Rainy Lake Conservancy <info@rainylakeconservancy.org>

Rainy Lake Conservancy Newsletter, Winter 2025

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To: info@rainylakeconservancy.org

A Voice for Conservation in the Rainy Lake Watershed

December, 2025

rainylakeconservancy.org

To Members and Friends of the Rainy Lake Conservancy:

As I write this, our cabin is closed for the winter with our new plumbing system fully drained. It felt good to hire local professionals to do the plumbing project so our future generations will have a well-built system instead of the hodgepodge of piping and valves that we played with for years. We hired local plumbers who were recommended by a local contractor we'd hired to install windows a few years ago, and the plumbers used the great service of the Fort Frances Rainy Lake Taxi company. I am proud to support local tradespeople and businesses as we maintain the character of our family cottage.

We had a wonderful Annual General Meeting in August on Midway Island. Thank you to all who attended in person or on Zoom, and especially to our hosts, Ann and Barry Sampson, and the boat ferries for making it easy. It was great to visit with people who have been part of the conservancy for all these years. And it was extra special to talk about the success of protecting Goose Island as we all looked out the windows across a short stretch of water to enjoy views of the very place we were talking about.

We celebrated our 25th year with presentations by Phyllis Callaghan—one of the RLC founders, whose energy, passion, and attention to detail has provided the most solid

foundation for our organization—and by our past president, Carolyn Wallis—who has done much of the heavy lifting to create tools and relationships that now allow private landowners to use conservation easements as a means to meet their conservation goals. Phyllis and Carolyn talked about the beginning of the organization, the people and mission, as well as some highlights of the work done to protect Goose Island and to support Ontario's Lands for Life and Living Legacy initiative, designating many of the islands of Rainy Lake as Conservation Reserves. We celebrated the fact that RLC now monitors conservation on over 540 acres of ecologically significant lands.

In 2026, we will work with the Centre for Land Conservation and its Conservation Excellence Certification program to evaluate our governance approaches, our performance relative to land protection and our financial management. I look forward to gaining insights on how we can improve. These insights will help the board of directors craft a strategic plan for the next several years.

– Dave Siebert

RLC Land Acknowledgement

Like all North American conservation organizations, RLC recognizes that the lands and waters we are focused on today have been the homelands of peoples for a long time before us. Our board wanted to have a formal and respectful way of stating this acknowledgement, and thus we created and voted to use the following statement:

The Rainy Lake Conservancy works in the watershed of Rainy Lake, which is part of the ancestral homeland of the Anishinaabe people. We acknowledge and honour the Anishinaabe people as caretakers of the land and water since time immemorial and as our neighbours, friends and vital members of our community.

We welcome any suggestions to improve this important statement.

Ranier Lift Bridge Update

by Dave Siebert and Stephen Challis

In June 2025, the US Coast Guard–Ninth Coast Guard District issued a public notice seeking comments regarding a proposed partial replacement of the Canadian National–Wisconsin Central Ltd. Railroad bridge in Ranier. The project would involve replacing the portions of the bridge and tracks on the US side, and the project requires approvals from the US Coast Guard, US Army Corps of Engineers and the Minnesota Pollution Control Agency.

The bridge is used today much as it has been for over a hundred years. Although the rail line from Duluth had reached Ranier by 1901, the impetus to extend the line into Canada via the bridge, which was completed in 1908, came from American timber baron E.W. Backus, as part of his grand plan to build a dam and two paper mills at what was then known as Koochiching Falls, where Rainy Lake falls into the Rainy River. Also, the fact that the Canadian Northern Railway (now called the Canadian National Railway) reached Fort Frances in 1901, linking the town to points both east and west, meant that the addition of the Ranier bridge greatly expanded the travel and trading routes available to the region.

In response to the recent public notice about a new bridge, RLC provided comments in July to the federal and state agencies involved in permitting a new structure. Our comments echoed input provided by other partners, including the Rainy Lake Property Owners Association.

