LAKE REDSTONE PROTECTION DISTRICT PARTNERS MEETING

OCTOBER 29, 2025

AGENDA

1. Call meeting to order
2. Approve agenda
3. Introductions
4. Discussion
   A. Status of 9-key element plan implementation
   B. Reports
   C. Discussion of Major Issues
   D. Other topics of mutual interest
5. Next LRPD board meeting: November 11, 2025 at 6:00 PM at La Valle Town Hall
6. Adjourn

STATUS OF 9-KEY ELEMENT PLAN IMPLEMENTATION

MIKE MITTELSTADT - LRPD

LAKE MANAGEMENT PLAN
HIGH LEVEL OVERVIEW

9-Key Element plan approved February 2022

- **Implement Best Management Practices(BMP) throughout the watershed to reduce sediment and phosphorus loading into Lake Redstone**
- **Improve the riparian area by implementing BMPs to increase quality habitat for wildlife and mitigate the effects of development on Lake Redstone**
- **Use BMPs within Lake Redstone to reduce negative impacts from pollution, aquatic invasive species, and shoreline erosion**
- **Build and maintain partnerships with outside resource, state, university, county, lake groups, and other local entities to guide the implementation of BMPs**

LAKE MANAGEMENT PLAN
KEY PARTNERSHIPS

- Sauk County Land Resources And Environment Department
- Juneau County Land And Water Resources Department
- Producers Baraboo Redstone (A Producer Led Cooperative)
- Discovery Farms (A Program Of UW-Madison Division Of Extension)
- Lake Redstone Property Owners' Association
- Wisconsin Department Of Natural Resources
- United States Geological Survey (USGS)
- United States Department of Agriculture (USDA)
- Town Of LaValle
- Property Owners On Lake Redstone
- General Lake Users

2025 KEY ACCOMPLISHMENTS

1. Algae identification analyses program
2. Goose roundup with USDA
3. Sauk county grant for Cardinal Bay Stabilization project. Working on DNR grant to cover installation costs.
4. Hosted annual Wisconsin Lakes Partnership meeting
5. Booth and presentation at Wisconsin River Bash
6. Shoreline Assessment followed by workshop
7. Producers of Baraboo Redstone Field Day
8. Possible Water Resources Management Practicum with UW-Madison

REPORTS

1. TRANSECT SURVEY REPORT - MITCH MCCARTHY (SAUK COUNTY)
2. STATUS OF AQUATIC PLANTS IN LAKE REDSTONE - SARA HATLELI (APHS)
3. SHORELINE ASSESSMENT – BRAD HORNER (LRPD)
4. REDSTONE WATER QUALITY – JANE MAHONEY (LRPD)

TRANSECT SURVEY REPORT

MITCH MCCARTHY (SAUK COUNTY)

TRANSECT SURVEY ANALYSIS

	2025	2024	2023	2022		
% No-Till Spring*	84%	80%	73%	n/a		
% Spring Till	16%	20%	27%	n/a		
% No-Till Fall*		85%	78%	76%		
% Fall Tillage		15%	22%	24%		
% Cover crops**		10%	9%	6%		
% Planted green**		1%	2%	4%		
NOTES						
* No Till	Crops like alfalfa, grass hay, CRP, etc. are categorized under no till					
** Cover Crops, Planted Green	Result from Fall survey					

