

TEST YOUR HOME FOR RADON!

FREE RADON TESTING

From January to April 2021

Radon does cause lung cancer and causes 21,000 lung cancer fatalities annually. The Tribal Air Office offers free radon testing and IAQ monitoring services every year. It is easy and takes only a very short period of time to test your home for radon. Due to COVID-19 we will **not** be entering homes this year and will require homeowners and tenants to assist with placement and retrieval of test kits. The process is still simple, and we are still here to help. If you would like to schedule testing please use the contact information below and set a date to test your home.

All those testing this year will be entered into raffle that will take place in April of 2021.

MIIGWECH!

Daniel Wiggins, Air Quality Technician

72682 Maple Street

Odanah, WI 54861

Phone: 715-979-1486

Email: Airl@badriver-nsn.gov



Mashkiiziibii Natural Resources Department

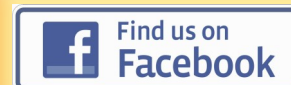
72682 Maple Street
PO Box 39
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Phone: 715-682-7123
Fax: 715-682-7118
Email: NRDO outreach@badriver-nsn.gov

~MISSION STATEMENT~

The Department strives for resource management which both conserves the natural resources for the future generations and provide for the needs of the present. The departments existence reflects the importance the Bad River Tribe places on its right and ability to exercise sovereignty, self-determination and self-regulation in the area of natural resource management.

We're on the Web!
Visit www.badriver-nsn.gov



Mashkiiziibii Natural Resources

COMMON GROUND

2020-2021 FALL EDITION NEWS

Mashkiiziibii Natural Resources Department Top 20 Accomplishments of 2020

Naomi Tillison, NRD Director and entire MNRD Staff

We have faced many challenges over the last year – some were familiar challenges and some were new. In mid-March 2020, we reacted to the COVID-19 global pandemic and flipped NRD to mostly remote work in order to keep our employees, families and community safe. We were also faced with reacting to the federal administration's numerous initiatives to loosen environmental protections under federal laws, such as the Clean Water Act, in their effort to allow industries to further pollute the water, land, and air that we all depend on stay healthy. Despite these and other challenges, the Mashkiiziibii Natural Resources Department continued to strive towards our mission to better protect and restore the natural resources for the betterment of both the current and future generations. In 2020, we celebrated our 35th anniversary as a Department, and below are the highlights of some of the many things that the hard working and dedicated MNRD staff members accomplished in 2020 (in no particular order as we're proud of all of them):

1. **Manoomin Efforts.** We took steps to help protect and restore manoomin, even though our plans changed due to COVID-19. We supported the Town of Sanborn's efforts to adopt a Slow No Wake Ordinance in the spring of 2020; this



town ordinance compliments the Tribe's ordinances and provides another layer of protection for manoomin during the early stages of growth. In the spring, we also posted manoomin restoration signs at an area in Beartrap Creek to curb boat traffic to use the main channel for navigating instead of driving through an area where manoomin used to be present; read more about this effort in our spring 2020 newsletter edition: http://www.badriver-nsn.gov/wp-content/uploads/2020/07/202007_CommonGround_Spring.pdf

We also tried to improve the opening of the manoomin harvest season in the Sloughs with the support of our Wild Rice Committee. Miigwech to our committee members and NRD staff who helped with these efforts ! Miigwech to our committee

Special points of interest:

- MNRD Top 20 Accomplishments of 2020
- EARLY ICE
- MNRD Staff Introductions
- Water Program Updates
- Forestry Updates
- POWTS Updates
- And so much more!

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Wood Smoke and Weather Inversions

Nathan Kilger, Mashkiiziibii Air Quality Specialist
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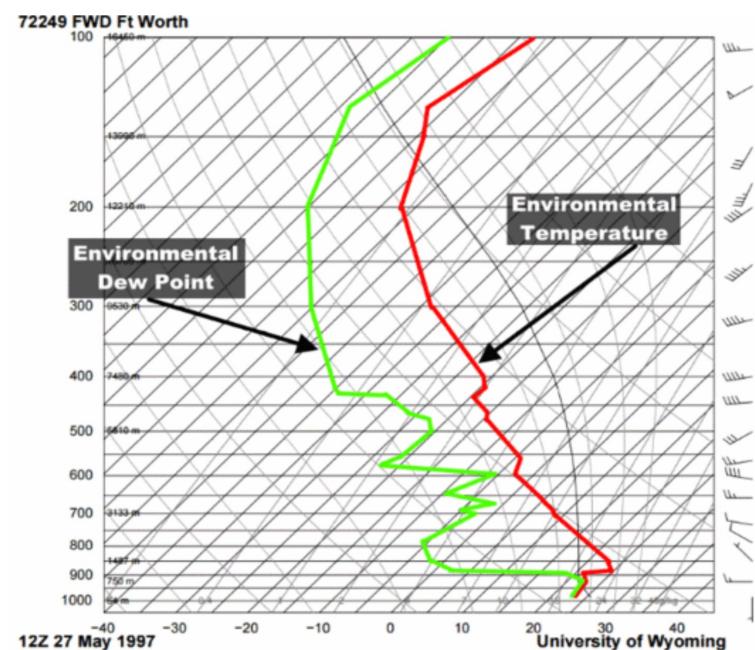
With cold weather slowly moving in this time of year, weather conditions can combine with smoke from wood stoves and industrial sources across the region to create fine particulate pollution at times throughout the winter season. The Red Cliff Air Program Manager noticed the first such episode around November 26th and we started seeing a similar pattern on December 8th.

This gives me a great reason to explain some of the weather that contributes to these fine particulate pollution episodes - the weather phenomenon is called an “inversion”. This is one of those points where weather and air quality intersect. Like most air pollution, inversions are usually invisible, but there are tools we can use to identify when they are happening. Forecasting inversions are a bit harder, especially more than a day into the future.

