

SAVE THE DATE

Earth Day Celebration
Friday, April 21st, 2023

(Weather Permitting)

BAD RIVER POW WOW GROUNDS PAVILION

11 - 4

COME DO YOUR PART IN HELPING KEEP OUR COMMUNITY CLEAN. PARTICIPANTS WILL HAVE A CHANCE TO WIN A PRIZE. PRIZES WILL CONSIST OF OUTDOOR THEMED ITEMS FOR ALL AGES, SUCH AS FISHING GEAR, CAMPING GEAR, & GARDENING SUPPLIES, JUST TO NAME A FEW.

Questions? Contact MNRD Outreach Coordinator @ 715-682-7111 ext. 1589 or Email NRDO outreach@badriver-nsn.gov

WE'RE UPDATING THE IRMP!

Please provide your input now!

The Mashkiiziibii Natural Resources Department of the Bad River Band of Lake Superior Tribe of Chippewa Indians is working on updating our Tribe's Integrated Resources Management Plan (IRMP). The IRMP was originally developed as a comprehensive, long-term plan that provides for the conservation, preservation, and sustainable use of all the natural resources of the Reservation now and for the seventh generation. The last version of the IRMP was adopted by Tribal Council in 2001.

Please take the time to provide feedback to MNRD to use in the revision process by snapping the QR code or visiting this link:

<https://survey.alchemer.com/s3/6601625/Mashkiiziibii-Natural-Resource-Department-IRMP-Community-Survey>



Questions? Call our office at 715-682-7123. Hard copies available. Chi miigwech! We are excited to hear your thoughts and improve our stewardship of the resources for you and seventh generation.

~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.

Were on the Web!
Visit www.badriver-nsn.gov



Mashkiiziibii Natural Resources Department

COMMON GROUND

Accomplishments within MNRD for 2020 through 2022

Naomi Tillison, MNRD Director - director@badriver-nsn.gov

Boozhoo, this edition of our quarterly newsletter focuses on our accomplishments from 2020-2022. Although there have been multiple challenges over the last couple of years (e.g., changes in how we communicate and function, changes in staffing) we're proud of what we accomplished, which would not be possible without our devoted employees and good teamwork within Mashkiiziibii Natural Resources Department (MNRD), throughout the organization, and with funders and other partners; miigwech to all who have helped!

In addition to the great content in the pages to come, I want to highlight a few other achievements. In April 2020, MNRD turned 35, and although we weren't able to celebrate in person, we were happy to reach this milestone and grateful for Erv Soulier, former Director. Since 2020, we've created eleven (11) new full-time positions, building our capacity in Land, Manoomin, Non-Local Beings, THPO, Water, and Wildlife Programs.

Our Hatchery remained operational and over the last couple of years, raised millions of walleye fry and fingerlings and yellow perch fry and fingerlings, and released them into local waterways to support the Lake Superior fisheries.

We continued implementing our Indigenous Arts and Sciences (IAS) Program in collaboration with the Education Department. Miigwech to Stephanie Julian for leading our efforts to adapt our 5-week summer youth program to keep everyone safe. We also initiated a community research project to focus part of the youth program on our plant relatives and collaborated with partners to engage educators in how to bring IAS into their classrooms.

We've secured Great Lakes Restoration Initiative funding to purchase land back within the Reservation to protect water and critical habitat. Parcels were primarily within the Conservation and/or Watershed Protection Areas described in the Band's Integrated Resources Management Plan (IRMP), and includes, but is not limited to, 120 acres near the confluence of the Potato and Bad Rivers, hundreds of acres in the Graveyard Creek area, and over 400 acres in the Upper Bad River Falls and on Cameron's Creek (Miigwech to THPO for contributing to this purchase!), and the Band is now utilizing this area for traditional cultural practices.

We've released an interactive webmap that displays layers, such as the wild rice waters, and other high-quality waters designated under the Band's Water Quality Standards: <https://www.arcgis.com/apps/View/index.html?appid=6f44c371217e4ee8b5f1c2c705c7c7c5>

We also kept implementing our project review process and initiated online software to try to improve the process for all. Although our project review process is not always everyone's favorite part about MNRD, it's critical to ensure impacts to our waters and other natural resources are avoided and minimized.

Although we are proud of what we accomplished, we recognize there's more work to do and opportunities to continue to learn and improve our services to the community. Your input is needed to help us update the IRMP and better protect and restore the natural resources for the current and future generations; please see the last page for more details. We also hope to see you at the MNRD Open House on Thursday, 3/30 from 10 am to 6 pm at the Bad River Casino and Convention Center. Miigwech.