Our comments addressed concerns for the new bridge's potential to affect flood flows and to impact the watershed's ecosystem. While the public notice suggests that the scope and area of effect for the project is limited to the US side of the waterway and that the design will essentially emulate current navigational and flow conditions, we urged expanding the scope of the review and that there be consultation with Canadian coastal authorities, First Nations and the Town of Fort Frances.

On September 20th, we received a detailed response to our comments from the US Coast Guard. They indicated that coordination under Section 106 of the National Historic Preservation Act (NHPA) with the Minnesota State Historic Preservation Office is ongoing. They said that coordination with the United States Fish and Wildlife Service, the National Oceanic and Atmospheric Administration and the Minnesota Department of Natural Resources regarding threatened and endangered species did not identify the lake sturgeon as a concern for this project. The US Coast Guard acknowledged our concerns regarding the possible presence of debris in the water from the original 1908 bridge construction, but they noted that it is their understanding that the limits of disturbance for the proposed project are confined to an area that consists of only bedrock.

Lastly, the Coast Guard responded to our comments about the potential effects of this project on normal flow and increased flood risks and stated: "The Applicant's consultant, Gannett Fleming, has prepared a Hydraulic and Hydrologic (H&H) Analysis Report – including a bathymetric survey – that analyzed the existing and proposed conditions for the 500-, 100-, 50-, 10-, and 2-year flood events and determined a slight decrease (approximately 0.25 feet) in flood water surface elevations for the proposed bridge piers. As presented, the Applicant states that the proposed replacement would improve the hydraulics at the bridge and reduce flood potential compared to the existing conditions. At

a minimum, the proposed project will not result in increased flooding upstream of the bridge."

Our contacts indicate that decisions by the US Coast Guard and US Army Corps of Engineers may not occur until late in 2025. We will join our partner organizations in staying tuned to the process.

Sources:

https://fftimes.com/100-years-100-stories/transportation-the-opening-of-the-west/travels-come-long-way-since-voyageurs/

https://www3.mnhs.org/mnopedia/search/index/structure/ranier-railroad-bridge.

This issue's science word: Subnivian

by Ann Sampson

(Note: Content includes information derived from AI/Chat GPT)

Keep your eyes open when walking in the woods this winter! Do you know who is beneath the snow? The term *subnivian* comes from Latin roots: *sub* meaning "under" and *nix,*

meaning “snow.” So, *subnivian* literally means “under the snow.”

In ecology, the subnivian zone (or subnivean space) refers to the narrow layer of air that forms between the ground and the bottom of the snowpack during winter. It’s created when snow piles up over uneven ground, fallen leaves and vegetation, leaving small air pockets.

Key features of the subnivian zone include:

- Temperature stability: Snow acts as an insulating blanket, keeping the temperature just below freezing (around 0°C or 32°F), even when the air above is much colder.

- Habitat: Many small mammals—such as voles, mice and shrews—live and move about in this layer during winter, safe from predators and harsh weather.

- Ecosystem role: These animals continue to forage and create tunnels in the subnivian zone, which helps aerate the soil and redistribute nutrients.

Some related terms include s*ubnivean access holes*, which are openings or vents that animals use to enter or exit the subnivian space, and *subnivean insulation*, which is the thermal protection the snow provides to this hidden microhabitat.

