2026 International Rainy-Lake of the Woods Watershed Forum Chat Resources

March 11 – Day One

Moriya Rufer – One Basin, Six Plans: Unifying Watershed Management Across the Rainy River Basin

Q. What programs or plans are available to your Agriculture folks to assist in Ag pollution or fertilizer drainage into the system?

A: From Mike Kennedy (MPCA): There are so many….but here is a starting point from our State Board of Soil and Water Resources: https://bwsr.state.mn.us/grants

From Jeff Hrubes (Board of Water and Soil Resources): Here's another one from Minnesota's Dept of Agriculture: https://www.mda.state.mn.us/environment-sustainability/minnesota-agricultural-water-quality-certification-program

Jeff added, "The comment I had about watershed planning was that while we had good data and visuals from the Minnesota side of the border, we didn't have that detail for each of the planning areas on the Canadian side. Working through this forum and any other opportunities, leveraging each other's planning and implementation efforts will provide a more complete picture for all."

Kelly-Anne Fagan - Canada Water Agency Lake of the Woods Freshwater Ecosystem Initiative Update

EO LakeWatch tool can be found here: https://www.canada.ca/en/environment-climate-change/services/water-overview/satellite-earth-observations-lake-monitoring.html

There is also a newer beta version of the tool (that we at LOWWSF use more often): https://eolakewatch-app.azurewebsites.net/

Vince Palace – Effects of Water and Competition Stress on the Growth of Two Varieties of Wild Rice (Manoomin)

Q: Is there a natural rice worm inhibitor?

A: Yes, a natural insecticide called BTK (*Bacillus thuringiensis subspecies kurstaki*).

Lisa Peters – Monitoring Changes in Biodiversity and Ecosystem Health Following Cattail Management and Reintroduction of Wild Rice Using Environmental DNA

Q. Do you do your own eDNA analysis or send it to another lab?

A: For AIS we do our own using qPCR, for the inverts we will be working in a collaborators lab (doing it ourselves) at UWindsor for the metabarcoding while we are setting up our own new equipment. Hopefully we will be up and running by the end of the summer.

Q: Did you find any AIS in your study areas via eDNA?

A: We have not tested for AIS in the plots. We could add that for this year when we expand sampling efforts in Black Sturgeon.

Q: How do you avoid eDNA contamination in the small plots? Do you expect them to avoid drift from other plots or outside the study area?

A: The study pond is a closed system with about a 4m drop at the beaver dam. There is a buffer zone between each plot and the cattail monoculture is very thick with no observable flow. We sample the water "remotely" first so nothing gets stirred up, but there is always that possibility of DNA flow. The sediment has less opportunity for eDNA exchange between plots so it will be interesting to see what the results are.

John Strauser – Balancing Tradeoffs: Lessons From a Systems-Level Approach to Watershed Management

Questions & comments raised in the chat:

What can you do at the local level to avoid the always changing winds?

With addressing the Macro Forces in watershed planning, who are the stakeholders that you bring to the table for planning?

Can you elaborate more on how you reach out to ag producers in the watershed on the concept of land management being a trade-off, and what may be lost economically with BMP implementation?

How do you see zoning factoring into decisions about resource use?

To what extend do you think is organizing and thinking at the watershed scale enabling and limiting in addressing the macro scale issues you identified?

One huge factor of local level to avoid changing winds is to be sustainable, multi-generational in the approach. I (Mike Kennedy) have seen so many water quality volunteer

efforts and non-profits disappear because the whole effort is based upon one or two charismatic people carrying the torch….I was just asked yesterday by a lake association what one thing can we do for the future……I said find the youngest resident on the lake get them in the organization and get them sampling water watching you training the next generation.

This was such an inspiring and oddly reassuring talk. I really appreciated acknowledgment of the "lonely days" of this work and both the difficulty but power of finding hope. Hearing those shared experiences, and reflecting on how we can continue showing up authentically and together, feels really important to continue this work. Thank you!

Kui Hu – Got Rock Snot? What We've Learned from Lake Superior Tributaries to Protect Minnesota's Trout Streams

Comment: Just to echo Kui: felt wader soles are already banned in some states because of concerns about spreading Didymo.

