



**Thank you for
joining us to
celebrate!**



Comfort Lake Delisting Celebration



Jackie Anderson

President, Board of Managers

**Comfort Lake – Forest Lake
Watershed District**



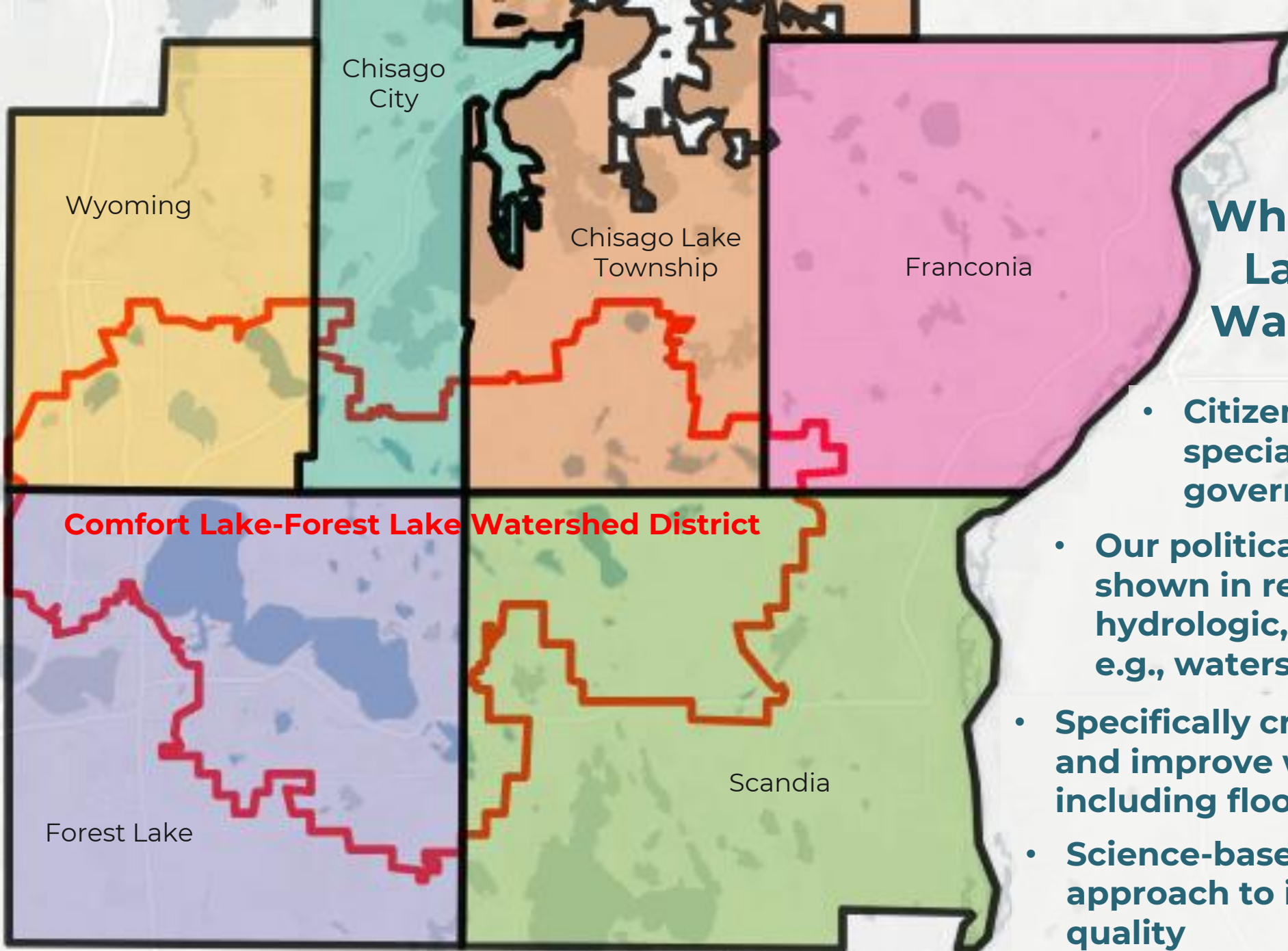
Comfort Lake Delisting Celebration



Comfort Lake Nutrient Impairment Delisting

Mike Kinney, CLFLWD District Administrator
Blayne Eineichner, CLFLWD Project Coordinator
Anne Wilkinson, Emmons & Olivier Resources, Inc.





Wyoming

Chisago City

Chisago Lake Township

Franconia

Comfort Lake-Forest Lake Watershed District

Forest Lake

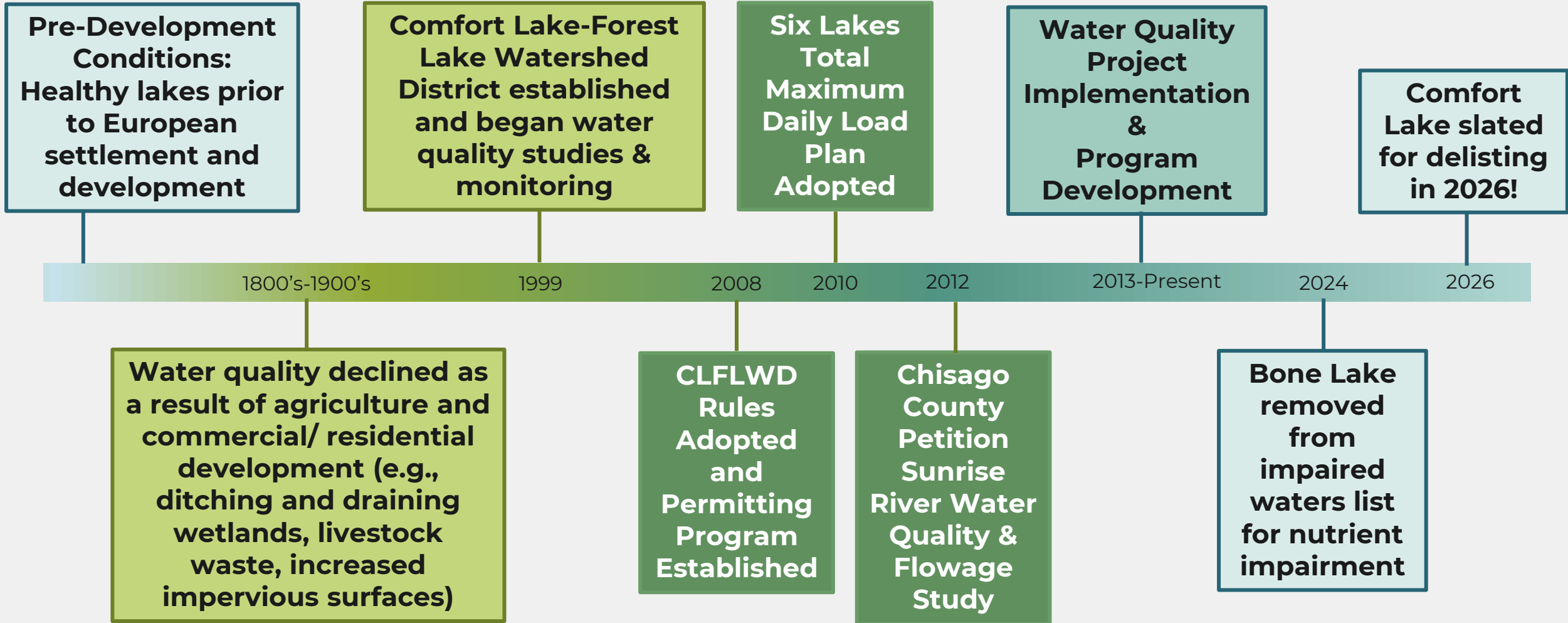
Scandia

What is the Comfort Lake-Forest Lake Watershed District?

- Citizen-petitioned special unit of local government, est. 1999
- Our political boundaries, as shown in red, reflect the hydrologic, e.g., watershed, boundaries
- Specifically created to protect and improve water resources, including flood mitigation
- Science-based, data-driven approach to improving water quality



Historical Context





Comfort Lake History

- 2002: Added to Impaired Waters List
- 2010: Six Lakes Total Maximum Daily Load (TMDL) completed
 - Comfort Lake trophic state index (TSI) values = “slightly eutrophic”
 - Several water quality samples in the TMDL dataset met state standards
- 2010: Chisago County Petition
 - Petition to complete a study and implement projects to clean up Sunrise River and Comfort Lake
- 2012: Sunrise River Water Quality & Flowage Study
 - Identified water quality improvement projects
 - E.g., Bixby Park, Tax Forfeit Property, Shallow Pond

Six Lakes TMDL:

Table 13. Surface Water Quality, Comfort Lake, 1997 - 2007

	Growing Season Mean (June – September)	Trophic State Index
TP (µg/L)	37	56
Chl-a (µg/L)	16	58
Secchi depth (m)	1.6	53



**RESOLUTION NO. 10/0721-1
APPROVING THE PETITION TO
COMFORT LAKE – FOREST LAKE WATERSHED DISTRICT
FOR A SUNRISE RIVER WATER QUALITY IMPROVEMENT AND
FLOWAGE MANAGEMENT PROJECT TO ADDRESS STORMWATER
RUNOFF CONCERNS ALONG THE SUNRISE RIVER**

**Engineer's Report:
Sunrise River Water Quality & Flowage Project**





Water Monitoring Data & Delisting Criteria

#1 – Water Quality Samples:

Comfort Lake meets criterion #1 for de-listing because seasonal averages of at least two years out of the last 10 years meet phosphorus, chlorophyll-a, and Secchi standards. Additionally, the 10-year average is within the state standard.

