

Townsend Lakes Aquatic Plant Management Plan Update

James Scharl

Wisconsin Lake & Pond Resource LLC

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Overview

- Why is a management plan update needed?
- How is a plan updated?
 - Look back at the past
 - Aquatic plant survey
- What is in the new plan?
- What's in store for 2025?

Why Did We Need a New Plan?

- Current management plan adopted in 2019-20
 - Past management based on this plan
 - DNR recommends a plan update every 5 years
- WDNR grant funding for the plan update
 - Cover 67% of the project costs
 - In cooperation with WDNR, UW Stevens Point, OCLAWA
- Issues a new management plan will address
 - New data and updated condition of the lake
 - Updates lake management goals / issues
 - Management of invasive species?
 - Mechanical harvesting?
 - Water quality?
 - Plan must be approved by WDNR to be grant eligible

Why – Aquatic Invasive Species

- Non-native plants or animals introduced to Wisconsin
- No natural predators or competitors
 - Fast growing
 - Dense growing
 - Decrease habitat quality
 - Reduce recreational quality
 - Can be costly to control
 - Difficult to remove once established



Eurasian water-milfoil

- Introduced in the 1960s
- First found in 2005 in the Townsend Lakes
 - Reservoir Pond & Horn Lake
- Most common AIS found in WI waters
 - 957 lakes or rivers
 - 38 waterbodies in Oconto Co.
- Problems caused by EWM
 - Very fast & dense growing
 - Can hamper navigation
 - Spreads easily by fragmentation
 - Monotypic stands
 - Hybridize with native milfoils
 - Potentially even more difficult to control



Curly-leaf Pondweed

- Introduced in the 1960s
- Commonly found in WI waters
 - 927 lakes or rivers
 - 8 waterbodies in Oconto Co.
- Found during the 2024 plant surveys
 - Likely present well before then
- Problems caused by CLP
 - Very fast & dense growing
 - Can hamper navigation
 - Monotypic stands
 - Requires multi-year control
 - Turions, seed-like structures, buildup in lake sediments



Starry Stonewort

- Newly introduced into WI
 - First found in 2014
 - 31 inland lakes
 - Lake Michigan – Door County and Green Bay
- Not yet confirmed in Oconto County
- Problems caused by Starry Stonewort
 - Can be waterbody dependent
 - Very fast & dense growing
 - Can hamper navigation
 - Monotypic stands
 - Control extremely difficult
 - macroalgae



How – a look at the past

- Review past data and actions
 - Learn from successes or failures
 - Surveys from 2019, 2021, 2024
 - Past EWM management
 - Fluridone in 2020
 - Small-scale in 2021-23
 - None in 2024
- Targeted plant management
 - Invasive species control
 - Harvesting nuisance vegetation
- Aquatic invasive species
 - Eurasian water-milfoil