2025 INSTALLED PRACTICES

Count	Township	Practice Name	Category	Cost	Quantity Installed	Units	P Reduction (lbs P)	Soil Loss Reduction (T/yr)	Gallons of Water Infiltrated
1	La Valle	340 - Cover Crop	Cropland, Soil Health, & NM	$ 2,052.00	34.0	Acres	4.9	3.9	340,000
1	La Valle	340 - Cover Crop	Cropland, Soil Health, & NM	$ 10,369.02	126	Acres	18	14	1,260,000
					160.0	**Acres**			
1	La Valle	528 - Prescribed Grazing	Livestock & Farmstead	$ 16,500.00	16.5	Acres	49.5	57.75	1,155,000
1	La Valle	528 - Prescribed Grazing	Livestock & Farmstead	$ 22,000.00	22	Acres	198	238	1,540,000
					38.5	**Acres**			
1	La Valle	580 - Streambank and Shoreline Protection	Water Quality	$ 3,000.00	80.0	linear feet	3	3.2	
1	La Valle	580 - Streambank and Shoreline Protection	Water Quality	$ 3,000.00	90.0	linear feet	9	11.3	
1	La Valle	580 - Streambank and Shoreline Protection	Water Quality	$ 5,685.00	30.0	linear feet	2	2.3	
					200.0	**linear feet**			
1	La Valle	Healthy Lakes - Buffer	Water Quality	$ 1,000.00	350.0	square feet	0.014	0.5	
1	La Valle	Healthy Lakes - Buffer	Water Quality	$ 1,000.00	350.0	square feet	0.014	0.5	
					700.0	**square feet**			
1	La Valle	Healthy Lakes - Diversion	Water Quality	$ 1,000.00	1.0	each			
2	La Valle	Healthy Lakes - Diversion	Water Quality	$ 2,000.00	2.0	each			
2	La Valle	Healthy Lakes - Diversion	Water Quality	$ 2,000.00	2.0	each			
					5.0	**each**			
1	La Valle	Healthy Lakes - Rain Garden	Water Quality	$ 1,000.00	1.0	each	0.06	0.5	
2	La Valle	Healthy Lakes - Rain Garden	Water Quality	$ 2,000.00	2.0	each	0.06	1	
2	La Valle	Healthy Lakes - Rain Garden	Water Quality	$ 2,000.00	2.0	each	0.06	1	
					5.0	**each**			
19				**$ 74,606.02**			**284.61**	**334.35**	**4,295,000.00**

STATUS OF AQUATIC PLANTS IN LAKE REDSTONE

SARA HATLELI (APHS)

EWM SURVEY

- IN 2024 IT TOOK 2 DAYS TO COMPLETE THE SURVEY. IN 2025 WE WERE ABLE TO FINISH IN JUST 8 HOURS DUE TO THE LOWER EWM OBSERVED. THERE JUST ISN'T A LOT OF EWM (DUE TO LOW WATER CLARITY) AND THE PLACES IT DOES EXIST IS LESS DENSE THAN 2024.
- THERE WERE SOME PLACES WITH EWM IN 2024 BUT NOT DETECTED THIS YEAR. THIS DOESN'T NECESSARILY MEAN THE EWM IS GONE, BUT COULD BE GROWING BELOW THE SURFACE WHERE WE CAN'T SEE IT DUE TO THE LOW WATER CLARITY.
- SUB-POINT-INTERCEPT (SUBPI) SURVEYS OF CARDINAL, MARTIN-MEADOWLARK, AND SWALLOW BAYS WERE COMPLETED AUGUST 6, 2025 AND REVEALED VERY LOW OCCURRENCE OF EWM (6 SAMPLE POINTS IN CARDINAL, 0 IN MARTIN-MEADOWLARK, 0 IN SWALLOW.
- BASED ON THESE RESULTS, CHEMICAL TREATMENT, AND OTHER CONTROL OF EWM IS NOT NECESSARY NOR RECOMMENDED FOR 2026. AQUATIC PLANT GROWTH CONTINUES TO BE VERY LOW IN LAKE REDSTONE AND THEREFORE ANY AQUATIC PLANT GROWTH, EVEN EWM, IS CURRENTLY PROVIDING SOME STRUCTURAL HABITAT FOR FISH AND WILDLIFE.

EWM SURVEY

Density	2022 Acres	2023 Acres	2024 Acres	2025 Acres
Highly Scattered	8.2	9.58	3.39	2.47
Scattered	4.3	7.56	8.87	7.25
Dominant	6.6	3.44	5.71	2.42
Highly Dominant	12.8	0.56	0.6	0
Total	**31.9**	**21.14**	**18.57**	**12.14**

**** 2022-2023 Surveys completed by Cason Lake & Water Management LLC***

SHORELINE ASSESSMENT

BRAD HORNER (LRPD)