The lowest layer of the atmosphere is called the troposphere, this is the layer where weather occurs, and this layer can be up to 50,000 feet high. As you rise up in this layer of air the air gets colder and colder. The temperature outside airplanes as you fly across the country is often -100°F at flight height (I like watching the flight screen information when I fly). Therefore, as everyone remembers from their high school physics class, because a warm bubble of air is less dense than the cooler air above it, air near the ground usually wants to rise up through the atmosphere. This rising helps keep the atmosphere mixed up, and acts to dilute air pollution. But there are times when that bubble cannot rise up.

If a warmer layer of air is at some level of the atmosphere, the bubble rises up and then stops when it hits this different layer. The warm layer can be close to the ground, higher up, or there can be several of these at different heights. When the warm layer is close to the ground, any wood smoke and other air pollution can't rise up and stays trapped down at our level and we then breathe that pollution.

November 26th and December 8th were two inversions so far this winter. The air monitoring equipment in Odanah measured air quality at the “Moderate” level, usually not enough to impact human health over several hours or a cou-



An example skew-t plot that shows a strong inversion 2,500 feet above the ground.

ple days, but sensitive population groups such as asthmatics or people with other lung issues or diseases can start to feel this level of air pollution. COVID-19 is one of these diseases that can be made worse by poor air quality.

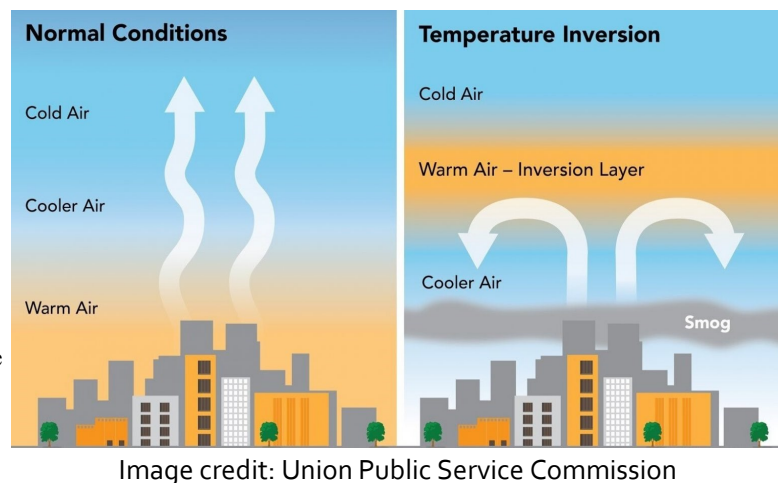


Image credit: Union Public Service Commission

These inversion pollution events happen throughout the winter, sometimes for a day, but during unusual periods can last up to a week. The best way to tell if smoke pollution is starting to cause air pollution problems is to check the WisconsinAQI app on your phone or this statewide web link: <https://airquality.wi.gov/home/map>

I wanted to say thank you to the Red Cliff Air Program Manager for the inspiration for this article and for the conversations we have concerning local air quality that impacts our respective Reservations and residents. If you're a science geek reading this article, do an internet search for terms “skew-t plots” and “weather inversions”. If reading a skew-t plot is something you're comfortable with and you want to try forecasting inversions, a search for “BUFKIT” will start you on your way down that rabbit hole.

Top 20 continued...

19. **Partnerships.** MNRD continued to collaborate with partners (mostly virtually) on a variety of issues and projects to protect and restore the Bad River watershed and the Lake Superior basin. The Lake Superior Partnership (a bi-national partnership), the Lake Superior Collaborative (a regional partnership), and the Wisconsin Tribal Conservation Advisory Council (WTCAC) are just a few of the partnerships that MNRD staff participated in (mostly virtually).
20. **Building Department Capacity.** MNRD has worked hard to maintain and build Department capacity over the last year or so, including the creation of eight (8) new full-time positions: Water Regulatory Specialist, Manoomin Oshkaabewis, Deputy Director, Deputy THPO, Land Records In-Take Specialist, Wildlife Technician, Ornithology Specialist, and bakaan ingoji gaa-Ondaadag (Non-Local Beings) Program Manager. Please stay tuned for additional positions as we continue to build the capacity that we need to match our workload requirements.

Miigwech to Mashkiiziibii NRD staff for all your hard work and dedication!

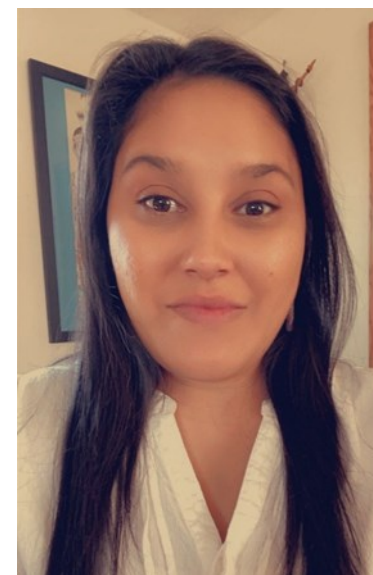
Miigwech for the support of the Tribal Council and other Departments (Human Resources, Accounting, Legal, and more) who helped support these efforts! Miigwech to our partners and funders who helped support these efforts!

Chi Miigwech!

We hope you've enjoyed our top 20 highlights of 2020, and we're excited to share more with you about the good work the Mashkiiziibii NRD has been doing. We're looking forward to the collaborations and partnerships in 2021 and seeing what we can learn and accomplish together. We hope you take care of Aki (Land), Nibi (Water), and each other!



Welcome our New THPO Assistant



Biindige (Come In) **Megan Powless** to the THPO Wigamigong (Building)! Megan started her new position as the **THPO Assistant** on October 5th (We stole her from the Health Department Camp... ☺) We are glad to have her with the THPO Team in the Mashkii Ziibii Natural Resources Department!