2023 ZIGWAN EDITION
(SPRING)



Special points of interest:

- Heartfelt Condolences to Couture Family
- New Water Resource Specialist Introduction
- New Indigenous Arts & Sciences Coordinator Introduction
- Updated Earth Day Celebration Flier
- Program Updates

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Air Quality Accomplishments

Nathan Kilger, Air Quality Specialist - air@badriver-nsn.gov

The Mashkiiziibii Natural Resource Department's Air Quality Program has a clear contender for the top story since 2020 for the biggest project worth talking about, but it has some big names and a couple acronyms.



Figure 2 Air Quality Specialist at the new NADP site

The National Atmospheric Deposition Program (NADP) is a large grouping of several monitoring networks across the

United States and Canada. One network under NADP is what people think of as acid rain monitoring. Another is mercury deposition from the atmosphere. The acid rain network is more than just acid rain and is called the National Trends Network (NTN), the mercury network is called the Mercury Deposition Network (MDN).

A MDN monitoring site has been at the mouth of the Bois Brule River since 1996, providing a very long-term trend as the only site in the Lake Superior Watershed. In 2022, the Grand Portage



Figure 3 Air Table at 2022 Lake Superior Days Celebration

Band started a MDN site and will provide a second site in the Watershed. NTN sampling was added to the

mouth of the Bois Brule River a bit later.

The Bois Brule River site has been extremely important because it's been in place almost 30 years and it's the only site in the Lake Superior watershed with that long of a record. For those reasons, the proposal of closing the Bois Brule River site prompted the Mashkiiziibii Natural Resource Department's Air Quality Program to work with a group of local agencies and tribes to find a way to continue the operation of a mercury monitoring site in the Lake Superior watershed.

As an alternative to simply closing the site at the mouth of the Bois Brule, it was moved to Chequamegon Bay, and is currently being operated by the Bad River Mashkiiziibii Natural Resource Department staff to continue the vital mission of the site in the Lake Superior Watershed.

In addition to sampling such as mercury and acid rain, this NADP monitoring site is also a test site for sampling PFAS (per- and polyfluoroalkyl substances) from precipitation. PFAS testing in the environment is still in the early stages, but this is one site in Wisconsin that is being used to investigate PFAS further.

2023 also marks a milestone in Bad



Figure 4 Air Monitoring Site that was established in 2003 in Odanah

River's ambient monitoring of fine particle pollution, twenty years! Twenty years ago in 2003, Bad River started fine particle pollution monitoring in Odanah and that length of time shows trends and values in relation to the National Ambient Air Quality Standards. With twenty years of

data, our data shows extremely low levels of fine particulate pollution generally, but we do see periods of wildfire smoke and increased woodsmoke in the winter that bring those values higher than usual.

A quick run-through of other monitoring milestones shows nineteen years of ground-level ozone data in Odanah, eleven years of monitoring mercury in tree leaves, and five years of collecting ambient ammonia samples. Each of these pollutants are of concern for different reasons, there are reasons for both short-term and long-term monitoring.

Some of the other work routinely completed by the Mashkiiziibii Natural Resource Department's Air Quality Program includes modeling prescribed fire smoke when notified of nearby prescribed fire by state and federal agencies, representing the Band at state, federal, and tribal forums and associations, and much time has been spent supporting and pushing along the Bad River Band's renewable energy *Strategic Energy Plan* to further energy resiliency and sovereignty on the Bad River Reservation.



Figure 1 Air Quality Specialist checking the acid rain and PFAS samples

NEW WATER RESOURCES PROGRAM MANAGER

welcome

Hello, my name is Chris McNerney, I am the new Water Resources Program Manager at MNRD. I am originally from Green Bay, WI and graduated from the University of Wisconsin – La Crosse. I have researched endangered and invasive fish populations as a Fisheries Biologist with Colorado State University, provided technical expertise on water quality monitoring as a Technical Consultant with Hach Company, and conducted scientific research on water issues in the Great Lakes region at Northland College with the Burke Center for Freshwater Innovation. My family and I have lived in Northern Wisconsin since 2012. My interests outside of my professional career are centered around my family and the outdoors. We enjoy the waters of Lake Superior and its tributaries, gardening, mountain biking, soccer, hiking, camping, fishing, skiing & snowboarding, and photography.

