AQUATIC PLANT MANAGEMENT

Largest APM Program in WI and the U.S.!

- 2023 Year in Review
- Plan updates required every 5 years
- 2023-Mendota and Monona
- 2024-Waubesa, Kegonsa and Yahara River

Aquatic Plant Benefits

- Support wide range of invertebrates
- Provide food and shelter for fish, reptiles, amphibians, birds and mammals
- Improve water quality
- Protect shorelines
- Aesthetics

1832 description of Lake Monona

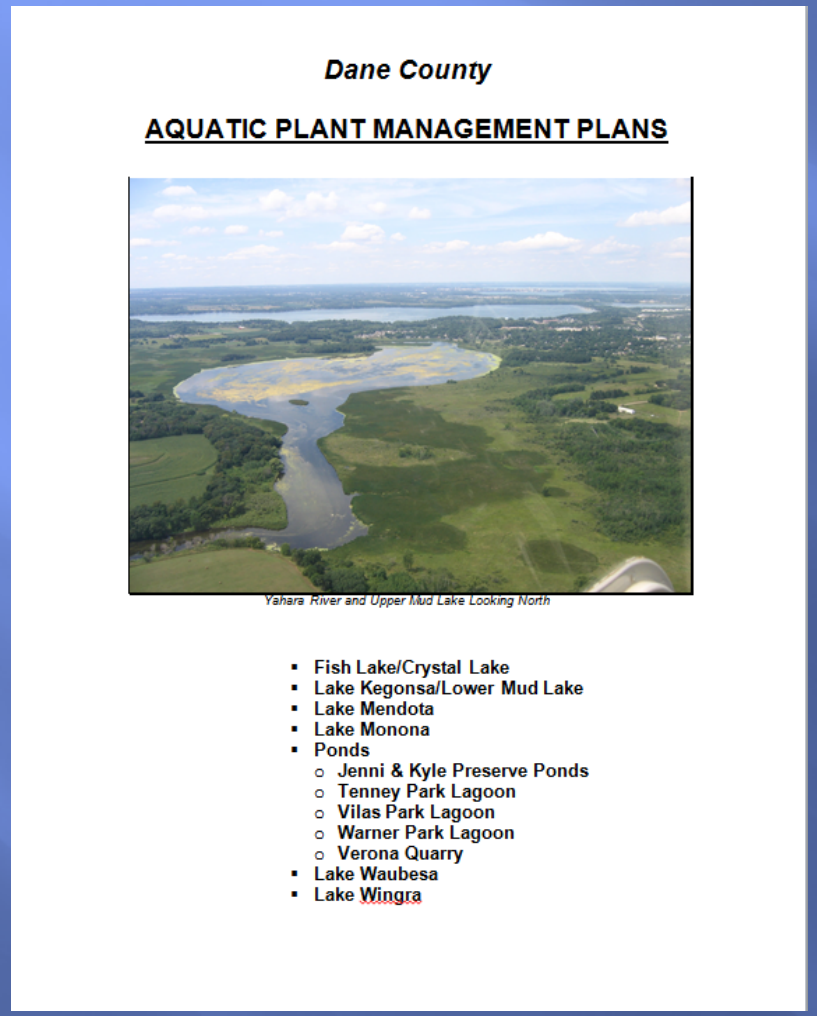
"The first one that we came to (Lake Monona), was about ten miles in circumference, and the water as clear as crystal. The earth sloped back in a gradual rise; the bottom of the lake appeared to be entirely covered with white pebbles, and no appearance of its being the least swampy."

From the journal of John Allen Wakefield, Surgeon's Mate, passing through Madison July 21, 1832 during the Black Hawk War


Bad City Shore 8-5-25
Just Before Spraying
Coppier Sulfate
Lake Monona


Same Section of Lake Mendota 1926 8 days after Arsenic Treatment
Killed weeds

Dane County Aquatic Plant Management Program



Dane County

AQUATIC PLANT MANAGEMENT PLANS

Yahara River and Upper Mud Lake Looking North

- Fish Lake/Crystal Lake
- Lake Kegonsa/Lower Mud Lake
- Lake Mendota
- Lake Monona
- Ponds
  - Jenni & Kyle Preserve Ponds
  - Tenney Park Lagoon
  - Vilas Park Lagoon
  - Warner Park Lagoon
  - Verona Quarry
- Lake Waubesa
- Lake Wingra

