



August 2023 AIS Update

Comfort Lake–Forest Lake Watershed District

Lake Management Districts:

Bone Lake District

- Moody Lake
- Bone Lake

Little Comfort Lake District

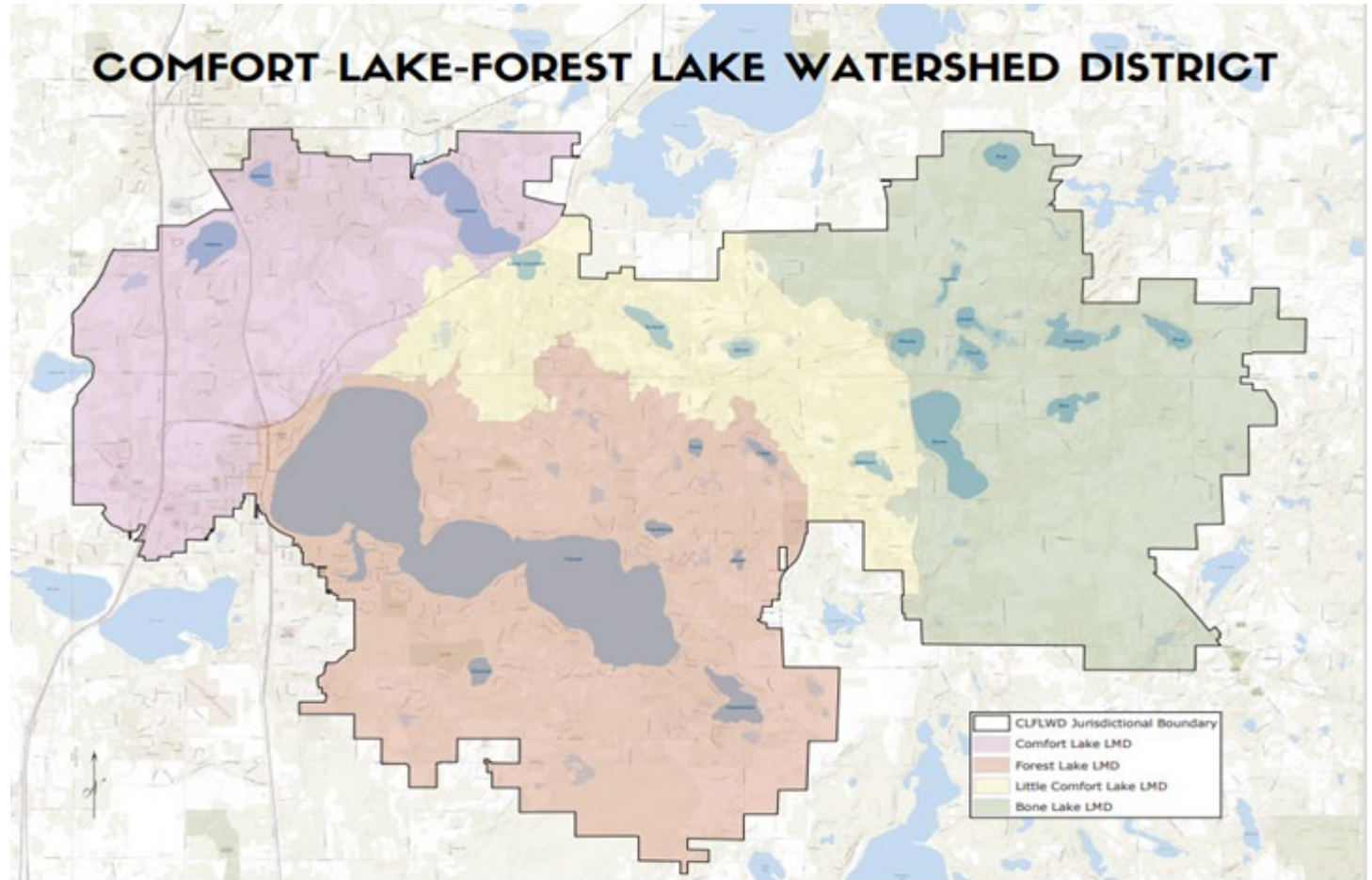
- Little Comfort Lake

Forest Lake District

- Shields Lake
- Lake Keewahtin
- Forest Lake

Comfort Lake District

- Comfort Lake



Comfort Lake – Forest Lake Watershed District

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AIS Budget Summary



Lake	Funding Sources		Estimated Yearend Expense Totals			Balance**	Littoral Acreage	Expense/Littoral Acre
	CLFLWD Local	Grants/Cont.	Blue Water Science	Contractor/ Other	EOR			
District-Wide*	\$5,000			(\$2,500)	(\$2,500)	\$0		
Moody	\$1,500	\$0	(\$3,100)	\$0		(\$1,600)	22	\$140.91
Bone	\$14,500	\$6,500	(\$4,700)	(\$16,704)		(\$404)	124	\$172.61
Little Comfort	\$0	\$0	\$0	\$0		\$0	16	\$0.00
Shields	\$3,500	\$1,500	(\$3,100)	(\$1,347)		\$553	22	\$202.14
Keewahtin	\$800	\$0	\$0	(\$800)		\$0	67	\$11.94
Forest	\$113,000	\$38,636	(\$15,800)	(\$79,609)		\$56,227	1,531	\$62.32
Comfort	\$14,000	\$5,000	(\$3,200)	(\$15,000)		\$800	90	\$202.22
Total	\$152,300	\$51,636	(\$29,900)	(\$115,960)	(\$2,500)	\$55,576		