Weweni Boozhoo (Welcome) Megan!

POWTS Updates

It's been a tough year! All the delays/postponements due to the Covid-19 pandemic. Although starting very late in the construction season we managed to complete all of the "old work" carried over from last year and even some new projects. Our tribal POWTS Program is assisting #20 Bad River tribal members to plan for future water and sewer work here at Bad River. They are in various stages of the POWTS process some just filing their applications, others applying for leases and still others ready for work next year. We also assist tribal members who are building off the reservation in other counties or states. POWTS is also assisting the Bad River Tribe in other tribal projects such as the Bad River Wake House, the "tiny homes" project, Fire Hall, Tribal storage buildings, and the tribal treatment and healing center. POWTS (Private On-site Wastewater Treatment Systems) is open to all qualified Bad River tribal members. Our program provides safe, modern, water, and sewer services to tribal members who are building a new home or setting up a trailer. IHS provides our tribe with funding to cover the cost of such services and has contracted with locally owned contractors to do the work. IHS requires that all applicants

own or have tribal leases before they are considered for funding. Tribal members are allowed to access this type of IHS funding only once. They will not do emergency repair or replacement work but will repair or replace any POWTS work completed within a one year period from the final inspection date, of work we have done through Bad River POWTS. After this one year grace period it falls on the homeowner to cover the cost of any repair/replacement work needed. In the last four years the Ashland IHS Office was closed but has recently been re-opened and is fully staffed once again. Their engineers and specialist provide technical/engineering advice and assistance to our tribe. I encourage and advise that any tribal member who is considering building to begin the POWTS application process as early as possible as it can be a lengthy process. The POWTS Office is located in the Chief Blackbird Center, MNRD. Our office phone number is 715-682-7123 ext. 1663, cell number is 715-685-8727, and e-mail is: powts@badriver-nsn.gov Office hours are M-F, 8:00am.- 4:30pm.

Have a safe, Happy Holiday Season!!

Gene Bigboy Jr.

Feedback on IAS Research Project Idea Wanted

The Tribe's Indigineous Arts and Sciences (IAS) Program is a collaboration between the Education Department, Mashkiiziibii Natural Resources Department, University of Wisconsin - Earth Partnership, other Tribes, and other partners. The focus of the IAS Program is to engage youth and educators in science, math, and arts in a manner that infuses culture and traditional knowledge and makes it more relevant to tribal youth.

On November 30, 2020, the Education Department and Mashkiiziibii Natural Resources Department held a virtual community forum to gather ideas from the Bad River community to help decide the focus of a research project meant to

Our Youth Need Your Help!

The Bad River Education Department and MNRD need your help deciding the focus of a research project meant to benefit the Bad River youth!

Join our virtual forum via Go-To Meeting on Monday, November 30th from 6-7 pm

Please join my meeting from your computer, tablet or smartphone.
<https://global.gotomeeting.com/join/460866181>

You can also dial in using your phone.
United States: +1 (786) 535-3211
Access Code: 460-866-181

New to GoToMeeting? Get the app now and be ready when your first meeting starts:
<https://global.gotomeeting.com/join/460866181>

For more information, email Stephanie Julian at EducationDirector@badriver-nsn.gov

Research will be conducted in 2021 by Bad River Education Department and Mashkiiziibii Natural Resources Department in partnership with UW-Madison Earth Partnership Program

benefit the Bad River Youth. The research project will be implemented in 2021. A synthesis of the project ideas generated during the November 30th community forum is as follows: *an illustrated botanical survey (with field collection and with incorporation of two languages) for medicinal purposes.*

If you have questions, suggestions, or would like to be involved in this research project, please contact Stephanie Julian, Education Director, at EducationDirector@badriver-nsn.gov. We are hoping to finalize our research project concept in January and appreciate the input received in helping us develop and implement this research project.

Water-Wetlands Regulatory Updates

Shea Schachameyer, Wetlands Specialist
wetlands@badriver-nsn.gov

The Water-Wetlands Regulatory Program had a big year and here's a summary of our accomplishments: 49 NRD Project Reviews; 15 Wetland Delineations & Concurrences; 28 Wetland & Watercourse Protection Ordinance determinations; 13 Antidegradation Demonstration decisions; and 6 Clean Water Act Section 401 Certification decisions. In June we were also able to hire Lorrie Salawater as our Water Regulatory Specialist, a new position for our program!



Wetlands Specialist, Shea Schachameyer, conducting field work for one of the fifteen wetland delineations she

Water Program Updates

Melis Arik, Water Resource Specialist ~ wqs@badriver-nsn.gov

The Water Resources Program didn't let COVID get in the way of monitoring rivers, streams, wetlands or beaches. Following guidelines to mask up and stay distanced, our team conducted water quality monitoring at 36 river and stream sites and four sites in the Sloughs, for a total of 43 field

days and 177 individual visits to collect water samples. Weekly beach monitoring continued with few interruptions to



make sure that the community could enjoy quality beach time without worrying about whether the

water was safe for swimming. Swimming advisories were posted once in May for Joe Rose and Waverly beaches, and again in July for Joe Rose Beach.



MNRD Top 20 Continued...

members, Russ Corbine Jr. (former Deputy Director), Brad Bigboy (Chief Warden), and other NRD staff who helped with these efforts.