I am truly honored and privileged to be part of the MNRD. I am excited to be in this position and look forward to serving the community and protecting the natural resources throughout the Bad River Reservation.

wqs@badriver-nsn.gov
715 685-7840 ext. 1566
Miigwech,
Chris McNerney

INTRODUCING NEW INDIGINEOUS ARTS & SCIENCE COORDINATOR

Boozhoo! My name is Nathanael David Secor and I am happy to be joining Mashkiiziibii's Education & Natural Resource Dept as Indigenous Arts and Sciences (IAS) Coordinator. I grew up in Illinois in that endless swath known as "Chicagoland" but have always felt most at home in the woods near water and in the garden. I studied Fine Arts and Environmental Studies at Northland College, graduating with a BA in 2004. During this period, I was lucky enough to intern with GLIFWC as Manoomin Intern where I fell in love with manoomin. After graduating, I worked as an AmeriCorps VISTA in Bad River for the Gitigaaning Restoration Project under Becky Lemieux and Luis Salas.

Much of my work history as an adult has been working in the natural resource and traditional food systems fields as well as working with youth. In 2014-15 I was blessed to serve the Ashland School district as Nutrition Educator for two years where I started a sugarbush in the school forest, grew produce for the school lunch program with the kids in the school garden, and generally had a blast with the kids. From 2016-2018 I also worked for the Red Cliff Tribe as Farm Manager/Food Systems Coordinator. During this tenure, I helped establish a weekly produce box program

(CSA) from produce grown at Mino Bimaadiziwin Farm, wrote grants for a tribal sugarbush as well as a restoration project, and maintained the high tunnels, fields, livestock, and orchard at the farm.



When I'm not working, I love to cook from scratch, forage for food and medicines, garden, read, hang out with my wife Liz and baby Gareth, run with the dog, canoe, bike, and tromp through the woods.

I have high hopes for the IAS program and am excited to get to know the youth that we'll be working with! We'll be tapping trees up on Birch Hill this March, so keep an eye out for that as well as the applications for our summer youth program which will be out in April. We collaborated on a winter storytelling event this month, some other upcoming programs that we'll be organizing/collaborating on include a hide tanning workshop, and supporting youth harvest camps. If you have any ideas or suggestions for me, I'd love to chat with you! I can be reached at ias@badriver-nsn.gov and 715-682-7111 ext 1535.

Manoomin Program Updates

Dan Powless Sr., Manoomin Oshkaabewis - Manoomin@badriver-nsn.gov

In the recent past, the Kakagon Headwaters and adjacent areas underwent extreme water level fluctuations that have ranged from drought-like to excessive flooding. Habitat changes from this have reduced the production of manoomin substantially to the point of being out competed by native competitors and invasives. These same conditions have made their way into the rich wild rice beds of the Kakagon Sloughs and other areas as well.

The Tribe has been awarded GLRI FY22 funding to conduct a feasibility study focused on determining the benefits and impacts of restoring the Kakagon River Headwaters in the Old Odanah region on down towards the hatchery. Specifically, we will look at whether current land use (historical and present) would allow for the restoration of ecological benefits and increase in the

resiliency of manoomin, through support of community engagement and education. The study will provide field assessments to acquire baseline data that will accommodate restoration planning efforts that considers climate change effects. It will also take Traditional Ecological Knowledge and other cultural connections into consideration.

Manoomin Oshkaabewis



Water Program Updates

Mark Arbuckle; Water Resource Technician - wrTech@badriver-nsn.gov

Amazing how time flies! As of one year to date (3-14-2022), I've been a part of the water team here at MNRD and talk about a whirlwind of a year. Anticipating ice out to find myself with the hatchery crew setting/checking nets for the annual spawn. After eight weeks with the hatchery, I jumped into my first field season of Surface Water/ Wetland sampling, which believe me is a challenge in its own combatting the elements, typically flies and mosquitoes, maybe equipment issues, just to find myself dancing with the October/November waves trying to get good data and samples to close out the season. During the down time of winter I found myself dealing with the analytical side of the job and what we do with all our data. Not to

mention filling in the gaps with occasional snow shoeing and field maintenance. The first three months of this 2023 year, I find myself trying to get through work related certifications and doing my first winter sampling season in anticipation of the next ice out.



Wildlife Program Update

Taylor Parker-Greene, Wildlife Specialist - wildlife@badriver-nsn.gov

The Wildlife Program has been working hard this winter season! We have been out tracking on foot, putting out camera traps and reviewing photos, and participating in the Wisconsin Carnivore Tracking Program. So far, we've tracked wolves, coyote, fox, otter, mink, and bobcat. If you're interested in joining us on a tracking day or participating in the Wisconsin Carnivore Tracking Program yourself, contact the Mashkiizibii Wildlife Specialist at wildlife@badriver-nsn.gov or (715) 292-9443. Come join us at the Open House on March 30th from 10am-6pm where we will have info and updates on current pro-

jects, information on Snapshot Wisconsin and CWD, real animal furs and paws, and lots of fun activities for the kids!