** Remaining Balance

EOR AIS Program Management Costs		
Month of Services	Invoice #	Expense
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
	Running Total	\$ -

Budget Notes

*District-wide budget line items include General Program Mgmt (includes EOR time), Comprehensive Plan & Policy Development, AIS Prevention at Boat Launch Sites, AIS Rapid Response

** Unspent funds from budget



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Moody Lake

Management Narrative

Aeration system: (No update since last meeting) The winter aerator was activated for the season on January 5, 2023, and remained active until the week of April 3rd. After deactivating the system, District staff collected each of the thin ice signs and placed them in dry storage. The purpose of the aeration system is to keep Moody Lake's dissolved oxygen levels above the thresholds needed to support game fish species over the winter, which will help keep rough fish populations in check.

Curly-leaf pondweed (CLP): (No update since last meeting) On April 25th, Blue Water Science (BWS) conducted a delineation point intercept survey to assess the CLP population. Out of 85 sampling locations, only 17 sites of growth were found. Growth was primarily light, with only a couple locations of moderate and heavy projected. For this reason, no treatment was recommended again this year. For reference, no CLP was treated on Moody Lake in 2022 or 2021, 3.11 acres in 2020, and 7.81 acres in 2019.

Fish Survey: (No update since last meeting) The Minnesota Department of Natural Resource's Hinckley Area Fisheries office has communicated to staff that their management plan for Moody Lake no longer calls for regularly scheduled fish surveys.

Native Aquatic Plant Transplanting Project: On August 1st, District staff and a researcher from the University of Minnesota implemented the native aquatic plant transplanting project on Moody Lake. A variety of native species were hand collected by staff from Keewahtin Lake the day before. Clay balls were formed around the roots of the plants to help them sink to the lake bottom and establish themselves in the sediment. In total, more than 700 clay balls were planted around Moody Lake. Staff are currently working on a write-up to provide to the researchers. Next year, planting locations will be surveyed for any signs of plant establishment.

Moody Lake AIS Budget Summary



		Revenues		Expenses		Annual Balance	Timeline (2023-2024)											
		CLFLWD	Grants	BWS	Other		April	May	June	July	August	September	October	November	December	January	February	
		\$ 1,500	\$ -	\$ (3,100)	\$ -	\$ (1,600)												
Curly-Leaf Pondweed	Work Task	CLFLWD	Grants	BWS	Other	Total Expense												
	Surveys-Report			\$ (3,100)		\$ (3,100)												
	Permitting/Public Notice	\$ 1,500				\$ -												
	Management					\$ -												
	Total	\$ 1,500		\$ (3,100)	\$ -	\$ (3,100)												
Aeration System	Work Task	CLFLWD*	Grants	BWS	Other	Total Expense												
	Permitting					\$ -												
	Setup - Public Notice					\$ -												
	Operation/Inspections - Electricity					\$ -												
	Total	\$ 1,500	\$ -	\$ (3,100)	\$ -	\$ (3,100)												
Native Plant Transplanting	Work Task	CLFLWD*	Grants	BWS	Other	Total Expense												
	Planning and Permitting																	
	Implementation																	
	Project Monitoring and Reporting																	
	Total	\$ -	\$ -	\$ -	\$ -	\$ -												
2023 General Program Management																		

Figures in italics are cost estimates/haven't been invoiced yet

*Aeration system dollars removed because not under AIS Program in budget (under 3010 - Operations and Maintenance)

2022 Work	Status Summary
Aeration system	Deactivated on March 29, 2022.
Curly-leaf pondweed	Blue Water Science did not find sufficient CLP to warrant treatment this year on Moody Lake.

