

# Wild Rice (Manoomin) in the Tamarack Region



*A Future Honoring All Relations, by Moira Villiard*

Value,  
Abundance,  
and Need for  
Protection

Prepared by Annette Drewes  
and WaterLegacy  
(May 2025)

# Interviewees

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Miigwech to our interviewees and sources who shared their stories, wisdom, and expertise with us. Your generosity and insights help us grow in appreciation for Manoomin's significance and its irreplaceable value in the Tamarack Region. We are so grateful for you.

Lise & David Abazs  
Kelly Applegate  
Tania Aubid  
Cliff Crowell  
Ricky DeFoe  
Leanna Goose  
Dale Greene, Sr.  
Tom Howes  
Martin Jennings  
Josh Knopik  
Meghan Mitchell  
Cindy Olin  
Emily Onello  
John Persell  
Nancy Schuldt  
Jean Skinaway-Lawrence  
Sydney Trimble  
Don Wedll

# Project Team

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Annette Drewes  
Author and Manoomin Ally

WaterLegacy  
Paula Maccabee, Executive Director & Counsel  
Sophia Patane, Community Engagement Director  
Jan Keough, Board President  
Dylan Young, Organizer

Support for this project was also provided by University of Minnesota's Northeast and Central Regional Sustainable Development Partnerships and Climate Impact Corps members Larissa Scott and Sarah Clauss.



# Introduction

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Wild rice supports communities, ecosystems, economies, and the lands and waters we depend on. Called Manoomin by the Ojibwe/Chippewa peoples and known scientifically as *Zizania palustris*, our natural stands of wild rice—the most abundant in the world—are threatened. Here in the Tamarack Region of north central Minnesota, wild rice now thrives. But Manoomin, the wild, water-loving grass which produces wild rice, faces many threats and needs our protection.

At risk is a cultural tradition spanning centuries and a local and regional food source, not only rich in health benefits but vital to maintaining healthy lakes and streams. The threats to future populations of Manoomin are many, including climate change and invasive species. An important looming threat is pollution and destruction due to proposed mining of nickel, copper, and other metals from sulfide ores.



Wild Rice Bowl (Photo/Jim Northrup)

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Manoomin abundance in the Tamarack Region of Aitkin and Carlton Counties must be protected. Important to both Native and non-Native harvesters and communities, this Region is a “wild rice basket” for the State and nation.

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This report gathers printed research, management and monitoring data, along with interviews with people whose lives are personally connected to Manoomin in the Tamarack region. These sources explain the significance of wild rice abundance and what would be sacrificed if that abundance were lost. Your voice is needed to protect wild rice, Manoomin.

# Wild rice has profound value to Indigenous and non-Native harvesters.

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Ojibwe people were led to this region by prophecy, to live and reside where the “food grows on water.”

Several hundred years later, the Ojibwe people are still here harvesting Manoomin, central to their identity. The right to harvest wild rice is protected by treaty, and Manoomin is present at community gatherings, feeding everyone from the eldest to the youngest.



*Kelly Applegate*

**Kelly Applegate**, Commissioner of Natural Resources for the Mille Lacs Band of Ojibwe, remembers harvesting wild rice as a child with his family. Now as an adult he protects and works to restore wild rice in places where the wild grass has disappeared. “Manoomin is a way of life for our people here at Mille Lacs. It’s our identity. It’s literally why we are situated where we’re at, because there was a prophecy . . . we will know when we’re home when we find the food that grows upon the waters.”

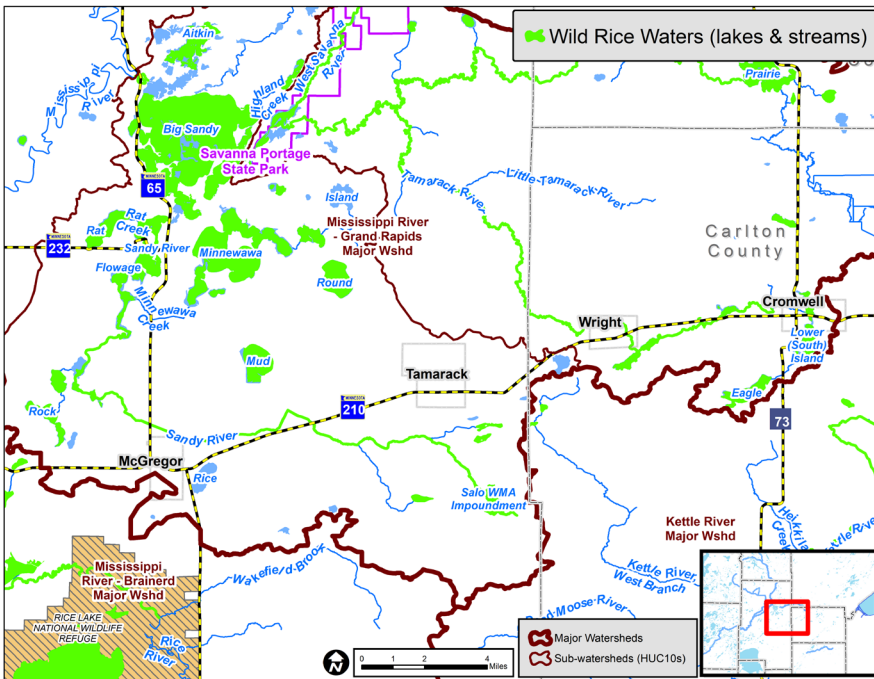


*Jean Skinaway-Lawrence*  
(Photo/Rise & Repair)