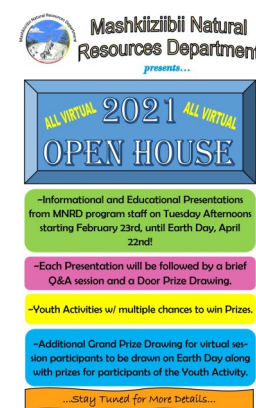


Environmental Program Accomplishments 2020-2022

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

2021 Virtual MNRD Open House

Despite the pandemic's impact on in-person events, the MNRD was still able to host of biennial Open House event virtually. Fourteen virtual sessions were hosted weekly from the end of February to mid-April in 2021 across a range of topics. Over the course of those fourteen



sessions we recorded 187 participants with many people logging in or calling in for more than one session. We also hosted a youth activity at the same time, receiving a handful of

submissions from drawings from the younger kids to essays from the older youth. If you are interested in seeing the presentations given and the youth entries, scroll towards the bottom of our Environmental Program webpage at <http://www.badriver-nsn.gov/natural-resources/environmental/>.

Potato River Watershed Monitoring – Phase 1

The MNRD completed a preliminary water quality monitoring assessment in the Potato River Watershed focused on non-point source (NPS) pollution to better understand the levels of pollution across

the watershed from its headwaters to its confluence with the Bad River.

This preliminary Phase 1 monitoring work has helped shape a Phase 2 project to refine additional data collection on streams and rivers where elevated parameters were detected to improve the dataset and hopefully lead to identifying sites of concern for future partnership projects focused on reducing NPS pollution. The Phase 2 project has also been funded from BIA using Great



Lakes Restoration Initiative funding and monitoring should hopefully commence this field season. Overall, while there were some elevated levels of NPS detected in the watershed during the Phase 1 monitoring, comparatively the levels overall were indicative of a healthy watershed. MNRD hopes to work with partners to help address potential sources of pollution to improve and maintain surface water quality.

Enbridge Line 5 Pipeline Work

The MNRD has continued our work addressing Enbridge Line 5 on and off the



Reservation. On Reservation issues that were addressed or continue to be addressed include the exposure of the pipeline at "Slope 18" within an unnamed tributary to Denomie Creek (shown above), remediation of the helicopter crash site just north of the Line 5 corridor near the Denomie Creek Tributary area, and the imminent threat of the pipeline at the Bad River Meander. Off Reservation issues that MNRD has been putting many hours in reviewing and commenting on is the proposed Line 5 Reroute within the watershed around the Reservation. Staff have been busy reviewing hundreds of documents, completing field work, attending technical meetings, and completing comments to state and federal entities on the proposed project. Additional work on Enbridge Line 5 is ongoing. If you would like to see more details of some of the work MNRD has on Line 5, visit our webpage at <http://www.badriver-nsn.gov/natural-resources/threats/>.

Brownfield Program – Review and Highlights

Andrew J. Spychalla, Brownfields Specialist– Brownfields@badriver-nsn.gov

The Brownfield Program, alongside others in the Mashkiiziibii Natural Resources Department (MNRD) focused on tasks a little differently beginning in 2020. While the approach may have shifted, the tasks that required attention were still given time and effort; and a varied workplace allowed the opportunity to complete other tasks that may have gone overlooked before.

The Brownfield Program maintained a record of known ‘brownfield sites’ - whether they be from spills, accidents, prior use, or otherwise - that are in



Figure 3 No spills allowed!

various stages of monitoring or remediation. The old fire hall, where an underground storage tank was ruptured in 2016, was previously cleaned up, and that property now houses a new public safety building. The site of the old J&S Quik Mart had extensive sampling activities completed in 2021, showing the previous sites of the underground tanks no longer had high contamination levels. This site will have vapor testing and private well sampling done in the near future. The site of the 2018 Enbridge helicopter crash had many rounds of soil remediation completed, samples taken, and trees were finally re-planted on the site. While the work surrounding this site may be ongoing, it is moving in the right direction. The program has increased its knowledge in many different areas of potential contamination, and has attained different certifications, trainings, and reviewed the ever-changing literature on many remediation

topics.

As “stay safe” became common parlance during the last few years, the Brownfield Program and MNRD emphasized that safety was important in certain facets of the workplace, too. In May of 2021, the program setup a virtual emergency response training activity that was led by the Environmental Protection Agency (EPA). This training was the first of two parts, and 28 staff from many of Bad River’s departments attended. In April of 2022, MNRD followed up with an in-person tabletop activity that was specific to the department’s role in responding to a hypothetical flood. This exercise was planned by the MNRD Air Program – staff who were around during the flood of 2016 - and Brownfield Program. This internal exercise included most of the MNRD staff, who learned a bit more about the roles and responsibilities of the department during emergency events. The next training of this kind is currently being developed.