How – Lake User Survey

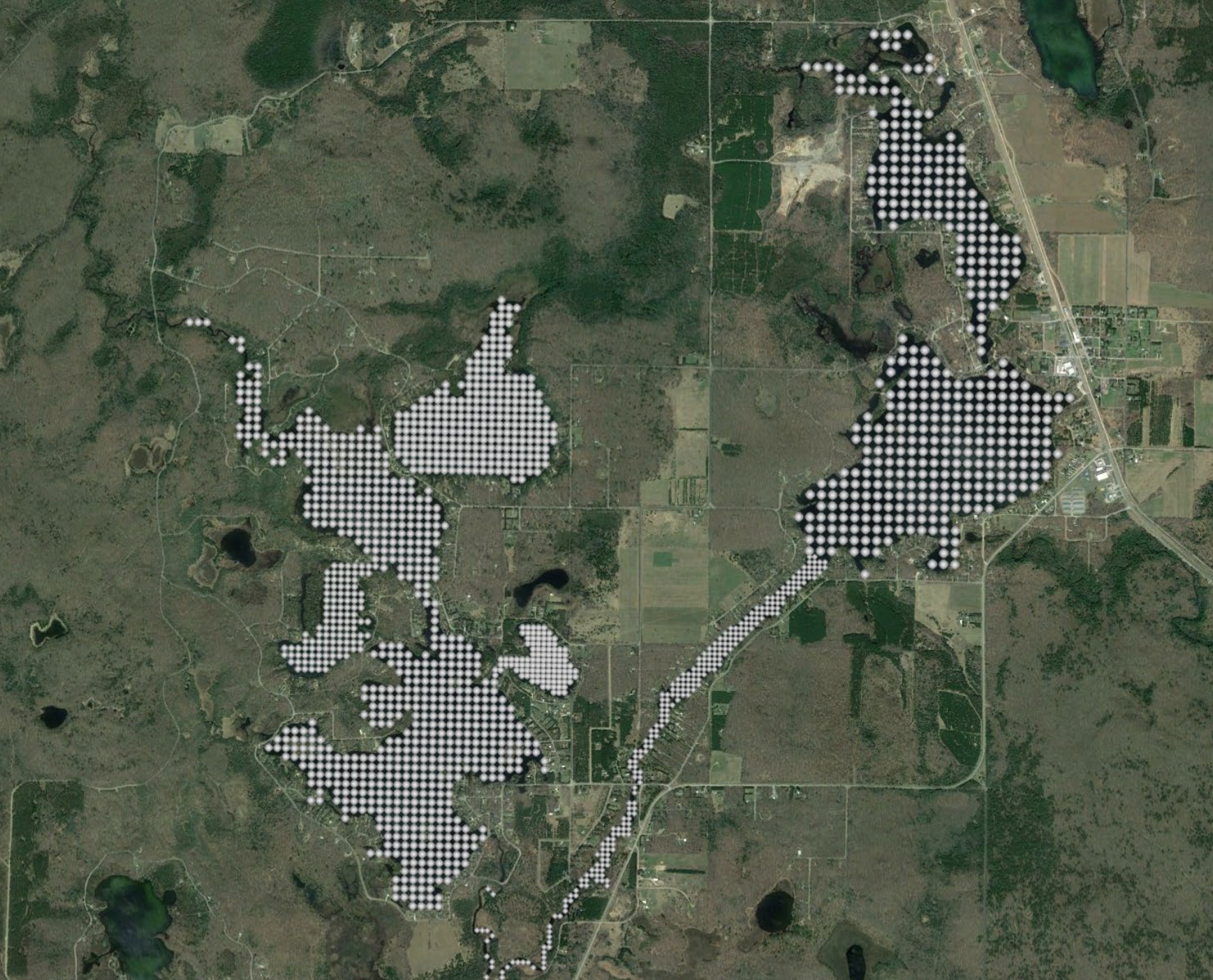
- Questionnaire used to guide in lake management planning
 - Basis for plan success
 - Made available online
 - Coming this winter
- The Average Joe of Townsend Lakes
 - Who are they?
 - What is their history with the water?
 - How do they use the lake?
 - What are their views / opinions?
 - A plan must be accepted by its users



How – Aquatic Plant Survey

- A healthy aquatic plant community supports a healthy lake
- Point intercept method
 - 1855 pre-determined sample locations
 - Spaced 100-215 ft apart
 - Spacing depends on lake size, layout, depth
- At each location record:
 - Depth
 - Bottom type (sand/muck/rock)
 - Plant species present
 - Density
 - Each species
 - Overall








How – Aquatic Plant Survey

- Up to 31 different species recorded
 - All lakes had at least 19 different species
- Vegetation throughout much of the lakes and locally very dense
 - Maximum depth of 20ft (Little Horn)
 - In most of the lakes the photic zone is heavily vegetated
 - Most common species found:
 1. Eurasian water-milfoil
 2. Fern pondweed
 3. Nitella
 4. Wild celery (at right)
 5. Coontail