Comfort Lake Phosphorus										
Deep Lake State Standard $\leq 40 \mu\text{g/L}$	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
10-Year Average: $28 \mu\text{g/L}$										
Summer Average	34	33	32	26	31	20	28	16	35	26
Sample 1	16	18	51	57	21	31	26	10	29	22
Sample 2	27	67	20	22	13	44	34	13	71	23
Sample 3	86	27	34	24	17	20	38	25	38	26
Sample 4	28	55	38	20	16	8	25	10	31	37
Sample 5	32	23	24	30	73	12	25	16	32	27
Sample 6	29	23	22	33	45	15	15	22	29	29
Sample 7	29	17		19	30	16	24	17	24	18
Sample 8	27	18		23	18	15	33		26	21

Comfort Lake Chlorophyll-a										
Deep Lake State Standard $\leq 14 \mu\text{g/L}$	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
10-Year Average: $12 \mu\text{g/L}$										
Summer Average	16	12	14	16	10	4	10	5	15	14.5
Sample 1	7	9	4	9	5	4	2	6	8	6
Sample 2	10	1	9	13	7	7	8	3	10	9
Sample 3	9	13	10	21	6	2	16	3	5	14
Sample 4	14	17	33	21	8	1	10	3	15	16
Sample 5	31	13	12	15	16	3	13	8	19	17
Sample 6	22	13	14	27	10	4	8	3	28	25
Sample 7	25	13		20	11	8	8	6	14	13
Sample 8	23	21		15	12	6	13		20	11

Comfort Lake Secchi										
Deep Lake State Standard $\geq 4.6 \text{ ft}$	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
10-Year Average: 5.9 ft										
Summer Average	5.5	5.8	7.7	5.3	6.0	8.4	5.9	7.4	4.4	5.6
Sample 1	8.0	7.5	14.0	7.5	6.6	9.8	8.2	5.6	4.9	7.9
Sample 2	6.0	6.5	8.5	6.0	9.5	9.8	6.6	7.9	3.9	7.2
Sample 3	6.5	6.0	7.0	5.5	7.5	8.9	4.6	8.5	4.3	5.6
Sample 4	6.0	4.5	4.5	5.0	5.6	10.2	5.2	7.7	5.2	4.6
Sample 5	3.0	4.5	6.0	4.0	6.0	7.9	4.6	8.0	4.6	4.3
Sample 6	4.5	6.0	6.0	4.5	5.7	9.2	5.9	5.2	3.6	3.9
Sample 7	4.0	5.5		5.5	5.5	6.2	6.9	9.0	3.9	6.2
Sample 8	4.5	6.0		6.0	4.9	5.6	5.6	7.2	4.6	5.6