Over the past few years personal health maintains its spot as a top priority for many people and the Brownfield Program made sure that emerging contaminants, namely PFAS, were addressed quickly. PFAS are, now in 2023, the hot-topic chemicals-of-concern for human and environmental health. The program began planning in 2021 for the sampling of these chemicals in the soil and groundwater at three known ‘sludge sites’ on the Reservation. The results of these sampling efforts came back in January of 2023.

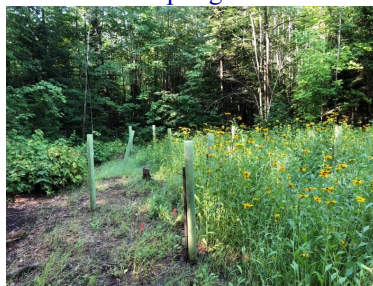


Figure 1 Helicopter site with plants growing and trees planted.



Figure 2 MNRD Flood response tabletop exercise.

Few Tribes have gotten involved in the sampling of these chemicals at such an early stage. More monitoring and sampling of PFAS will be done in 2023.

There is always a need to clean up or fix something back to the way it was. There will also be a plan in place to do so. Whether it is updating the Band’s pre-disaster mitigation plan, creating more contacts with partners and other Tribes, or consulting with community members on natural resource issues – the program will continue to strive to protect the woods and water that are held so dearly. Because no matter what, there is always the chance of an accident, or a spill...or forgetting your SCUBA tank in a river! If you have questions about anything-or-everything relating to natural resources, feel free to reach out to Brownfields@badriver-nsn.gov, or any MNRD staff. Miigwech.



Figure 4 Cleaning up Mashkiiziibii.

Wildlife Department Accomplishments 2020-2022

Taylor Parker-Greene, Wildlife Specialist - wildlife@badriver-nsn.gov

The Mashkiiziibii Natural Resources Department (MNRD) Wildlife program has had many accomplishments throughout the last two years. We have spent much of our time outdoors, tracking and camera monitoring our four residential wolf packs, as well as monitoring mammalian and avian species within the Kakagon Sloughs. The Wildlife program continues to conduct howl surveys, which the public is encouraged to participate in. We have been gauging the concern and potential impacts of Chronic Wasting Disease (CWD) nearing the reservation boundaries, and surveyed 30 hunters to be able to better address people’s questions and concerns regarding CWD and testing protocols.

The Wildlife program continues to participate in Lake Superior Days and other major events, as well as the Bad River Summer Youth Program. We make it our goal to get the kids excited and engaging with the natural world and all the critters that come along with it. We have been tracking with the youth, as well as homing in our safety and survival skills by prac-



Endangered Species Act, and the potentials of the Wisconsin Wolf hunt of 2021.

The 3 Day event hosted story-tellers, feasts, informational tables and

presentations, with a collaboration to present the Ma’ingan Treaty.

As of 2022, the Wolf has been relisted on the Endangered Species Act, and the Bad River Reservation maintains a no kill zone within one mile of the reservation boundaries.

The Mashkiiziibii Natural Resources Department, in cooperation with multiple partners, have been leaders in the monitoring and protection of the endangered Piping Plover of Gichigami. In 2022, two piping plover monitors were hired to observe and document any nesting pairs on Chequamegon Point. Monitors documented six (6) nests, with 22 total young that made it to fledging stage. This was the most successful year for the plovers on Chequamegon point since MNRD first started monitoring. We are hopeful that those numbers will continue to increase in 2023.

“Stewards of All Creation”

Produced by the Bad River Tribe, funded in part by the Midwest Environmental Justice Network – Windward Fund, a short video to present how metallic mining threatens the Bad River Reservation and surrounding communities. The production was directed by Kristin Ojaniemi, supervised by Lucy Koivisto and Aurora Conley, during Summer 2020 and released November 2020.

A big Chi-Miigwetch (Thank You) to all that contributed to the video production: Mashkiiziibii Natural Resources Department Staff and Outreach; Planning and Administration Department; The Bad River Ojibwe Language Trainee program and our wonderful community-Mashkiiziibii.