EWM – PI Survey Locations

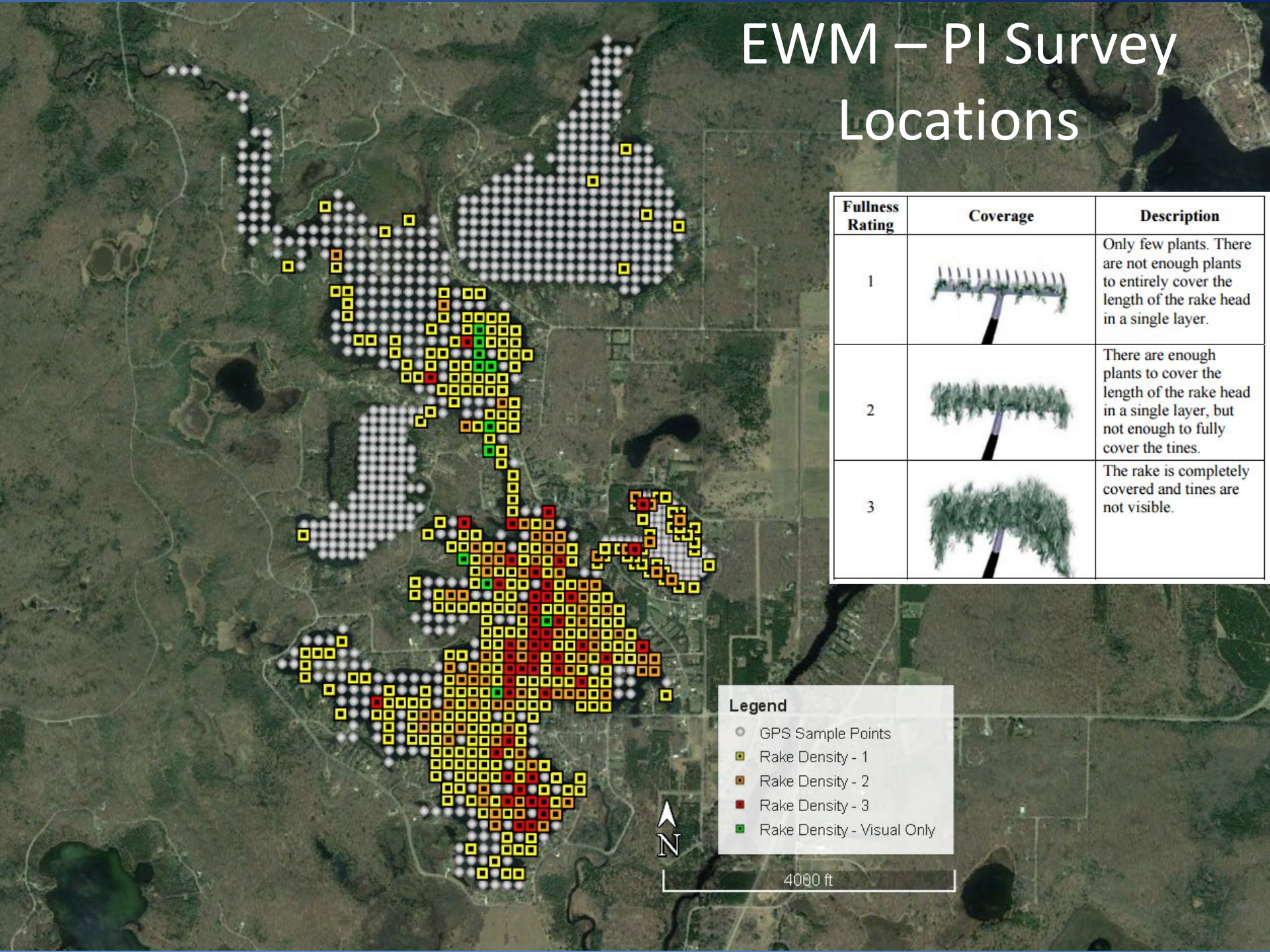
Fullness Rating	Coverage	Description
1		Only few plants. There are not enough plants to entirely cover the length of the rake head in a single layer.
2		There are enough plants to cover the length of the rake head in a single layer, but not enough to fully cover the tines.
3		The rake is completely covered and tines are not visible.