**Jean Skinaway-Lawrence**, Chairwoman of the Sandy Lake Band of Mississippi Chippewa, lives next to Sandy Lake with her community and works to protect Reservation and treaty-reserved resources. “My people came to Sandy Lake, where it’s just lush, abundant wild rice. This is home, for us, for my family. The Sandy Lake Reservation encompasses the whole Sandy Lake and surrounding lakes . . . We kept the wild rice in our treaty . . . and we need to have these treaty foods, this maple sugar, these fish, and everything that is dependent on this water. It’s something that we have to steward, and we have to speak for those that can’t.”

Wild rice is recognized by the Ojibwe people as far more than a source of sustenance. In the 2018 Tribal Wild Rice Task Force Report (Minnesota Chippewa Tribe) Manoomin is recognized as “a sacred symbol that represents their journey, their relationship to the land that sustains them, and their very identity as Ojibwe people.” (Tribal Report, page 12).





Wild Rice Waters (green) Identified in the Tamarack Region from MPCA data (Map/Mitch Brinks)



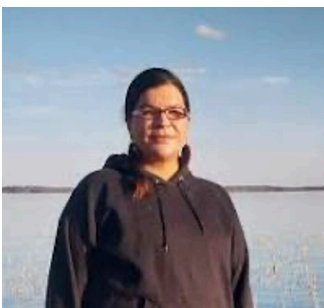
"The Sacred Harvest" with Glen Jackson Sr. and Jr. (Photo/D. Kakkak)

Wild rice is central to Ojibwe families and communities. The annual gathering of Manoomin brings aunts and uncles, cousins and grandparents together to harvest and process wild rice, while sharing stories and memories, connecting the past with the present. Celebrations and feasts take place to honor Manoomin. Occurring around the start of the school year in August and September, the wild rice harvest also provides income for school clothes and is put up as food for winter.



Tania Aubid

**Tania Aubid** and her family harvest wild rice off what is now referred to as Rice Lake National Wildlife Refuge. Born and raised in the East Lake community, her family has lived in the area for many generations. "My first memory of wild rice is going down to the boat landing and seeing the grandmas and grandpas come off the lake, the aunties and uncles come off the lake and wondering, 'What are they doing?' I remember holding it (wild rice) in my hands . . . and bringing it up to my face and smelling it, just knowing it came out fresh from the lake."



Leanna Goose

**Leanna Goose** is a mother of three, a student, a lifelong harvester of Manoomin, and a Leech Lake Band member. Leanna spent her summer in 2024 surveying invasive species moving into wild rice beds. "Manoomin played a big part of my life growing up, it fed my family. Manoomin kept us close, we finished Manoomin together. Good times, talking to my sister and spending time with my dad. But my dad is no longer here, so being out on the rice bed keeps me connected to him in a way because he's the one who taught me how to gather Manoomin."



Ricky DeFoe

**Ricky DeFoe** is a Fond du Lac Band of Lake Superior Chippewa Elder and Pipe-Carrier involved in the revitalization of the Ojibwe language. Ricky explains how people experience Manoomin as a connection with the natural world. “Manoomin is really, first off, in our language *mino*- something that’s good. Manoomin, the good berry . . . it’s building a relationship with that good berry and seeing it change colors, green to purple and ripened and ready to harvest.”



Using high, clean moccasins to jig parched rice (Photo/Lorie Shaul)

**Jean Skinaway-Lawrence**, Chairwoman of the Sandy Lake Band of Mississippi Chippewa, recalls the importance of wild rice to sustain her family economically and spiritually. “We had a big family with nine kids. So we had like, five or six large [potato sack-size] bags full of finished rice. And my dad was a big guy! That finished rice nowadays [would be] well over \$5,000 worth of rice, you know, if he was to sell it. But he knew he needed that for his family . . . To protect our resources—it’s a covenant. We were always told to protect. It’s something that’s ingrained in us . . . The rice for us, is everything. We use it in ceremony. It’s something that we that we use for the Creator . . . It’s medicine. You’re gifting that to the Creator, so it’s really significant for us. For it not to be here, would just be devastating.”