<https://www.youtube.com/watch?v=xJxvBRPcRtk>

Mai’ingan Symposium

January 31- February 2nd, 2020

Mashkiiziibii Natural Resources Department hosted a 3 Day event the “Ma’ingan Symposium” at the Northern Great Lakes Visitor Center. The gathering was the last largest in-person event hosted by the Tribe before Covid-19 hit the United States Homefront. The symposium was prompted to raise awareness and share the culturally significant importance of Ma’ingan (Wolf) and Anishinaabeg, as well as acquaint supporters and scholars. The symposium was also in response to the Federal delisting of the wolf from the



2022 NRD Land Records In-Take Specialist Accomplishments

Aurora Conley, Land Records In-take Specialist - landrecords@badriver-nsn.gov

- **Land Records In-Take Position Development- February 2021-March 2023**
 - ⇒ Return from Maternity Leave March 2022- Healthy Baby!
 - ⇒ Expand/Improve File System
 - ⇒ Initiating online application system with Momentum Company
- **Successfully executed Service Line Agreements**
 - ⇒ Electric and Gas
 - ⇒ Individual Sites
 - ⇒ Tribal Sites: Public Safety Building; Fish House.
- **Process Initiation for 2 ROW Applications**
- **Established rapport with:**
 - ⇒ Bureau of Indian Affairs
 - ⇒ ROW Companies; Xcel Energy, Bayfield Electric and TransCanada
 - ⇒ Legal Counsels for ROW applications
- **Education/Outreach with Summer Youth Program**
- **Presented Land Records Open House Virtual Session**



For Job Opportunities within MNRD visit
<http://www.badriver-nsn.gov/careers/> **or SCAN**
QR Code to the right.



Deepest Condolences to Couture Family

The Mashkiiziibii Natural Resources Department send our heartfelt condolences to the family of Ken (Basher) Couture, who passed away on March 9, 2023. Basher worked for the Tribe for around 45 years. He was a dedicated member of our Hatchery Crew, who retired in 2018. Basher also served as a member of the Wild Rice Committee for 20 years. He will surely be missed. Our thoughts and prayers go out to his family and friends.



Forestry Program / Mitigoog Gitigaan

Gena Abramson, Forestry - forester@badriver-nsn.gov

Boozhoo Mashkiiziibii Anishinaabekaa!

This edition focuses on the accomplishments and achievements of our programs within the Mashkiiziibii Natural Resources Department. While 2022 was a year filled with successes for the Forestry Program, many of those effects won't be felt until far into the future. That's how it is with forestry, though. Patience is something that is learned. When you're waiting for trees to grow, you learn to be very patient and forward-thinking.

We've been thinking a lot about climate change since what we do now will have more dramatic impacts as time goes on. We incorporate climate change awareness and mitigation into almost everything we do.

Currently, the 10 Year Forestry Stewardship Plan is being developed. In this document, we are planning for the next decade's worth of timber management through plantings, seedings, clearings for urban development, regeneration of long-lived species, and stand conversions through aspen removal. We're calling it the "Mitigoog Gitigaan", or "Many Tree Garden" Stewardship Plan. Please come to the Mashkiiziibii Natural Resources Open House on March 30th to find out more!

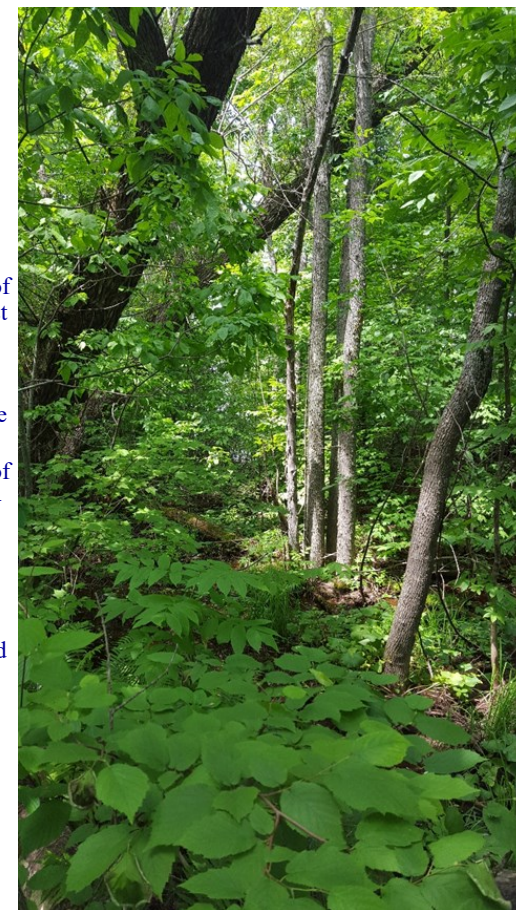
Additionally, the Bad River Forest / Mitigoog Gitigaan Silviculture Guidelines are being developed through the Forestry Program. This document, too, will have climate change awareness and impacts incorporated into the forest treatments in order to provide a more stable, healthy, and resilient environment overall. These Silviculture Guidelines express the values and priorities of the Tribe in the "prescriptions" so that anyone working on the Bad River Forest will know how we want to guide each cover type into being healthier and more climate change resilient.

