



Treaty Natural Resource Division

Red Cliff Band of Lake Superior Chippewa



Ganawenjigaade

It is taken care of, protected...We take care of, protect, keep it

Volume 5, Issue 2 Summer 2016

Niibin (Summer)



Aamoo (bee) enjoying the new blooms of a Bachelor's Button Flower at the Red Cliff Community Farm

- *Employee of the Month* 2
- *Youth Interns* 3
- *New Employees* 4-5
- *Summer Language* 6-7
- *Spring Clean Up* 8-9
- *Littering* 10
- *Bear Problems?* 11
- *LW Restoration* 12-13
- *Duffy's Dock* 14
- *Stream Crossings* 15
- *Stormwater* 16
- *Pets* 17-18
- *Free Camping* 19
- *Free Park Parking* 20
- *Microbeads* 21
- *Wildlife Update* 22-25
- *Hatchery News* 26-27
- *Waukesha Diversion* 28
- *Open House* 29
- *Conservation Projects* 30
- *Onboard Drill Course* 31
- *Chemicals of Concern* 32-33

Employee of the Month

An office is only as good as its staff. And we here at the Treaty Natural Resources Division think we have some of the best. The following team members were nominated for Employee of the Month in the last three months by their fellow co-workers. By: Chad Abel

April Employee of the Month – Linda Nguyen, Environmental Director



Linda stepped up to serve as the interim Director for the Environmental Department, and her efforts to manage two programs during that time earned her EOTM in April. She did a good job as the primary planner for the Spring Clean-up this year also and was later fully promoted to the Environmental Director role for the TNR Division. With a high rate of staff turnover in the Environmental Department over the last 5 years, our Division has been fortunate to hold onto staff like Linda, who is now in her fourth year in that office.

May Employee of the Month – Ernie Grooms, Air Program Manager



It's a bird! It's a plane! No, it's Ernie Grooms, flying around to lend a hand. He was nominated for his willingness to help carry, hoist or think through things, and also for his work with EPA's Portfolio Manager which one co-worker explained as, "amazing." Enough said.

June Employee of the Month – Tanner Bressette, Habitat Technician



Tanner was just hired in April to perform invasive control work through the 2016 field season. He seems to have appealed to his co-workers quickly as he is already June's EOTM. Tanner has been learning how to identify invasive plants with our "weed gurus", Mike and Todd. He has also helped a lot with all the little things that need to get done each spring. Plus, it's always good to get a guy like Tanner on staff who has knowledge of the commercial fishery.

Red Cliff Summer Youth Interns



Mijen Armstrong is currently a senior at University of Wisconsin-Madison majoring in Spanish with a certificate in Sustainability. Although born in New Hampshire, Mijen grew up in Bayfield and has spent his adolescent years exploring the Bayfield peninsula. In fact, he has visited all the Apostle Islands except Outer and Eagle, which he hopes to visit this summer. Mijen is passionate about promoting community sustainability by means of putting emphasis on the importance of local farmers. Some of Mijen's other interests include: Playing soccer, biking, reading, and being out on Lake Superior.

My name is Ceaira Gordon I am 15 years old, I live in Red Cliff and I go to the Bayfield High school. When I graduate I would like to apply for a technical college so I can learn how to fix cars or help the community with the electrical problems. In this job we are to visualize and help with the different types of work that Red Cliff has to offer. I selected this internship so I can see what other types of jobs I can go to college for and to get out and learn new things.



My name is Shyenne Gordon and I am 15 years old. I am currently enrolled in Bayfield High School and I am going to be a Junior this Fall. I am very interest in hands-on work and the outdoors, and I am planning to go to college for Ojibwe Language and Natural Resources. I really enjoy these two subjects and hope to explore them more with this job as an intern. Hopefully I will study further into it after high school. What I hope to get out of this job is more knowledge.