Legend

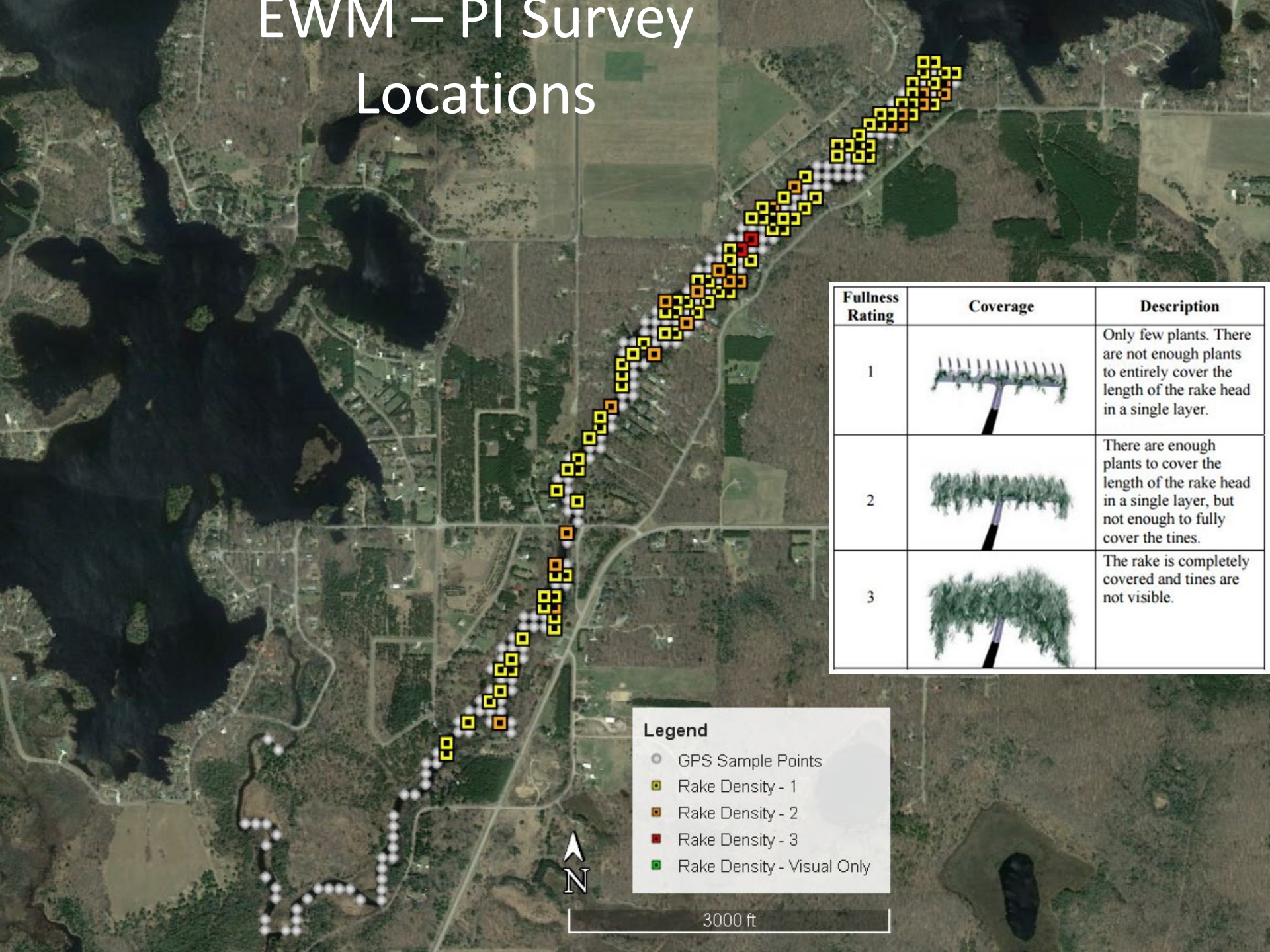
- GPS Sample Points
- ◻ Rake Density - 1
- ◻ Rake Density - 2
- ◻ Rake Density - 3
- ◻ Rake Density - Visual Only