BASIC INFORMATION ABOUT THE ASSESSMENT

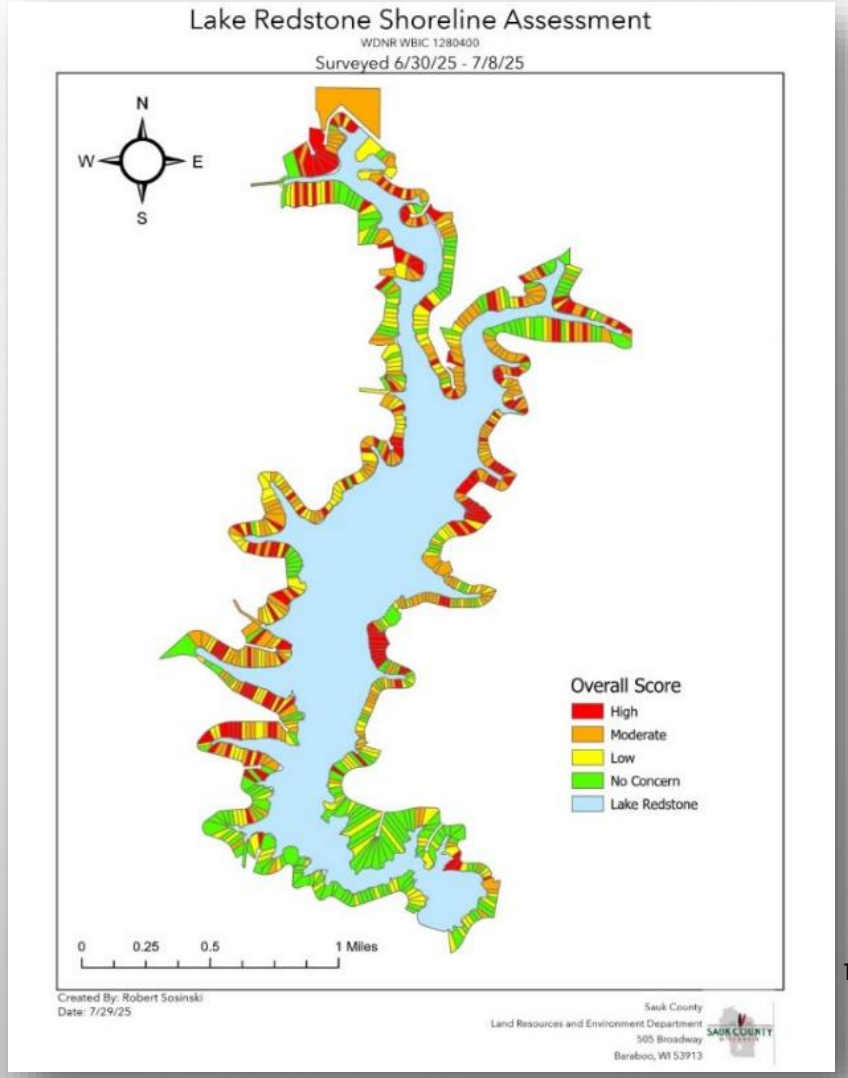
- APPROPRIATELY 40% OF THE SEDIMENT COMING INTO THE LAKE ARE FROM PROPERTIES AROUND THE LAKE
- THE ASSESSMENT WAS PERFORMED IN JUNE AND JULY 2025 BY SAUK COUNTY, WITH LOGISTICAL SUPPORT FROM THE LRPD. A SIMILAR ASSESSMENT WAS PERFORMED IN 2018.
- EACH OF THE 795 PARCELS ON THE LAKE WAS PHOTOGRAPHED AND EVALUATED USING AN APPLICATION DEVELOPED BY SAUK COUNTY
- THE RIPARIAN ZONE (FIRST 35 FEET) OF EACH PROPERTY WAS SCORED FOR 9 KEY PARAMETERS

PRIORITY SCORING PARAMETERS

Parameter	Red Range (2 points)	Yellow Range (1 point)	Green Range (0 points)
Percent Canopy Cover	0-33%	34-66%	67-100%
Percent shrub and herbaceous(undisturbed)	0-33%	34-66%	67-100%
Percent lawn, impervious, and other surfaces	67-100%	34-66%	0-33%
Number of buildings and other human structures	>1	1	0
Presence/Absence of lawn or soil sloping to lake	N/A	1(Present)	0(Absent)
Presence/Absence of bare soil	2(Present)	N/A	0(Absent)
Presence/Absence of sand deposits	N/A	1(Present)	0(Absent)
Percent woody habitat	0-33%	34-66%	67-100%
Percent slope	>9%	5-8%	0-4%

LAKE-WIDE SUMMARY

Priority	Overall Score	Color	Number of Parcels
High	10-15	Red	162
Moderate	8-9	Orange	240
Low	5-7	Yellow	195
No Concern	0-4	Green	198



FOLLOW UP!