Blue boxes = meeting standards
Orange boxes = not meeting standards

2026 monitoring report available in the document library at www.CLFLWD.org



Water Monitoring Data & Delisting Criteria

**Added to Impaired Waters List
2002 –based off 1992-2002
dataset**



Freshwater bryozoan “moss animal”
found in Comfort Lake 2025

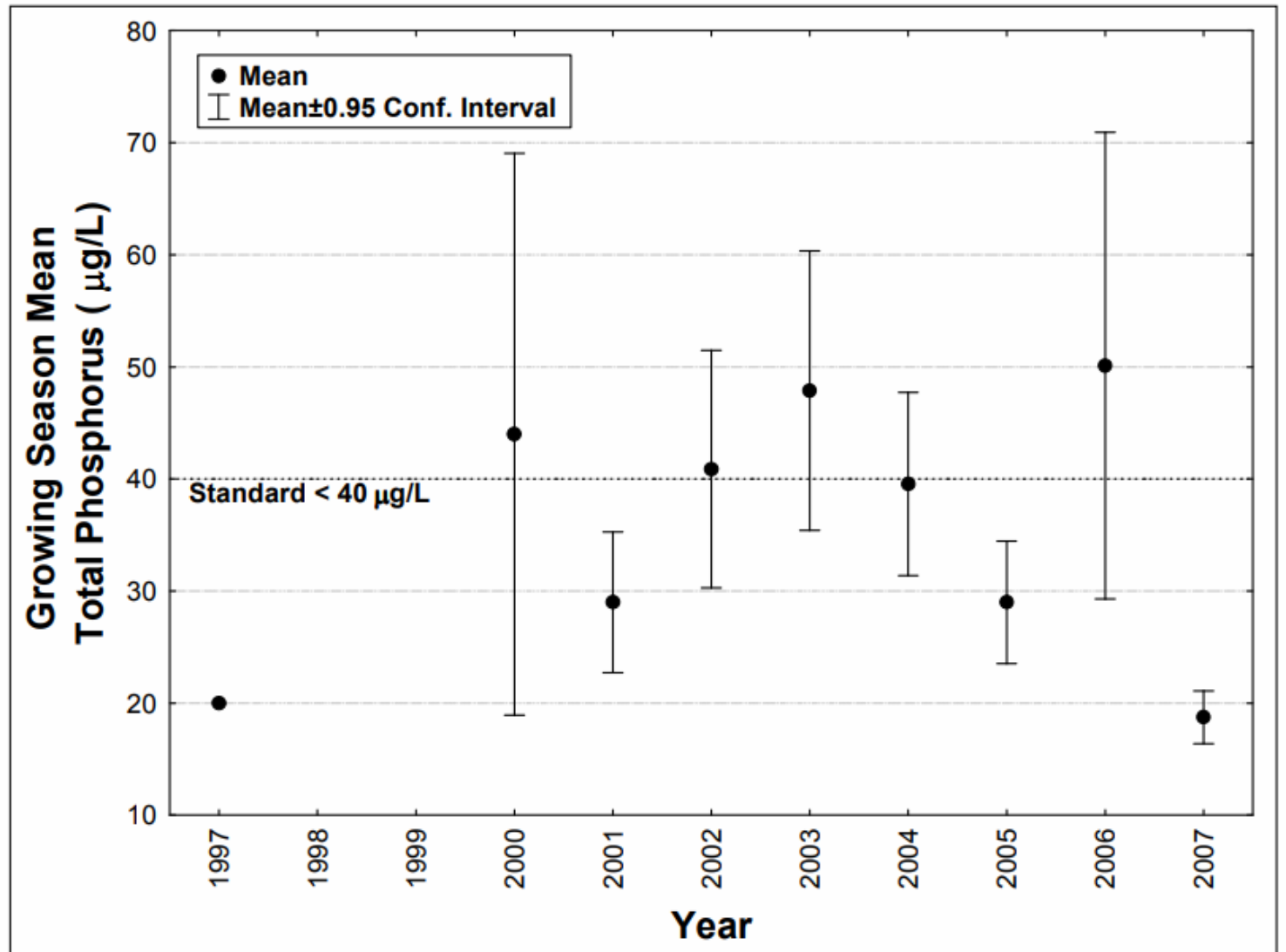


Figure 40. Total Phosphorus Monitoring Data, Comfort Lake

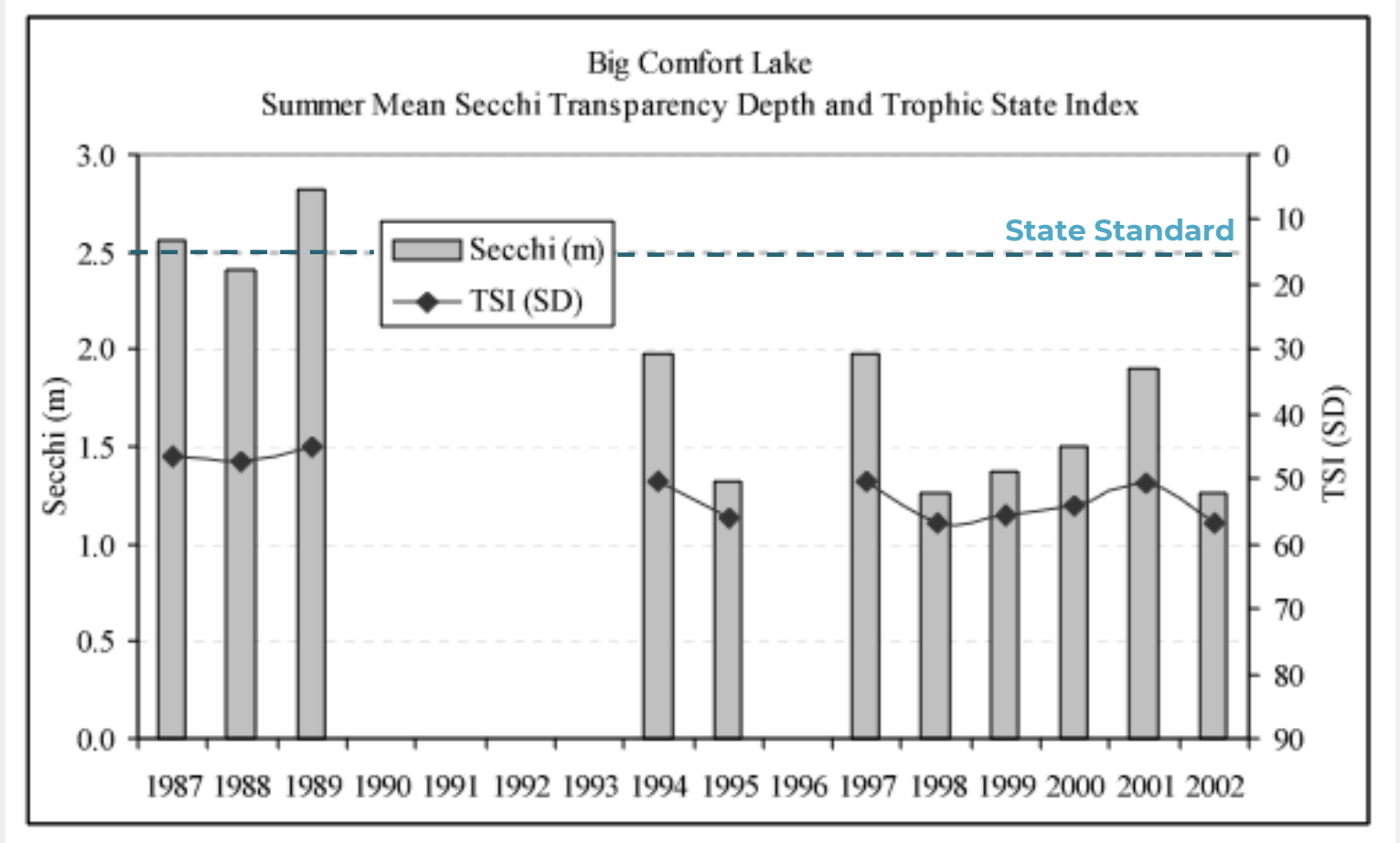


Water Monitoring Data & Delisting Criteria

**Added to Impaired Waters List
2002 –based off 1992-2002
dataset**



bryozoan are considered a sign of good water quality



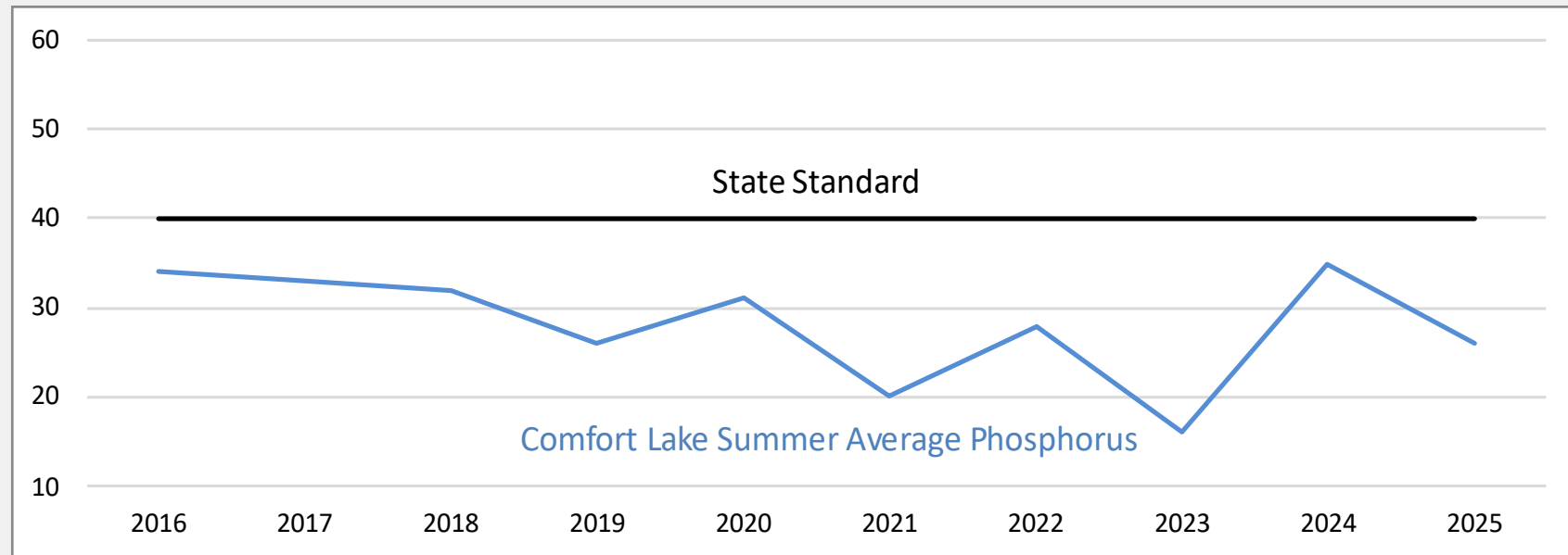


Water Monitoring Data & Delisting Criteria

#2 Trend/Management:

Phosphorus trend is improving in Comfort Lake. Several management activities are in place to maintain improved chlorophyll-a or Secchi observations in Comfort Lake. Comfort Lake meets criteria #2 for de-listing.

Lake	Total Phosphorus Trend	Chlorophyll-a Trend	Secchi Disk Trend
Comfort Lake	Improving Trend	Improving Trend	Improving Trend



Management Activities

- Target Retrofits
- Broadway Iron Enhanced Sand Filter
- Bixby Park Project
- Highway 61 Wetland Enhancement
- Permitted stormwater management practices
 - Upstream lake improvements



Comfort Lakes Diagnostic Study

Complex Sunrise River corridor system

- Ditches
- Wetland complexes
 - Shallow Pond wetland complex is currently a major phosphorus sink, but not enough to fully protect downstream water resources
- Residential, commercial, and rural land uses
- Many upstream lakes

Comfort Lakes Diagnostics

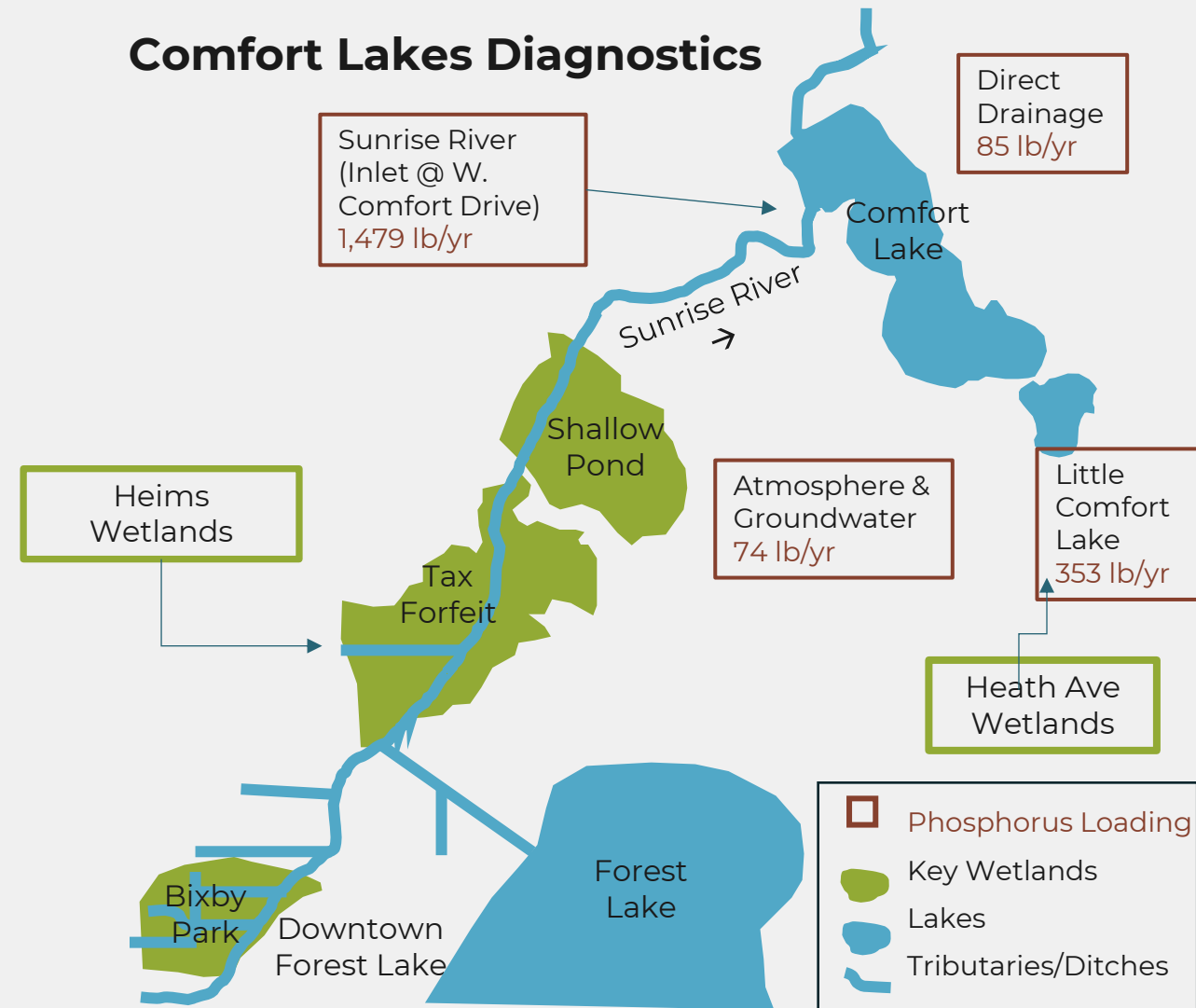




Comfort Lakes Diagnostic Study

Diagnostic Study identified phosphorus loading sources and targeted projects in the watershed

- Bixby Park
- Tax Forfeit Land / Heims Lake wetlands
- Shallow Pond
- Heath Ave / Little Comfort wetlands





Upstream Lake Health Improves, Comfort Lake Improves

- Dozens of cost-effective projects implemented since CLFLWD establishment in 1999
- Most within the last 10 years