4000 ft



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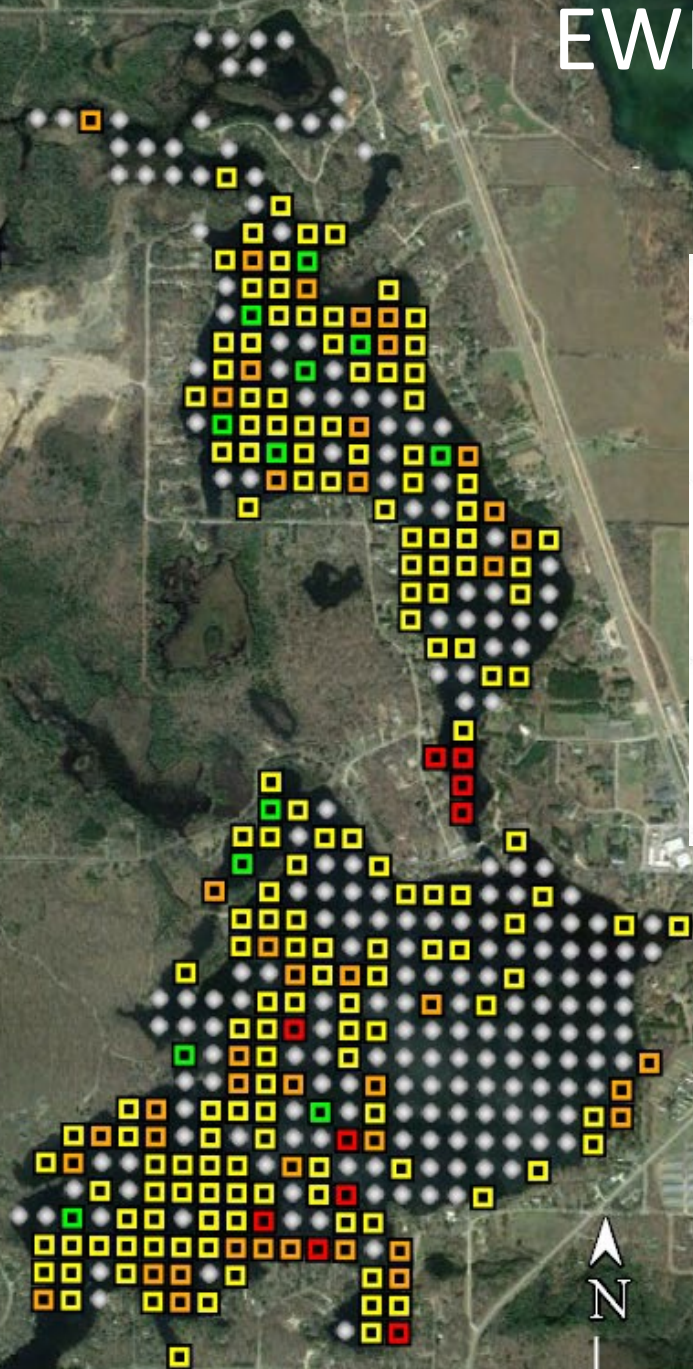
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