Non-Native harvesters also participate in the gathering of wild rice, some to supplement incomes and others for the experience of gathering their own food. Nearly a hundred years ago, interest in wild rice as a gourmet food item unique to North America led non-Indigenous peoples to begin harvesting. The communities discovered the value of gathering Manoomin for their families, often learning from their Ojibwe neighbors. Today those who gather wild rice do so informed by the traditions of Ojibwe people. The Tamarack Region remains a vital source of Manoomin for other areas of Minnesota as well.



Sydney Trimble

**Sydney Trimble** lives and works in Northeastern Minnesota supporting local sustainable foods. She values Manoomin’s beauty and participates in the annual harvest. “When’s the last time you felt connected to your food? When’s the last time you could tell me where your food came from, where it was grown, processed, packaged? Wild rice is like a being, a sacred thing, because of what it can provide and the whole beauty of it as a biological aspect, how it grows and how it reseeds itself but also how fragile it is. . . . What happens if it goes away and what is lost if it goes away?”





David and Lise Abazs

**Lise Abazs and her husband David** own and operate Round River Farm, an organic farm in Finland, Minnesota. Introduced to wild rice harvesting by friends, they quickly added the gathering of this annual grain to their yearly cycle of activity. “We tend to go to central Minnesota because they’re really big ricing lakes and you can go and you camp and you can get a lot of rice over a whole weekend . . . We usually have plenty for ourselves and sell enough to pay for the processing, the permit, and other costs. Along with nourishing ourselves, wild rice is the only grain our son is able to digest without problems, so it is literally a source of life.”

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**Cynthia Olin** spent her summers on Lake Minnewawa. Now in her 70’s she remembers eating wild rice each time she came north to visit family. “They tell me that this is the best rice, the best rice . . . and they don’t have any idea. I’ve even sent some to Ireland . . . everybody wants more.”



Harvesting wild rice on Big Sandy Lake (Photo/Lorie Shaul)



# Wild rice is a foundational plant in our lakes and streams, and a sustainable, healthy food.

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Natural wild rice grows in the shallows of Minnesota's lakes and streams, providing cover and food for fish, buffering our shorelines, and offering a nutritious grain for consumption by wildlife as well as humans. Wild rice offered in stores typically comes from commercially produced grain grown in paddies, often in California. This cultivated wild rice—which differs from natural Manoomin in consistency, taste, and even cooking time—owes its genetic heritage and very existence to the wild growing plant surviving here in Minnesota and available for everyone to gather and enjoy.

Lakes with Manoomin are considered some of Minnesota's healthiest lakes, outstanding for their biological significance. Rat Lake, Big Sandy and Big Sandy Flowage, and Minnewawa Lake are all listed by the Minnesota Department of Natural Resources (DNR) as outstanding waters, the highest classification used to focus protection efforts. Wild rice beds are abundant nurseries for young-of-the-year fish. They shelter ducks and shorebirds like the sora rail, hold a diversity of insect life, and feed migrating waterfowl each fall on their journey south. Wild rice lakes are like the canary in the coal mine for the health of lakes, fish, and wildlife.



John Persell

**John Persell** has served as a water quality specialist with the Minnesota Chippewa Tribe, an environmental policy analyst for the Leech Lake Band of Ojibwe, and a member of the Minnesota House of Representatives (2009-2020). In a paper prepared for the Minnesota Chippewa tribe in 1986 describing wild rice ecosystems, Persell emphasized that many rice beds are exceptional habitat for young fish, particularly beds within or connected to major fishery ecosystems. Persell remembers hearing about wild rice for the first time while attending Bemidji State University.

“I grew up in northwestern Iowa. [I thought] ‘What do you mean there is a grain that grows in the lake?’ As I got more involved in water quality I realized just how important wild rice is to the ecosystem, as a food source and habitat.”



*Don Wedll*

**Don Wedll**, former Natural Resources Commissioner (1983-2001) for the Mille Lacs Band of Ojibwe, spent years working to re-establish wild rice on the Mille Lacs Reservation and came to understand its ecosystem relationships. “When we started studying Onamia Lake to try to get the rice back . . . we ended up finding a wide range of microorganisms that existed in the mud, some invertebrates that had never been indexed (identified) living in the wild rice sediment on the bottom of the lakes. There are fish because wild rice holds these vertebrates, invertebrates and all these little organisms; it’s an excellent place to grow fish.”

“(Within the wild rice) there are resources there that allow a wide diversity of life to exist in the wild rice beds and if you lose that you lose all that diversity. People talk about walleye production and all those kinds of things but wild rice beds provide a substantial area for the growth and development of fry and young walleyes, for food sources and protection.”



*Harvesting wild rice  
(Photo/Annette Drewes)*

**David Abazs**, wild rice harvester, sustainable farmer and Executive Director of the Northeast Regional Sustainable Development Partnership in Duluth, Minnesota, explains the unique relationship of wild rice to Minnesota.

“A lot of our crops we grow, the origin comes from another part of the world . . . this area is the origin of wild rice. This is the genetic base of it, like corn is from Central America. And one, we don’t have a lot of origin crops in Minnesota. And two, it’s an incredible wild harvest because very few things you can harvest in a few days and have your whole year’s supply. So, picking blueberries and picking other things are great, but what you can do in a day on a wild rice lake is get through the winter.”