New Employees

Hello my name is Tanner Bresette and I have started working as a field technician with the Red Cliff TNR. I will be working with the TNR staff on various projects, and focusing most of my time on invasive plant removal on the reservation and surrounding areas. I am thankful for this job because I like being outdoors hunting, fishing, spearing, and netting.



I'm Ronald Nordin Jr. the new wildlife tech. I worked here at the treaty natural resource department last year as a field tech working on invasive plant removal. I've also worked for GLIFWC as a creel clerk for spear fishing and for the CWD testing of white tail deer. I really enjoy hunting and fishing. I am glad to be part of the team that helps preserve and protect our treaty rights and natural resources.



Travis Barningham grew up in Red Cliff and has spent most of his life here. He has accepted the Water Resources Technician position this past spring. Before working at the Environmental Department, Travis has many years of experience in the construction field as well as at the Red Cliff Waste Water Treatment Facility. As the Water Resources Technician, his responsibilities will include working in the field, collecting water samples, and data entry. During his down time, he enjoys hunting, fishing, trapping, camping, and sports. He is very excited to be a part of the Environmental Department's team and to have the opportunity to help protect the Tribe's water resources! Feel free to introduce yourself and share any questions, concerns, or ideas regarding Red Cliff's water resources with him.

Amorin Mello has recently joined the Red Cliff Environmental Department as the new Environmental Justice Specialist, and has a Bachelor's of Science in Sustainable Management from the University of Wisconsin in Superior. He will be supporting the sustainability and environmental efforts of the tribe. Additionally, Amorin will track, review, and provide comment on environmental issues that affect the Great Lakes and treaty rights to natural resources within the Ceded Territory of the Lake Superior Chippewa. Amorin is not an enrolled member of any federally recognized tribe, but is Lake Ontario Mohawk Métis by blood and spirit, has previously served the La Pointe Band of Lake Superior Chippewa in both Bad River and Red Cliff, and spent a summer on the powwow trail with a Bad River family.



Born and raised among the drifting snowbanks of Bayfield County during his youth, Amorin moved away after high school for a while in order to find himself before he returned to claim this bioregion as his home once more. He has a diverse range of experiences in environmental issues and solutions in California, Nevada, Colorado, Tennessee, Georgia, North Carolina, Vermont, Ontario, Costa Rica, and Wisconsin. His past professional experiences include environmental education, green building with natural and salvaged materials, renewable energy systems, organic farming, permaculture design, community outreach, historic preservation, and nutrition education. Amorin's hobbies include exhuming top secret public documents from historical archives, roaming ancient footpaths across the Penoque Mountains in pursuit of the people that walked here before us, and learning something new every day.

NIIBIN - IT IS SUMMER



Maniwiigwaase – she/he gathers birch bark

Makak - a basket

Bagwaji zhigaagawanzh – wild leek



Aabita niibino giizis-July

Miini giizis-August

Manoominike giizis-September



Gizhaate - it is hot outside

Giizhoote - it is warm inside

BAGIZO - SHE/HE GOES SWIMMING

BADAKIDOO - PLANT IT / PLANT SOMETHING



Aniibiishan - leafs

Ojibikan - roots

Shiizhinsan - stems

MASHIKI - MEDICINE



Red Cliff's Annual Spring Clean Up 2016

Thanks to all who assisted!!

During the week of May 23rd - 27th, Red Cliff's Environmental Department coordinated the Tribe's Annual Spring Clean Up. Thanks to all those who assisted: Transfer Station Manager George Newago, Housing Authority staff, Maintenance staff, Clinic staff, Conservation Wardens, and Natural Resources & Fisheries staff.



Special thanks to those who volunteered throughout the week: Aaron Sr., Faith, Zoe & Aaron Basina Jr., Bette Bonney, Junior, Karen Wszalek, and Troy Gordon

And thanks to our donors who generously provided supplies for the clean up, incentives for volunteers, and lunch for everyone on the last day:

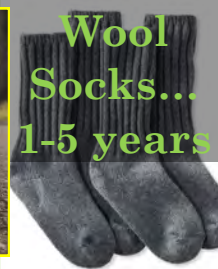
- Ace Hardware
- Bayfield Recreation Center
- Big Water Coffee Roasters
- Buffalo Bay Gas Station
- Peterson's Foods
- Housing Authority
- Environmental Department

thank
you!