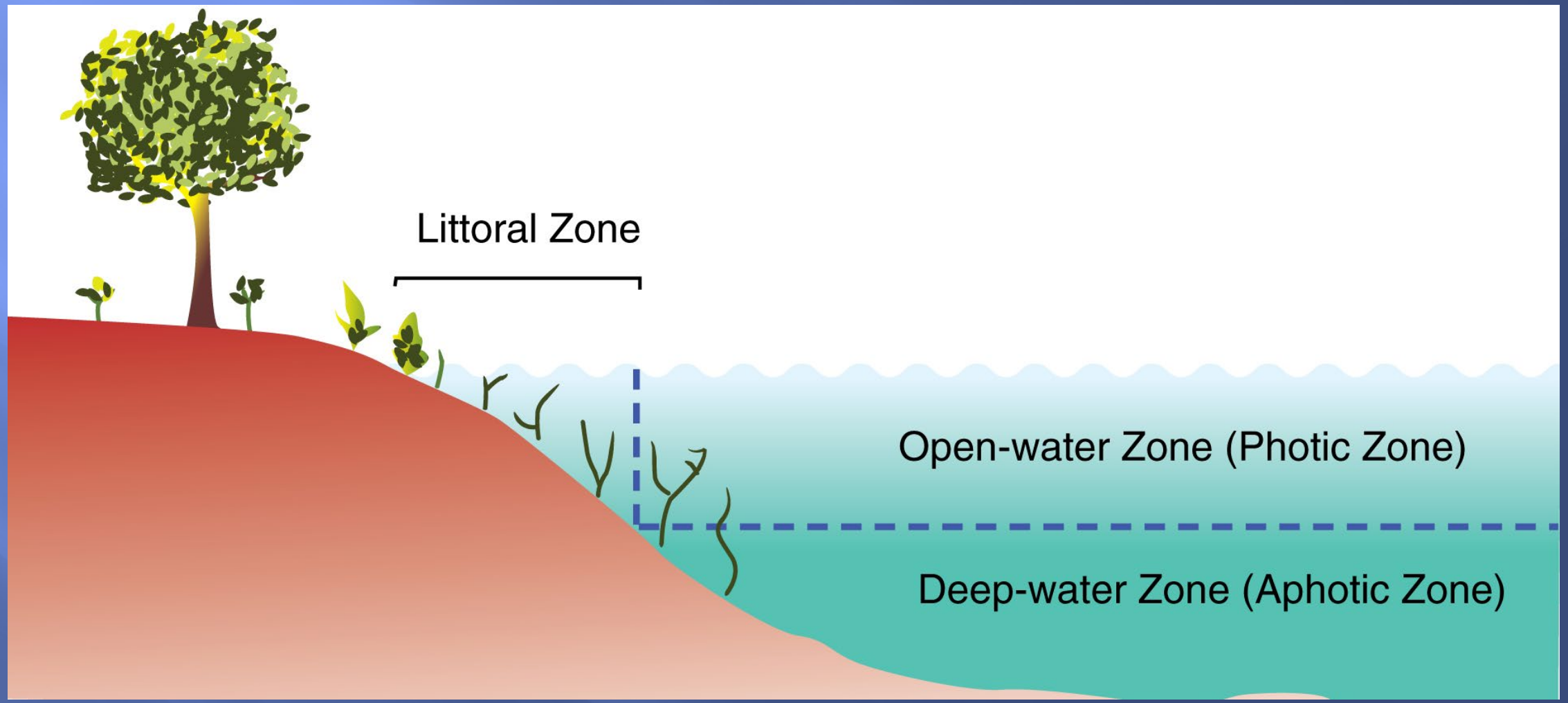
- **Flood Mitigation (Keep Water Flowing Through the Yahara River)**
- **Recreation, Navigational and Beach Access**
- **Shallow Cuts and Filamentous Algae Control**
- **Special Events**

Regulated by ADM NR 109 (Mechanical Harvesting)

Point Intercept

- Wisconsin Standard Point-Intercept Survey Method
  - Trained aquatic plant specialists
  - Aquatic plant frequency and biomass recording
  - July through August
  - Point grids provided by WI DNR give a representative sample
  - Quantitative baseline data for aquatic plant communities in lakes and rivers across the state

Photic Zone-Majority of Aquatic Plants in 16’ FOW or Less



LAKE COMPARISON

Mendota

Year	Total Species	Mean C	Floristic Quality Index (FQI)
1991	11	5	15
2006	13	5.31	19.14
2011	14	5.50	20.58
2017	16	5.38	21.5
2023	15	5.30	19.1