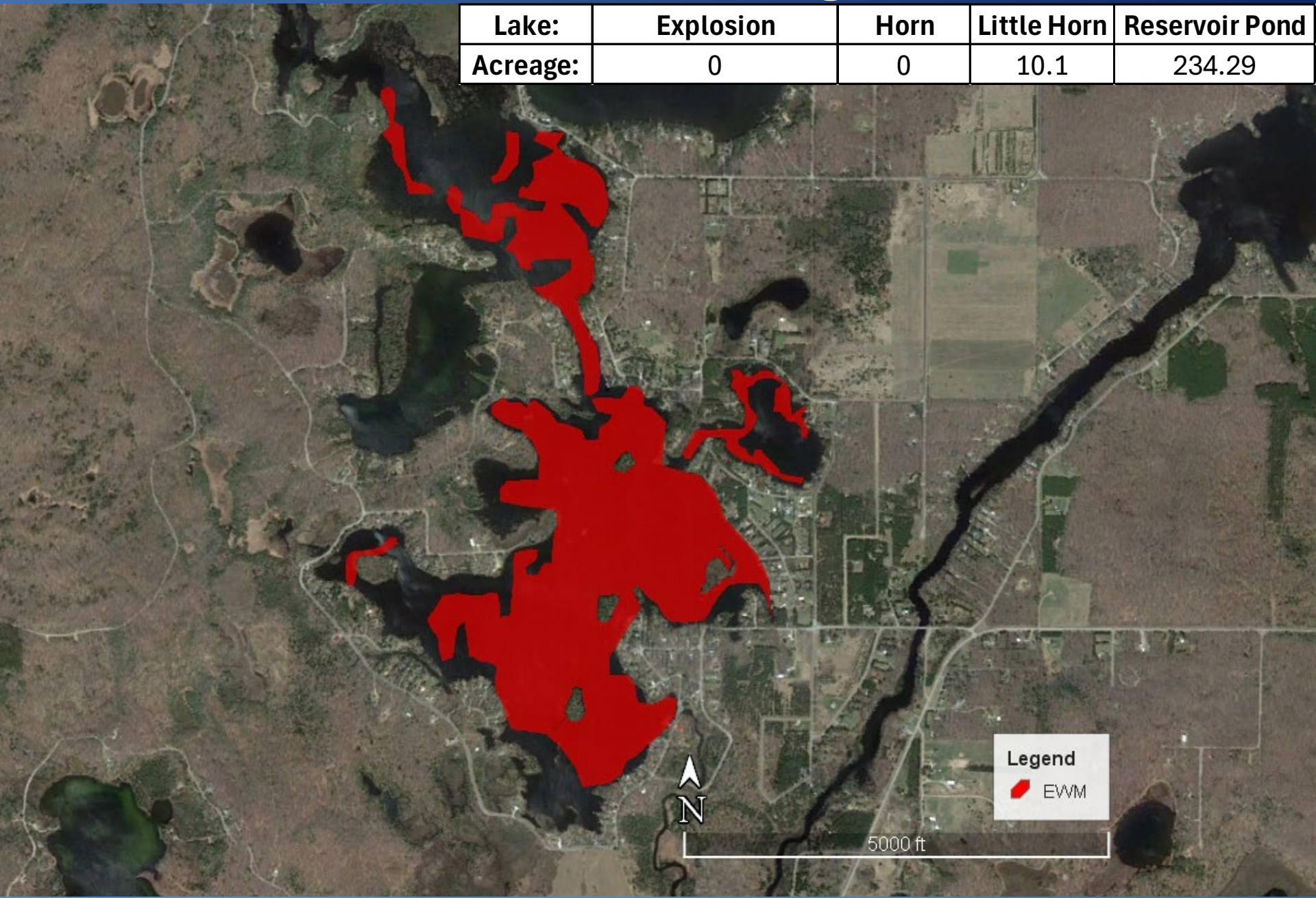
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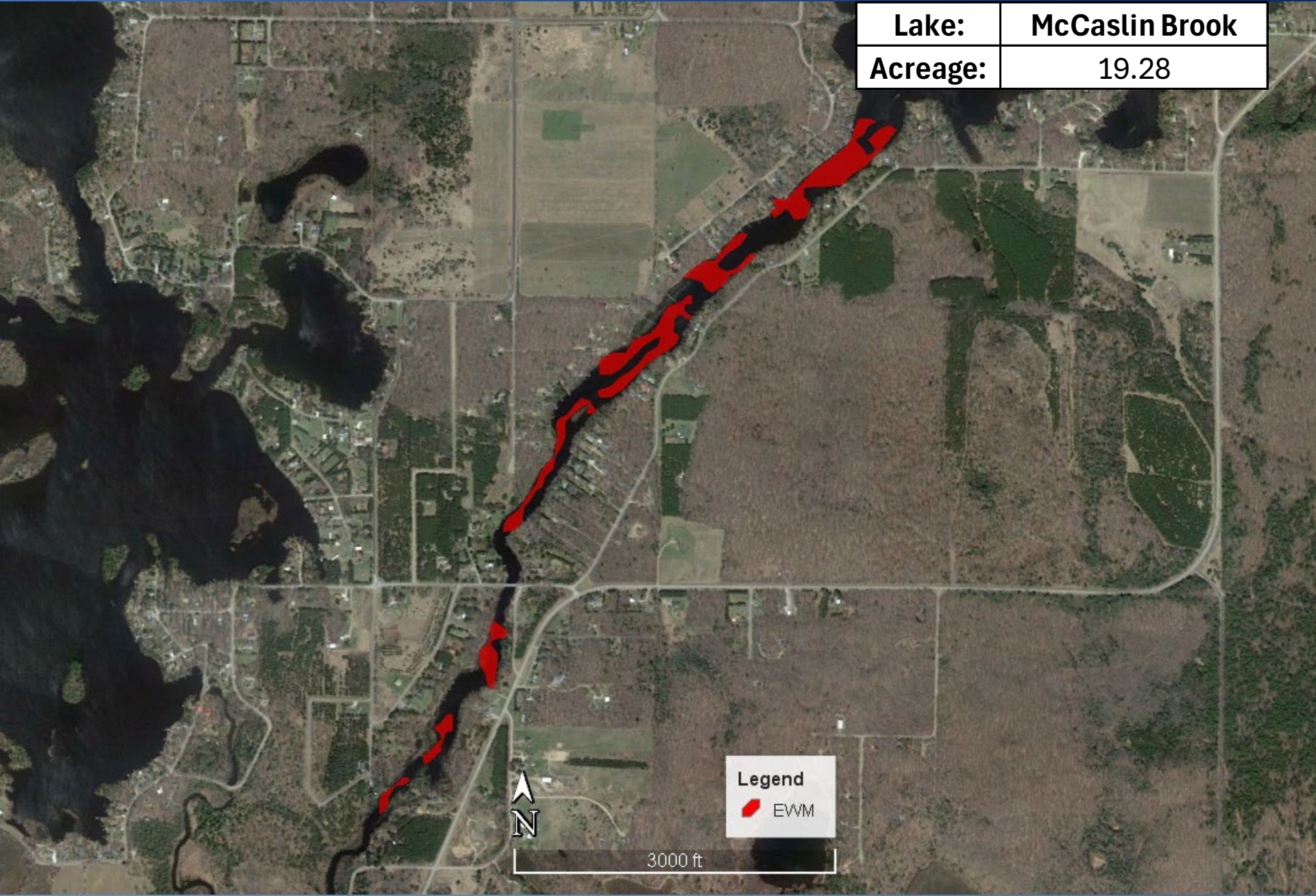
EWM –Coverage