The 2018 Health Impact Assessment (HIA) prepared by the Fond du Lac Band of Lake Superior Chippewa on the Effects of Wild Rice Water Quality Rule Changes on Tribal Health emphasized that natural hand-harvested wild rice is a “traditional staple food that provides irreplaceable cultural and nutritional benefits.” (HIA, page 4). Physical, spiritual, and mental health are associated with the annual gathering of this wild grain, Manoomin. The HIA concludes that access to and the existence of abundant wild rice are critical to both food security and food sovereignty for Tribes in Minnesota.

# Wild Rice Nutrition and Health Benefits



Martin Jennings  
(Photo/Wallace Center)

**Martin Jennings**, Leech Lake Band member and Executive Director of the Northwest Indian Community Development Center in Bemidji, Minnesota, compares the impact of harvesting wild rice to just buying wild rice in the store. “That harvesting, and understanding the entire process: the respect of the plant, the caring of the plant, the gathering and preservation, the preparation and exchange of life giving sustenance, all of those hit on all the four dimensions of balance and personal healthiness (mind, body, spirit and soul).”



Emily Onello, MD

**Emily Onello, MD**, Family Physician and Associate Professor at the University of Minnesota Duluth Medical School, highlights how the pandemic underscored the importance of Manoomin to food sovereignty and security. “I remember hearing on the radio about Red Lake and how they had emergency food stores for their members of frozen fish and wild rice. And it reminded me, [Manoomin] is a food source that is shelf stable. It doesn’t require freezing or refrigeration and lasts a long time. It’s relatively easy to cook and prepare. And so to me, the loss of wild rice, in many ways, is a national security problem. We have a food source that locally could be obtained and enjoyed, even if food supply chains globally and nationally are interrupted . . . Food insecurity in rural areas of our region and a lot of the United States is really astounding. I think it’s important to make something available and preserve something that has sustained people in this region for so long.”

**Diabetes and obesity.** According to research, confirmed health benefits of wild rice include alleviation of insulin resistance, prevention of atherosclerosis (hardening of the arteries), and “pronounced antioxidant properties,” important to populations with high levels of diabetes such as American Indians and Alaskan Natives whose rates are more than double the national average. (Yu *et al.* 2020).

Nutrition Facts	
Serving Size 1 cup 164g (164 g)	
Amount Per Serving	
Calories 166	Calories from Fat 5
% Daily Value*	
Total Fat 1g	1%
Saturated Fat 0g	0%
Trans Fat	
Cholesterol 0mg	0%
Sodium 5mg	0%
Total Carbohydrate 35g	12%
Dietary Fiber 3g	12%
Sugars 1g	
Protein 7g	
Vitamin A 0% • Vitamin C 0%	
Calcium 0% • Iron 5%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Fiber	25g 30g
Calories per gram:	
Fat 9	Carbohydrate 4 Protein 4
©www.NutritionData.com	

USDA 2010 wild rice nutrient data  
(Credit/Native Wild Rice Coalition)



Wild rice (*Zizania palustris* L.) has higher nutritional value than white rice (*Oryza sativa*) and is gluten-free.

Nutrient	Unit	Wild Rice	White Rice	Brown Rice
Carbohydrates	%	71-84	28.2	25.6
Protein	%	10-18	2.69	2.74
Fiber	%	5.2	0.4	1.6
Magnesium	mg/100g	80 -161	12	39
Niacin (B3)	mg/100g	4.6-10.3	1.48	2.56

Chart from McGilp, L., et al. 2023.



Winnowing wild rice in a birch bark basket (Photo/Lorie Shaul)

**Emily Onello, MD** reflected on the results of her research at UMD. “Based on its nutritional profile, [Manoomin] would, along with a lot of other sustainably harvested or traditional pre-colonial foods of North America, promote health and has a profile that is much more likely to lead to a healthy, non-diabetic lifespan. When you look at stress and addiction, coming around to food quality and connecting with potentially traditional practices may have some very significant benefits as well . . . Generally speaking, the more we study wild rice, the more we recognize the wisdom that Native groups have had all along, calling it a great superfood. We can start to see its impacts, whether it’s on liver fat or cholesterol profile or potentially even colon cancer risk.”



Holding wild rice (Photo/Duluth News Tribune)

# Wild rice in the Tamarack Region is abundant, both for Minnesota and on a global scale.

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Minnesota and Wisconsin are the only two states in the United States with sufficient wild rice to provide opportunities for both Indigenous and non-Natives to harvest a wild rice supply for sustenance for an entire year. A 2008 report to the Minnesota Legislature by the Minnesota DNR states “the importance of Minnesota as a center of natural wild rice abundance has actually increased as wild rice acreage has declined elsewhere in the United States.” (DNR Report, page 12).