Mining Activity & Mercury Levels in Game Fish

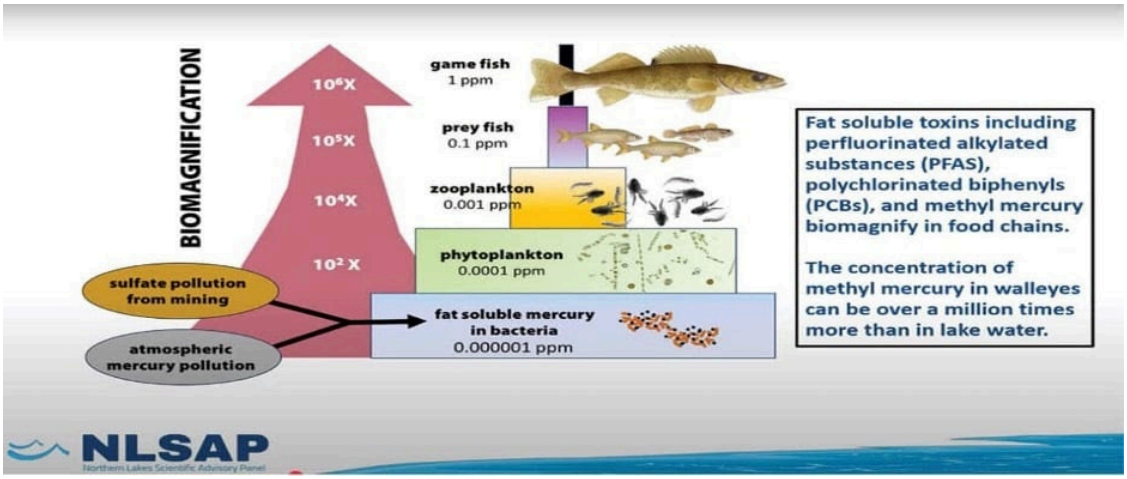
by Wolfgang Bielefeld

In August of 2025 the *Quetico Superior Wilderness News* reported that mining activity can be linked to increased mercury levels in Minnesota game fish (https://queticosuperior.org/mining-activities-increase-mercury-levels-in-minnesota-game-fish-researchers-say/). The report noted that the primary source of mercury pollution comes from mercury emissions released into the atmosphere. However, despite the state’s reduction of mercury emissions by nearly two-thirds since 2005, the levels of mercury found in walleye and northern pike in many of the state’s lakes have continued to slowly but steadily rise for the past 30 years. The Minnesota Pollution Control Agency (MPCA) currently lists over 500 lakes across northeastern Minnesota (including all major lakes on the Minnesota side of the Rainy Lake Watershed) as impaired because mercury levels in fish exceed safety

standards, prompting fish consumption guidelines for these bodies of water (https://www.pca.state.mn.us/air-water-land-climate/minnesotas-impaired-waters-list).

The report points to an additional culprit, sulfate, a chemical compound that is released into waterways by mining and other industrial sources, including wastewater treatment plants. In its 2024 list of impaired waters, the MPCA added 20 new bodies of water in Minnesota to the list of those impaired due to sulfate. Researchers have found sulfate pollution from mining waste leaching into northern Minnesota rivers and streams, and in its 2024 impaired waters list the MPCA added a lake and a river lying within the Boundary Waters Canoe Area's Rainy River Watershed in the Superior National Forest, citing sulfate levels exceeding state regulations.

Sulfate increases mercury levels in fish in a roundabout way: It migrates into sediment and mud, where sulfate-reducing bacteria strip oxygen from the sulfate so they can breathe. This biological process produces hydrogen sulfide, which is toxic to both humans and wild rice. In addition, as bacteria break down biomass, they release built-up mercury. This mercury transforms into methyl mercury, a toxic compound that biomagnifies in fish as it moves up the food chain, as shown below:



Stakeholders in Minnesota are actively engaged in efforts to address the sulfate pollution problem, and a number of approaches are being investigated. In a follow-up article, the *Quetico Superior Wilderness News* reported on one approach

(https://queticosuperior.org/new-technology-may-fight-sulfate-pollution-near-bwcaw/). Clearwater BioLogic, a firm based in Babitt, Minnesota, has developed a promising technology to remove sulfates before they head downstream. The approach involves three steps: Sulfate in contaminated water is first converted to hydrogen sulfide by sulfate-reducing bacteria. This water is then exposed to direct-reduced iron pellets, which react with the hydrogen sulfide and bind the sulfur into iron sulfide, a solid. This can then be

extracted and is marketable. The process uses no chemicals and generates no waste upon completion.

Both lab and field tests have shown the system to be highly effective. It was tested at a mine pit over five seasons and achieved sulfate reduction levels of up to 100 percent. A grant request has been submitted seeking $727,000 to demonstrate the system at a taconite mine site. The goal is to show that the system can reduce sulfate pollution in a tailings pond and do it cost-effectively.

