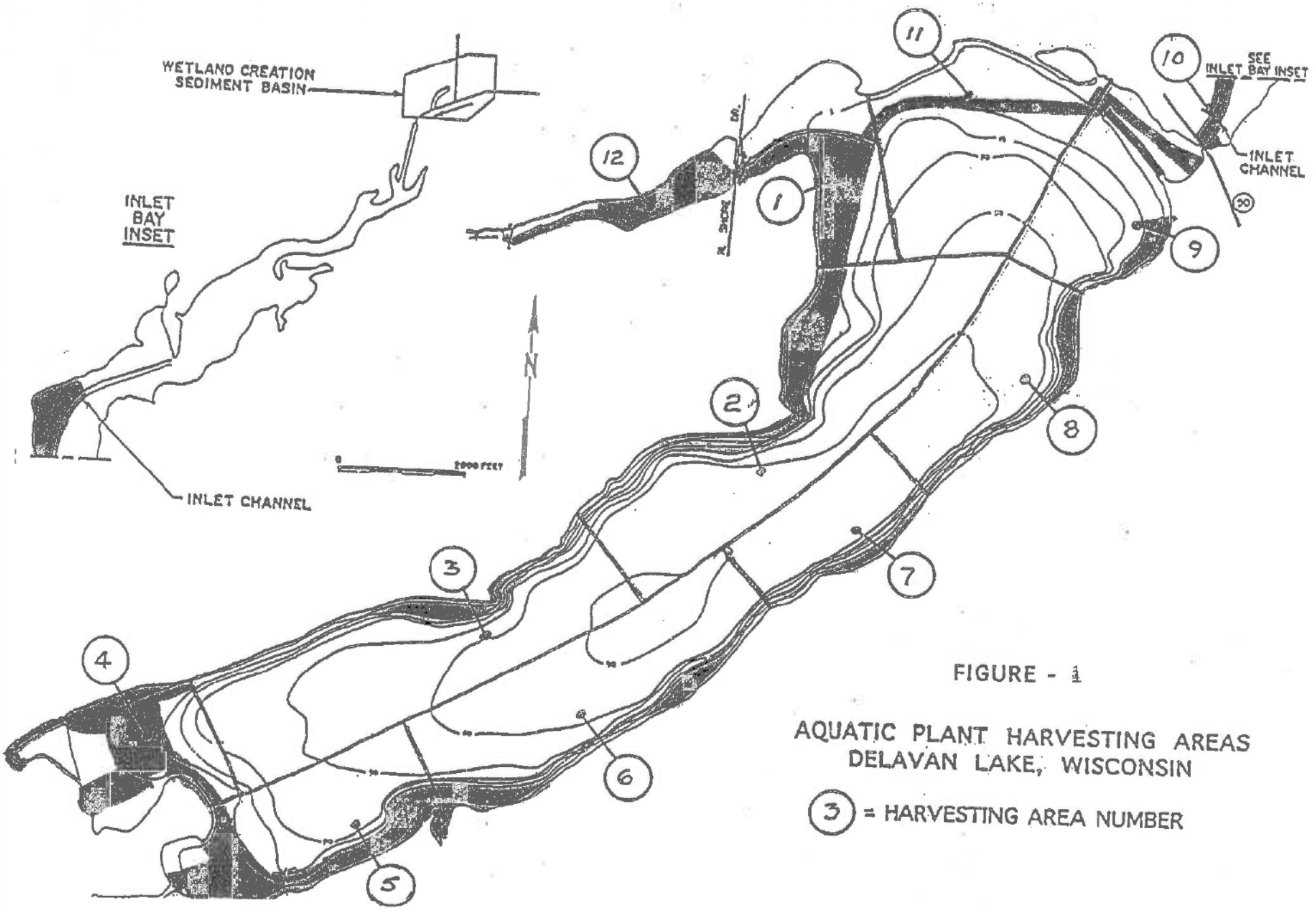

FIGURE - 1

AQUATIC PLANT HARVESTING AREAS
DELAVAN LAKE, WISCONSIN

(3) = HARVESTING AREA NUMBER

FIGURE - 2
VOLUME OF AQUATIC PLANTS HARVESTED
DELAVAN LAKE, WISCONSIN