The 2019 report of the Minnesota Governor’s Task Force on Wild Rice, concluded: “On a global scale, Minnesota is the center for wild rice (*Zizania palustris*), along with Ontario, Wisconsin and Upper Michigan. Of the states, Minnesota’s lakes and rivers sustain the most abundant distribution and contain important genetic diversity.” (Task Force Report, page 42).



*Polers in the mist (Photo/Annette Drewes)*



Flowage Lake, Big Sandy Lake, Minnewawa, the Sandy River, and Rat Lake are all major sources of wild rice in the Tamarack Region. Harvesters in other areas of the state are drawn to these lakes, not just for the number of lakes with wild rice but the concentration of wild rice in these waters. For those participating in the harvest of natural wild rice, being able to go out and gather enough wild rice for the year in just a couple of days on the water is what makes the Tamarack Region special.



*Flowage Lake rice abundance (Photo/Rob Levine)*

Access to wild rice off-reservation is critical in maintaining economic and food sovereignty goals, particularly for White Earth, Bois Forte, Fond du Lac, Sandy Lake, and Mille Lacs Band members where on-reservation wild rice lakes are limited. Harvesters travel from northern Minnesota, from the 1854 ceded lands, the 1855 ceded territory, and elsewhere to harvest Manoomin in the Sandy Lake Flowage area.

Nearly a quarter of the off-reservation harvest by White Earth Nation members comes from the Aitkin County area. In 2023 over 80,000 pounds of wild rice, including more than 12,000 pounds from Big Sandy and the Flowage, were purchased by White Earth Natural Resources. (C. Crowell, personal communication, May 12, 2024).

Fond du Lac Band of Lake Superior Chippewa obtained 5,000 pounds of wild rice seed from the Sandy Flowage to use for reseeding and restoration efforts on the St. Louis River Estuary in 2023. (T. Howes, personal communication, July 26, 2024). Once abundant in the estuary, shipping, industry, and pollution had eliminated natural rice beds in the area. As the estuary is cleaned up, wild rice from abundant beds in the Sandy Lake region is being reintroduced to its waters.

Aitkin County lakes, especially Big Sandy and the Flowage, as well as the Mississippi River, are also important to non-Native gatherers of wild rice.



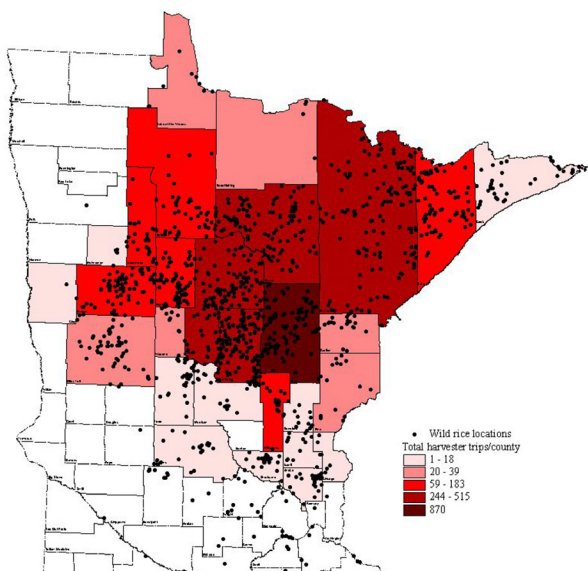


*Meghan Mitchell*

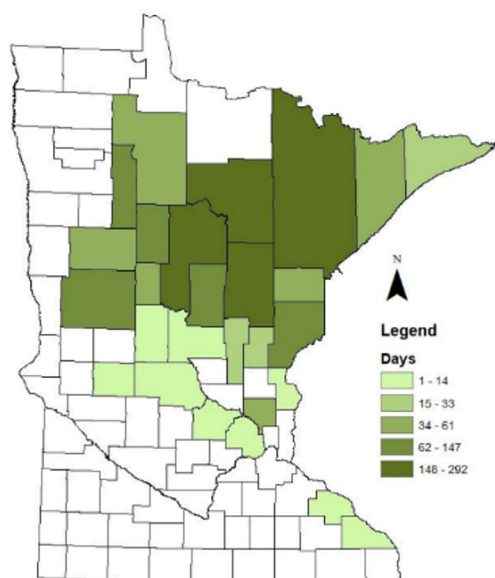
**Meghan Mitchell**, Wild Rice Project Coordinator for the Finland Food Chain reports that 35% of wild rice processed at their plant in Finland, Minnesota, came from the Big Sandy area. In her view, the Tamarack Region is important throughout the state for wild rice abundance. “In 2023, the Sandy Flowage kept giving through the whole season, it didn’t really stop . . . it was surprising to see people still bringing it in for such a long stretch.”

**David Abazs** and his family travel from Finland, in northeastern Minnesota, to harvest on the Sandy Flowage. “I would say the most prominent reason why we end up ricing in Aitkin is because the serious ricers . . . go where the rice is.”