- COMMUNICATIONS OF RESULTS HAS REACHED POSSIBLY 2/3 OF THE LAKE POPULATION VIA EMAIL, FACEBOOK, AND THE PROPERTY OWNERS ASSOCIATION
- 50 PEOPLE HAVE REQUESTED THEIR RESULTS, MOSTLY PEOPLE WHOSE PROPERTY WAS RATED YELLOW OR GREEN. 125 HAD REQUESTED RESULTS IN 2021.
- AN ASSESSMENT WORKSHOP WAS HELD WITH 15 ATTENDEES. (75 ATTENDED IN 2021 AND 2022). ANOTHER WORKSHOP IS PLANNED FOR JUNE OF 2026.
- A LETTER IS GOING TO BE MAILED TO THE OWNERS OF RED AN ORANGE PROPERTIES CONTAINING:
  - THEIR ASSESSMENT
  - THE IMPORTANCE OF THEIR ADDRESSING THE RESULT
  - REIMBURSEMENT INFORMATION FROM DNR, SAUK CO, LRPD
  - GIVING INFORMATION ON HOW TO ADDRESS THEIR ISSUES

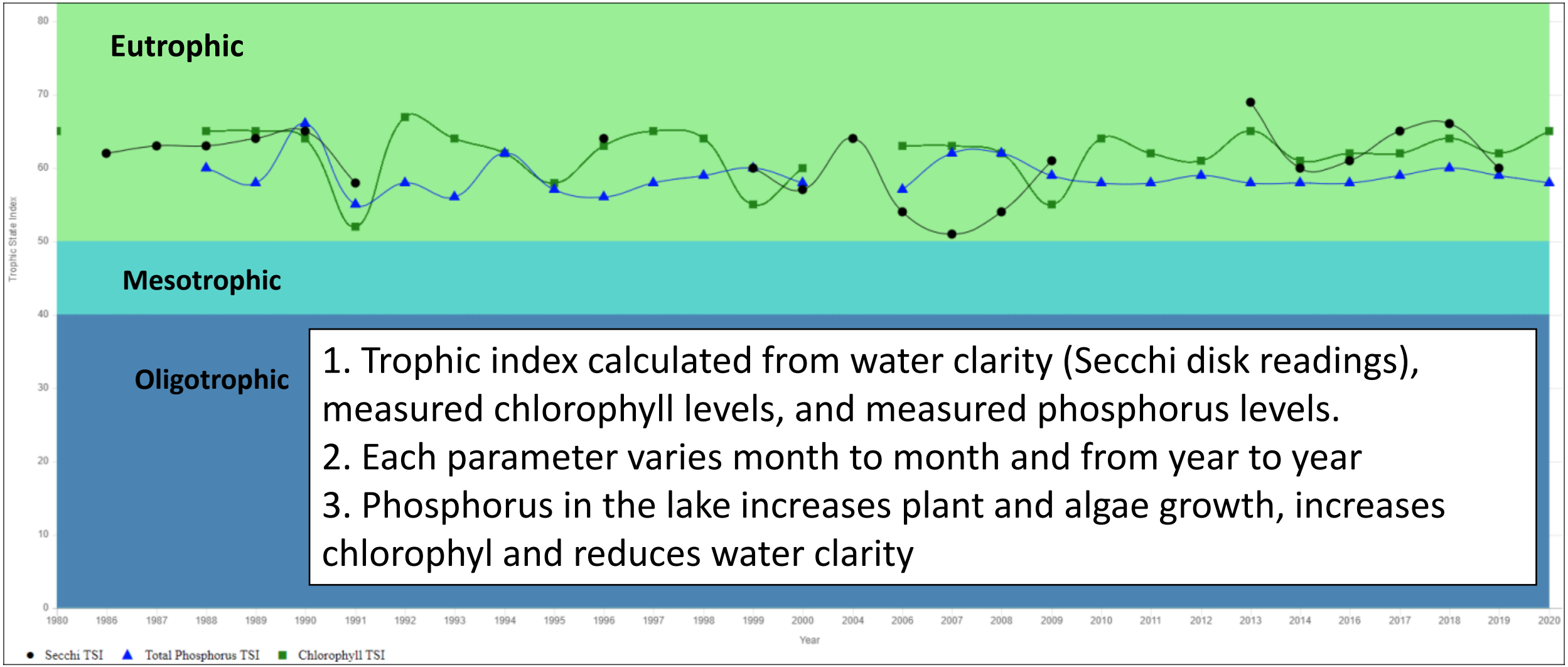
REDSTONE WATER QUALITY

JANE MAHONEY(LRPD)

Lake Redstone Water Quality

I. Lake Redstone continues to be Eutrophic
II. Phosphorus comes from 3 different sources
    A. Watershed-via Big Creek (USGS studies)
    B. Gullies and shorelines around the lake
    C. Internal loading
III. LRPD aims to reduce phosphorus entry with 9-KE plan
IV. 2024 and 2025 results and blue-green algae blooms

Trophic index at Deep Hole



1. Trophic index calculated from water clarity (Secchi disk readings), measured chlorophyll levels, and measured phosphorus levels.
2. Each parameter varies month to month and from year to year
3. Phosphorus in the lake increases plant and algae growth, increases chlorophyl and reduces water clarity