2023 Work	Status Summary
Aeration system	Activated on January 5, 2023 and deactivated during the week of April 3rd.
Curly-leaf pondweed	No treatment needed this season
Native Aquatic Plant Transplanting Project	Implemented the project on August 1st

Moody Lake Water Quality Goals & Measured Averages			
	2031 Goal	5-Year Avg (2018-2022)	Long-Term Trend
Water quality rating at or above	C	C	N/A
Mean summer phosphorus concentration below (µg/L)	40	55.9	Significantly Improving (-79%) since 2013
Mean summer secchi depth at or above (ft)	4.6	3.8	Improving since 2005

- Improving or declining trends means that the water quality parameter is consistently increasing or decreasing from year to year over the time period, but NOT in a statistically significant way.
- Significantly improving or significantly declining means that the water quality parameter is consistently increasing or decreasing from year to year over the time period, AND in a statistically significant way. The percent change in the parameter over the entire time period is reported for statistically significant trends.
- A scientific trend analysis of District lake water quality is available in the District's Draft 2022 Water Monitoring Report available at: <https://www.clflwd.org/>

DNR Lake Classification: Natural Environment



Management Narrative

Point-Intercept Macrophyte Survey (PI Survey): The last PI survey was performed on Bone Lake in 2018. Following the District's 5-year rotation for PI surveys, Bone Lake was due for another in 2023. On July 20th, Blue Water Science performed a point intercept survey to document the native plant community. Currently, a full report is being worked on and will be made available this Fall.

Curly-leaf pondweed (CLP): (No update since last meeting) The Blue Water Science performed a delineation survey for curly-leaf pondweed in Bone Lake on May 1st. Only five locations of light growth were found in the entire lake. No treatment is recommended for this season. On June 2nd, a follow up assessment survey was performed and found only ten locations of primarily light growth. Overall, curly-leaf pondweed does not appear to be growing at nuisance levels in Bone Lake. For reference, past years' CLP treatments are as follows – 2022: No treatment, 2021: 4.38 acres, 2020: 5.14 acres, 2019: 3.88 acres, 2018: hand pulling only, 2017: treated 3.89 acres, 2016: no treatment, 2015: treated 2.45 acres.

Eurasian watermilfoil (EWM): (No update since last meeting) On June 2nd, Blue Water Science performed an EWM delineation and only found seven sites of light growth in the entire lake. An assessment survey will be performed by early-August.

Fish barriers: (No update since last meeting) The inlet barrier will start to be actively managed once the surface water temperature of Bone Lake is 55 degrees F or higher and the lake level is less than 908.6 feet.

Rough fish management: (No update since last meeting) The 2023 budget does not contain any funding for rough fish management on Bone Lake. Observations of staff and lake homeowners have indicated that the carp population appears to be declining since the installation of the inlet and outlet fish barriers. Staff has been in communication with the DNR East Metro Fisheries Supervisor in order to coordinate fish survey scheduling and efforts. The DNR typically performs fish surveys on a 5-6 year rotation (except for Forest Lake which is on a 2-year rotation). The upcoming survey schedule for Bone Lake is as follows: June 2024 – standard survey, June 2027 – gill net only survey. Surveys are performed more frequently on Bone Lake than many other District lakes since the DNR stocks Bone Lake with walleye.

Zebra mussels: Since the initial 2019 discovery, no zebra mussels have been found in the lake. However, on July 20th, Blue Water Science found 3 juvenile zebra mussels while performing a point intercept survey. District staff have communicated this finding to the DNR and determined long-term population monitoring to be the District's main course of action. Already this season, two veliger tows have been conducted in Bone Lake. Results of these surveys could help staff determine if a reproductive population is in the lake or if these zebra mussels were an incidental release from a watercraft. Results are expected to be returned from the DNR's lab sometime this Fall.

Watercraft inspections: (No update since last meeting) An estimated total of approximately \$15,000 will be available from the CLFLWD budget and project partners to support the 2023 watercraft inspection program on Bone Lake. The inspection program began on May 12th this year.

Bone Lake AIS Budget Summary



		Revenues		Expenses		Annual Balance	Timeline (2023-2024)											
		CLFLWD	Grants/Other	BWS	Other		April	May	June	July	August	Sept	Oct	Nov	December	January	February	
		\$ 14,500	\$ 6,500	\$ (4,700)	\$ (16,704)	\$ (404)												
Curly-Leaf Pondweed (CLP)	Work Task	CLFLWD	Grants/Other	BWS*	Other	Total Expense												
	Surveys-Report			\$ (1,900)		\$ (1,900)												
	Permitting/Public Notice	\$ 2,600				\$ -												
	Management		\$ 1,500		\$ (1,704)	\$ (1,704)												
	Total	\$ 2,600	\$ 1,500	\$ (1,900)	\$ (1,704)	\$ (3,604)												
Eurasian Watermilfoil (EWM)	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Surveys-Report	\$ 1,900		\$ (1,900)		\$ (1,900)												
	Coordination/Mgmt Assistance					\$ -												
	Total	\$ 1,900	\$ -	\$ (1,900)	\$ -	\$ (1,900)												
Rough Fish Management	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Spawning Observations	\$ -				\$ -												
	Harvest					\$ -												
	Total	\$ -	\$ -	\$ -	\$ -	\$ -												
Zebra Mussels (ZM)	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Samplers			\$ (900.00)		\$ (900.00)												
	Total	\$ -	\$ -	\$ (900.00)	\$ -	\$ (900.00)												
Watercraft Inspections*	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Inspection Hours	\$ 10,000	\$ 5,000		\$ (15,000)	\$ (15,000)												
	Total	\$ 10,000	\$ 5,000	\$ -	\$ (15,000)	\$ (15,000)												
2023 General Program Management																		