2. **Virtual Teamwork.** Despite all the challenges we have faced in this unprecedented time of a pandemic, we continue to persevere as a Team. We have mastered the art of using multiple virtual formats to come together and meet as though we are sitting around the table in conference room – C. Parents on the team can discuss challenges of certain projects affecting the Tribe while calming their children and ensuring they are also connected to their virtual classrooms. We can walk through the woods and listen to a webinar or meeting, or discuss an issue, at the same time. This change that was once thought of as a challenging obstacle to communication, has quickly become the norm for work that may not be lost once we can come together.
3. **Ishkonige Nawadide Solar Microgrid Project.** The Air Office is responsible for the oversight of the construction of the Ishkonige Nawadide Solar Project and has successfully executed the project thus far and construction has commenced. Construction activities have been delayed due to COVID but we continue to push forward to reach the project's goals on time. The Bad River Tribe was awarded a US Department of Energy grant in 2019 for the Ishkonige Nawadide (It Catches Fire) Solar Microgrid Project. The project focused on resiliency after the 2016 Flood and to prevent future electrical disruptions at three critical facilities, the Health & Wellness Center, the Waste Water Treatment Plant, and the Administration Building. Through this project the Tribe is installing over 500 kW of solar with over 1000 kWh of battery storage at each of the three tribal facilities. The systems at the Health & Wellness Center and the Waste Water Treatment Plant will offset the



entire facility electrical loads and offer a level of resiliency that will allow the facilities to remain in operation for several weeks even if the main power lines fail.

-Learn more about this project on page 11.

4. **Ma'iingan Symposium.** The Wildlife Program kicked off 2020 by hosting the Mashkiiziibii Ma'iingan Symposium in order to bring together tribal, state, and federal governments as well as community members such as farmers in order to discuss our relationships with



Ma'iingan and to prepare for the federal delisting of the gray wolf. With around 130 participants in this event, Tribes reflected on the Ma'iingan delisting and hunts in the early 2010s, federal and state biologists received new understandings of Anishinaabe knowledge and culture, and farmers came away with new ideas to raise their livestock while coexisting with carnivores.

-Learn more about ma'iingan from our winter 2019-2020 and summer 2020 newsletter editions: <http://www.badriver-nsn.gov/wp-content/uploads/2020/10/2020-Summer-Edition.pdf>



5. **Planting Over 50,000 Trees.** The Forestry Program partnered with The Nature Conservancy on a large tree planting effort throughout the Reservation, planting over 50,000 trees. A contracted crew planted 40,000 white pine and 2,500 silver maple were in one day at a location off of Pine Flats Road. -Learn more about this project in the Forestry article on page 13.

6. **Cultural Education Facility.** We were finally heard to utilize the old burned clinic and combine THPO and Education to create a Cultural Education facility. The THPO pitched the idea to Tribal Council a year after the Clinic initially burned and remained unused. Other MNRD programs will also be in the facility which emphasizes that everything in Creation that we currently call natural resources, continue to be an integral part of our culture. We are picking paint colors this week to be ready for the big move in March 2021. The Community can look forward to a prayer pole raising ceremony outside the building and lifting of the eagle feather inside, as a component of the Cultural Education Center Opening.

...continued on page 5...

Happy Holidays from Mashkiiziibii Forestry!!

By Gena Abramson, Bad River Forester ~ Forester@badriver-nsn.gov

As we progress closer to 2021, Bad River Forestry looks to make some great advancements in planning, planting, education, and management in the coming year. A peek into the future brings promise, while reflecting on the past year brings community pride as well as appreciation for all that we are given. Even though 2020 was challenging, we were able to overcome obstacles safely allowing us to make great strides in forest management.

In the next year, Bad River's Forestry Program will continue to act purposefully to create a diverse and healthy forest for the 7th generation and beyond. We have recently been promised funds to create a silviculture guide that will move our forest in a good direction. Using the Tribe's Integrated Resources Management Plan (IRMP) as a main guide, harvest specifications that allow more species to thrive will be made standard. By increasing the number of species and the plant and animal populations that they represent, we increase forest health as well as gathering opportunities for our tribal members.

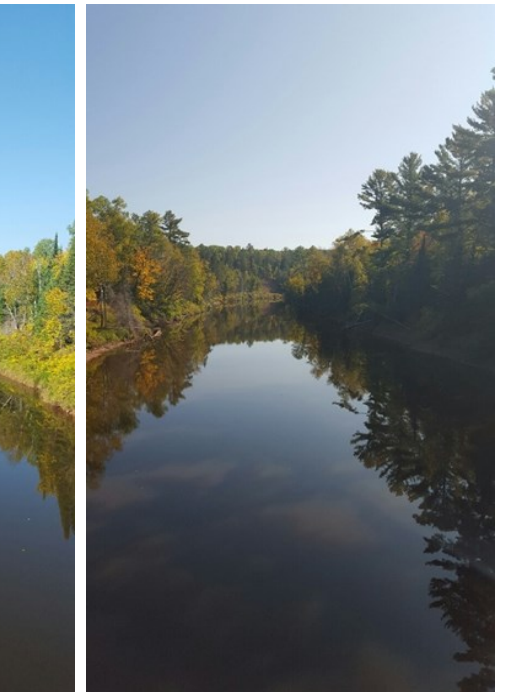
Just as we were able to plant over 50,000 trees in 2020, we hope to plant that many more in 2021! We had 3 tribal members work for the Bad River Forestry Program planting seedlings and releasing saplings from aspen competition this past summer and fall. Carl Jensen, Erica Toman, and Tim Couture all did a fantastic job of moving our forest into a stronger and healthier one for the 7th generation. We also had some help

from Stephanie Julian's tribal youth summer program. Close to a dozen young men planted several hundred white cedar



(giizhikaatig) near the falls along the Mashkiiziibii.

We hope to have the opportunity to work with the youth again this next year. My goal is to teach forestry skills and build forestry's capacity so that these young



Finally, increasing the sugarbush (ziinzibaakwadwaatigoog) is a management goal for Bad River Forestry. The Forestry Program is looking into funding opportunities for aerial seed distribution projects, hand seeding, seedling planting projects, and harvests designed to in-

crease the sugar maple component of particular forested parcels. Thank you for supporting your Bad River Forestry Program while we honor Mother Earth and those who have gone before us.