March 12 – Day Two

Information about the annual awards given out at the Forum can be found here:

Wilson Stewardship award: https://lowwsf.com/our-work/watershed-forum/wilson-award

Kallemeyn Award: https://lowwsf.com/our-work/watershed-forum/kallemeyn-award

Erin Mittag – The Walleye Lakes Project: Uncovering the Past to Protect Minnesota's Walleye Fisheries

Comment: MPCA has been recently exploring impacts to WQ due to forest fires, especially in small scales like HUC-12…….Greenwood fire and Brimson Fire are the curent examples in Rainy River Headwaters and Cloquet watersheds being looked at or used as examples

Cyndy Desjardins – Identifying Fish Habitat Restoration Priorities in the Rainy River – Lake of the Woods Watershed

Link to the Restoration Actions Dashboard (RAD): https://www.dfo-mpo.gc.ca/regions/ontario-prairie/restoration-restauration/index-eng.html

Comment from Mike Hirst: I think collaboration between US and CA on these projects would be great. As we saw in the first presentation yesterday on the watershed planning on the MN side of the border, fish habitat projects are parts of those planning processes with input from DNR Fisheries. Definitely something we could possibly coordinate.

Morning Breakout Session – Watershed Vulnerabilities (mostly focused on mining)

Becky Rom: Mining should not be allowed everywhere in the watershed. Data shows that two taconite mines in the southern part of the Rainy River Headwaters are polluting the Boundary Waters, in violation of state and federal law. The issue in this watershed should be to ban copper mining here, as the US federal government did in 2023.

There is a bill in Congress to make the 20-year ban in the Rainy River Headwaters permanent. In the state, there is also a bill to ban copper mining in the Rainy River Headwaters (State bill HF 309/ SF 875 in MN Legislature).

The US Forest Service completed extensive environmental analysis of sulfide-ore copper mining in the Rainy River Headwaters, supported by 20 resource reports. The US Forest Service concluded, and the Bureau of Land Management and the Dept of Interior agreed, that copper mining would permanently damage the Boundary Waters (and by consequence, the Quetico and Voyageurs NP). This was the basis for the 20-year ban. This study and action should be acknowledged by the watershed board.

The MPCA data base (EQUiS) documents current and ongoing pollution of the Boundary Waters from the Peter Mitchell mine and the Dunka mine, in violation of the Clean Water Act. This demonstrates the failure of US regulatory agencies to adequately protect the Boundary Waters and Canada. It is important to make wise choices about where to allow mining. Some places should be off-limits.

Marlene Davidson: I live in Atikokan, Ontario the home of the contaminated Steep Rock site and the head of the watershed flow into the Rainy River. We now have the real possibility of a new gold mine here.

Reid Carron: The Antofagasta-Twin Metals mine does not contain sufficient minerals to have any significant impact on green energy. The water is vastly more valuable than the copper etc.—which would be sent to China in any event and sold on the world market.

Rodney Johnson: I believe it would be useful to use pointers from Johns Strauser to help us here. Big picture for aspirations would be helpful

Eric Randall – A Multi-Survey Approach to Understanding Long-Term Walleye Population Trends in Rainy Lake

Eric added: Just noticing I didn't have my email in the talk. you can reach me at earandal@lakeheadu.ca

Ben Erb – Improving Walley and Lake Whitefish Performance Indicators for Lake Water Level Management on Rainy-Namakan System

Audrey Moffett added: Well, we can say we have indirect proxy of the substrate in our models, minimally, such as the wave energy accumulated on the bottom (energy cleans the substrate from particulates and it is a predictor of the model)… ;) And for the walleye there is a little more to it also! But, anyway, nice work Ben!!

Émile Chouinard & Marianne Bachand – A Next-Generation 2D Predictive Model for Mapping Submerged Aquatic Vegetation in the Rainy Lake and Namakan System

Audrey Moffett added: Gabriel and I were really happy to participate to the forum (and be physically in the region). Thank you all for attending to our presentations. We now have to move in Kenora region. We would have like to stay for the whole rest of the day!! If you have any questions for us (and for Émile!) regarding the models and modeling results, please do not hesitate to make contact. Have all a very nice afternoon and see you! Thank you to the whole organizing committee.

Zac Morris, Erv Kraft, Craig Taylor – Lake of the Woods – Southern Shore Barrier Island Erosion Investigation – Phase II Update

Q: I am worried that even starting to monitor flow in July, you will miss the sediment transport that would occur in high Rainy River flows in May and June

Leif Olmanson – Using Satellite-Derived Water Quality and Temperature Data from an Automated High-Performance Computer Environment to Identify and Model Cyanobacteria Blooms in the Rainy-Lake of the Woods Watershed

MN Lake Browser: https://lakes.rs.umn.edu

Q: Can you tell blue-green from green with this imagery and have you tried tying to both phycocyanin and chlorophyll-a to track change in types of algae?