2023 General Program Management

Figures in italics are cost estimates/haven't been invoiced yet

*Planned watercraft inspection funding sources include:

- CLFLWD levy: \$10,000 (1 access)
- Washington County AIS Prevention grant rec. award: \$1,000 (same as last year)
- Bone Lake Association: \$2,500
- City of Scandia: \$1,000
- Scandia Lions Club: \$500

2022 Work	Status Summary
CLP surveys and management	No CLP treatment needed in 2022
EWM surveys and coordination	Mostly light growth found along the perimeter of the lake
Zebra mussel early detection	A zebra mussel veliger tow occurred in July. Analysis of the samples found no veligers.
Carp management	Continued operation of fish barrier per O&M.
Watercraft inspections	In 2022, 542.5 hours worth of inspections were performed on Bone Lake.

Bone Lake Water Quality Goals & Measured Averages			
	2031 Goal	5-Year Avg (2018-2022)	Long-Term Trend
Water quality rating at or above	B	B	N/A
Mean summer phosphorus concentration below (µg/L)	30	24.9	Significantly Improving (-39%) since 2013
Mean summer secchi depth at or above (ft)	7	5.9	Significantly Improving (85%) since 2013

- Goals shown in green are currently being met according to their latest 5-year average
- Improving or declining trends means that the water quality parameter is consistently increasing or decreasing from year to year over the time period, but NOT in a statistically significant way.
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- A scientific trend analysis of District lake water quality is available in the District's Draft 2022 Water Monitoring Report available at: <https://www.clflwd.org/>

2023 Work	Status Summary
CLP surveys and management	No treatment is needed this year
EWM surveys and coordination	Only light growth found during delineation
Zebra mussel early detection	Staff have conducted two veliger tows this season. Awaiting results from DNR
Point-Intercept Macrophyte Survey	Blue Water Science performed a PI survey on July 20th.
Watercraft inspections	District inspections began on May 12th

DNR Lake Classification: Recreational Development



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Little Comfort Lake

Management Narrative

Curly-leaf pondweed (CLP): (No update since last meeting) The 2023 budget does not contain any funding for curly-leaf pondweed management in Little Comfort Lake.

Zebra mussels: (No update since last meeting) Staff have not heard any reports of zebra mussels in Little Comfort Lake yet, although it is listed as infested by the DNR due to its connectivity with Comfort Lake. During lake monitoring and AIS survey visits, staff will continue to monitor the lake for any presence of zebra mussels.

AIS tracking and early detection survey: (No update since last meeting) On July 18th, District staff conducted a meandering survey to monitor the distribution and abundance of existing AIS and to search for species not known to be in the lake. Staff observed curly-leaf pondweed growth to be sparse around the lake and often in light densities. Eurasian watermilfoil (EWM) was slightly more abundant but did not pose an ecological threat. Lastly, purple loosestrife was found primarily in light densities along the shoreline. Observationally, it appeared that purple loosestrife abundances were down compared to the previous couple of years. Overall, Little Comfort Lake continues to be dominated primarily by the native species Coontail, which likely helps limit the abundance and distribution of CLP and EWM.

Little Comfort Lake AIS Budget Summary



		Revenues		Expenses		Annual Balance	Timeline (2023-2024)											
		CLFLWD	Grants	BWS	Other		April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
		\$ -	\$ -	\$ -	\$ -	\$ -												
Curly-Leaf Pondweed (CLP)	Work Task	CLFLWD	Grants	BWS	Other	Total Expense												
	Survey					\$ -												
	Summary					\$ -												
	Total	\$ -	\$ -	\$ -	\$ -	\$ -												
Zebra Mussels (ZM)	Work Task	CLFLWD	Grants	BWS	Other	Total Expense												
	Samplers					\$ -												
	Summary					\$ -												
	Total	\$ -	\$ -	\$ -	\$ -	\$ -												
2023 General Program Management																		

2022 Work	Status Summary
CLP survey	Staff conducted a survey on August 2nd.
Zebra mussel early detection	No volunteer was found in 2022.

2023 Work	Status Summary
AIS Tracking and Early Detection Survey	Staff performed the survey on July 18th. A survey map is currently being developed
Zebra mussel early detection	Staff will monitor the lake for the presence of zebra mussels

Little Comfort Lake Water Quality Goals & Measured Averages			
	2031 Goal	5-Year Avg (2018-2022)	Long-Term Trend
Water quality rating at or above	B	C+	N/A
Mean summer phosphorus concentration below (µg/L)	30	42	Significantly improving since 2013 (-48%)
Mean summer secchi depth at or above (ft)	7	5.9	Improving since 2013