Lake:	Explosion	Horn	Little Horn	Reservoir Pond
Acreeage:	0	0	10.1	234.29



EWM –Coverage

Lake:	McCaslin Brook
Acreage:	19.28

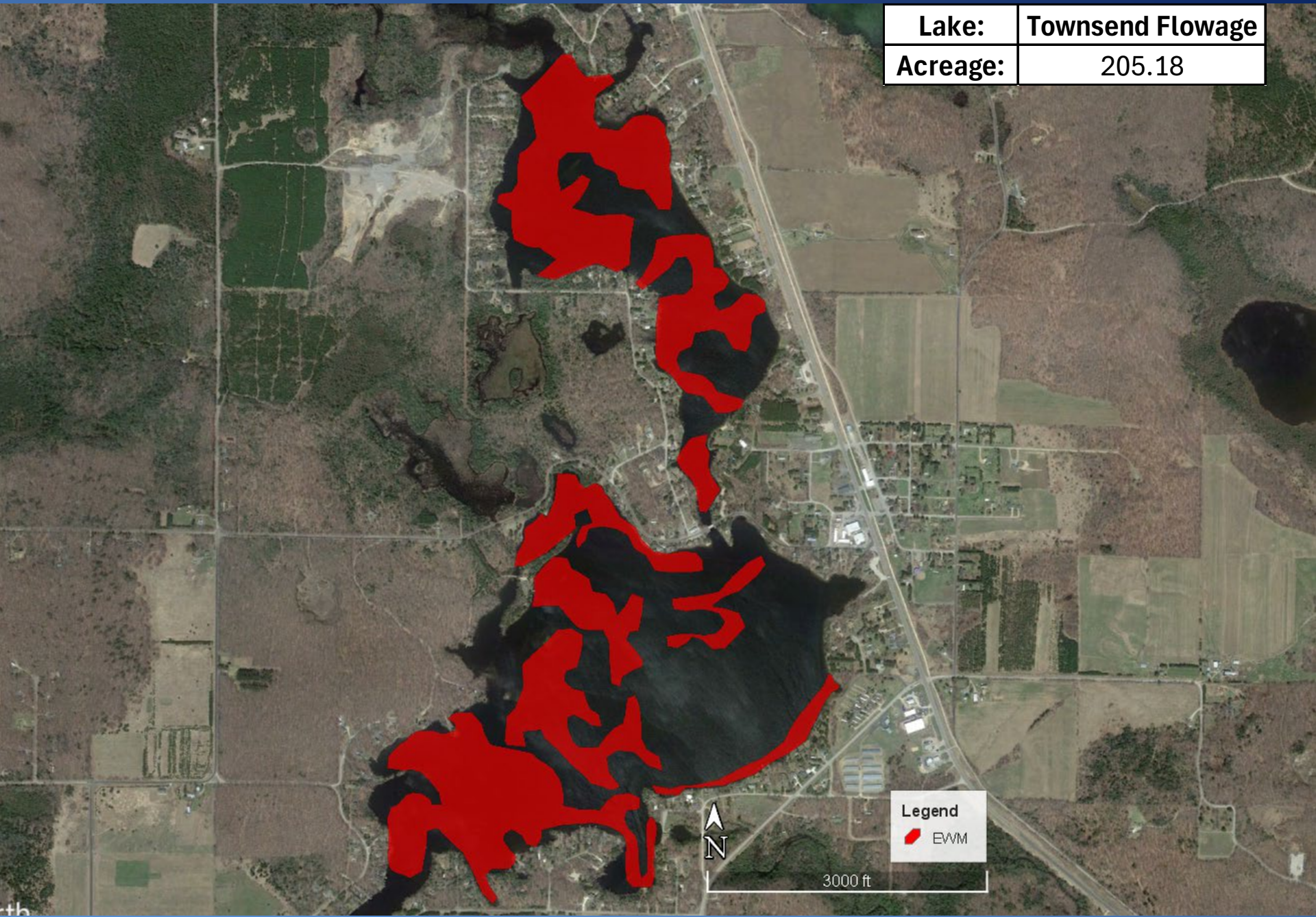


Legend
 EWM

3000 ft

EWM –Coverage

Lake:	Townsend Flowage
Acreage:	205.18



Management Plan – EWM

- Populations in the Townsend Lakes are increasing

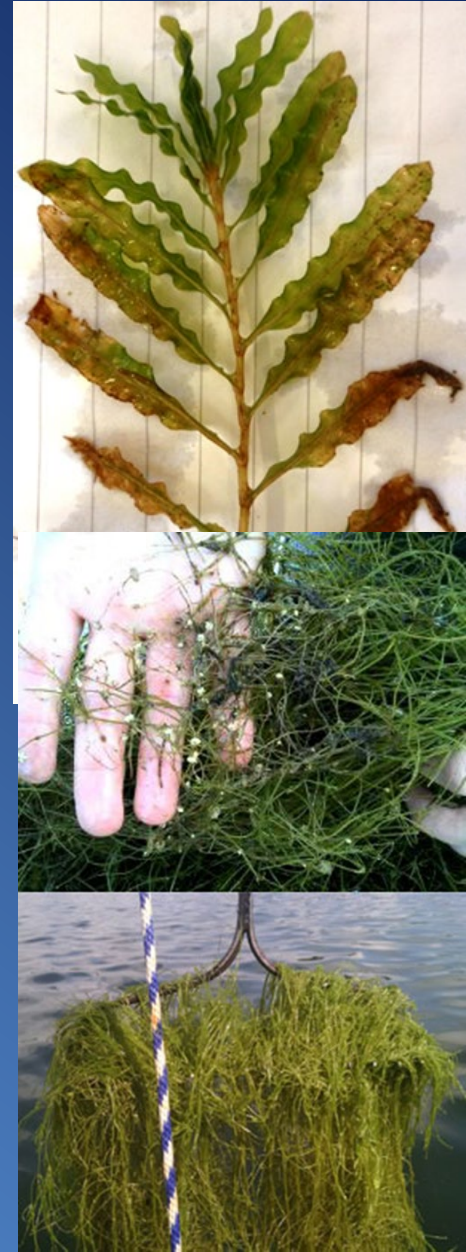
Lake:	Explosion	Horn	Little Horn	McCaslin Brook	Reservoir Pond	Townsend Flowage
2019 (ac)	3.08	4.16	18.93	38.75	308.09	160.91
2022 (ac)	0.39	---	0.58	15.76	245.3	78.07
2024 (ac)	---	---	10.1	19.28	234.29	205.18

- Past management varied
 - 2020: Whole-lake fluridone
 - 2021-2023: Small-scale management of densest areas
- Plan for 2025 large-scale control
 - Large-scale, at up to “whole-lake”
 - Better, long-term, lake-wide management



Other Aquatic Invasive Species

- Focus on annual monitoring and prevention
 - Boat landing monitoring
 - Public education and outreach
- Curly-leaf pondweed
 - Very (very!) low population
- Starry stonewort
 - The next likely invader



APM Plan – A summary

- Water quality is excellent
- Aquatic plant communities have great diversity
- Even of high quality, aquatic plants can create nuisance
 - Mechanical harvesting
 - Targeted AIS control
 - Monitoring
- Potential Aquatic Plant Management Planning - Goals
 - What is acceptable vs what is warranted
 - Continue harvesting
 - Renew permit and reduce navigational nuisance
 - Manage invasive species
 - Potential for grant funding
 - Reduce current populations
 - Prevent new introductions
 - Identify new management strategies



What's in store for 2025?

- Finish the APM plan
 - Finalize maps
 - Send out the user survey
 - Put it all together
 - Gather input, comments, edits from the Districts, residents, and DNR
 - Present the final plan
- Large-scale EWM Management
 - A continued effort between both the ILPRD & TFPD
 - Going on at the same time as the plan update
 - Applying for a WDNR grant for large-scale AIS population control
 - Hoping for 2025

Questions?

jim@WisconsinLPR.com

(920) 872-2032