Projects that the Bad River Forestry Program has accomplished have all provided a lot of the information needed to put these plans together. Without my experience working within the community and in the Bad River Forest, I wouldn't have the knowledge to write such important planning documents. Here are a list of some of the projects that have helped us succeed to this point:

- Working with The Nature Conservancy and planting of over 100,000 trees (2020 and 2021) (including White pine (zingwaakwaatig), silver maple

(zingwaakwaatig), silver maple (zhooniyaaninaatig), hemlock, yellow birch (wiinizikaatig), white birch (wiigwaasaatig), cedar (giizhik), and sugar maple (ziinzibaakwadwaatig or aninaatig).

- 2020 - Oversight of the development of the Continuous Forest Inventory Forest Inventory Analysis – This document provided us with much data including an annual allowable cut for timber harvest. This data allows us to manage sustainably for all future generations.
- 2022 - Oversight of the development of Forestry Best Management Practices – This work has included much of the Mashkiiziibii Natural Resources Department along with a conservation-minded contractor who is doing the actual writing of this document. A public comment period will be planned (2023) prior to us asking the Tribal Council to approve this document.
- Establishing, advertising, contracting, and administration of the Mack Road aspen and ash removal timber harvest (2021-2022). The Tribe sold the dying aspen and ash to Sappi, North America, and now the stand will have more room to grow and populate with oak and red maple. About \$11,000 in proceeds were collected by the Tribe.
- Establishment and contracting of the Birch Hill Red Pine Thinning (2021) – set to begin after September 1st, 2023. This thinning will allow more airflow and sunshine into the Birch Hill community. Those north facing homes will hopefully get much better signal on their satellite dishes as well! By thinning, the residual red pine and plethora of red oak will be provided with much needed nutrients so that they can grow and remain healthy. This is one of the sites included in the 3-year Timber Harvest Plan (2021-2023) approved by Tribal Council.
- Madeline Island Hazard Tree Removal – Both in 2019 and in 2022, dozens of trees were safely removed from around the cabins on Mooningwanekaaning's north-east shore. Gichi-miigwech, to Evergreen Tree Service for providing excellent service and great results!
- Contracting and administration of the Reservation-wide Trust Lands Stand Exam (inventory)- 2022 - This project



provided us with the data we needed to address all of the management needs on Trust lands. This data is instrumental in helping us to put together the Mashkiiziibii 10 Year Mitigoog Gitigaan (Forestry) Stewardship Plan

Our lovely "Mitigoog Gitigaan" is more than just trees. Many understory plants will be cared for with our gentle forestry practices. One of our goals is to increase gathering opportunities for tribal members for current and future generations. Love the forest and she'll love you back!



Renewable Energy 2022 Highlights

-Air Quality/Radon Program

As many community members may have noticed solar has been installed all over the reservation. Since 2021 the Tribe has installed over 800 kilowatts (kW) of photovoltaic (PV) solar and over 1,000 kilowatt hours (kWh) of battery storage on the reservation. These projects have focused on government buildings and tribal housing. They have also been financed at little to no cost by the Tribe and homeowners.



Elderly Apartment Building

The Bad River Housing Authority Elderly Apartment’s also received a grant from the Tribal Solar Accelerator Fund (TSAF), which fully funded the 20kW PV system installed at the site. TSAF uses a community-centric approach, as they partner with tribes to identify, develop, finance and implement solar power projects that meet community needs. More information on TSAF can be found at <https://gridalternatives.org/tribal-solar>.

Focus On Energy

A majority of the solar in 2022 was installed on 41 Tribal Members homes that lived within the Reservation boundaries, and that added up to over 240kW of PV solar.

The 240 kW Project was made possible through the State of Wisconsin’s Focus On Energy Program, which directly funded 80% of project costs for the solar that was placed on or near the 41 tribal members homes.



Focus On Energy is a Wisconsin based program that partners with Utilities and contractors to deliver energy efficiency, renewable energy products, and expertise directly to Wisconsin residents and businesses. Both contractors and Utilities must be an active participant in the program for residents and businesses to qualify for those incentives and rebates, which also continue to evolve and change each year.

Focus On Energy and tribal staff will review the 2023 incentives when they are posted and plan to work with homeowners



Picture shows JOLMA Electric with Tribal members to install solar on Tribal members homes as part of the FOE Project.

ers to develop an action plan when incentives fit Tribal needs. More information on Focus On Energy and incentives can be found at <https://www.focusonenergy.com/>.