- Goals shown in green are currently being met according to their latest 5-year average
- Improving or declining trends means that the water quality parameter is consistently increasing or decreasing from year to year over the time period, but NOT in a statistically significant way.
- Significantly improving or significantly declining means that the water quality parameter is consistently increasing or decreasing from year to year over the time period, AND in a statistically significant way. The percent change in the parameter over the entire time period is reported for statistically significant trends.
- A scientific trend analysis of District lake water quality is available in the District's Draft 2022 Water Monitoring Report available at: <https://www.clflwd.org/>

DNR Lake Classification: General Development



Shields Lake

Management Narrative

Aeration system: (No update since last meeting) The winter aerator was activated for the season on January 5, 2023, and remained active until the week of April 3rd. After deactivating the system, District staff collected each of the thin ice signs and placed them in dry storage. The purpose of the aeration system is to keep Shields Lake's dissolved oxygen levels above the thresholds needed to support game fish species over the winter, which will help keep rough fish populations in check.

Fish barrier: (No update since last meeting) The mechanical fish barrier was installed in August 2019. District staff will continue to operate the electric fish barrier as is, pursuant to Administrator discretion in 2023.

Curly-leaf pondweed (CLP): (No update since last meeting) Blue Water Science (BWS) conducted a CLP delineation on April 25th and identified two treatment areas totaling 3.07 acres. Treatment occurred on May 22nd and left no viable CLP in the entire lake. For reference, 3.27 acres of CLP were treated in 2022.

Rough Fish Management: (No update since last meeting) In 2022, the District contracted WSB to update the lake's common carp population assessment. Results indicated Shields Lake is very near its carp population management threshold of 100 kg/ha. For 2023, District staff are discussing low-cost in-house options for carp management to ensure the population remains below that threshold.

Shields Lake AIS Budget Summary



		Revenues		Expenses		Annual Balance	Timeline (2023-2024)									
		CLFLWD	Grants	BWS	Other		April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Jan.
Fish Barrier*	Work Task	CLFLWD	Grants	Staff/EOR	Other	Total Expense										
	Retrofit Project					\$ -										
	Planning/Inspections/Oversight					\$ -										
	Total	\$ -	\$ -	\$ -	\$ -	\$ -										
Zebra Mussels	Work Task	CLFLWD	Grants	BWS	Other	Total Expense										
	Samplers					\$ -										
	Total	\$ -	\$ -	\$ -	\$ -	\$ -										
Curly-Leaf Pondweed	Work Task	CLFLWD	Grants	BWS	Other	Total Expense										
	Surveys-Report			\$ (3,100)		\$ (3,100)										
	Permitting/Public Notice	\$ 1,500				\$ -										
	Management		\$ 1,500		\$ (1,347)	\$ (1,347)										
	Total	\$ 1,500	\$ 1,500	\$ (3,100)	\$ (1,347)	\$ (4,447)										
Rough Fish Management	Work Task	CLFLWD	Grants	BWS	Other	Total Expense										
	Survey	\$ 2,000				\$ -										
	Total	\$ 2,000	\$ -	\$ -		\$ -										
2023 General Program Management																

Figures in italics are cost estimates/haven't been invoiced yet

Shields Lake Water Quality Goals & Measured Averages			
	2021 Goal	5-Year Avg (2018-2022)	Long-Term Trend
Water quality rating at or above	C	C	N/A
Mean summer phosphorus concentration below (µg/L)	60	84	Significantly Improving Since 2013 (-92%)
Mean summer secchi depth at or above (ft)	4.3	4.7	Improving Since 2013

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- A scientific trend analysis of District lake water quality is available in the District's Draft 2022 Water Monitoring Report available at: <https://www.clflwd.org/>

DNR Lake Classification: Natural Environment

2022 Work	Status Summary
Zebra mussel early detection	Staff monitored for zebra mussels by checking lake debris and man-made structures
Curly-leaf pondweed planning	Full lake control of CLP was achieved again in 2022
Rough fish management	An updated common carp population estimate suggests carp are near the 100 kg/ha management threshold

2023 Work	Status Summary
Zebra mussel early detection	Staff will monitor the lake for the presence of zebra mussels by checking lake debris and man-made structures.
Fish barrier	Operate per O&M manual.
Curly-leaf pondweed	Treatment had whole lake control again this season
Rough fish management	Staff are researching low cost options to maintain or reduce the current common carp population in Shields Lake



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Lake Keewahtin

Management Narrative

AIS tracking and early detection survey: (No update since last meeting) District staff performed an AIS tracking and early detection survey on July 18th. During this survey, staff looked for new invasive species such as Eurasian watermilfoil, flowering rush, or starry stonewort and monitored the distribution of existing invasive species, purple loosestrife and curly-leaf pondweed.

Purple loosestrife: On July 18th, District staff documented all locations of purple loosestrife around the perimeter of Lake Keewahtin. A survey map has been developed, DNR permits obtained, and landowner notifications have been mailed. Treatment is expected to occur by late August. Observationally, purple loosestrife abundance and distribution appear to be down compared to the previous few years, but further management is needed.