If you have a recommen-

dation that you feel is important to consider in planning our forest management, please feel free to share it with me. As I remind the youth when I have the privilege of working with them, "I work for you and for those that come after you".

men and women can work in our program during summer breaks from college. It is my hope that they will fall in love with the forest and pursue nature-based careers.



MNRD Top 20 continued...

11. **Water Program Highlights.** The Water Program had a big year, including completing 15 Wetland Delineations & Con-
- currentences; 28 Wetland & Watercourse Protection Ordinance determinations; 13 Antidegradation Demonstration decisions; and 6 Clean Water Act Section 401 Certification decisions and conducting monitoring of streams, wetlands, beaches. Learn more about the Water Program’s accomplishments on page 7.
12. **Wildlife Field Work.** Kris and Noah Arbuckle consistently helped protect and improve the Reservation through initiatives including the control of buckthorn, monitoring for other non-local plant species (e.g., Phragmites), tracking Ma’ingan on the reservation, and trapping out Amik in conflict areas. The Wildlife Program collaborated with Food Sovereignty to utilize the harvested Amik .
13. **Tribe’s Emergency Response Team.** MNRD continued to support the Tribe’s emergency response team, including from the beginning of the response to the Covid-19 pandemic. It was insightful to see how the tribal government operates, and to be involved in the planning process of how to keep the community safe during this trying time . Miigwech to the Tribe’s Emergency Response Teams’ hard work!
14. **Conservation Enforcement Highlights.** The Conservation Wardens successfully trapped and relocated 12 bears this spring and summer. It is a priority in these seasons to stay on top of the bear problems within our community. We work hard to keep everyone safe including the bears during these seasons. 2020 was also the first year we oversaw the off-reservation registration station. Please note that our Wardens have a new home; Bad River Maintenance Department completely renovated the firehall on Birch Hill and turned it into a new office for the three wardens and a garage for all of our equipment. The enforcement division has been bounced around and now we have a permanent office and just recently moved in.
15. **Fisheries Program Highlights.** This year the Fisheries program was able to successfully run its normal operations amid the initial outbreak of COVID-19. The walleye and perch raised at the Tribal Hatchery were released into Kakagon, Bad, and other local waterways to support the health of the Lake



Superior fisheries. During the annual fall Lake Trout assessment, we caught a record number of Lake Trout in MI-2 waters. This assessment data is important as it is the foundation for evaluating the health of the Lake Superior fisheries.

16. **Potato River Watershed Monitoring for Non-Point Source Pollution.** The Department received BIA GLRI funding in 2019 to monitor the Potato River Watershed for non-point source pollution (which are sediments, nutrients, bacteria, and other things that runoff the landscape into our waters). In 2020 we successfully completed the procurement process to hire a contractor to develop and implement a monitoring plan for the watershed with input from MNRD staff. Two rounds of sampling were completed in 2020; a baseflow sampling event in October and a runoff sampling event in November. Results from these two sampling events show (so far) that while several sites seem to have moderate levels of non-point source contamination, the majority of sites have very low detection of the pollutants of concern . Learn more about our GLRI-funded monitoring efforts to protect Lake Superior on page 7.
17. **Collaboration with Education Department on IAS Program.** In 2020, MNRD continued to support the Tribe’s Indigenous Arts and Sciences (IAS) Program through collaboration with the Education Department, University of Wisconsin – Earth Partnership, and other Tribes and partners. The Education Department lead our summer youth program efforts, which was modified to incorporate safety guidelines due to the COVID-19 pandemic . On November 30, 2020, the Education Department and MNRD held a virtual community forum to gather ideas from the Bad River community to help deciding the focus of a research project meant to benefit the Bad River Youth. Learn more about the research project idea on page 14.
18. **Supporting the Tribe’s 2017 decision on Enbridge Line 5.** In January 2017, the Tribal Council passed a resolution to state that the Tribe would not be renewing its interests in the rights of way across the Bad River Reservation and to direct the removal of the Enbridge Line 5 pipeline from the entire Bad River Watershed. In 2020, MNRD continued to provide technical support to the Tribe on issues related to Enbridge Line 5 pipeline, including monitoring, reviewing proposed projects, conducting outreach, and more. Additional information can be found on our Threats and Challenges webpage: <http://www.badriver-nsn.gov/natural-resources/threats/>

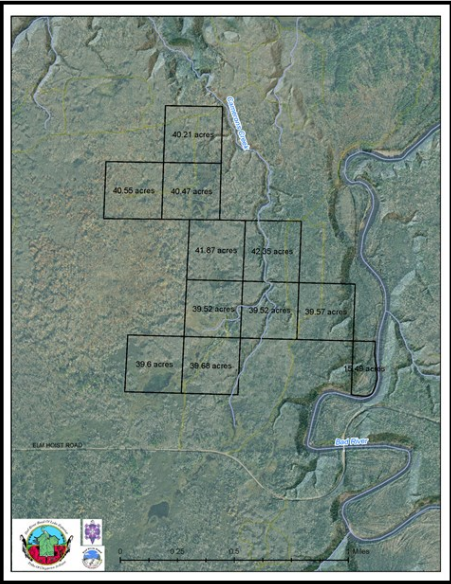
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MNRD Top 20 continued...