- Most water quality trends are improving
- Forest Lake alum treatment will help improve trend over time

District-Wide Phosphorus Load Reductions from Local Water Quality Improvement Projects

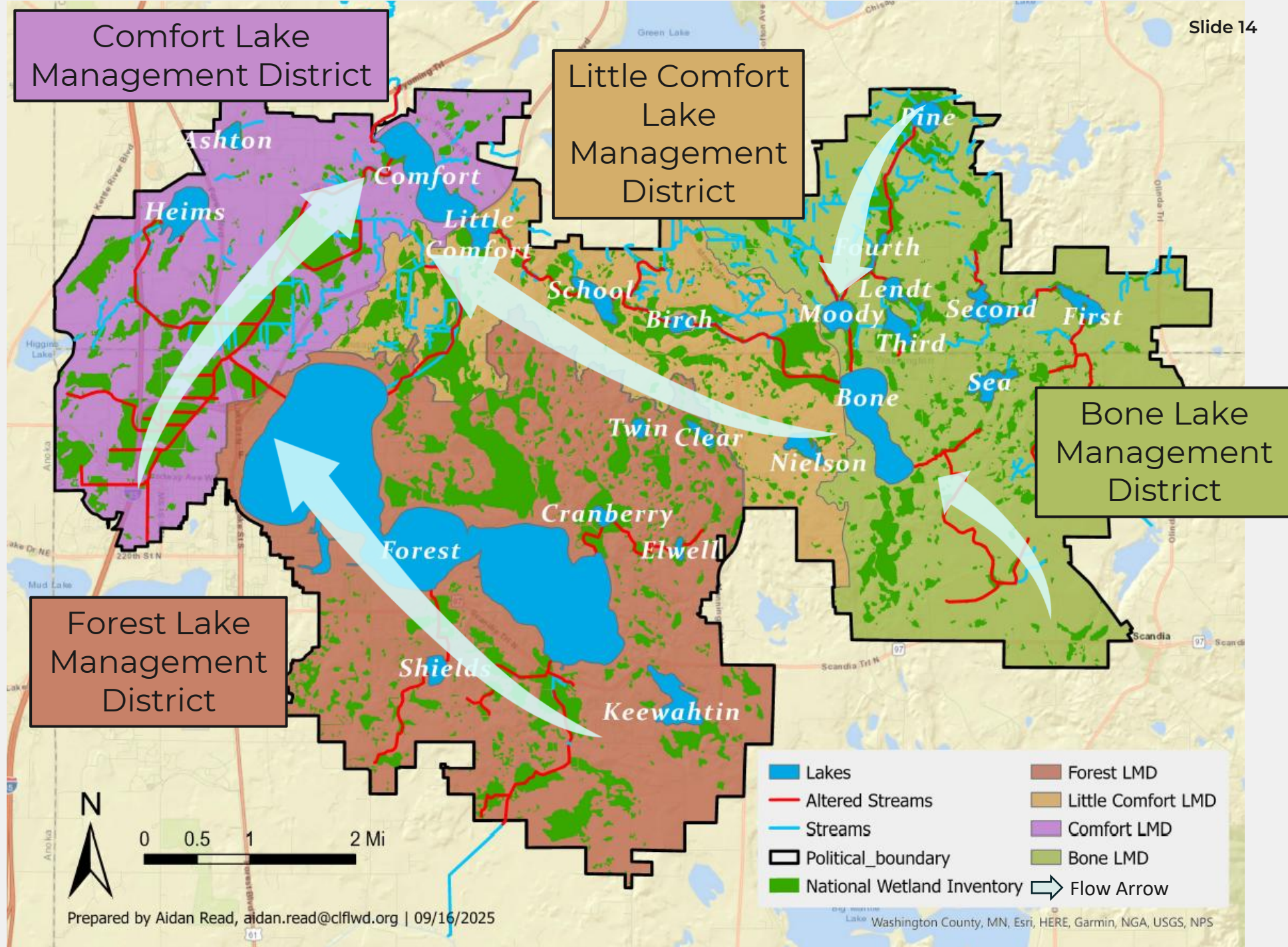


State Standard Reduction Goal: 3,245 lbs
District Sustainable Reduction Goal: 5,802 lbs

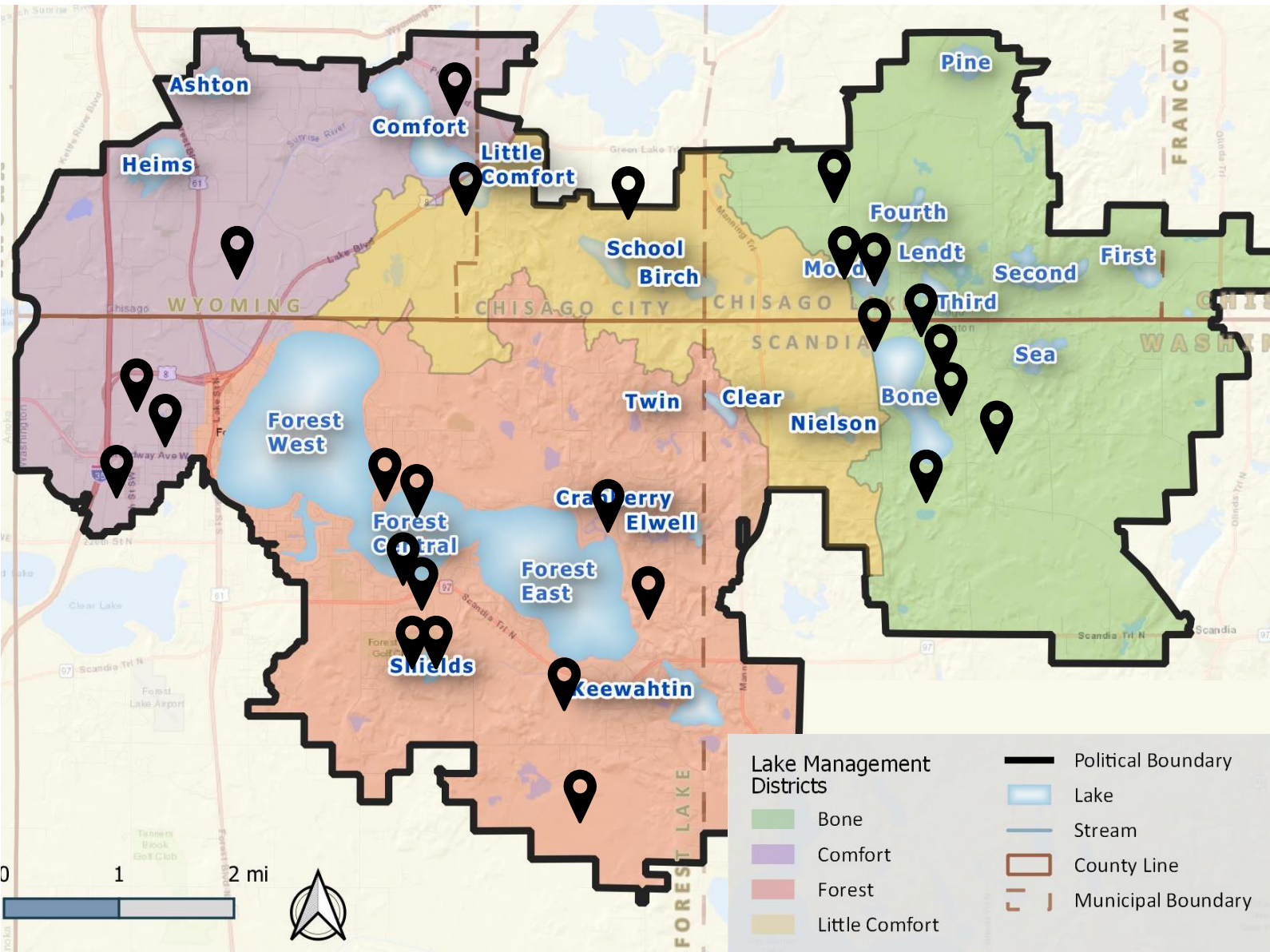
Lake	Phosphorus Trend	Chlorophyll-a Trend	Clarity Trend
Bone	Improving	Improving	Improving
Comfort	Improving	Improving	Improving
Forest East	Improving	Improving	Improving
Forest Middle	Improving	Declining	Declining
Forest West	Improving	Improving	Declining
Keewahtin	Improving	Improving	Improving
Little Comfort	Improving	Improving	Improving
Moody	Improving	Improving	Improving
School	Improving	Improving	Improving
Shields	Improving	Improving	Improving

A Complex Map for a Complex Watershed

- CLFLWD boundaries and watershed
- Abundant wetlands + historic ditching = abundant ditched wetlands
- Divided into 4 Lake Management Districts
- Northern flow path (Bone->Little Comfort)
- Southern flow path (Forest->Sunrise River)
- All flows to Comfort Lake, Sunrise River
- All CLFLWD projects have benefitted Comfort Lake
- Watershed approach: top-down cleanup



Watershed improvement from the top down



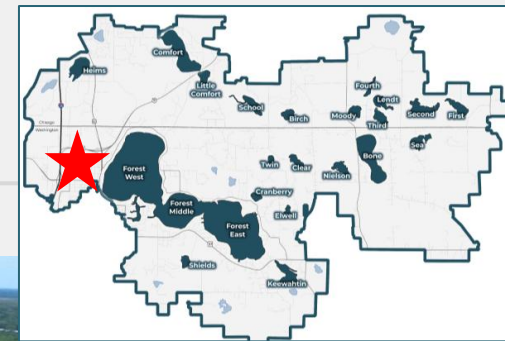
Major Projects Completed or In-Progress:

Project Reductions in Phosphorus (P) and Total Suspended Solids (TSS)	Grant Funds	Local Funds
Bone LMD 1,625 lb/yr P 563 tons/yr TSS	\$5,265,000	\$662,000
Forest LMD 2,373 lbs/yr P 338 tons/yr TSS	\$3,216,000	\$1,075,000
Little Comfort LMD 503 lbs/yr P Additional projects in-progress to reduce P and TSS	\$1,589,000	\$159,000
Comfort LMD 702 lbs/yr P 136 tons/yr TSS	\$3,402,000	\$1,047,000
Combined Total 5,203 lbs/yr P 1,037 tons/yr TSS	\$13,472,000	\$2,943,000

Minor Projects: The District has several additional projects in-progress and planned to further protect and improve lake water quality, which will add on to the nutrient reductions achieved to date shown above.