Zebra mussels: (No update since last meeting) No zebra mussels have been detected in Lake Keewahtin to date. If a volunteer can be found, a sampler plate will be deployed on the lake to help monitor for their presence.

Curly-leaf pondweed (CLP): (No update since last meeting) During the July 18th survey, District staff did not observe any CLP in the lake. Historically, CLP has only been present in the lake at low densities.

Lake Keewahtin AIS Budget Summary



		Revenues		Expenses		Annual Balance	Timeline (2023-2024)											
		CLFLWD	Grants	BWS	Other		April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
		\$ 800	\$ -	\$ -	\$ (800)	\$ -												
Purple Loosestrife	Work Task	CLFLWD	Grants	BWS	Other	Total Expense												
	Check-Up Assessment					\$ -												
	Treatment	\$ 800			\$ (800)	\$ (800)												
	Total	\$ 800	\$ -	\$ -	\$ (800)	\$ (800)												
AIS Detection Survey	Work Task	CLFLWD	Grants	BWS	Other	Total Expense												
	Survey																	
	Total	\$ -	\$ -	\$ -	\$ -	\$ -												
Zebra Mussels	Work Task	CLFLWD	Grants	BWS	Other	Total Expense												
	Samplers			\$ -		\$ -												
	Total	\$ -	\$ -	\$ -	\$ -	\$ -												
Curly-leaf Pondweed	Work Task	CLFLWD	Grants	BWS	Other	Total Expense												
	Hand pulling					\$ -												
	Total	\$ -	\$ -	\$ -	\$ -	\$ -												
2023 General Program Management							WD/EOR											

2022 Work	Status Summary
AIS early detection survey	Conducted on July 29th
Purple loosestrife check-up	Treatment performed on August 31st
Curly-leaf Pondweed	None found during survey

2023 Work	Status Summary
AIS early detection survey	Conducted on July 18th
Purple loosestrife	Treatment by end of August
Zebra mussel early detection	Find a volunteer
Curly-leaf Pondweed	No CLP found on July 18th

Lake Keewahtin Water Quality Goals & Measured Averages			
	2031 Goal	5-Year Avg (2018-2022)	Long-Term Trend
Water quality rating at or above	A	A	N/A
Mean summer phosphorus concentration below (µg/L)	20	15.3	Improving since 2013
Mean summer secchi depth at or above (ft)	10	12.9	Declining since 2013

- Goals shown in green are currently being met according to their latest 5-year average
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DNR Lake Classification: Recreational Development



Forest Lake

Management Narrative

Curly-leaf pondweed (CLP): (No update since last meeting) Blue Water Science performed a delineation survey of curly-leaf pondweed in Forest Lake on May 9th and identified eight treatment locations totaling 61.55 acres. A treatment was performed by Lake Management Inc. on May 22nd. Blue Water Science performed a treatment assessment on June 13th and found it had excellent control with only 6 sites remaining in the entire lake. For reference, past years' CLP treatments are as follows – 2022: 103.96 acres, 2021: 120.34 acres, 2020: 58.29 acres, 2019: 99.12 acres, 2018: 16.6 acres, 2017: 169 acres, 2016: 114 acres, 2015: 88 acres.

Eurasian watermilfoil (EWM): Blue Water Science performed an EWM delineations on June 13th and July 11th and did not find any treatable EWM in the lake. A final survey was conducted on August 8th, which found about 8.41 acres in 1st lake that could be treated. The Forest Lake Lake Association is expected to coordinate a treatment.

Flowering rush (FR): The first flowering rush delineation was performed on July 11th and found 84 growth sites totaling 0.24 acres. The first treatment was conducted on August 26th on four large area treatments. On August 15th, a follow-up treatment was performed to hit all the spot area treatments. Additionally, PLM brought backpack sprayers and walked the shoreline during their visit. Any flowering rush found during their survey of the shoreline was treated as they went. A treatment assessment will be performed within a couple of weeks, followed by another round of treatments to knock back any regrowth.

Zebra mussels: (No update since last meeting) Zebra mussels have now been detected throughout all of 1st, 2nd, and 3rd Lakes. The sampling plate program will continue in 2023 in order to provide information about zebra mussel population densities post-colonization.

Purple Loosestrife (PL): The District has been managing large populations of purple loosestrife on Forest Lake since 2020. After 3 years of treatment, staff are seeing a reduction in the overall abundance of purple loosestrife in these areas. A delineation survey was conducted by staff on July 20th. A map is currently being developed so that a treatment can occur by late August.

Watercraft inspections: (No update since last meeting) An estimated total of \$54,126 will be available from the CLFLWD budget and project partners to support the 2023 watercraft inspection program on Forest Lake. The inspection program began this year on May 12th.

Plant Harvester: (No update since last meeting) The harvester began operation for the season on June 12th and will run until early-September.

Point-Intercept Macrophyte Survey (PI Survey): The last PI survey was performed on Forest Lake in 2018. Following the District's 5-year rotation for PI surveys, Forest Lake was due for another in 2023. On August 8th, Blue Water Science performed a point intercept survey to document the plant community in Forest Lake. A full report is being drafted and will be available this Fall.