A: Yes, was demonstrated in the presentation

Faith Fitzpatrick & Angus Vaughn – Modeling Fate and Transport of Oil-Particle Aggregates from a Potential Oil Spill in the Rainy River

Q: It looks like the hydrodynamic model used was from 2016. From the previous presentations, has this model been updated, would there be any reason to rerun the data with the newer hydro model?

Q: Are you sharing this data with Koochiching County Emergency Management Director or the Sheriff?

Aliesha Krall – Phase II of Assessing the Vulnerability of Waters to Mining in the Rainy-Lake of the Woods Watershed

Q: (Johann Strube) Can you share your data set so that we can compare it with our mining data set we (Grand Council Treaty #3) have in Ontario?

Q: Has the data been aggregated, and is the aggregated dataset available?

Q: Are you checking on the quality of the data? For example, monitoring for sulfate by turbidity is inaccurate but the method 300 is accurate. Do you make a distinction?

Q: I saw groundwater flow direction was one of the vulnerability factors - do you have a source for that or is there a separate effort to model gw flow?

Q: It seems strange to see so much mining listed in Canada. I know Lake of the Woods region was a major gold production area 50-100 years ago. What data are you listing? (A: all past, current occurrences, whether claimed, prospected, explored, etc) Staked land? (A: yes) Do you include gravel pits? (A: no)

Q: That means that trench work 100 years ago, which might have excavated a 1 m x 10 m test trench, would be recorded as a mining occurrence. Am I understanding that correctly? (A: yes)

James Smith – Vulnerability of Lakes in Voyageurs to Spiny Water Flea and Zebra Mussels

James shared his email address: james_c_smith@nps.gov

Q: Possible to send that formula for the SFW probability?

Q: Are you continuing to look at the effects on fish growth like was done with YP?

Q: How many of the interior lakes have you found spiny's in?

A: so far, 0. We did a big survey in 2016 and didn't find anything. The park is doing some more SWF sampling this summer in a few key lakes, especially the vulnerable ones. We'll be collecting zoop tows and some sediment samples looking for spines.

Kaitlyn Brougham – 'Clean Drain Dry' compliance and Travel Patterns for Watercraft Crossing Between Ontario and Manitoba along the TransCanada Highway

Q: Were the invasive mussels found on the inspected boats (3) alive? And where were they found?

Q: How did you enforce interception of boats along the highway?

Q: If boats are put in storage, do the zebra mussels die eventually? Or do they become dormant and alive once in water again? I think Canada should try and use the lil zingle I heard that NE Minnesota uses for the zebra mussels

Q: Is dfo considering requiring clean drain dry for boats going to fish derbies

Lienne Sethna & Michelle Anderson – Historical Abundance and Extent of Wild Rice: Environmental Drivers Leading to its Decline in Lake of the Woods and Red Lake

Q: Love the wild rice research! Miigwetch. I (Johann Strube) can think of several places in Treaty #3 where communities would be very interested in doing similar studies. Any recommendations on securing funding for such work?

Q: Do the roots last longer than a year? I've (Faith Fitzpatrick) seen some thick root mats but maybe they are from another aquatic plant. They seem to be important to resisting erosion maybe?

Lienne shared her email: lsethna@smm.org

Roy Tom (Big Grassy FN) shared his email: bravepirates@outlook.com

Lisa Peters (IISD-Experimental Lakes Area) shared her email: Lpeters@iisd-ela.org

Diana Fred – ECCC 2024/25 Water Quality Monitoring Update

Link to ECCC data catalog: https://catalogue.ec.gc.ca/geonetwork/srv/eng/catalog.search#/search?facet.q=topicCat%2FinlandWaters%26keyword%2FWater%2520quality&resultType=details&sortBy=relevance&fast=index&_content_type=json&from=1&to=20&any=lake%20of%20the%20woods

Diana shared her email: diana.fred@ec.gc.ca

Laine Fyke, Michaela Novak, Ben Finlan – Grand Council Treaty 3: 2025 Environmental Monitoring Updates

Q: This is a really great monitoring program. I have a bunch of questions on the WQ and invasives portions of your monitoring. One question is whether and how often it is necessary to calibrate the continuous monitoring station/YSI sonde. Another is whether there is a key you would recommend using to distinguish native/non-native phragmites. I have other questions, but rather than ask them all and dominate the Q&A, would you be open to connecting next week or later for a conversation? — Matt Norton — Matt@savetheboundarywaters.org

Q: (James Smith) We've had pretty patchy results at Voyageurs while looking for veligers. I can send our results from the past couple of years your way if you like. My question is: are you able to get a veliger net with a larger mouth? It's possible you're missing some veligers because of a smaller sample volume.

Link to Motus bird & bat tracking system: https://motus.org/