Bixby Wetland Enhancement Project 2015

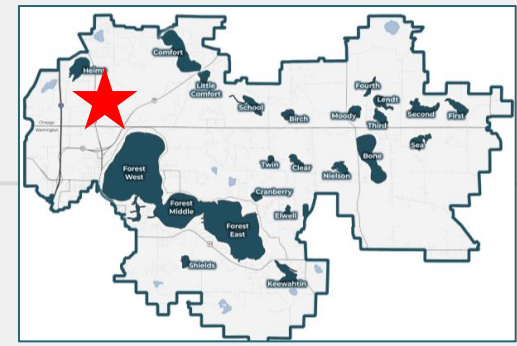


206 lbs/phos
reduction /yr
to Sunrise
River

93 lbs of
phos/yr to
Comfort
Lake



Sunrise River Highway-61 Wetland Enhancement 2023



Ditch Diversion

89 lbs/phos reduction /yr to Sunrise River

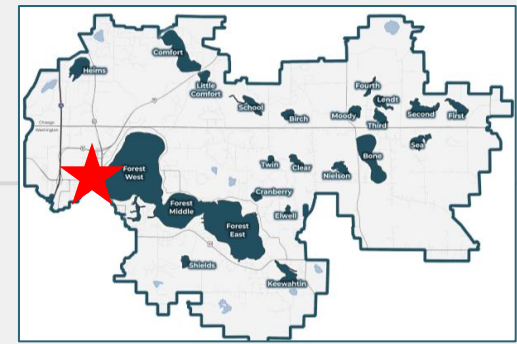


Aerial image of excavated wetland habitat

65 lbs of phos/yr to Comfort Lake



Target Stormwater Retrofit & Iron Enhanced Sand Filter 2014



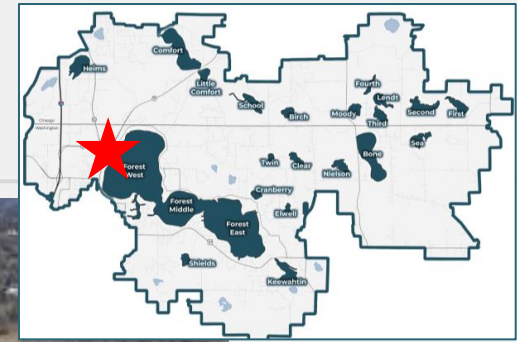
10 lbs/Phos reduction/yr



Stormwater “tree trenches”



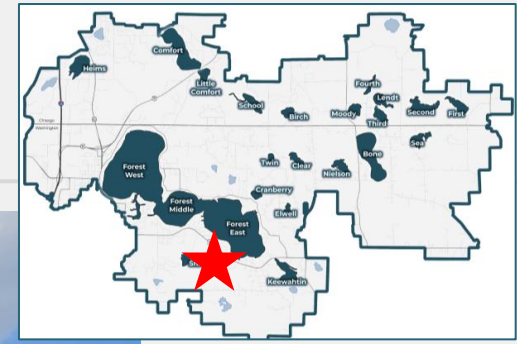
Broadway Ave Iron Enhanced Sand Filter 2013



33 lbs/phos reduction /yr to Sunrise River/Comfort Lake



CR 50 Iron Enhanced Sand Filter 2023

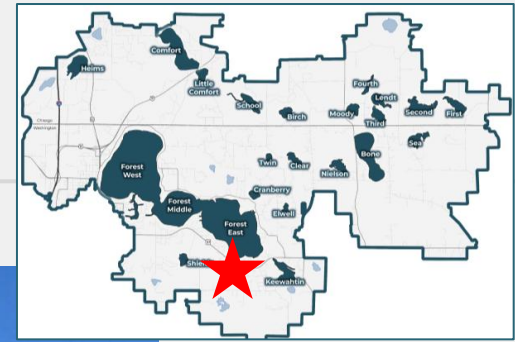


97 lbs/phos
reduction /yr
to Forest
Lake



WJD6 Western Tributary Wetland Enhancement

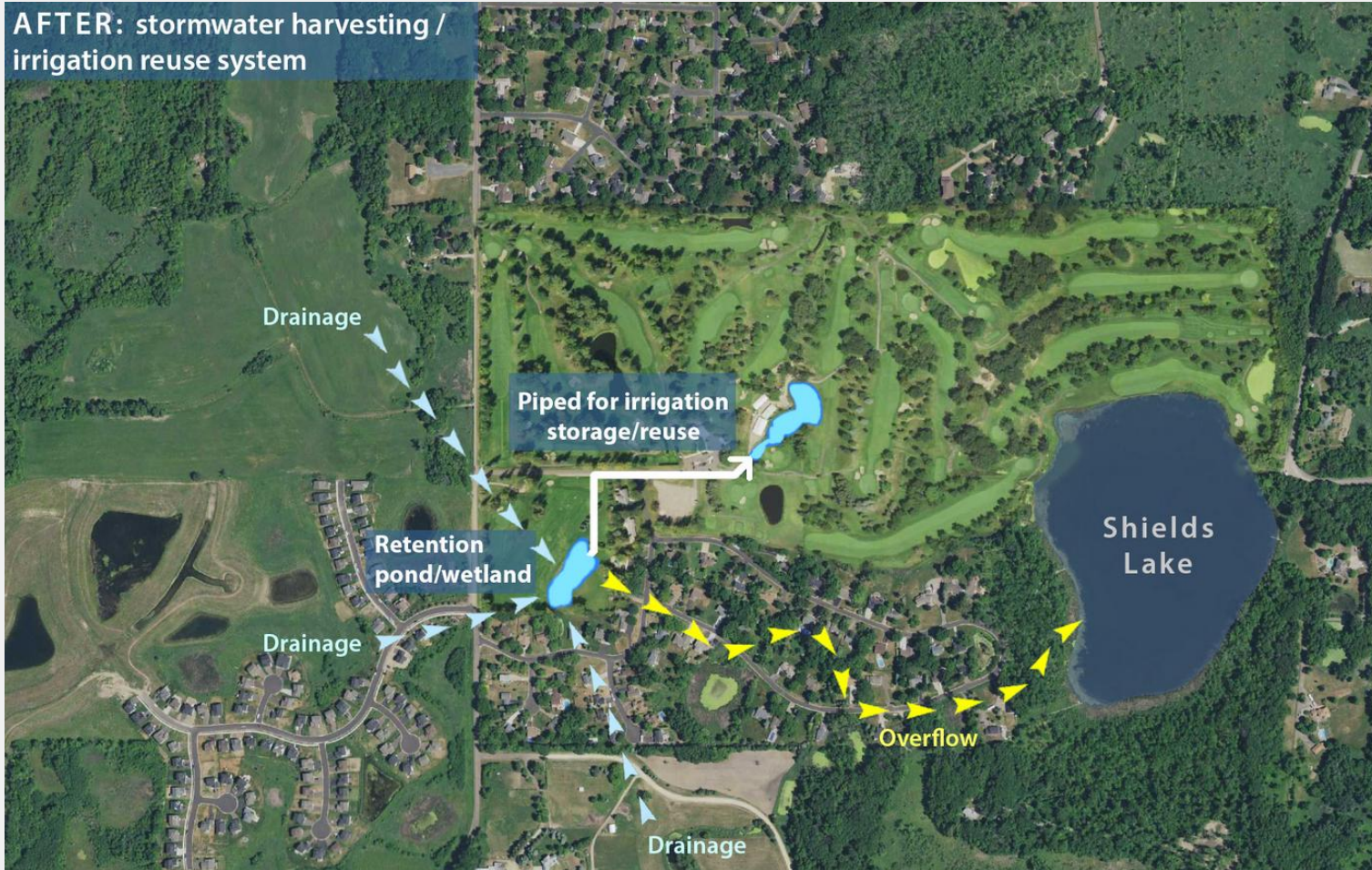
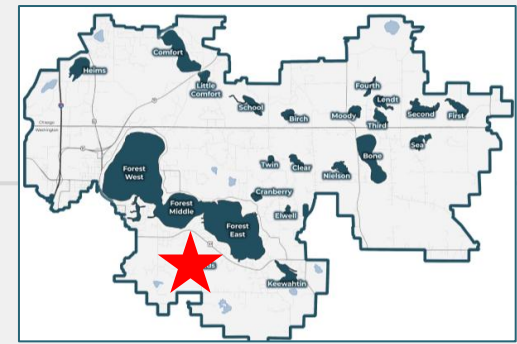
2024