Rough Fish Management: Staff are working with WSB to coordinate a common carp population assessment survey on Forest Lake this summer. Tentatively, the plan is to perform the first of three electrofishing surveys by the end of August.

Forest Lake AIS Budget Summary



		Revenues		Expenses		Annual Balance	Timeline (2023-2024)											
		CLFLWD	Grants/Other	BWS	Other		April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
		\$ 113,000	\$ 38,636	\$ (15,800)	\$ (79,609)	\$ 56,227												
Curly-Leaf Pondweed	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Delin-Report			\$ (2,900)		\$ (2,900)												
	Permitting/Public Notice	\$ 57,000				\$ -												
	Management		\$ 7,714		\$ (19,025)	\$ (19,025)												
	Total	\$ 57,000	\$ 7,714	\$ (2,900)	\$ (19,025)	\$ (21,925)												
Flowering Rush	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Delin-Report			\$ (6,300)		\$ (6,300)												
	Permit/Outreach/Pub. Notice	\$ 13,000	\$ 7,000			\$ (1,014)												
	Management				\$ (4,000)	\$ (4,000)												
	Total	\$ 13,000	\$ 7,000	\$ (6,300)	\$ (5,014)	\$ (11,314)												
Eurasian Watermilfoil	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Surveys-Report	\$ 7,000		\$ (3,200)		\$ (3,200)												
	Coordination/Mgmt Assistance					\$ -												
	Total	\$ 7,000	\$ -	\$ (3,200)	\$ -	\$ (3,200)												
Purple Loosestrife	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Survey Work and Treatment	\$ 2,000			\$ (1,648)	\$ (1,648)												
	Total	\$ 2,000	\$ -	\$ -	\$ (1,648)	\$ (1,648)												
Watercraft Inspections*	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Inspection Hours	\$ 30,000	\$ 23,922	\$ -	\$ (53,922)	\$ (53,922)												
	Total	\$ 30,000	\$ 23,922	\$ -	\$ (53,922)	\$ (53,922)												
Plant Harvester	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	DNR Aquatic Plant Mgmt Permitting					\$ -												
	Harvester Operation					\$ -												
	Total	\$ -	\$ -	\$ -	\$ -	\$ -												
Macrophyte Survey	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
	Point-Intercept Survey	\$ 4,000		\$ (3,400)		\$ (3,400)												
	Total	\$ 4,000	\$ -	\$ (3,400)	\$ -	\$ (3,400)												
2023 General Program Management																		

Figures in italics are cost estimates/haven't been invoiced yet

*Watercraft inspection funding sources include:

CLFLWD levy: \$30,000 (3 accesses)

Washington County AIS Prevention grant rec. award: \$14,150

Forest Lake Lake Association:

City of Forest Lake: \$9,772 in 2022

Forest Lake Water Quality Goals & Measured Averages					
	2031 Goal	5-Year Avg (2018-2022)	Long-Term Trend		
Water quality rating at or above	B	B-	Forest- West	Forest- Middle	Forest- East
Mean summer phosphorus concentration below (µg/L)	30	32.7	Sig. Improving (-38%) since 2013	Declining since 2013	Declining since 2013
Mean summer secchi depth at or above (ft)	7	6.7	Sig. Improving (+116%) since 2013	Declining since 2013	Improving since 2013

- Goals shown in green are currently being met according to their latest 5-year average
- Improving or declining trends means that the water quality parameter is consistently increasing or decreasing from year to year over the time period, but NOT in a statistically significant way.
- Significantly improving or significantly declining means that the water quality parameter is consistently increasing or decreasing from year to year over the time period, AND in a statistically significant way. The percent change in the parameter over the entire time period is reported for statistically significant trends.
- A scientific trend analysis of District lake water quality is available in the District's Draft 2022 Water Monitoring Report available at: <https://www.clflwd.org/>

DNR Lake Classification: General Development

2022 Work	Status Summary
CLP surveys & management	The May 24th treatment on 103.96 acres was very successful.
EWM surveys & coord.	The FLLA contracted PLM to perform a 22.3 acre EWM treatment. No viable EWM found in lake after treatment.
FR surveys & management	The final assessment only found 0.29 acres of FR left in the lake.
Watercraft inspections	Conducted 2,071 hours of inspections on Forest Lake.

2023 Work	Status Summary
CLP surveys & management	61.55 acres were treated on May 22nd. Treatment had excellent control
Watercraft Inspections	District inspections began on May 12th
EWM surveys & coord.	Some treatable EWM was found by Blue Water Science on August 8th.
FR surveys & management	The District will continue its management approach of 2 to 3 herbicide applications throughout the summer and early fall, in conjunction with seed head removals and staff performed spot treatments. ☐
Purple Loosetrife	Treatment will occur by end of August



Comfort Lake

Management Narrative

Curly-leaf pondweed (CLP): (No update since last meeting) Blue Water Science performed a delineation survey of curly-leaf pondweed in Comfort Lake on April 24th. Only four locations of light growth were identified in the entire lake. On June 2nd, a follow-up assessment survey was performed which found 32 sites of light growth. No treatment is necessary this season. For reference, CLP hasn't been observed in high enough densities to warrant treatment since 2015 when the District treated 1 acre.