Harvester surveys performed by the DNR in 2006 and again in 2022 clearly show the Aitkin County area and its wild rice lakes are vitally important wild rice harvesting sites. In 2006, the top three lakes visited for harvesting statewide were all in Aitkin County and included Flowage, Big Sandy, and Mallard Lakes. Aitkin County also had 870 harvesting trips—a higher number than in any other county and more than a quarter of all trips reported for that year (red map). (Norrgard et al., 2006). In 2022, non-tribal harvesters surveyed reported 192 days spent harvesting wild rice in Aitkin County, one of the top four visited counties for non-tribal harvesters (green map). (Landon 2023).



**Harvester Trips by County**



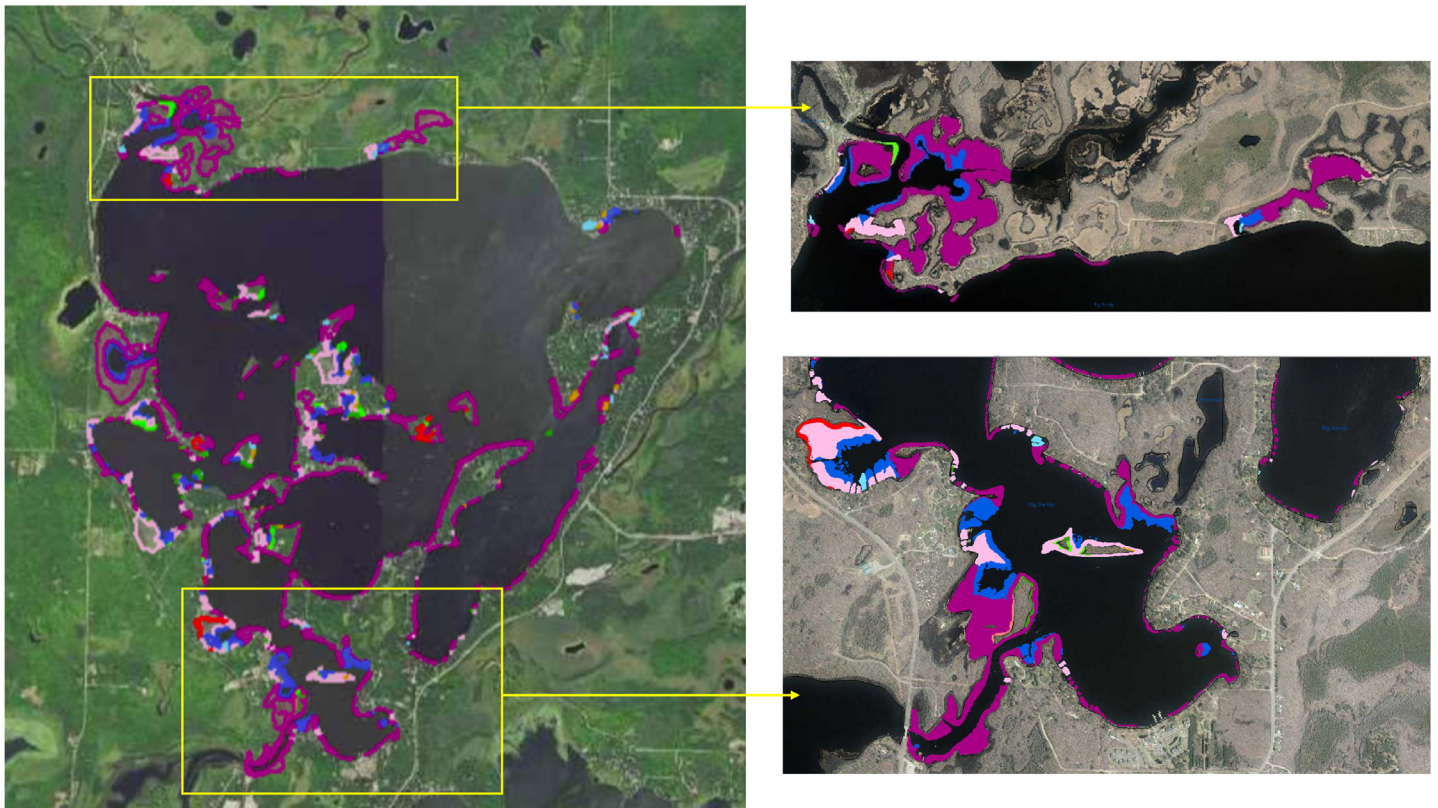
**Days Spent Harvesting by County**

*Wild Rice Harvest Maps (Minnesota Department of Natural Resources)*

The numbers for 2022 are an undercount of actual harvesting that takes place in the region, since surveys reflect only those who purchased state licenses. Tribal harvesters, as of 2016, are no longer required to have a state license for off-reservation harvest.