● Secchi ▲ Phosphorus ▮ Chorophyll

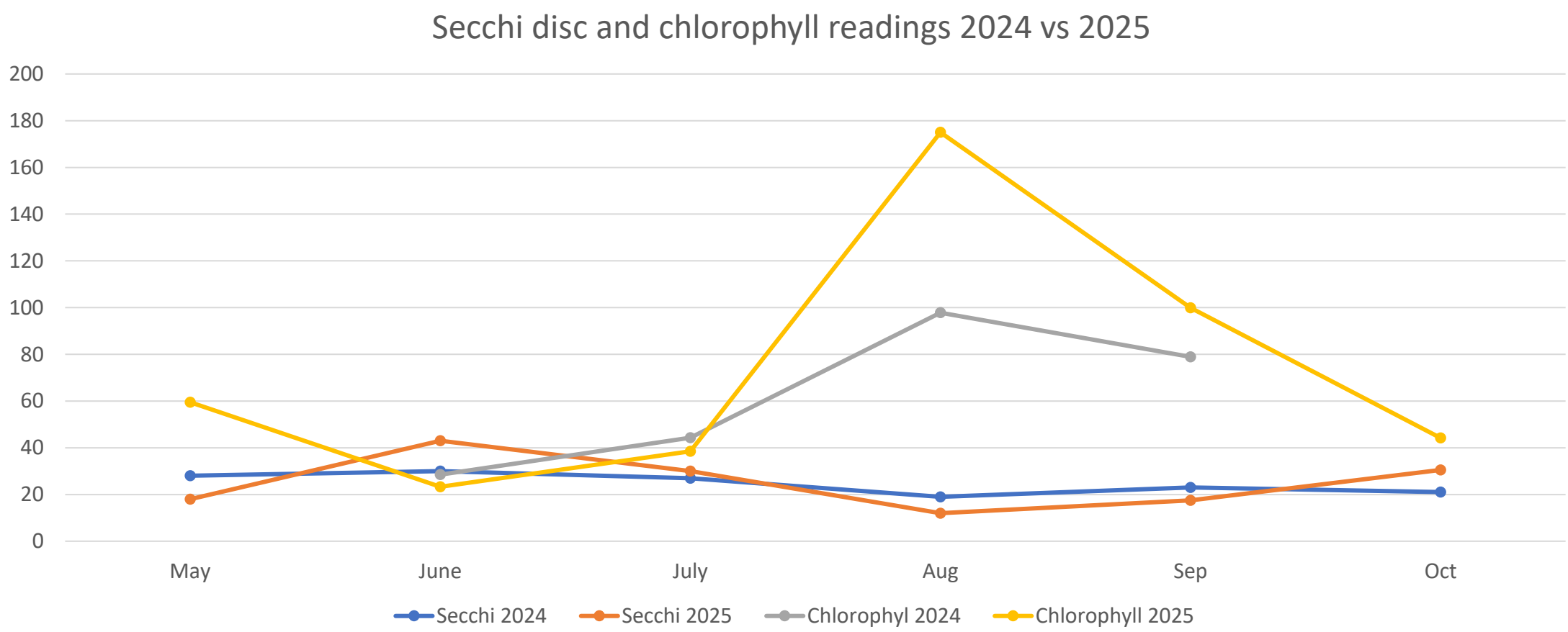
Where does the phosphorus come from?
Conclusions from 4 years of studies with USGS

- Most sediment and phosphorus enters the lake during storms
- About 60% of phosphorus comes from remote regions of watershed
- Region near the lake contributes about 40% to phosphorus entry
- It is difficult to measure how much comes from gullies vs lawns
- About 45% of incoming phosphorus leaves the lake via the outlet stream