7. **Project Reviews.** With the advent of safer-from-home orders requiring the majority of MNRD staff to work from home, staff had to transition to working on many joint files in a cloud environment. One of the joint projects that all programs in MNRD work on is reviewing proposed projects within the boundaries of the Reservation and assessing them for environmental impacts and whether any permitting needs to be issued. In March, the MNRD successfully transitioned this work into Microsoft Teams so that reviews by different MNRD Programs could proceed even while not all staff were in the office. In May, MNRD started hosting inter-Departmental meeting to keep Tribal Projects on-track. In 2020 MNRD reviewed 66 project applications and have an additional 7 to review going into 2021.
8. **Ambient Air Monitoring.** Despite the challenges this year brought, the Air Office maintained the long-term ambient air monitoring the Tribe conducts as part of the Air Program’s goals to protect human and environmental health. 2020 marks the second full year of atmospheric ammonia sampling, 9 years of monitoring mercury levels in tree leaves, 15 years of monitoring ground-level ozone, and 17 years of monitoring fine particulate pollution. These long-term and uninterrupted data sets allow the Tribe to compare the air quality here with National Standards, observe trends that may indicate better or worse air quality over time, and work on policy to protect the quality of the Reservation’s air. The monitoring site in Odanah is one of 37 across Wisconsin and the only one in this area of the state. -Explore the ambient air quality data at the following website: <https://airquality.wi.gov/report/SingleStationReport>
9. **COVID-Safe Outreach Events.** Outreach accomplished a successful Earth Day (The Covid-Safe Way) Event in April, which consisted of 35 households pre-registering for event. Once registered MNRD Outreach Coordinator delivered a basket with items for household members to get out and clean up the community while practicing safe social distancing. 3 lucky households won an outdoor activity prize for participating. In addition to Earth Day, we also completed other outreach activities including continuing issuing our Department’s quarterly newsletter and celebrating Lake Superior.



Read more in our Spring 2020 newsletter: <http://www.badriver-nsn.gov/wp-content/up->



[loads/2020/07/202007_CommonGround_Spring.pdf](http://www.badriver-nsn.gov/wp-content/up-loads/2020/07/202007_CommonGround_Spring.pdf)

10. **Land Acquisition.** In July of 2020 and utilizing funds from the Great Lakes Restoration Initiative (GLRI), Bad River Band of Lake Superior Tribe of Chippewa closed on over 400 acres of woodland hunting and fishing grounds along Mashkiiziibii (Bad River) and Cameron’s Creek near the Falls of Mashkiiziibii. This project was jointly overseen by Mashkiiziibii Natural Resources Department (GIS Program), Bad River Legal Department, and the Tribal Council Chairman . Learn more about other land acquisition efforts in our winter 2019-2020 newsletter edition: [http://www.badriver-nsn.gov/wp-content/up-](http://www.badriver-nsn.gov/wp-content/up-loads/2020/03/20192020_NRD_Newsletter_Winter.pdf)



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Continued on pg. 12

EARLY ICE

Jacob Rodmaker, Fisheries Specialist
fisheries@badriver-nsn.gov

The weather is getting colder and ice is forming on lakes and streams. It will be tempting to get out on lakes early to start fishing before others. There are many tips and tricks out there to get on to the ice early, but here is my advice on how to stay safe when going out on early ice.

1. Bring a friend or family member. If you bring someone along, they should stay a safe distance away, whether that is on shore, or a minimum of 10 feet away. In case you fall through they will be there to help by throwing a long rope or calling for help.

2. Suit up. Bring ice picks and wear a float suit or a life jacket when checking first ice.

3. Know your different types of ice. Cloudy ice is less safe than clear ice. Cloudy ice forms fast, trapping air pockets in the ice allowing the ice to fracture and cause bigger gaps in the ice. Clear ice forms slower allowing the crystal latus to form more uniform and stronger.

4. Check the ice first. Spud your way out to where you want to fish before dragging/carrying your gear because ice is not always uniform across a body of water. Springs and currents can change how ice may or may not form.

5. Changing conditions. On flowing bodies of water ice conditions are always changing, check ice regularly when you are on them. On warmer days check ice regularly too. If you notice ice conditions changing, get off the ice.

6. If you don't feel safe on the ice, don't go out on it. Nothing is worse than going somewhere that you don't feel safe. Fishing and other ice related activities are about having fun, and if you are uncomfortable, you aren't having fun.

****The recommended minimum ice thickness for walking on is 4 inches. Any less and your risk for breaking through is much greater.****



What happens if you fall through the ice?

1. **Stay calm.** If you fall through the ice, panicking can only make matters worse.

2. **Catch your breath.** After falling through the ice, your heart is going to race and you are going to start breathing heavy. Catch your breath and get your bearings.

3. **Orient yourself to where you came from.** Once you are pointing in the direction you know there is ice that will support you, you can start your self-rescue.

4. **Pull yourself onto the ice.** Since you are wearing a flotation device you should be floating, start kicking your legs to push your body on to the ice and used your arms and ice picks to pull yourself onto the ice.

5. **Stay low.** Army crawl your way back to safe ice or even land. This movement may take the most energy, but it will keep your weight distributed over the largest surface area. Even though you may have walked over this ice already, you never know how breaking ice elsewhere may have affected that ice you were just on.

6. **Get to warmth.** Once you are safely off the ice stay warm by doing jumping jacks or other exercises. If you happen to have spare clothes, change clothes and get home so you can dry off completely and warm yourself up in blankets.

Stay safe and have fun fishing, skating, ect.

Jacob Rodmaker, Fisheries Specialist

Solar Powering Up!

Dan Wiggins, Air Quality Tech/ RADON ~ Air1@badriver-nsn.gov

As many community members are noticing the Ishkonige Nawadide Solar Microgrid Project has kicked off, marking the largest solar project the Tribe has executed thus far. The Bad River Tribe was awarded a USDOE Grant in 2019 for the Ishkonige Nawadide Solar Microgrid Project and focused on resiliency after the 2016 Flood and while experiencing lengthy electrical outages at crucial facilities, such as the Health & Wellness Center (H&WC) the Tribe's community Clinic. The Tribe is currently partnered with Faith Technologies for construction of project which is expected for commissioning in late March of 2021.