Monona

Year	Total Species	Mean C	Floristic Quality Index (FQI)
2008	11	5.09	16.88
2011	11	5.64	18.69
2017	11	5.09	16.88
2023	14	5.33	20.66

C=Coeffecients of Conservation-Undisturbed pre-settlement. (Tolerate moderate disturbance)

FQI-Relates to flora in undisturbed lake. Statewide average=24, Ecoregion average 20

2024 APM Operations Staff & Equipment

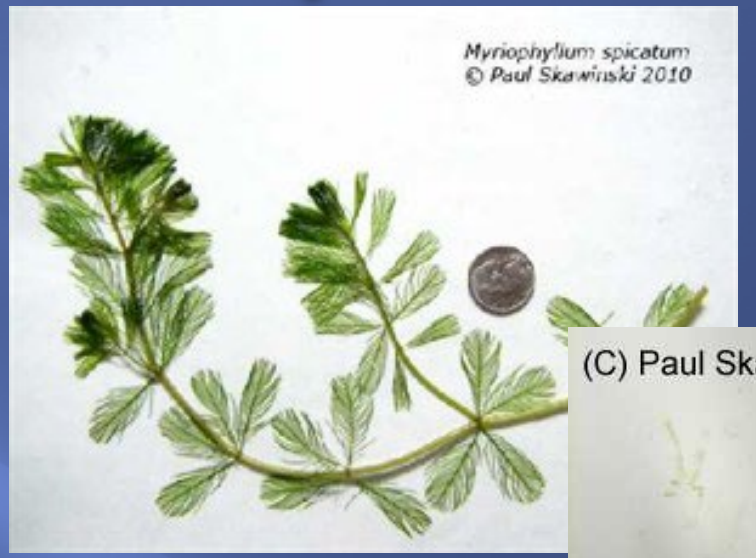
5 FTEs
27 LTEs
12 Harvesters
3 Barges
2 Transport Barges

Barge Pick-Up

Madison
Middleton
Monona
Westport
FOLKS
McFarland
Lake Waubesa
Conservation Assoc.

Material picked up only from docks!

Most Dominant Species



2022 Aquatic Plant Management Harvest Report

Annual Mechanical Harvest Summary (5/24/2022 to 10/17/2022)

	Hours	(%)	Loads*	(%)	Wet Weight (t)**	Dry Weight (t)**	Phosphorus(lbs)**
InterLake							
13 Daily Logs	80.0	1.8%	31.0	1.7%	143	14	81
Jenni & Kyle Preserve							
4 Daily Logs	22.0	0.5%	5.5	0.3%	25	3	14
Kegonsa							
81 Daily Logs	530.0	11.9%	195.5	10.8%	899	90	514
Mendota							
135 Daily Logs	888.0	19.9%	203.5	11.2%	936	94	535
Monona							
314 Daily Logs	1,961.0	44.0%	912.5	50.4%	4,198	420	2,397
Waubesa							
66 Daily Logs	438.0	9.8%	125.5	6.9%	577	58	330
Wingra							
11 Daily Logs	69.0	1.5%	60.0	3.3%	276	28	158
Yahara River							
42 Daily Logs	258.0	5.8%	139.0	7.7%	639	64	365
Yahara River Lower							
37 Daily Logs	207.5	4.7%	139.5	7.7%	642	64	366
Total	**4,454**		**1,812**		**8,335**	**834**	**4,759**

Private Deposit Site Loads		Public Deposit Site Loads			
All	119	**Other**	1,694	**Park Site**	0
		Westport	0	**Highway 12**	0

** Loads are harvester loads, estimated by staff to the nearest half load. All other reported quantities are derived from loads.*

*** Weight is expressed in US tons or pounds as noted; Each harvester load is assumed to yield 9200lbs of bulk vegetation at 90% water content (10% plant solids). Phosphorus content of the plant solids is assumed to be ~2900 ppm, (i.e. ~1lb of P for every 350 lb of plant solids).*

2023 Aquatic Plant Management Harvest Report

Annual Mechanical Harvest Summary (5/22/2023 to 10/23/2023)