20 lbs/phos
reduction
/yr to Forest
Lake



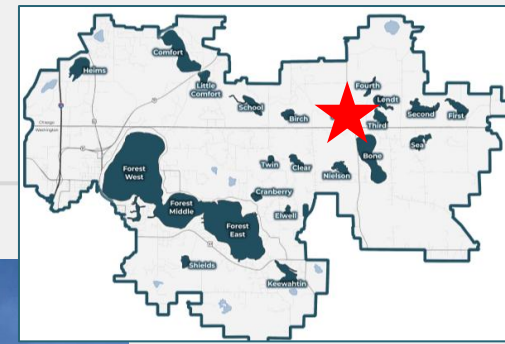
Shields Lake Stormwater Reuse Project 2019



stormwater retention pond



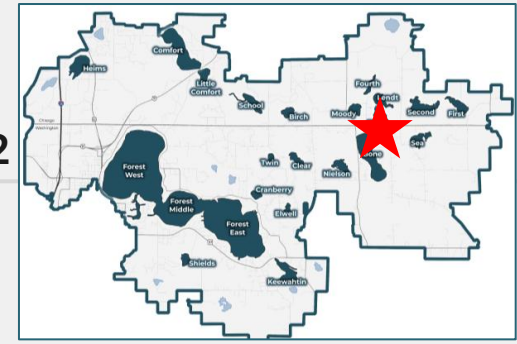
Moody Lake Wetland Enhancement Project 2017



445
lbs/phos
reduction
/yr to
Moody
Lake



NE Bone Lake “Legacy Load’ Wetland Project 2022



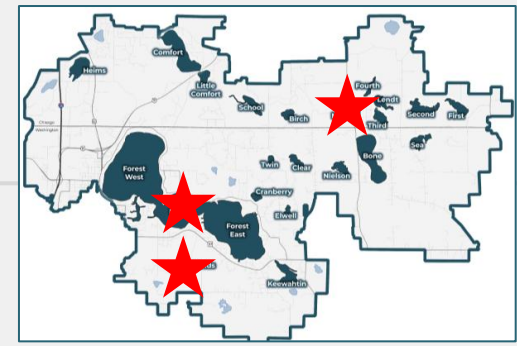
Before



After



Alum Treatments – Moody, Shields, Forest 2nd Basin



Hundreds of lbs/phos reduction /yr to each lake

Reduce internal nutrient loading



What's Next?

CLFLWD long-term P goal = 30 $\mu\text{g}/\text{L}$

State standard = 40 $\mu\text{g}/\text{L}$

- Future Projects
 - ✓ Little Comfort / Heath Ave IESF -2026/27
 - ✓ East Comfort Drive Stormwater Wetland
- Shoreline resiliency
 - ✓ MPCA Local Climate Action Grant for Shoreline Resiliency Plan
- Wildlife habitat / flood storage
 - ✓ Lessard-Sams OHF Grant for Greenbelt & Open Space Easements & Acquisitions (\$1.4 million grant awarded)
 - ✓ Connected corridor between Forest and Comfort Lake





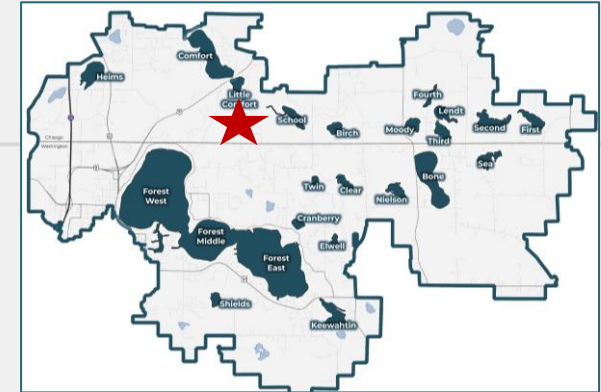
What's Next?

- Floodplain resiliency and climate change
 - ✓ BWSR Water Quality & Storage Grant for floodplain project development planning
- Continue programmatic initiatives
 - ✓ Education and outreach, promote local stewardship
 - ✓ Aquatic invasive species prevention & management
 - ✓ Project operations and maintenance
 - ✓ Regulatory/permitting
 - ✓ Continued water monitoring





Heath Ave North Iron-Enhanced Sand Filter



Project: Iron enhanced sand filter/stormwater treatment basin along Heath Avenue North

Goal: Treat excess nutrient loading from Heath Avenue drainage system – Identified as one of the top pollutant loading sources for Little Comfort Lake.

Estimated 80+ lbs phosphorus reduction per year to Little Comfort Lake.

**Contracting underway
Set to break ground this summer**

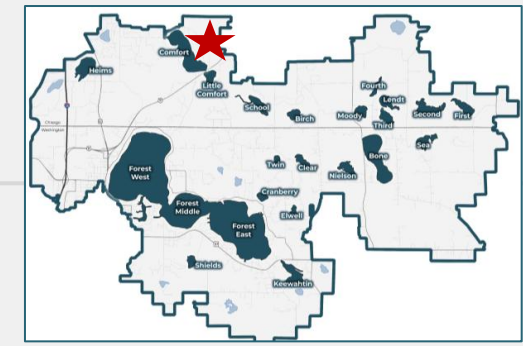


CR50 IESF in Forest Lake



East Comfort Pond

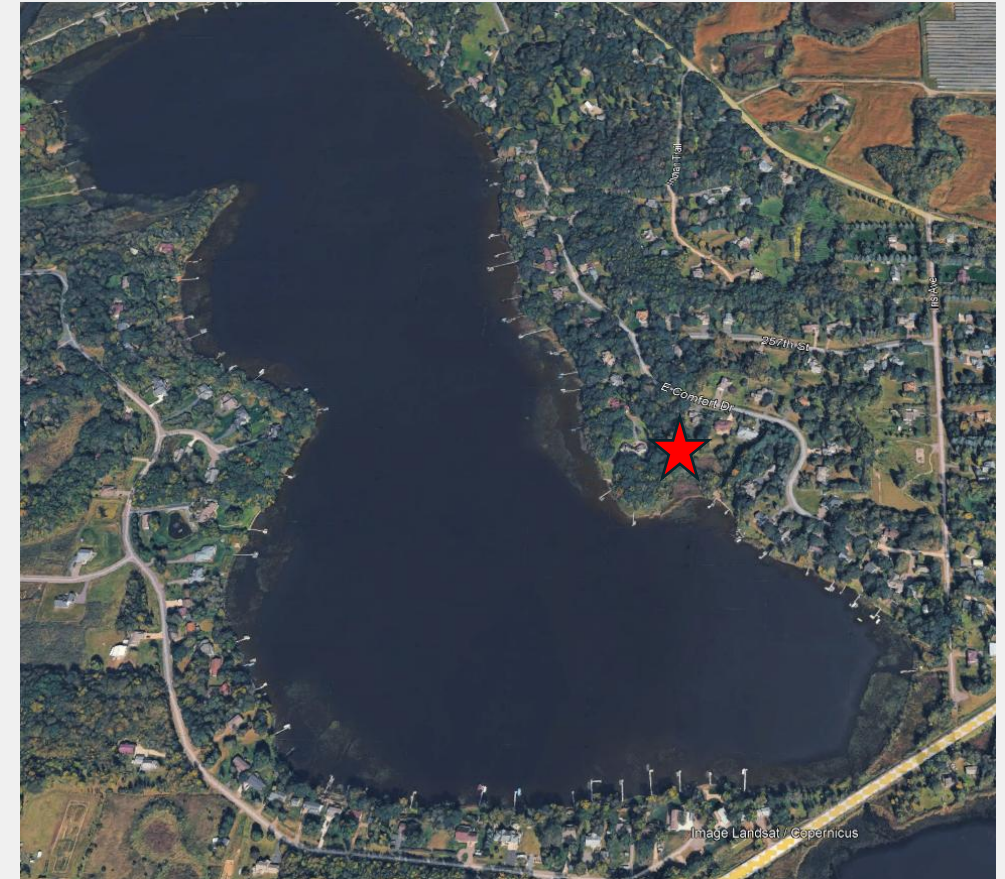
Potential Future Project



The project would collect and treat stormwater from the East Comfort Rd (SE) drainage area before it reaches a wetland connected to Comfort Lake.

- Stormwater BMP Clean Out and Enhancement
- In feasibility phase; est. 3-5 lbs P reduction

A BWSR Green Infrastructure grant in the amount of \$225,800 was acquired for design and implementation of the stormwater wetland BMP.



Thank You!