Ecological Gifts Program

by Kaitlin Richardson

The Ecological Gifts Program is a tax incentive program administered by Environment and Climate Change Canada in cooperation with partner organizations, like the Rainy Lake Conservancy, that offers significant tax benefits to Canadian landowners who donate ecologically significant land (or donate at least 20 percent of the value of the land) for conservation.

Conservation easement donations are also eligible for this program. A conservation easement (sometimes called a conservation agreement or conservation easement agreement) is a voluntary legal agreement that is mutually agreed upon then registered on title between a landowner and a conservation organization, such as RLC. These easements limit land use to protect the conservation values of the property, while allowing the landowner to retain ownership and use. Conservation easements are perpetual and remain on title even if the land ownership changes. Therefore, the new landowner would be subject to the same restrictions on land use. For example, a landowner of an island in Rainy Lake may register a conservation easement on title that restricts development of any new cabins on the island but allows them to keep and continue using their existing family cabin. If they were to sell the island to someone else, the next landowner would not be able to develop any new cabins either. If a conservation easement is donated, the value of the easement is calculated by taking the appraised fair market value of the property before registering the easement, then subtracting the new fair market value of property with the easement registered on title (which would be lower because the land use would be restricted).

In order to be eligible for the Ecological Gifts Program, the lands in question must be certified as ecologically significant according to specific national and provincial criteria.

This process can be led or supported by the Rainy Lake Conservancy. Specific tax benefits include:

- Ecological gifts benefit from the elimination of any tax on the capital gain realized on the disposition of the property.
- The carry-forward period for claiming these donations is now 10 years.
- In most provinces, a reduction in federal tax payable will also reduce provincial tax.
- Corporate donors may deduct the amount of their ecological gift directly from their taxable income, while the value of an individual's ecological gift is converted to a nonrefundable tax credit. The tax credit is calculated by applying a rate of 15 percent to the first $200 of the donor's total gifts for the year and 29 percent to the balance.

More detailed information on the tax benefits of the Ecological Gifts Program can be found in the Government of Canada's *Ecological Gifts Program Handbook* or the Donation and Income Tax Scenarios fact sheet.

Echo Island—a Family Love Story

by Dave Siebert, Carolyn Wallis, Helen (Happy) Hayhurst

When Sam and Stephanie White bought the island in 1979, the dock looked like one of the ramps that Evel Knievel used to jump his motorcycle over a line of busses, and the cabin had no inside walls and large holes in the floor. The Whites enlisted the help of their great friend Bob Hilke, who brought his sage know-how to constructing a proper dock for the teal-and-white Glastron boat. Sons-in-law Lew Hayhurst and Russ Siebert took to framing in some walls for the bedrooms and the future site of an early-generation composter toilet.

While the grandkids gathered blueberries from the west side of Echo and on Little Echo, daughters Anne, Happy and Carolyn worked on staining the outside walls, while Steph established sites in the corners for a few WWII-era cots.

Sam and Steph had been looking for an island for years. While their time visiting Mallard Island every summer during the ’50s and ’60s was wonderful, they wanted a place of their own. After Ernest Oberholtzer died in 1976, making use of the Mallard Island impossible, they sought a new place to build a cabin so the family could continue to enjoy Rainy Lake.

They did buy a small Canadian island in the mid ’70s—Snowball Island near Angling Island—but before the building of a cabin and dock could begin, the government took it back to allow for logging in that stretch of the lake. Ultimately, that logging route was never used, and the island now sits in its natural state. For years after, we loved taking family picnics on Snowball, renting time at Rest Island for a few summers. The search for another island continued, until the 2.2-acre Echo Island came on the market in 1979.

Echo Island took shape in the early ’80s, as the cabin was shored up with proper framing in the rafters and new interior walls. A deck was added, which allowed for a feeling of reading your book in the middle of the trees (since we had no railing!). Later we built a front porch with many windows, allowing you to enjoy your coffee or tea without worry of mosquitoes or flies. Sam and Steph liked that the cabin was hard to see from the water, and so we tried to use browns and greens as paint colors.