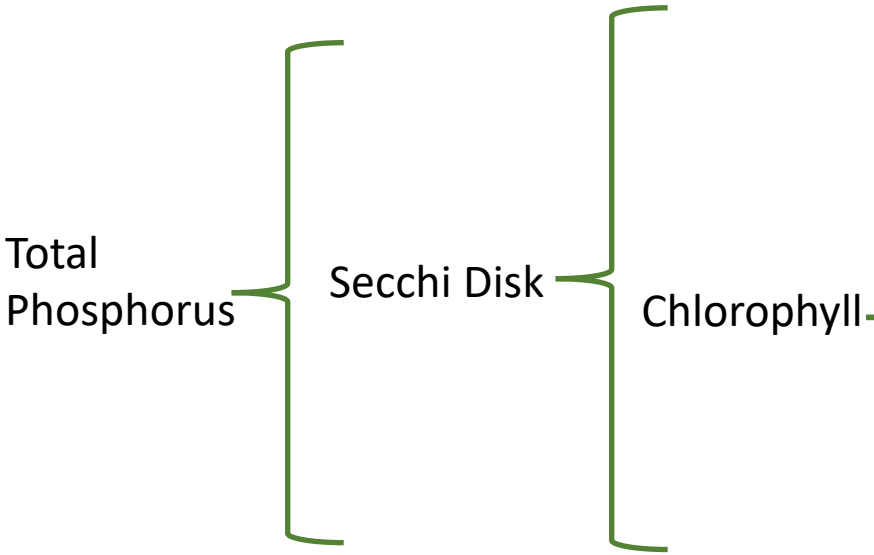
Activities outlined in Lake Management Plan to reduce external loading of phosphorus

- Encourage sustainable farming practices by producers in watershed
  - ► Cover crops, no-till practices, harvestable buffer, rotational grazing, convert row crops to grassland
- Prevent sediment and phosphorus entry from small streams
- Improve shorelines to prevent phosphorus entry from lawns
- Remove geese from the lake (contribute phosphorus from feces)

Comparison of 2024 and 2025 readings, Deep Hole



Lake Redstone 2025 measurements – where do we fall on the trophic state gradient?



A list of possible changes that might be expected in a north temperate lake as the amount of algae changes along the trophic state gradient.

TSI	Chl(µg/L)	SD(m)	TP (µg/L)	Attributes	Water Supply	Fisheries & Recreation
50 – 60	7.3 – 20	2 – 1	24 – 48	**Eutrophy:** Anoxic hypolimnia, macrophyte problems possible.		Warm-water fisheries only. Bass may dominate.
60 – 70	20 – 56	0.5 – 1	48 – 96	Blue-green algae dominate, algal scums and macrophyte problems.	Episodes of severe taste and odor possible.	Nuisance macrophytes, algal scums, and low transparency may discourage swimming and boating.
70 – 80	56 – 155	0.25 – 0.5	96 – 192	**Hypereutrophy:** (light limited productivity). Dense algae and macrophytes.		

Chart modified from North American Lake Management Society

2025 – Began Algae Analysis Identification

- Based on feedback from the 2024 partners meeting
- Results from State Lab of Hygiene - available through July, 2025

Algae Sampling, May 13, 2025

Brown water and poor water clarity due to Limnothrix bloom

Test: **ET47001** Method: **Algae ID and Enumeration** Analysis Dat

Deep hole, May 13, 2025

Add a reply

Division: **BACILLARIOPHYTA** Taxa	Count NU/mL	Cell Count Cells/mL	Relative Cell Count (%)
Pennales Diatoms	1363	1363	0.1

Division: **CRYPTOPHYTA** Taxa	Count NU/mL	Cell Count Cells/mL	Relative Cell Count (%)
Cryptomonas sp.	2385	2385	0.1
Komma caudata	3917	3917	0.2

Division: **CYANOPHYTA** Taxa	Count NU/mL	Cell Count Cells/mL	Relative Cell Count (%)
Limnothrix sp.	94529	1923792	99.3
Planktothrix sp.	170	5450	0.3

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN–MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - Fax (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

Environmental Health Division

WSLH Sample: 791438001

Owner 11:26 AM

Upper site, May 13, 2025

Add a reply

Division: **CYANOPHYTA** Taxa	Count NU/mL	Cell Count Cells/mL	Relative Cell Count (%)
Aphanocapsa sp.	170	4088	0.4
Limnothrix sp.	52459	957212	98.0
Planktothrix sp.	170	3406	0.3

Algae sampling, July 14, 2025

Limnothrix decreasing; planktothrix and other cyanobacteria increasing

Division: **CRYPTOPHYTA**

Taxa	Count NU/mL	Cell Count Cells/mL	Relative Cell Count (%)
Cryptomonas sp.	619	619	0.3
Komma caudata	2725	2725	1.3

Division: **CYANOPHYTA**

Taxa	Count NU/mL	Cell Count Cells/mL	Relative Cell Count (%)
Aphanizomenon sp.	867	11768	6.6
Aphanocapsa sp.	619	9786	5.5
Limnothrix sp.	2292	25455	14.2
Merismopedia sp.	1301	20315	11.4
Planktolyngbya sp.	5203	51654	28.9
Planktothrix sp.	3778	53574	30.0
Pseudanabaena sp.	62	867	0.5