For more information visit
www.CLFLWD.org





Josh Norman

Board Conservationist

**Minnesota Board of Water
and Soil Resources**



Comfort Lake Delisting Celebration



Clean Water Fund & Water Quality Improvements



www.bwsr.state.mn.us

Josh Norman - Board Conservationist

Clean Water Land & Legacy Amendment



**CLEAN
WATER
LAND &
LEGACY
AMENDMENT**

**YOUR Clean Water
Fund AT WORK**

- Passed by voters in 2008 – constitutional amendment
- 0.375% increase to sales tax 2009-2034
- 40,000+ projects have been funded

Funds Provided Since 2010

**Arts & Cultural
Heritage**

over

\$1058m

Clean Water

over

\$1833m

Outdoor Heritage

over

\$1857m

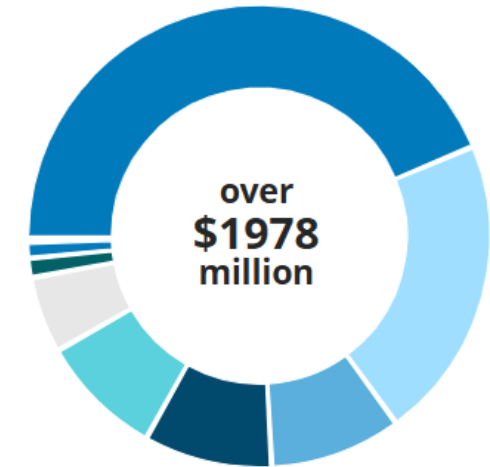
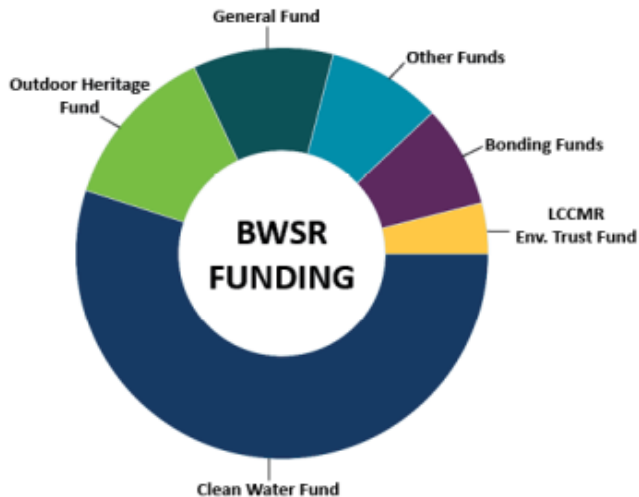
Parks & Trails

over

\$765m

Clean Water Fund

- 33% of the amendment's gains
- 5,000+ projects since 2010
- Clean Water Council advises Legislature on appropriation of funds
- ~45% of the fund is funneled through BWSR
 - 82% of which is passed along to local governments
- In FY22-23:
 - \$45.8M to competitive grants
 - \$49.3M to watershed-based implementation funding
 - \$22.6M to conservation easements
 - \$24M to SWCDs



Clean Water Legacy Appropriations from All (2010-Present)

Clean Water Fund Grants

Agency	Program	Description	Grant Type	Plan Connection	Grant Recipients
BWSR	Watershed Based Implementation Fund	Implements activities from water plans that protect and/or restore surface water, groundwater, and drinking water	Non-Competitive	Comprehensive watershed plan (1W1P) or 7-county metro groundwater or watershed management plans	Local Governments, (Tribal Entities as of FY24-25)
BWSR	Competitive Clean Water Fund	Implementation practices that protect and/or restore surface water, groundwater, and drinking water	Competitive	State approved and locally adopted water plan, metro water plans, drinking water plans, state strategies	Local Governments



Clean Water Fund Grants - Metro

Examples of Practices:

- Agricultural/Nitrate/Feedlot BMPs
- Chloride Reduction BMPs
- In-Lake Management (e.g., alum, carp management)
- Native Plantings
- Shoreland/Ravine Stabilization
- Stream/Wetland Restorations
- Urban Stormwater BMPs/Retrofits/Reuse
- Well Sealing





Lily Lake (Washington County)



Delisted in 2022!

Photo credits: Angie Hong



Grantee: Middle St. Croix WMO

Project Types: Infiltration Basins, Alum Treatment

2 Grants: \$621K (\$123K match)

Results: 191 lbs/yr TP & 38 tons/yr TSS reduced

Partners: Lily Lake Association, City of Stillwater

336 raingardens and 235 adopted storm drains

Comfort Lake-Forest Lake

Has received 19 CWF grants since 2012

- >\$6.6 million from Projects and Practices alone

Grant revenue accounts for 40% of CLFLWD total revenue

\$3.3 million in CWF grants directly affecting Comfort Lake since 2013

- IESF/tree trenches
- Bixby wetland restoration
- Enhanced street sweeping
- Sunrise River Hwy 61 wetland enhancement

Thank you!



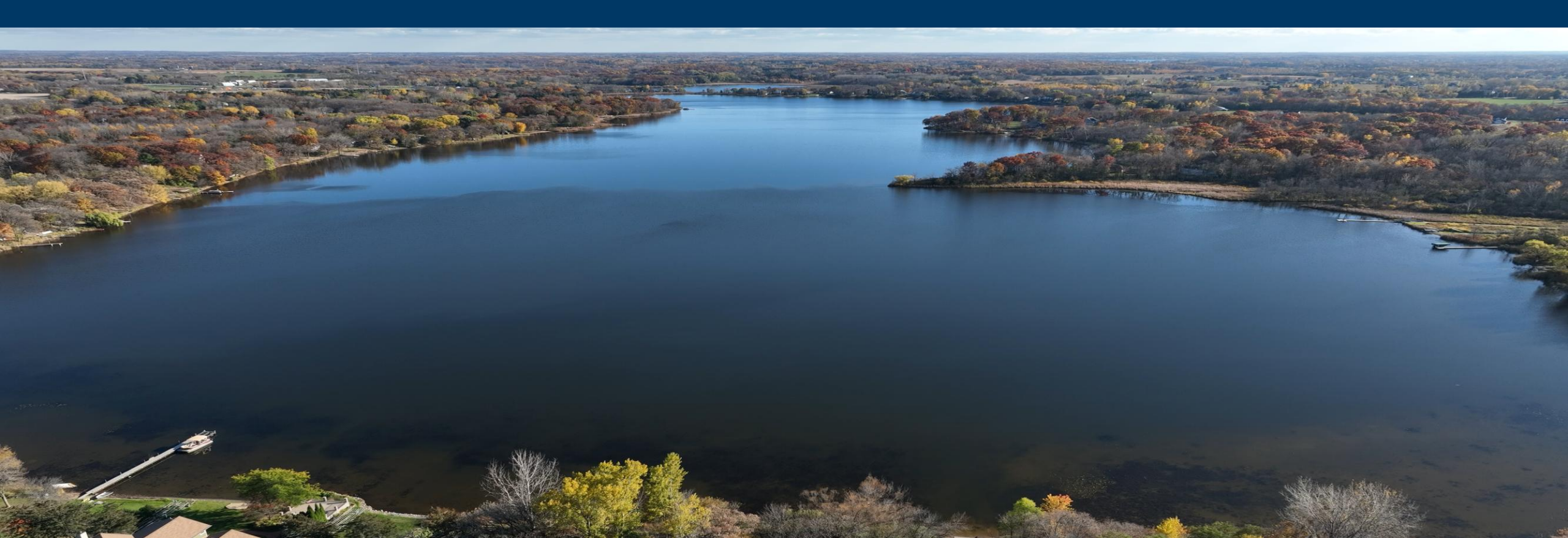
Kate MacDonald

*St. Croix River Project
Manager*

**Minnesota Pollution Control
Agency**



Comfort Lake Delisting Celebration



Comfort Lake Delisting Success

Kate MacDonald St. Croix River Project Manager

Agenda

- Clean Water Act
- Water Quality Standards
- Designated Uses
- Minnesota Impaired Waters List
- Watershed Approach
- Progress towards delistings due to restoration successes



The Clean Water Act
requires:

Establishing standards
to protect designated
uses

Creating a list of
waters that do not
meet those standards

What is a water quality standard?

- Protect water resources for uses such as fishing, swimming and other recreation, and sustaining fish, bugs, plants, and other aquatic life
- Are a measure to identify polluted waters or healthy waters in need of protection
- Guide the limits set on what regulated facilities can discharge to surface water



Designated uses



Aquatic recreation

Swim, wade, boat with minimal risk of bacterial illness and nuisance algal blooms



Aquatic life

Healthy fish and bug (macroinvertebrate) communities



Drinking water

Protect sources of drinking water



Limited resource value

Protect for limited recreation opportunities

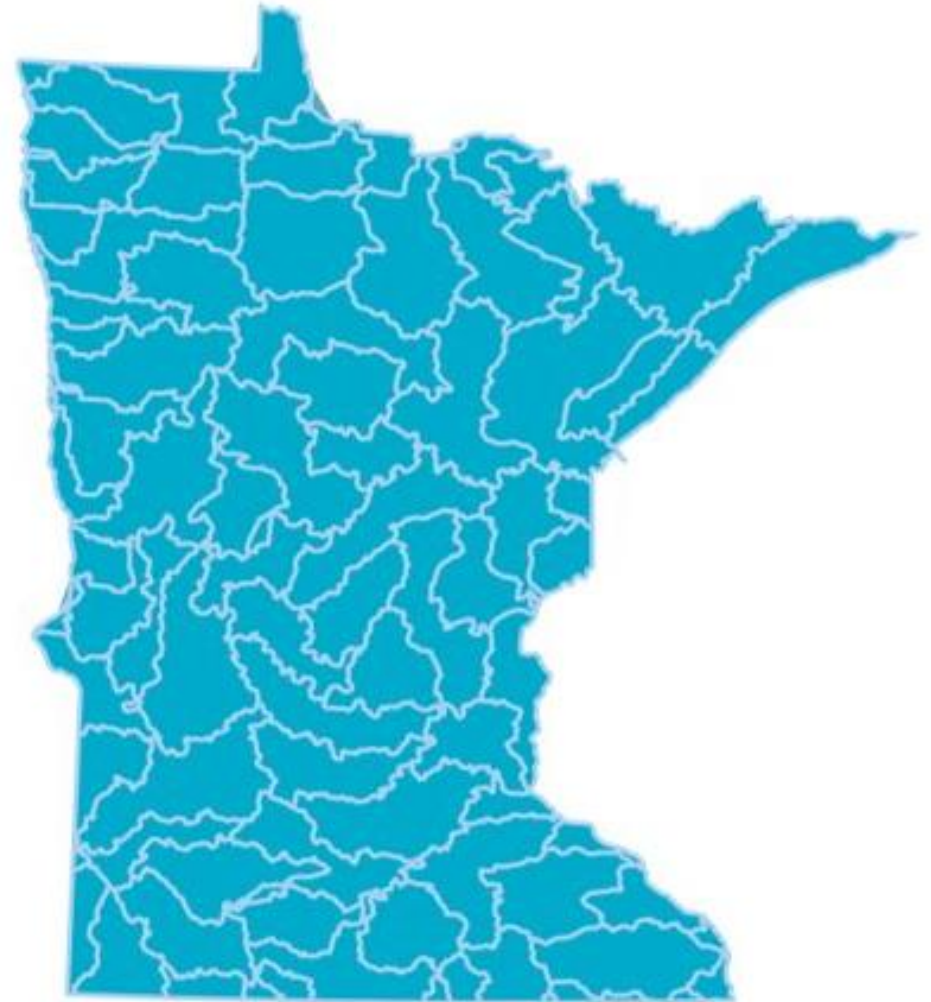
Minnesota's Impaired Waters List

- All waters not supporting their designated beneficial use
- Shows how well lakes and streams meet goals