	Hours	(%)	Loads*	(%)	Wet Weight (t)**	Dry Weight (t)**	Phosphorus(lbs)**
1 Daily Log							
InterLake							
31 Daily Logs	185.0	3.6%	104.5	5.6%	481	48	274
Kegonsa							
97 Daily Logs	611.0	11.9%	134.5	7.2%	619	62	353
Mendota							
175 Daily Logs	1,096.0	21.3%	323.5	17.4%	1,488	149	850
Monona							
404 Daily Logs	2,451.0	47.7%	1,006.0	54.1%	4,628	463	2,642
Waubesa							
91 Daily Logs	592.0	11.5%	183.0	9.8%	842	84	481
Wingra							
18 Daily Logs	108.0	2.1%	86.5	4.6%	398	40	227
Yahara River							
17 Daily Logs	95.0	1.8%	23.0	1.2%	106	11	60
Total	**5,138**		**1,861**		**8,561**	**856**	**4,888**

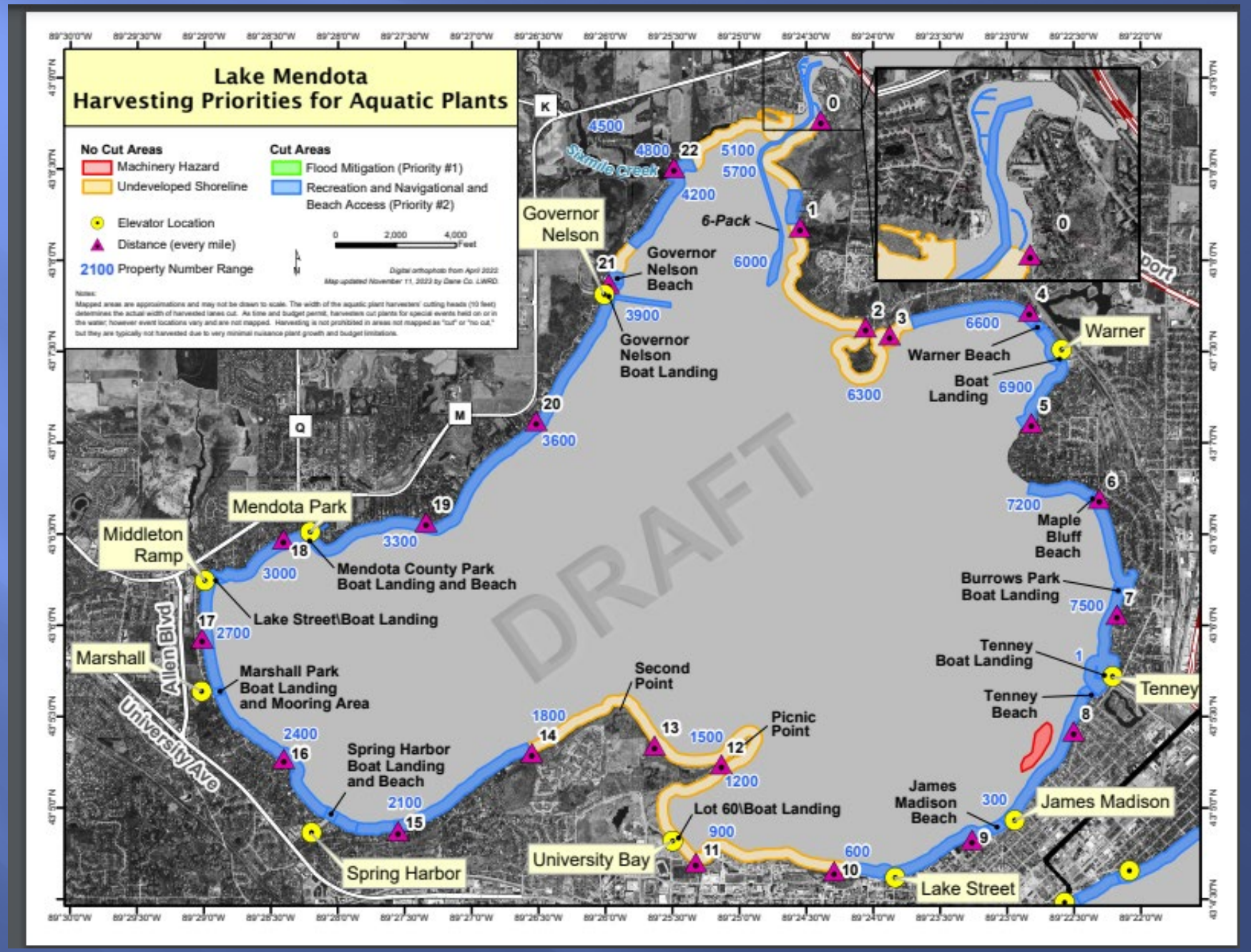
Private Deposit Site Loads		Public Deposit Site Loads			
All	754	**Other**	1,108	**Park Site**	0
		Westport	0	**Highway 12**	0