In a low-water year, we noticed a lot of glass in the small bay facing south. Evidently the previous owner would toss wineglasses, shot glasses, and china plates into the water. Even after much careful cleaning of the bay, you can still find pieces in the muck and sand whenever we have low water.

As the family grew, we explored the idea of adding a small sleeping cabin on a rise overlooking Little Echo. But Sam and Steph thought hard about taking any trees down, and they realized the current amount of development on the island was just right and any more people visiting at one time would be too much. They decided that rather than build

more, they should maintain the island as it was. This led to an early exploration of the idea of some sort of conservation protections, including the idea of a conservation easement.

After Sam and Steph passed on (in 2010 and 2016, respectively), the family established the ownership as a partnership with ownership held between the direct descendants of Sam and Steph—daughters Anne (now deceased), Happy (Helen) and Carolyn; grandchildren Dave, Pete, Carolyn, Liza and Anne; and great grandchildren Kayla, Kyle, Olivia, Millie, Helen, August and Graham. To honor Sam and Steph, the family partnership voted to pursue formal and legal protections for the island, and we agreed on the terms for the first conservation easement to RLC. Each of the members feels proud that we have carried on Sam and Steph's legacy and created a model easement that works for us and can be used as a starter for others on the lake.

When friends ask, "So what do you do up at your island?", there is always a hesitation before answering. That hesitation requires you to take a deep breath as you think about that feeling of relaxation when you first step off the boat and pull in that smell of the pines. Like most people on the lake, we do small projects to maintain things, we gather blueberries, we swim, we read, we fish, we picnic, we play Scrabble, we walk the trails, and we paddle around. And then the next day, we might do the same thing. When the old weather radio says, "Chance of rain is 40 percent today…," maybe you shift gears and start working on a jigsaw puzzle… or maybe not….

Rainy Lake Conservancy Annual General Meeting, August 10, 2025

by Phyllis Callaghan

On August 10th we commemorated the 25th anniversary of the Rainy Lake Conservancy at our annual general meeting (AGM) at an island cabin on Rainy Lake. In keeping with RLC's first meeting, hosted in the summer of 1999 by Elizabeth and Henry Hyatt at Windsong Island, Barry and Ann Sampson provided a beautiful setting for this year's special event at their cabin on Midway Island, located directly across the channel from Goose Island.

RLC president, Dave Siebert, welcomed everyone to the meeting. He began by telling the story of his family's strong connection to Rainy Lake, a connection that eventually resulted in a conservation easement on Echo Island. A photo of RLC's first board of directors included his grandfather, RLC's first president, Sam White, who led the conservancy in its formative years.

Phyllis Callaghan, a founding member of RLC, took us back to 1996–97 with highlights of the struggle to protect Goose Island from a large-scale development plan. She thanked Norma Eberhardt for her wake-up call, Henry and Elizabeth Hyatt for their support and leadership, and the cottagers for their involvement in the complex negotiations that took place during that time. By June of 1997, due to their efforts, the Nature Conservancy of Canada owned two thirds of Goose Island. The remaining one third was purchased by an individual who was committed to the conservation of the island. The threat of extensive development on a large, pristine island in the south arm of Rainy Lake led to the formation of the Rainy Lake Conservancy.

Carolyn Wallis, Conservation Committee chair, brought us up to date on RLC's efforts to assist land owners to preserve private land on Rainy Lake. In all, RLC has worked with cottage owners to protect 218 hectares (540 acres) of private land on Rainy Lake islands and shorelines (a total of 11 properties) through conservation easements and fee simple donations. By protecting private property on the lake, Carolyn pointed out, the conservancy is helping to protect clean water by reducing runoff into Rainy Lake, to promote a healthy fishery by protecting fish habitat and ensuring clean water, and to support local tourism and a healthy lake for boating, fishing and vacationing by lake residents and others who will enjoy the peace and beauty of the lake for generations to come.