The Ishkonige Nawadide Project was not picked randomly and was guided with both Strategic Energy Planning done in 2012 and 2017. In addition, the Tribe used the newly adopted 2018 Emergency Preparedness Plan (EPP) to identify critical infrastructure that was affected by power outages and the 2016 Flood. With all the documents the team identified several buildings and scenarios for possible solar projects and conducted several planning and development meetings around solar and battery storage. Through the 2018 EPP the documents clearly identify the Health & Wellness Center, Wastewater Treatment Plant, and the Chief Blackbird Administration Building as critical infrastructure. The team used this as the primary supporting documentation for the buildings being chose.

Through this project the Tribe is installing over 500 kW of solar with over 1000 kWh of battery storage at three tribal facilities: The Chief Blackbird Center, Wastewater Treatment Plant (WWTP), and the H&WC. The systems at the H&WC and the WWTP will offset the entire facility electrical loads and offer a level of resiliency if power goes out that can last days if not weeks.

What is next? The Tribe has conducted strategic long-term planning in November of 2019 and have identified additional phases that would add to existing microgrids, along with the use of other renewables in other areas of the Tribe. Additional buildings such as the new Head Start and Elderly are being considered for additions to the microgrids in Phase 2



and has developed and application for additional USDOE funding contribution.

The Tribe will continue to work with the community to identify and accomplish energy goals, specifically those that encourage cleaner energy. Strategic Long-Term Planning Poster and document can be found online at:

Report: <https://tinyurl.com/y6xl9gt7>

Poster @: <https://tinyurl.com/y5ffqnem>

If there are any questions about the current Ishkonige Nawadide Solar Project, Long-term Planning, or any other renewable energy topics please feel free to reach out to Daniel Wiggins Jr @ 715-979-1486 or email @ Air1@badriver-nsn.gov. Miigwech!

PUBLIC SERVICE ANNOUNCEMENT

In an effort to standardize our response to requests for information (RFIs) and increase efficiency, MNRD is asking all interested parties to utilize the below contact list when submitting formal inquiries. Formal inquires must be made using official channels of communication. This will help direct your RFI to the appropriate person, provide a record of your request and help our staff prioritize and address competing requirements. Lastly, it will also help our staff maintain a healthy work-life balance. For the remainder of the pandemic, email is the primary method of communication with phone serving as the alternate method.

If you need assistance with:	Then contact:
Access Permits	DNRrecept@badriver-nsn.gov OR Call (715) 682-7123
Access Permits for Enbridge & Enbridge Contractors	NRDirector@badriver-nsn.gov
Burn Permits	chiefwarden@badriver-nsn.gov
Equipment Inspections	(715) 979-1636
Lake Trout Tags	FishTech@badriver-nsn.gov OR Call (715) 682-7152
Maps or web-based map applications	gspec@badriver-nsn.gov
Off-Reservation Registration (effective 1-11-21)	(M-F) Malita & Brad (715) 682-7123 (Sat-Sun) Brad only (715) 292- 7822 OR_chiefwarden@badriver-nsn.gov
Private On-Site Wastewater Treatment Systems (POWTS)	POWTS@badriver-nsn.gov OR Call (715) 685-8727
Project Reviews (PR)	Environmental@badriver-nsn.gov OR Visit MNRD Webpage and select the PR Link
Registration for ATV/UTV, Boat, or Snowmobile	DNRrecept@badriver-nsn.gov
Realty	Lease@badriver-nsn.gov (715) 292-7123 ext. 1588
Tribal Historic Preservation Office (THPO)	THPO@badriver-nsn.gov (715) 292-8286
Wildlife Consultation / Coexistence Advice	Wildlife@badriver-nsn.gov OR Call (715) 292-1902

For all other inquiries, please call (715) 682-7123 or email our staff using the directory on the MNRD website. Miigwech!

Click Link to MNRD Online Directory
<http://www.badriver-nsn.gov/natural-resources/>

Bureau of Indian Affairs Great Lakes Restoration Initiative
Funded Monitoring Projects

Jessica Strand, Environmental Specialist
es@badriver-nsn.gov

Over the course of the last several years, the Mash-kiiziibii Natural Resources Department has managed to secure BIA GLRI grant funding for several monitoring projects. Despite COVID, we have managed to work through getting some of the monitoring projects started this year in a limited capacity. Though the this is just the beginning of these projects, we wanted to share some of the outcomes we are expecting from these projects.

Potato River Watershed Non-Point Source Monitoring

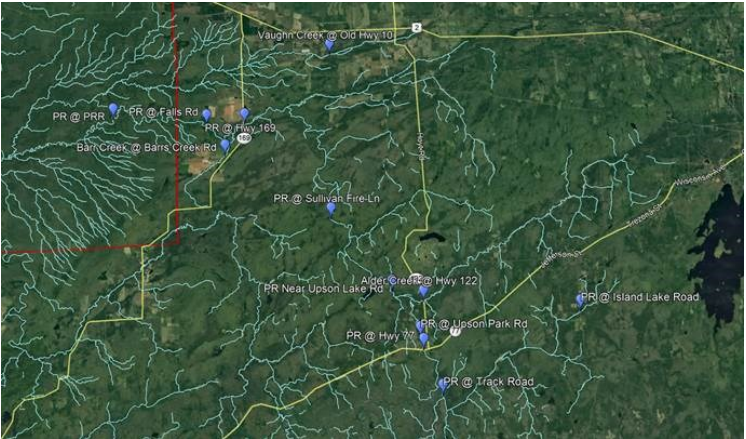
This project is briefly described in MNRD’s top 20 for 2020, but I wanted to elaborate on some of the goals for the project and the results we’ve received so far in the first two rounds of sampling. Essentially, we are completing monitoring at 12 sites within the Potato River Watershed, mostly on the mainstem from the headwaters of the watershed down to the last road crossing at Potato River Road on Reservation, but also on a few key tributaries. We are monitoring for 10 different parameters, including total Kjeldahl nitrogen, nitrate-nitrite, total phosphorus, total suspended solids, E. coli, total coliforms, temperature, dissolved oxygen, pH, and conductivity. The majority of these parameters help identify non-point source (NPS) pollu-

tion, or that pollution which runs of the land-scape into water re-

sources (as compared to pollution that is discharged from a pipe, like at an industrial site). We designed this study to better understand where some of the NPS pollution that we’re detecting downstream might be coming from, in order to hopefully figure out how to develop partnerships to address the issue in the future. Many of the sources of NPS pollution come from failing septic systems, beaver ponds, runoff from agricultural fields, and other sites. We’ll provide an update on what the results of the monitoring are showing us in a future newsletter.