** Loads are harvester loads, estimated by staff to the nearest half load. All other reported quantities are derived from loads.*

*** Weight is expressed in US tons or pounds as noted; Each harvester load is assumed to yield 9200lbs of bulk vegetation at 90% water content (10% plant solids). Phosphorus content of the plant solids is assumed to be ~2900 ppm, (i.e. ~1lb of P for every 350 lb of plant solids).*

GOALS

- Conduct large-scale mechanical harvesting in areas where EWM grows in dense monotypic stands. Goals for managing EWM are to improve boating access and fish habitat, and to expand native rooted plant species.
- Avoid Critical Habitat Areas and where applicable, document high value native plants in regular field visits, including shoreline reference and GPS location.
- Incorporate real time GPS location data with harvesters to allow interested parties and others to view current locations.
- Continue the barge pick up program to service those areas that can only have manual removal options *(i.e. between piers or in areas less than 3 ft of water.)*
- Dane County's mechanical harvesting crews should continue to take steps to prevent the spread of exotic invaders across Dane County lakes and streams. These steps include removing any visible plants, mud, debris, water, fish or animals from the machinery and thoroughly washing the equipment


Lake Mendota
Harvesting Priorities for Aquatic Plants
No Cut Areas
Machinery Hazard
Undeveloped Shoreline
Cut Areas
Flood Mitigation (Priority #1)
Recreation and Navigational and Beach Access (Priority #2)
Elevator Location
Distance (every mile)
2100 Property Number Range
0 2,000 4,000 Feet
Digital orthophoto from April 2022
Map updated November 11, 2023 by Dane Co. LWRD
Notes:
Mapped areas are approximations and may not be drawn to scale. The width of the aquatic plant harvesters' cutting heads (10 feet) determines the actual width of harvested lanes cut. As time and budget permit, harvesters cut plants for special events held on or in the water; however event locations vary and are not mapped. Harvesting is not prohibited in areas not mapped as "cut" or "no cut," but they are typically not harvested due to very minimal nuisance plant growth and budget limitations.