Owner 11:42 AM

July 14, 2025, Upper Site

Add a reply

Division: **CRYPTOPHYTA**

Taxa	Count NU/mL	Cell Count Cells/mL	Relative Cell Count (%)
Cryptomonas sp.	454	454	0.2
Komma caudata	1476	1476	0.7

Division: **CYANOPHYTA**

Taxa	Count NU/mL	Cell Count Cells/mL	Relative Cell Count (%)
Aphanizomenon sp.	284	6926	3.5
Aphanocapsa sp.	1135	17032	8.6
Limnothrix sp.	4372	53084	26.8
Merismopedia sp.	1079	20098	10.1
Planktolyngbya sp.	3861	53708	27.1
Planktothrix sp.	2612	41445	20.9

Owner 11:37 AM

July 14, 2025 Deep Hole

Add a reply

Owner 11:35 AM

Planktothrix can produce microcystins toxin; forms long, slender, straight filaments that can form dense surface scums (though usually remain separate). Strong earthy odor and filaments easily detected visually in a water sample

Add a reply

Cyanobacteria bloom, Sept 10, 2025

Chickadee Bay North

Positive jar test

Harmful Algal Bloom confirmed by DHS based on photos

Cyanobacteria bloom, Sept 26, 2025

Chickadee Bay North

Notice sent to LRPD email list and posted on Facebook and LRPD website

A story on WMTV from Madison reported that with the current forecast of warmer weather, lakes may see increased surface algae blooms.

When Lake Redstone has experienced these in the past, the events have been isolated and tended to dissipat

What should you do if you see a bloom?

- If you see something, say something. Take pictures. Report the bloom to the Wisconsin Dept. of Health S DHS) website.
- Also email pictures and location to lrpd.board@gmail.com, so the LRPD knows.
- The WI DHS recommends that if you see an algal bloom or suspect an algal bloom, stay out of the area of where a bloom is present and keep children and pets out of that part of the water. Some surface algae b produce toxins, so the best approach per WI DHS is "When in doubt, stay out".
- See the Wisconsin DHS website: https://www.dhs.wisconsin.gov/algae/ for further information on algal

The LRPD's water quality testing includes sampling for algal species, however there is a several week delay b collecting the water sample and getting results of the analysis from the State Lab of Hygiene. The LRPD is in with Sauk County regarding water conditions and results of testing.

MAJOR ISSUES

1. BLUE GREEN ALGAE
2. IMPROVING WATER QUALITY

BLUE GREEN ALGAE

1. LIMNOTHRIX BLOOM
2. BLUE GREEN ALGAE BLOOMS IN SEPTEMBER
3. SAUK COUNTY ROLE
4. LRPD ROLE

WORK TO DATE: BLUE GREEN-ALGAE MONITORING AND COMMUNICATION PLAN

- MEETING WITH DANE COUNTY/MADISON PUBLIC HEALTH, OCT 8
  - ATTENDED BY JUSTIN HUELSEMANN AND TAYLOR FISH OF SAUK COUNTY PUBLIC HEALTH, MITCH MCCARTHY, SAUK COUNTY WATERSHED COORDINATOR
  - DANE COUNTY MONITORS PUBLIC BEACHES WEEKLY AND WHENEVER REPORTED BLOOM FROM MEMORIAL DAY THROUGH LABOR DAY
  - CLOSES BEACH WHEN BLOOM VISIBLE; OPENS WHEN BLOOM GONE OR TOXIN NEGATIVE, USES SIGNAGE FROM DHS
  - TOXIN SCREEN FOR MICROCYSTIN FOLLOWING EPA RECOMMENDATION FOR 8 UG/LITER LIMIT – SCREEN IS POSITIVE ABOUT 50% OF TIME
- MEETING WITH SAUK COUNTY PUBLIC HEALTH, ENVIRONMENTAL HEALTH, AND MITCH MCCARTHY, OCT 23
  - SAUK COUNTY WILL DEVELOP WEBSITE AND MONITORING AND ACTION PLAN FOR PUBLIC BEACH; DEVELOP PLAN FOR SIGNAGE AT BOAT LANDINGS
  - LRPD POTENTIAL ROLES – NOTIFY SAUK COUNTY IF BLOOMS NOTED ON LAKE; COMMUNICATE TO RESIDENTS WHEN CONDITIONS MAKE BLOOMS LIKELY; POINT OUT SIGNAGE AT BOAT LANDINGS (AS PART OF CBCW)

IMPROVING WATER QUALITY

1. DECLINING PLANT POPULATION
2. DECLINING WATER CLARITY(12” SECCHI DISC)
3. INCREASING CHLOROPHYLL READINGS(175 MG/L)
4. HOW CAN THE LEVELS OF PHOSPHORUS BE REDUCED?