It's Everyone's Community Keep it Clean Please Don't Litter

Leaving your trash on the ground doesn't make it
go away...



Be a friend to the environment and our community - Don't
litter and pick up trash when you see it!

HELP! I HAVE A BEAR PROBLEM!

It is that time of year when encounters with black bears in residential areas are increasing. At this point, many of you may have had encounters or have at least seen bears near your homes. But before you contact the wardens and request attempts be made to remove the bear, there are some things to think about.



As both human and bear populations increase on the reservation, so will the bear/human conflicts. Seeing and encountering bears in residential areas is becoming more normal and may be unavoidable. There are ways to reduce CLOSE encounters with bears near your home.

In almost all cases, nuisance wildlife, in the spring and summer seasons are looking for food. If you have a dumpster at your home, you have a bear's equivalent to thanksgiving dinner sitting in your driveway. You may want to consider having the dumpster removed for the spring and early summer months. You may also want to consider upgrading to a "bear proof" dumpster with a metal lid. These types of dumpsters are highly effective in keeping out unwanted pests and are usually available for an additional fee. If this is not a viable option for you, then you may want to consider other means to secure your dumpster such as placing boards under the lids and securing them with straps or chains. For other ideas on ways you can secure your dumpster, call the Red Cliff Wardens. It is important to remember that no attempt to "bear proof" a dumpster is 100 percent effective and the only way to eliminate the problem is to have the dumpster removed.



Also if you have a grill that is stored outdoors, a bird feeder or garbage that is left outside, **YOU ARE** attracting bears. This also applies to other nuisance wildlife such as raccoons and skunks. Do not store garbage outside for even a short period of time. Go to the dump frequently. The Red Cliff transfer station is open three days a week (Sunday, Tuesday, Thursday from 800am-600pm). Something as small as a discarded juice box or empty tuna can may be enough to attract the attention of unwanted wildlife.



Sadly, some wildlife have or will become dependent on humans for food, can destruct property and can become a threat to public safety. If you are continuing to have animal issues, call the Red Cliff Wardens. The wardens can help you by providing additional information to help you reduce or eliminate your animal problem and if needed, remove them.

THE RED CLIFF WARDENS CAN BE REACHED AT 715-779-3732

Check Out What's Happening at Legendary Waters Summer 2016!

As part of an EPA Great Lakes Restoration Initiative (GLRI) grant, several native planting projects are happening at Legendary Waters this summer to help slow the flow of and treat stormwater runoff from the property before it enters into Lake Superior. Native plants, shrubs, and trees both beautify the landscape and allow water to penetrate the ground, where nutrients and pollutants can be filtered out and kept out of the lake! Check out the map below to see where work will be done and some of the types of plants that will be used!



Questions? Please contact Gabrielle VanBergen, Red Cliff's Water Resource Programs Manager, at gabriellevb@redcliff-nsn.gov

TNR Youth Interns Plant Native Flower Garden at Legendary Waters Casino

As part of the exciting restoration project happening at Legendary Waters this summer, the Treaty Natural Resources Division Youth Interns learned about and planted a buffer strip of native plants along the casino's back patio.



TNR Division Continues Incremental Improvements at the Red Cliff Commercial Fishing Dock

By, Chad Abel

Do you remember when Duffy's Dock used to look like this?



The photo on the right, from 2012, demonstrates how dilapidated Duffy's Dock had become. The Division contracted the resurfacing of the dock with concrete forms that year. And then it looked like this!

Between 2012 and 2015, a number of less noticeable improvements occurred with advice from the Fish Committee. This included additional cleats, light and electrical access at the dock, and installing bumpers to the dock where the boats' moored. This spring, the Fish Committee paid to have the inside L of the dock dredged, as seen in the photo below.