DRAFT
Governor Nelson
Governor Nelson Beach
Governor Nelson Boat Landing
6-Pack
Warner
Warner Beach
Boat Landing
Maple Bluff Beach
Burrows Park Boat Landing
Tenney
Tenney Boat Landing
Tenney Beach
James Madison
James Madison Beach
Lake Street
Picnic Point
Second Point
Lot 60\Boat Landing
University Bay
Spring Harbor
Spring Harbor Boat Landing and Beach
Marshall Park Boat Landing and Mooring Area
Marshall
Middleton Ramp
Lake Street\Boat Landing
Mendota County Park Boat Landing and Beach
Mendota Park
Allen Blvd
University Ave
Skunk Creek
4500
4800
5100
5700
4200
6000
3900
6600
6300
6900
3600
7200
7500
3300
3000
2700
1800
1500
1200
2400
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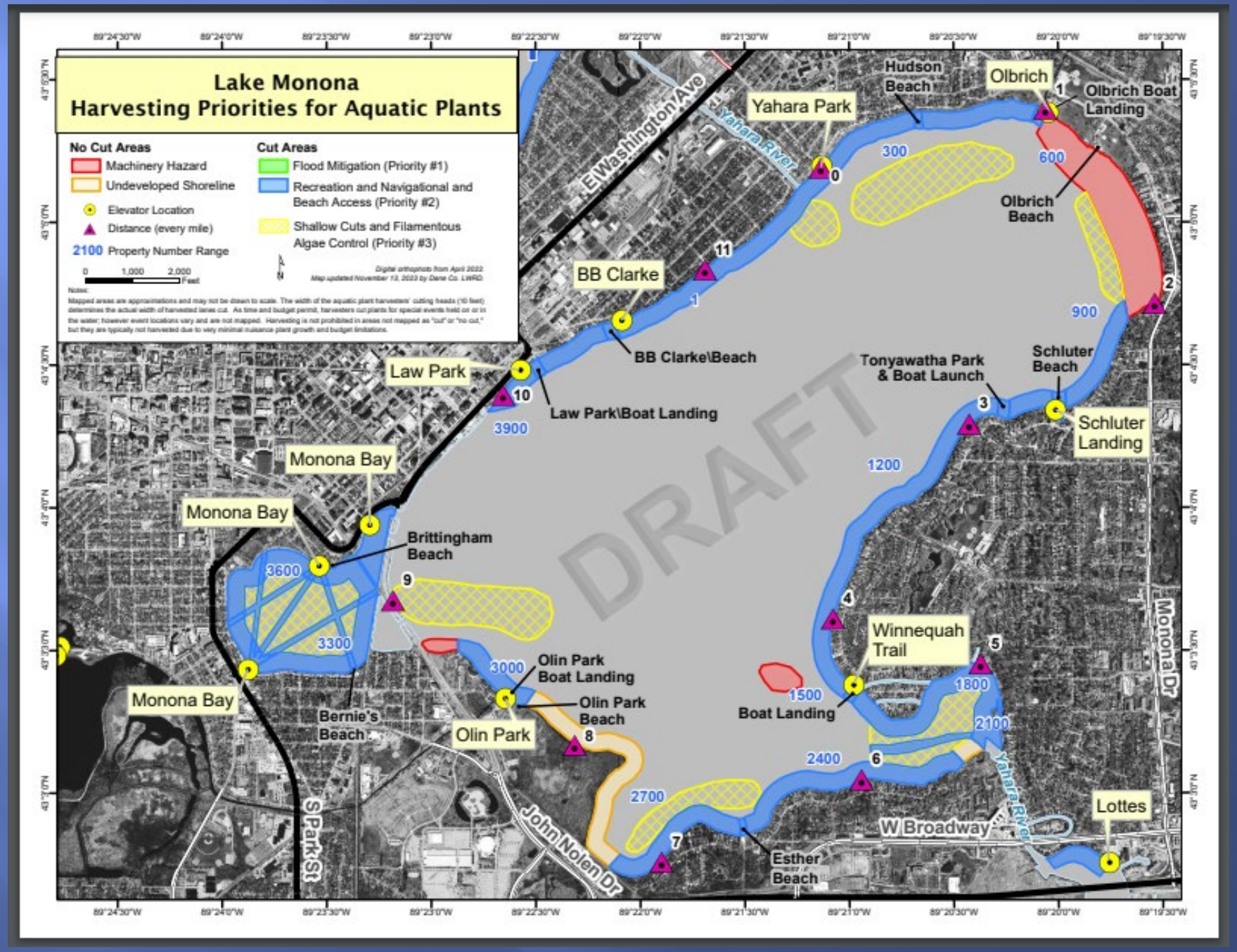
Lake Monona
Harvesting Priorities for Aquatic Plants
No Cut Areas
Machinery Hazard
Undeveloped Shoreline
Elevator Location
Distance (every mile)
2100 Property Number Range
0 1,000 2,000 Feet
Cut Areas
Flood Mitigation (Priority #1)
Recreation and Navigational and Beach Access (Priority #2)
Shallow Cuts and Filamentous Algae Control (Priority #3)
Digital orthophoto from April 2022
Map updated November 13, 2023 by Dane Co. LWRD.
Notes:
Mapped areas are approximations and may not be drawn to scale. The width of the aquatic plant harvesters' cutting heads (10 feet) determines the actual width of harvested lanes cut. As time and budget permit, harvesters cut plants for special events held on or in the water; however event locations vary and are not mapped. Harvesting is not prohibited in areas not mapped as "cut" or "no cut," but they are typically not harvested due to very minimal nuisance plant growth and budget limitations.
DRAFT
E Washington Ave
Yahara River
Yahara Park
Hudson Beach
Olbrich
Olbrich Boat Landing
Olbrich Beach
BB Clarke
BB Clarke\Beach
Law Park
Law Park\Boat Landing
Tonyawatha Park & Boat Launch
Schluter Beach
Schluter Landing
Monona Bay
Brittingham Beach
Winnequah Trail
Boat Landing
Olin Park Boat Landing
Olin Park
Olin Park Beach
Bernie's Beach
Monona Dr
S Park St
John Nolen Dr
W Broadway
Esther Beach
Lottes
300
600
900
1200
1500
1800
2100
2400
2700
3000
3300
3600
3900

Invasive Species