Watershed approach

- 80 watersheds
- 10-year watershed cycle
- IWL updated every two years
- Cannot compare to other states

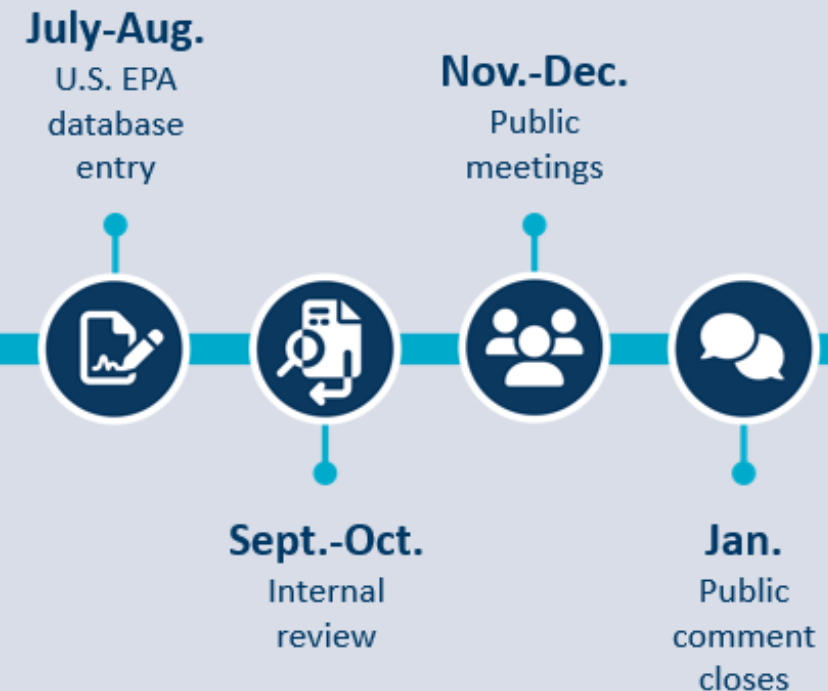


Assessment and Impaired Waters List timeline

Assessment (annually)

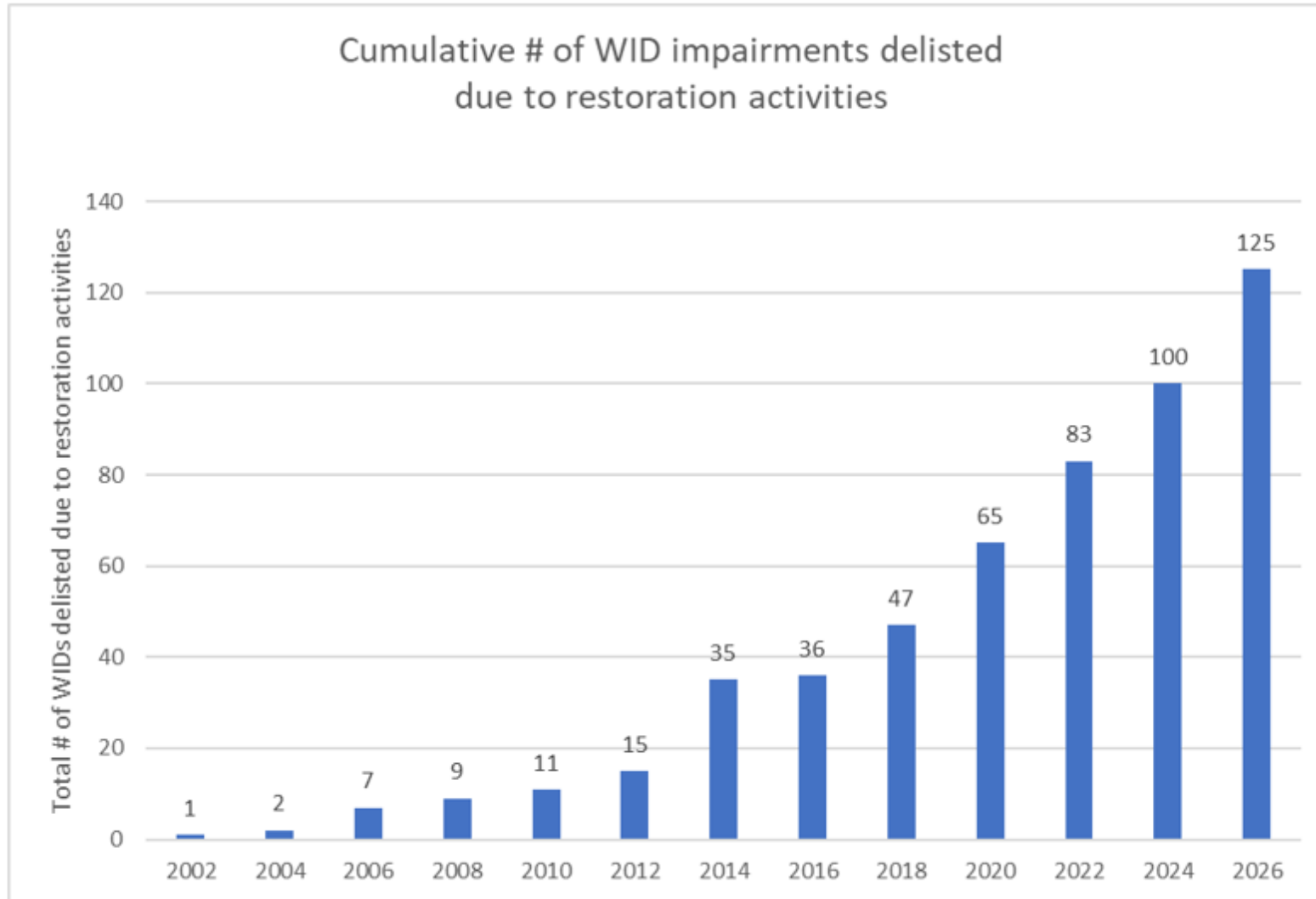


Impaired waters list (biennially)



Impaired waters list submitted to EPA in April (biennially)

Progress delisting impaired waters due to restoration



125

waterbody segments now meeting standards for one or more impairments due to restoration

76

waterbody segments completely restored due to restoration activities – no longer impaired for any parameter

Note: 25 delistings awaiting final EPA approval for 2026 list

Delistings due to restoration success

- Waters can be delisted when monitoring shows restoration success
- Delistings Due to Restoration
 - **2026: 25 waters delisted**
 - Including Comfort Lake
 - **2024: 16 waters delisted**
 - Including Bone Lake
- Impaired Waters List (IWL) is currently out for public comment until July 22
 - [Online submissions through MPCA portal](#)

Comfort Lake Delisting

25+ years of watershed investment benefiting Comfort Lake

District Rules adopted (2008) reducing phosphorus through stormwater management requirements

Major watershed studies completed including TMDLs and water quality analyses to guide restoration priorities

Targeted phosphorus reduction projects implemented, including iron-enhanced sand filters, stormwater retrofits, wetlands, and park improvements

Upstream lake restoration efforts ongoing (2017–present) to improve watershed-wide water quality

Recent investments (2023–2026) in street sweeping, wetland enhancements, and green infrastructure continue to advance restoration goals and reduce nutrient loading

Takeaways

- Surrounding state lists cannot be compared apples to apples
- It takes time for restoration to occur and get delisted
- We are delisting more impairments this list than ever before



Clean Water Land & Legacy Amendment

- Funding is through the Clean Water Land and Legacy Fund
 - To learn more about the fund:
<https://www.legacy.mn.gov/clean-water-fund>
 - Established in 2008, runs through 2034
 - Increased state's sales tax by 3/8 of 1% (4 cents on \$10 purchased)
 - [Clean Water Fund](#) gets 33% of this revenue





Thank you

impaired.waters.MPCA@state.mn.us





Lisa Iverson

Mayor

Robb Linwood

City Administrator

City of Wyoming



Comfort Lake Delisting Celebration



Jackie Anderson

President, Board of Managers

**Comfort Lake – Forest Lake
Watershed District**



Comfort Lake Delisting Celebration



**Thank you for
joining us to
celebrate!**



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