OTHER TOPICS OF MUTUAL INTEREST

Thank you!

For more information:

www.lakeredstonepd.org

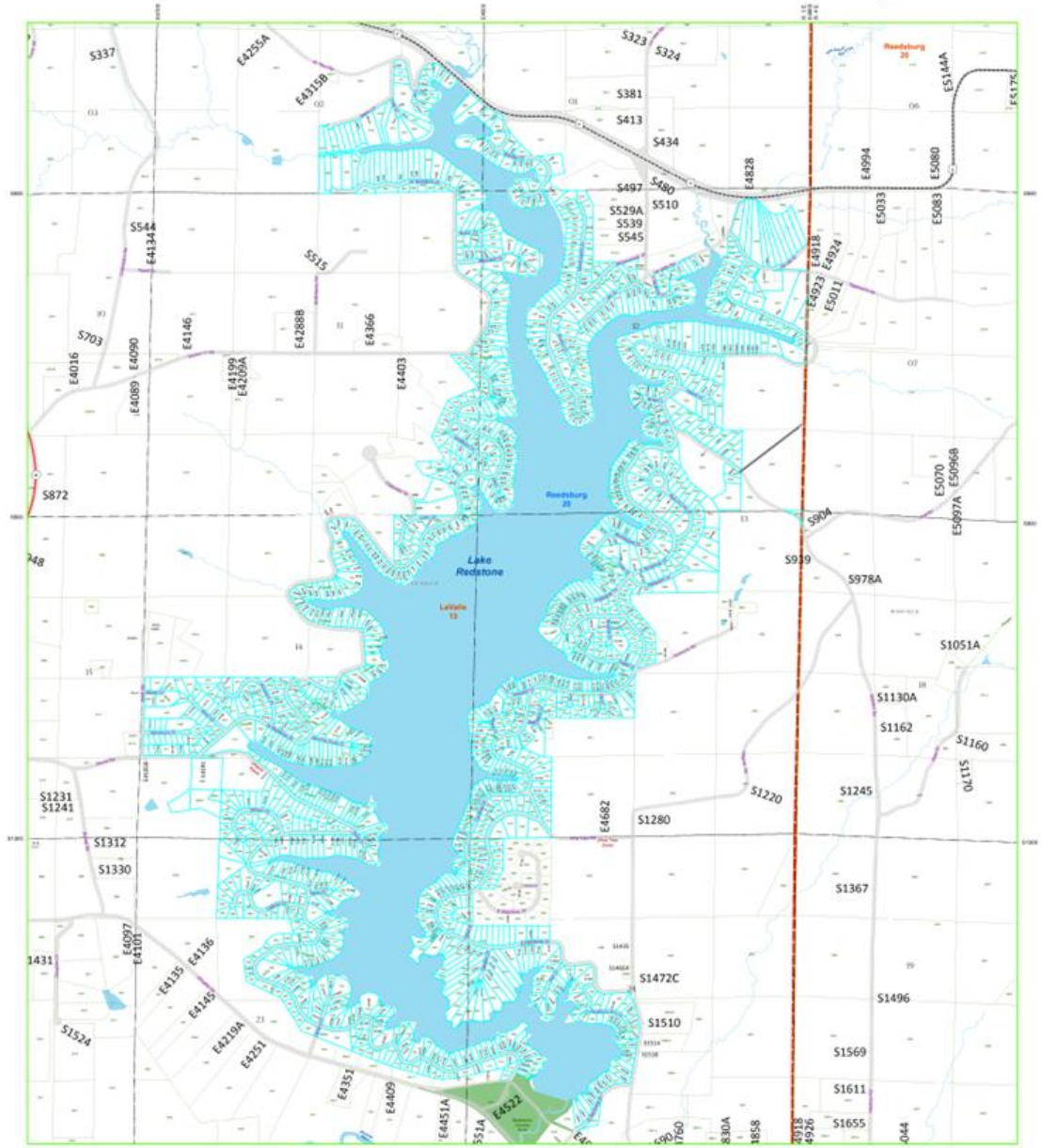
lrpd.board@gmail.com

EXTRAS

Fire Number Map

Lake Redstone Detail

Sauk County, WI T.13N - R.3E.



Water monitoring in Lake Redstone

Several parameters, including total phosphorus have been measured for more than 20 years.

For many years, total phosphorus was measured near surface (2 ft down) and near the bottom (2 ft up)