On Monday, June 20, another phase of the incremental improvements to Duffy's Dock began. The Division received funding to fix the eroded shoreline at the dock. Currently the project is in construction:

Sheet piling will contain the eroding shoreline and ensure that the area no longer deteriorates the water quality in Buffalo Bay. By the time this newsletter goes to press, the work to install the new shoreline feature should be complete!

Over the next few years, we hope to truly resurrect the use of the dock by adding cold storage, ice machines, and a fish cleaning area. Every step in the process matters as we pursue our end goal: A fish processing facility that distributes value-added fish products and markets them under the tribal brand.

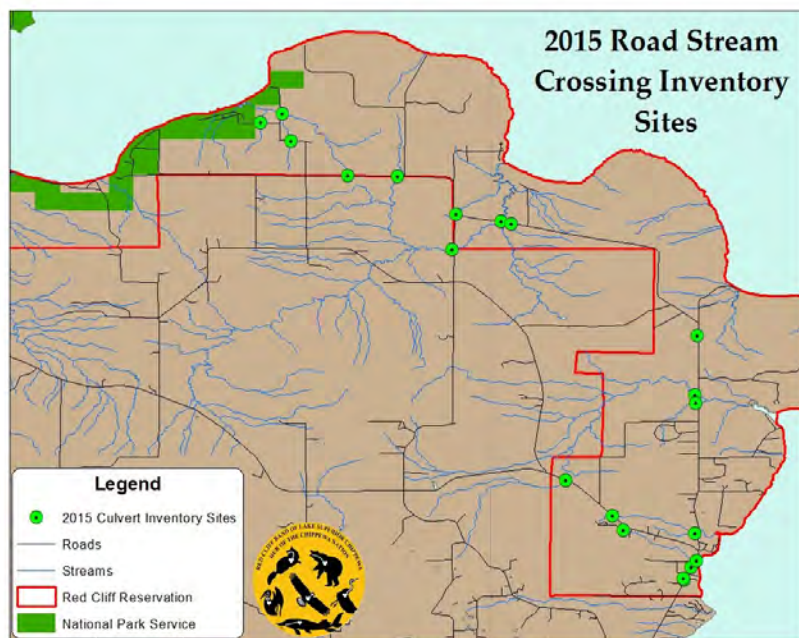
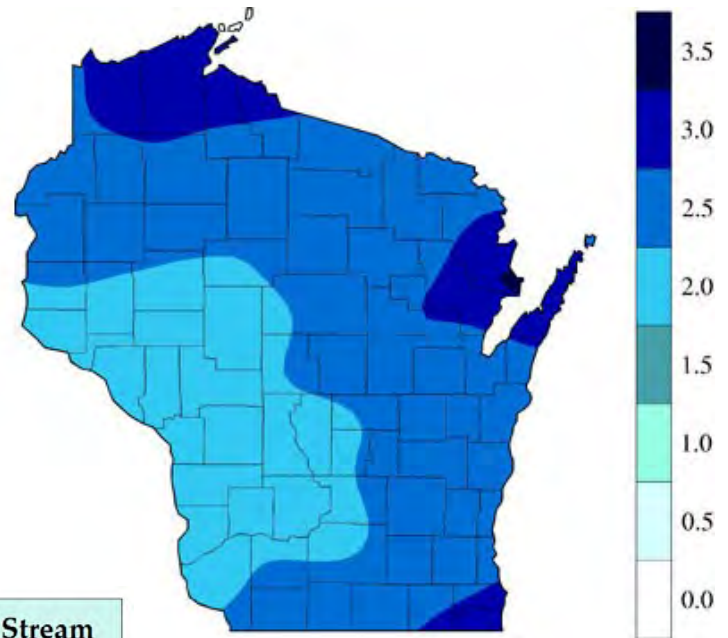


2016 Road Stream Crossing Inventory

Road stream crossings are an important intersection of the natural and built environment. Road stream crossing include culverts, bridges, fords and dams. A well built and maintained road stream crossing allows for natural stream functions, such as migratory fish passage, to continue uninterrupted. Engineers design road stream crossing to allow a certain amount of water to pass through, usually with high flows or flood events in mind. Climate change is starting to make us rethink what size road stream crossings are appropriate.