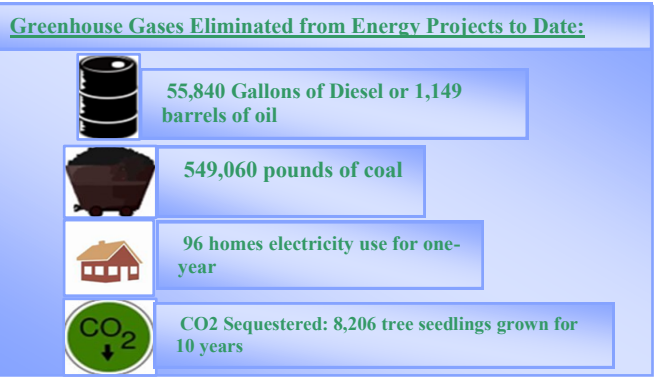
Anaerobic Digesting and Biogas Feasibility Study

The Tribe has started the process of gathering data around feeder stock that could feed an anaerobic digester or biogas project. Projects that look at reducing waste on the multiple landscapes are being considered with the Bad River Wastewater Treatment Plant, along with working with local farmers. This project is still in the process of analyzing the data and a report should be posted by May of 2023.

Ishkonige Nawadide Solar Microgrid Project

The Bad River Tribe was also 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. The Tribe partnered with muGrid Analytics, Cheqbay Renewables, Madison Solar, and Faith Technologies and was able to successfully commission the system in May of 2021.

Currently the three systems at the H&WC, WWTP, and the Chief Blackbird Administration Building primary goal is to provide clean back-up power for resiliency during outages. Secondary goals were set for savings and offsets in utility bills. In 2022 the three system were able to provide over \$35,000 in savings. Saving for individual buildings can be seen in the tables provided.



Bakaan Ingoji (Non Local Beings) Program Accomplishments

Jacob Slattery, Non-local Being Program Manager - nonlocalbeings@badriver-nsn.gov

The Bakaan Ingoji (Non Local Beings) program has worked through this Winter on several different projects like monitoring, control and prevention of (new) non-local being introductions and current establishments. We've also begun to take charge both the ishkode study work (in consultation with the Maanoomin program) and monitoring and restoration work throughout the reservation. These accomplishments are summarized below as well as the 2022 work accomplished:

1. Cattail harvester and other procure-

ment – A timeline has been set for the delivery of the Tribe’s new cattail harvester. The NLBP is also in the process of purchasing other mission critical equipment such as a mobile pressure washer to assist watercraft operators and Clean Boats Clean Waters (CBCW) inspectors at the boat launches to remove and prevent the spread of aquatic invasive species (AIS).

2. Ishkode study progress and external

partnerships – The ishkode study has been off to a slow start, but significant progress is being made. NLBP staff are working toward completing a comprehensive literature review, outreach materials and public talks about the benefits and obstacles of reintroducing traditional fire to the landscape, particularly the wetland areas where maanoomin is harvested. A new partnership is being worked on and coordinated between representatives of Red Cliff, Fond du Lac, GLIFWC, NIACS and other staff with the Forest Service in the Northwoods. A more comprehensive timeline and the first draft of a white paper (preliminary report on the issues, obstacles and focal points of a complex topic, in this case represent the views of the author(s) to shape and steer the direction of the tribe’s Rx fire management plan short-term) are currently being developed.

3. New NLB program grant submittals – Last year more than \$300K in new grant funding was submitted and awarded to our program. We’re proud to announce that another \$300K in new grant funding for next fiscal year has also been submitted.

4. Access trail restoration – The NLBP completed a preliminary report on the impacts and pass-through degradation affecting an access trail off Birch Hill Road in November. This report is being used as a blueprint for evaluating other vulnerable and degraded forest roads and access trails. This will help to prevent the introduc-



tion of invasive plants to disturbed areas, and promote short-term remediation from impacts of rutting, soil compaction, water and unnatural braiding and expansion of access trails with high traffic. An example of an access trail evaluation of impacted areas is provided at MNRD Open House.

5. Non-local beings accomplishments – apakweshkway (cattails; 10.67 river miles monitored), purple loosestrife (33 miles monitored), buckthorn (15 acres monitored and removed), wild parsnip (24 acres monitored/follow-up and removed), garlic mustard (NCWMA hand-pulling event, Mellen, WI; covered ~130 acres), 55 equipment inspections, 31 projects reviewed.

The NLBP and other natural resources departments will soon be looking to hire NRS Aide positions to assist in the monitoring and invasive species control efforts, and other natural resources field work. If you or somebody you know loves to be outdoors or is looking to start a career in Natural Resources, please we encourage you to send them our way! Please stay connected to the “careers” page at www.badriver-nsn.gov or by email us at nonlocalbeings@badriver-nsn.gov for questions about forthcoming job announcements.