The State of Minnesota does not maintain comprehensive data and mapping of wild rice abundance over time. Wild rice is an annual plant, growing from seed each year. Storms, water levels, humidity, and drought all impact growth and ripening. An abundant year of wild rice is often followed by a less abundant year, so data over time—including mass of seeds as well as location and density—are necessary to document wild rice conditions.

In August of 2016 the Minnesota DNR Lake Habitat program staff conducted a floating and emergent vegetation survey of Big Sandy Lake, in Aitkin County. The survey results (below) found 432 stands of wild rice, covering 306 acres (purple) and an additional 101 acres of wild rice mixed with other vegetation (pink). Wild rice was the most abundant species on the lake. (J. Knopik, personal communication, May 24, 2024). Waterlilies (blue) and cattails (red) were less abundant. This snapshot map of vegetation was based on field delineation and aerial photos.

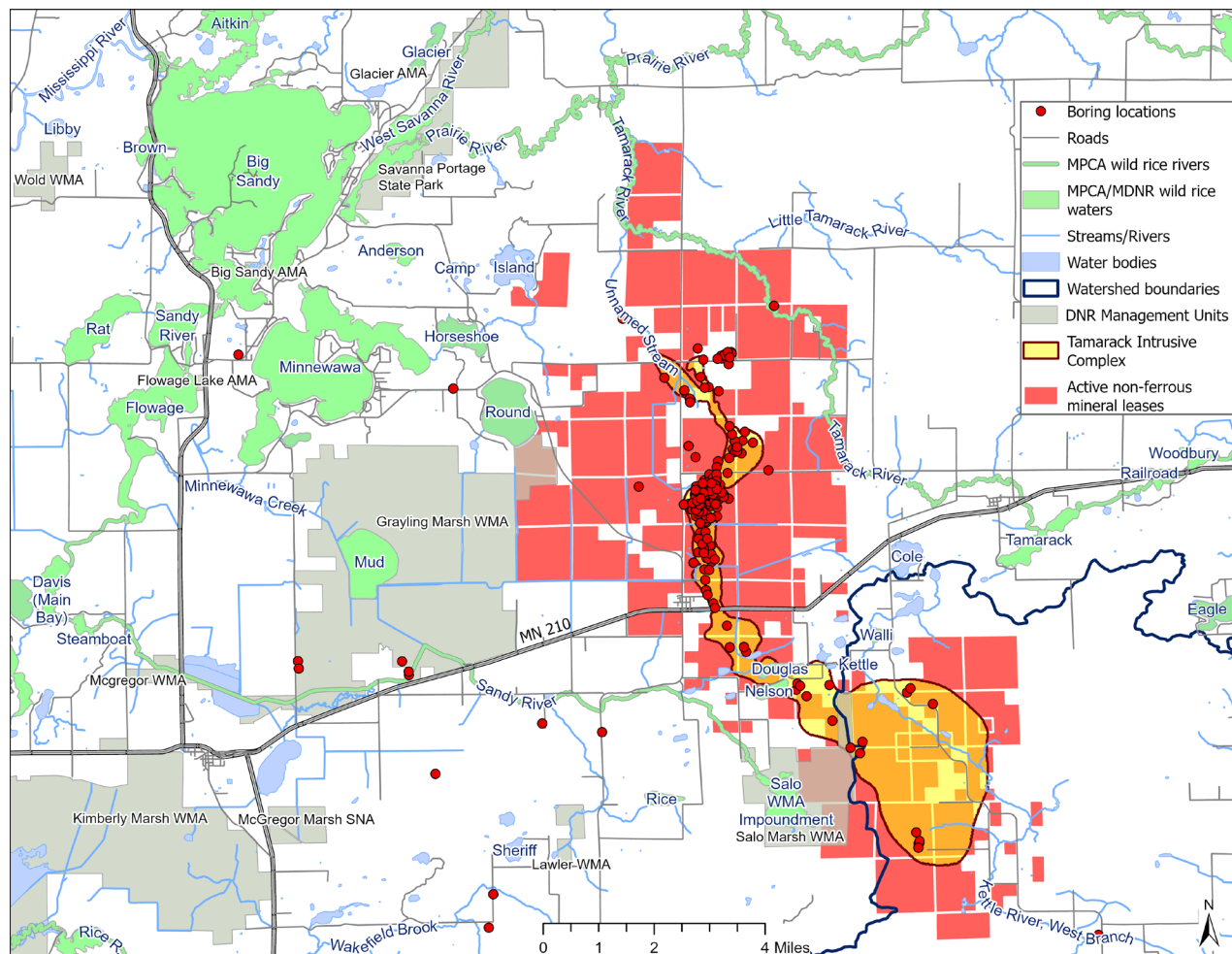


*Big Sandy Lake field delineation maps (Minnesota Department of Natural Resources)*

Flowage Lake, a shallow lake (less than 15 feet deep) upstream of Big Sandy Lake, was monitored in 2011 for wildlife habitat, which includes wild rice for migrating waterfowl. Wild rice was located at 22 of the 39 sampling points on the 720-acre lake.