Heavy precipitation events of at least 2" occur roughly 7 times per decade (once every 17 months) in northern Wisconsin. Based on one emission scenario, by the mid-21st century, northern Wisconsin may receive 3 more of these extreme events per decade, or roughly a 25% increase in their frequency. The map below highlights these predicted changes.

The consequences of an increase in heavy precipitation events and poorly designed road stream crossings can be disastrous. Road stream crossings can 'blow out' resulting in road closures that may cause a minor inconvenient detour or a major detour that interrupts emergency services routes. A washed out culvert creates fish passage blockages, inundates stream with sediments that bury spawning substrate for fish and decrease water quality.



This summer, TNR staff will be performing a complete road stream crossing assessment on all perennial streams. The assessment will catalog conditions of the road stream crossing, the road itself and the stream. The confluence of the data will result in a thorough database that can be used by the Treaty Natural Resource Division and Transportation Department to better direct funding and maintenance.

Stormwater Runoff

What is running off your yard, driveway, and street and into our streams and Lake Superior?

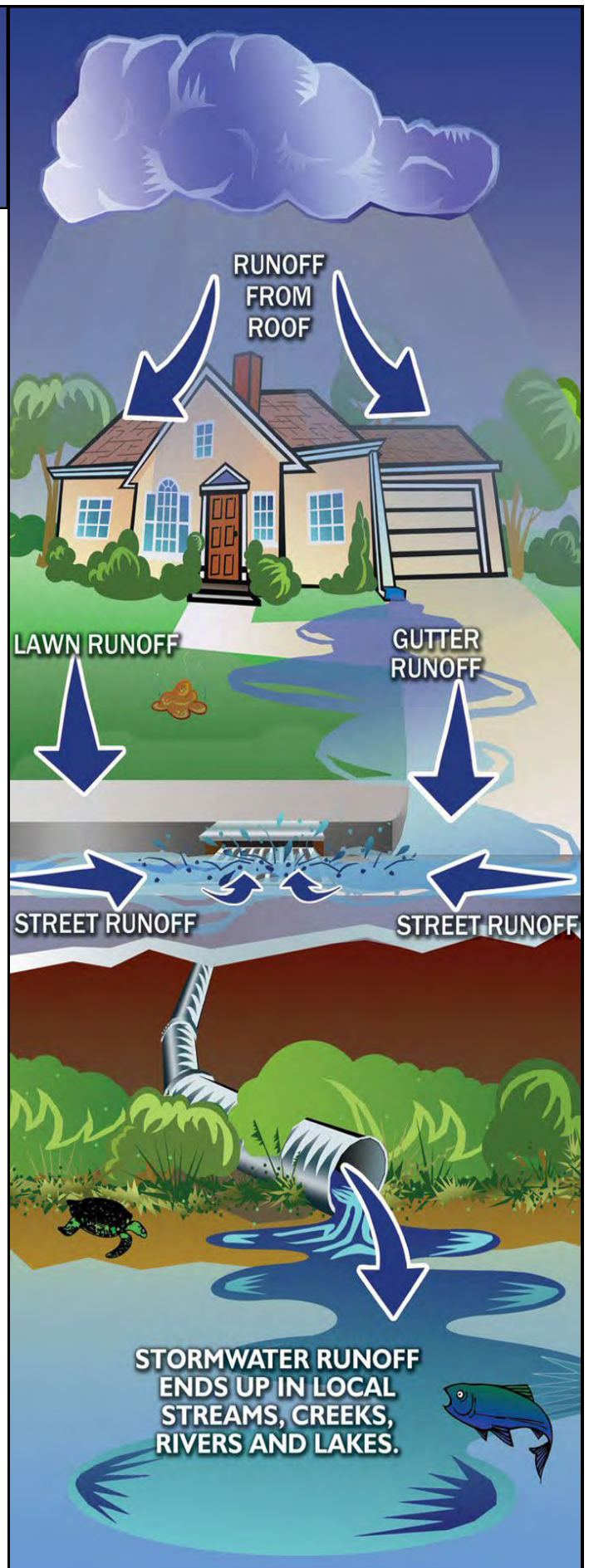
Residential areas tend to have high amounts of impervious surfaces (areas where water cannot get into the ground due to solid structures such as rooftops, driveways, roads, etc.). High amounts of impervious surfaces allow water to run off the land at a faster rate and in turn, the water is able to carry more pollutants into nearby streams and to Lake Superior. Water also moves more rapidly, causing erosion problems and depositing sediment into streams, which damages water quality and fish habitat.