Eurasian watermilfoil (EWM): On June 2nd, Blue Water Science performed a Point Intercept Survey per the DNR's reporting requirements for the Comfort Lakes Association's 2022 whole-lake Fluridone treatment. Results indicated the treatment had great control of EWM, however it did not eradicate it from the lake as some light regrowth was found at 4 locations. As for native species pre-treatment compared to post-treatment, there was an overall reduction in the number of species found and for most, besides 4 native species, a reduction in the number of occurrences in the lake. On August 8th, Blue Water Science performed a follow-up survey for EWM. During their survey, they found an increase in light to moderate EWM growth in the lake since the June 2nd survey. The Comfort Lakes Association is anticipated to coordinate some type of management activity.

Zebra mussels: (No update since last meeting) Zebra mussels were discovered in Comfort Lake in 2017. The sampling plate program will continue in 2023 in order to provide information about zebra mussel population densities post-colonization.

Watercraft inspections: (No update since last meeting) An estimated total of \$15,000 will be available from the CLFLWD budget and project partners to support the 2023 watercraft inspection program on Comfort Lake. The inspection program began on May 12th this year.

Comfort Lake AIS Budget Summary



		Revenues		Expenses		Annual Balance	Timeline (2023-2024)											
		CLFLWD	Grants/Other	BWS	Other		April	May	June	July	August	September	October	November	December	January	February	
		\$ 14,000	\$ 5,000	\$ (3,200)	\$ (15,000)	\$ 800												
Curly-Leaf Pondweed	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
Surveys-Report				\$ (1,400)		\$ (1,400)	BWS											
Permitting/Public Notice		\$ 2,000				\$ -	WD											
Management (N/A)						\$ -												
Total		\$ 2,000	\$ -	\$ (1,400)	\$ -	\$ (1,400)												
Eurasian Watermilfoil	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
Surveys-Report				\$ (1,800)		\$ (1,800)	BWS											
Coordination/Mgmt Assistance		\$ 2,000				\$ -	WD											
Total		\$ 2,000	\$ -	\$ (1,800)	\$ -	\$ (1,800)												
Zebra Mussels	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
Samplers						\$ -	WD											
Total		\$ -	\$ -	\$ -	\$ -	FALSE	FALSE											
Watercraft Inspections*	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
Inspection Hours		\$ 10,000	\$ 5,000	\$ (15,000)	\$ (15,000)	\$ (15,000)	WD/Chisago Co.											
Total		\$ 10,000	\$ 5,000	\$ -	\$ (15,000)	\$ (15,000)												
Macrophyte Survey	Work Task	CLFLWD	Grants/Other	BWS	Other	Total Expense												
Point-Intercept Survey						\$ -												
2023 General Program Management						\$ -	WD/EOR											

*Planned watercraft inspection funding sources include:
CLFLWD levy: \$10,000 (1 access)

Chisago County AIS Prevention Funds: \$5,000
Comfort Lake Association: X
Wyoming: TBD

Comfort Lake Water Quality Goals & Measured Averages			
	2031 Goal	5-Year Avg (2018-2022)	Long-Term Trend
Water quality rating at or above	B	B+	N/A
Mean summer phosphorus concentration below (µg/L)	30	27	Improving since 1994
Mean summer secchi depth at or above (ft)	7	6.6	Significantly Improving (+52%) since 2013

- Goals shown in green are currently being met according to their latest 5-year average
- Improving or declining trends means that the water quality parameter is consistently increasing or decreasing from year to year over the time period, but NOT in a statistically significant way.
- Significantly improving or significantly declining means that the water quality parameter is consistently increasing or decreasing from year to year over the time period, AND in a statistically significant way. The percent change in the parameter over the entire time period is reported for statistically significant trends.
- A scientific trend analysis of District lake water quality is available in the District's Draft 2022 Water Monitoring Report available at: <https://www.clflwd.org/>

DNR Lake Classification: General Development

2022 Work	Status Summary
CLP surveys & management	Blue Water Science's survey did not find sufficient CLP growth to warrant treatment this year.
EWM surveys & coordination	The CLA conducted a whole lake Fluridone treatment in 2022. No EWM was found in the lake following.
Watercraft inspections	The District performed 643.5 hours of inspections.

2023 Work	Status Summary
CLP surveys & management	No treatment needed this year
EWM surveys & coordination	On August 8th, Blue Water Science found an increase in EWM growth since the first survey this season.
Zebra mussel monitoring	The District will continue the zebra mussel plate program in 2023 on Comfort Lake.
Watercraft inspections	District inspections began on May 12th