# Wild rice in the Tamarack Region must be protected.

Manoomin in the Tamarack Region is threatened by proposed mining for nickel, copper, cobalt, and other sulfide ores. Exploration by Kennecott/Rio Tinto and Talon Metals is indicated with red dots, the extent of the Tamarack Intrusive Complex described by Talon Metals in orange, and active leases in yellow. Wild rice lakes and rivers are shown in green and wildlife management areas in taupe.



ArcGIS map from base data and Talon Metals website (Larissa Scott, Climate Corps, UMN)

Not only does the Tamarack Region hold one of the highest concentrations of natural wild rice lakes in the world, but it also supports communities, ecosystems, and food systems benefitting much of Minnesota. Manoomin must be protected from dewatering, sulfate and other chemical pollution, and altered water level cycles caused by mining and other infrastructure development.





Nancy Schuldt

**Nancy Schuldt**, Water Projects Coordinator for the Fond du Lac Band, has worked for more than thirty years to protect wild rice from mining. “From the very beginning, my work as the water quality person for the Fond du Lac band, wild rice has been front and center . . . In the early 2000’s Fond du Lac Band of Lake Superior Chippewa, 1854 Treaty Authority, and DNR Fisheries offices worked together on a collaborative St. Louis River biological assessment project . . . when we got to the part of the river that was being influenced by mining discharges from the taconite facilities, all of a sudden the sulfate went up. And we started to see less and less wild rice.”



Parching manoomin (Photo/  
Staci Drouillard)

**Emily Onello, MD**, explains that water chemistry and other conditions can affect wild rice nutrition and that Minnesota has a unique role to play in protecting Manoomin. “The growth environment may influence the nutritional composition or profile of the food, whether wild rice grown in one location or under certain conditions is different in terms of its B vitamin level or its carbohydrate and protein level, and then what happens when we as humans consume Manoomin. We cannot assume that these resources will adapt, or that they’ll bubble up somewhere else, or that some other state will take this on. I think Minnesota is well positioned to really draw the line and say, ‘We have to protect this resource’ . . . This is the moment to preserve Manoomin.”

The Ojibwe, people of the Manoomin, are at risk of losing not only a healthy, sustainable food, a source of security, but also a way of life. The connections they share with the land and water, built over generations of living in relationship with this native, sacred plant are part of their history and their future. Manoomin, wild rice, provides food for humans and wildlife alike, hosts habitat for aquatic life, and protects our lakes and shorelines. Much is at risk if we lose Manoomin.



Leanna Goose ricing with her son

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**Leanna Goose** wants to share the practice of gathering Manoomin with her young children. She wants them to understand: “If we care for the land, the land will care for us.”

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**Ricky DeFoe**, Fond du Lac Band Elder, summarizes: “If we honor the past, we have to protect the future . . . we have to have respect and accountability, respect for manoomin and be accountable.”

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**Don Wedll**, former Commissioner of Natural Resources for the Mille Lacs Band of Ojibwe, emphasizes: “You have this unique ecosystem that exists that can produce food for all kinds of things, but you have got to leave it to do that.”



*Interconnected, by Moira Villiard*

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**Kelly Applegate**, Commissioner of Natural Resources for the Mille Lacs Band of Ojibwe, explains Manoomin’s important role: “Everything out there is alive from the bottom of the rice bed, that mucky layer, the water column itself, the rice growing in it, the plants above the water, the insects that are pollinating, the birds that are nesting and living amongst those stems. When the grain falls, the waterfowl come in and feed, replenish their energy as they’re migrating southward. Manoomin has an extremely important role here.”

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To learn more about Manoomin and how to protect its health and abundance, please contact organizations and individuals who helped create this report. Contact information for Annette Drewes, WaterLegacy, and the Mille Lacs Band of Ojibwe is provided at the end of the references for this report.

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<https://waterlegacy.org/talon-metals-rio-tinto-mine/>

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# Interviews & Personal Communications

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Abazs, Lise and David, interview (May 18, 2024)  
Applegate, Kelly, interview (May 29, 2024)  
Aubid, Tania, interview (April 16, 2024)  
Crowell, Cliff, personal communication (May 12, 2024)  
DeFoe, Ricky, interview (June 6, 2024)  
Goose, Leanna, interview (May 17, 2024)  
Howes, Tom, personal communication (July 26, 2024)  
Jennings, Martin, interview (May 7, 2024)  
J. Knopik, personal communication (May 24, 2024)  
Mitchell, Meghan, interview (May 31, 2024)  
Olin, Cindy, interview (April 16, 2024)  
Onello, Emily, interview (August 13, 2024)  
Persell, John, interview (May 11, 2024)  
Schuldt, Nancy, interview (May 13, 2024)  
Skinaway-Lawrence, Jean, interview (August 13, 2024)  
Trimble, Sydney, interview (May 15, 2024)  
Wedll, Don, interview (April 30, 2024)

## Contact Information

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