Wolf Bielefeld, chair of the RLC Outreach and Education Committee, summarized the findings of the recent RLC membership survey. The results indicated that members who responded to the survey were particularly interested in receiving educational information related to plants, animals, possible consequences of climate change and the history of Rainy Lake. They were also interested in receiving property owner advice on topics such as property/shoreline development, septic systems, vegetation/erosion issues, care and protection of trees and forests and the best types of trees to plant for mitigating the impacts of climate change.

Finally, Dale Callaghan gave a presentation on the importance of research in providing a science base to support RLC's mission of working with other groups to maintain the health of the watershed. He focused on the current walleye study, funded by Lakehead University, the Rainy Lake Fisheries Trust, the Ontario Ministry of Natural Resources and

the Rainy Lake Conservancy (including generous donations made by RLC members Paul Anderson, Dale Callaghan, Paul Larson, Kris Lysne and Barry Sampson).

Following a short business meeting, members gathered to enjoy conversation and refreshments.

Many thanks to Ann and Barry for hosting the meeting, to Bob Hammar for managing transportation and boat docking, and to all who attended the AGM either in person or via Zoom.

Invasive Phragmites and Rainy Lake

by Barry Sampson

Invasive phragmites (European common reed) is a perennial grass that grows in dense clonal mats that displace native species and create a monoculture, degrading habitat quality for native fish and wildlife populations. It was introduced on the east coast of the US in the late 1700s to early 1800s. By the 20th century it had spread across the whole country. This plant species spreads both by seed and by its extensive underground and underwater rhizomes. It is extremely invasive and will quickly outcompete and replace the native species of phragmites. In shallow areas it can impede boating opportunities. Once invasive phragmites establishes itself it will result in lower diversity and abundance of fish and water birds that use native stands of phragmites.

The invasive plant is recognizable from its thick flower head, which starts out purple in August and changes to golden brown in fall and winter. It grows to a height of 15 feet, and rhizomes are its most common way of spreading. The rhizomes can grow up to 10 feet in length and 6 feet deep in one growing season. The native species is most easily recognized in the late fall and early winter when its leaves fall off. The invasive species keeps its leaves on.

Control of invasive phragmites is done either by herbicide or by mechanical removal. Use of chemicals in and near water is highly regulated due to potential impacts on the water. Control is best attempted when the stand is new and not well established. Because the plant can re-sprout from cutoff chunks of rhizomes, it is important to prevent their dispersal. After mechanical removal it is important to make sure all equipment that was used is cleaned before leaving the site in order to prevent spread of rhizomes and seeds. If a new stand tries to establish itself on your property along the lakeshore, removing the whole plant system and air-drying the rhizomes is the most successful way to eradicate it.

Our Mission

The mission of the Rainy Lake Conservancy is to work with property owners, governments and the local communities to preserve and protect the natural beauty, historic features and ecological and recreational values for present and future generations within but not restricted to Rainy Lake.

Calling all members...

We are a volunteer-led and volunteered-driven organization. RLC could use your help on a few of our committees. Do you have a few hours over the next year to lend a hand? Would you be able to join a conference call or two this spring to flesh out newsletter article ideas? Or perhaps you could help with a few suggestions for good candidates we should consider to serve on our board? Or maybe you could help us secure a place in Fort Frances that would serve as our locale for our 2026 Annual General Meeting in August? Or maybe you would be able bake a few cookies for the AGM?

We try to keep our requests for volunteers to a minimum, but the same crew of folks has been doing many of these tasks for a long time. Please step up as you are able.

Give me a shout at dave.siebert9@gmail.com if you have interest and time. THANKS!

Renew your membership here, or become a member here.

Thank you to our photographers, Burgess Eberhardt, Wolf Bielefeld, Pat Donohue, Phyllis Callaghan; to Helen Martineau who edits; to Kristin Bannister who produces; and to contributors Dave Siebert, Wolfgang Bielefeld, Joe Gauss, Carolyn Wallis, Barry Sampson, Ann Sampson, Kaitlin Richardson, Paul Anderson and Phyllis & Dale Callaghan, and so many more...

SEASONS GREETINGS!

Rainy Lake Conservancy, PO Box 233, Fort Frances, Ontario P9A 3M6, CANADA