Hydrological and Biological Monitoring of the Bad River and Kakagon Sloughs

This project focuses on collecting water level and biological data in the Kakagon and Bad River Sloughs in conjunction with the US Geological Society. This fall we were able to install some of the monitoring sensors out at the sloughs; these sensors monitor water level and pair nicely with some deployed USGS sensors that monitor how



quickly the water is moving at key points in the Bad River and Kakagon Sloughs. However, we have additional monitoring sensors that we plan on placing out next year as weather allows. Data collected from these sensors will be used to refine a model to understand how water moves into, out of, and within the Kakagon and Bad River Sloughs Complex. Knowing how the water moves will help us understand how it carries pollutants and how those pollutants might be affecting the plants and animals inhabiting the sloughs. However, completing the modeling and additional monitoring will be done under another phase of the project, once funding is secured. We plan on providing additional updates on this project as we continue through the different phases.

The Department has obtained other additional GLRI funding to complete projects that support the restoration and understanding of the Great Lake, especially Lake Superior.

**To see the current Position Openings
within MNRD visit link below!**

<http://www.badriver-nsn.gov/careers/>

**To see Active Public Notices from MNRD
visit link below!**

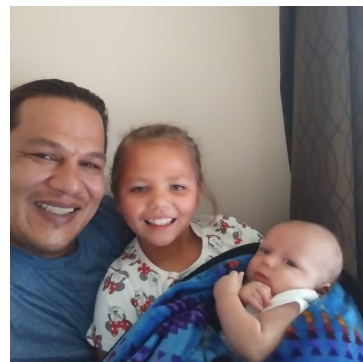
<http://www.badriver-nsn.gov/news/>

Introducing MNRD Wildlife Tech

Boozhoo,

My name is Kristopher Arbuckle, I'm the new MNRD Wildlife Tech, I'm 43yrs old, have 3 children Jerome, Sedonnah, Oakley, with baby coming in July. Recently, engaged to Carissa DePerry. I'm a Bad River Tribal member, lived here all my life. I have a passion and love for mother earth and the wildlife that live amongst the reservation. I been working for the MNRD for little over 1.5 yrs, as LTE employee. Some of the work I've done with MNRD are Wildlife Aide, Natural Resources Aide, Invasive Species. Invasive species consists of identification of plants, the controlling of different species such as wild parsnip, giant hogweed, loose-strife, buckthorn, phragmites, cattails. Invasive Species are spread very easily and can over take wetland, ecosystem, and some can cause health problems such as burns and skin irritation. A simple reminder to help stop the spread are check your equipment when in the field and water. If you travel off the reservation with your

recreational equipments and water craft, please check and clean your equipment before enjoying our homelands. The Natural Resources Aide job I worked for MNRD on the Slope 18 site, helicopter site, meander inspections and projects. Slope 18 project was to cover a exposed section of Line 5 on the Denomie Creek tributary. Slope 18 and helicopter sites been restored and continues to be monitored on weekly visits, as well as the Bad River Meander. My recent position was Wildlife Aide. My job duties as Aide was to transport monitors to Long Island Chequamegon Point to monitor the piping plover that nest there. Recovered a injured eagle, that a tribal member found. Marked and surveyed wood turtle habitat, setting up trail cameras for wildlife, seen Giimiiwam the collared wolf that lives on the reservation, removing nuisance conflict beavers, helping with numerous projects and departments. Worked with the summer youths



taking them out to Long Island the bad river falls. I will continue to work to protect our resources and wildlife on the bad river. If you have any questions about our wildlife program at MNRD please feel free to give a call or email myself Kristopher Arbuckle wildlife-tech@badriver-nsn.gov or Abigail Fergus MNRD Specialist Abigail Fergus wildlife@badriver-nsn.gov or MNRD Dept. 715 682-7123

Migwitch,

Kristopher Arbuckle

Traditional Ojibwemowin Toponyms

By: Suzi Smith, GIS Specialist ~ gis@badriver-nsn.gov

What have you done to support the Bad River Ojibwe language revitalization effort? It's more than a question to answer on a monthly programmatic report, it's a challenge to the program and individual to contribute to a living language and culture that are also precious resources as native to our region as the mitigoog (trees) and waaswaashkeshiwag (deer). But what is a Toponym? Simply put, it is the name of a place. However, the study of place names stretches back millennia to the very original people and beings who have called this place home. For the Lake Superior region, a good place to get started learning about place names is the GLIFWC reference Gidakiiminaan. The full PDF text is available for free online (<https://www.glifwc.org/publications/pdf/Atlas.pdf>), but there is a companion disc that is more interactive and includes translations as well as voice recordings of the traditional toponyms in our area. Mashkiiziibii Natural Resources GIS has begun compiling toponyms from multiple sources into a map-based database that includes traditional, English and translations for local place names. Included with this article is a Mashkiiziibii Watershed map with traditional placenames for the major rivers and streams that flow through Mashkiiziibii and into Anishinaabeg-gichigami. Of course, the best way to learn about toponyms and Ojibwemowin in general is in conversation with language speakers.