Some common pollutants coming from our yards and streets include:

- ◇ Heavy metals (from cars and shingles)
- ◇ Road salt and sand
- ◇ Toxic substances such as antifreeze from cars
- ◇ Oil/grease/gasoline
- ◇ Debris such as garbage
- ◇ Pesticides/fertilizers from treated lawns/gardens
- ◇ Viruses, bacteria, and nutrients from pet waste
- ◇ Thermal pollution (water warms up from dark surfaces such as blacktop)

All of this non-point source pollution can have very negative impacts on the environment, including:

- ◇ Harm fish and wildlife
- ◇ Kill native plants
- ◇ Foul drinking water
- ◇ Make recreational and swimming areas unpleasant



Pet Waste and Water Quality:

Not just on Your Lawn, but in Our Water Ways

By Linda Nguyen



Scooping your pooch's poop isn't just a courtesy for those walking behind you; it is also the healthy and environmentally sound thing to do. Untreated pet fecal matter is harmful to waterways. Rain washes dog waste and the associated disease-causing organisms, such as giardia, E.coli, and salmonella, into rivers, beaches and bays via storm drains. Enough bacteria make water unsafe for drinking and swimming and also contribute to beach closures.

The Water Resources Program is reaching out to community members to improve water quality through pet waste education and deploying three (3) pet waste stations. Pet waste station locations have been picked based on: moderate/high human traffic, reoccurrences of left-behind pet waste, and high E.coli levels. These stations will be located at Raspberry Campground, Point Detour Campground, and Legendary Water Casino's Campground. Pictured to the right is an example of a station. The biodegradable bags are located in the higher box; after scooping poop, a water-tight waste container is conveniently provided for easy discard.



Make a Difference

Fact: A little pet waste goes a long way; according to Washington DNR, a day's waste from one large dog can contain 7.8 billion fecal coliform bacteria, enough to close 15 acres of shellfish beds!

If you're not near one of these stations, there are still ways to help ensure improved water quality:

- ✚ Bring bags with you on walks.
- ✚ Dispose of waste in community or personal trash bins.
- ✚ Don't let your pet pollute, and encourage those around you to be responsible pet owners, too.

What we hope to accomplish with this outreach and project:

- ✚ Bacterial contamination from dogs will be reduced in the waterbodies.
- ✚ Watershed residents and tourists will pick up after their dogs and dispose of the waste in a safe and environmentally sound way.
- ✚ Reduce stepping in poop occurrences.
- ✚ Reduce public health risks associated with domestic dog poop (campylobacteriosis, cryptosporidium, round worms, and toxoplasmosis).
- ✚ Increase awareness that water carries this and other types of pollution into water bodies that people use to swim, fish and recreate.

For more information, contact the Water Resources Program at 715/779-3650 or

Linda.Nguyen@RedCliff-nsn.gov .

Links:

U-W Ext. Program - <http://clean-water.uwex.edu/pubs/pdf/pet.pdf>

EPA - <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=4>

Vet- http://www.drsfostersmith.com/Articles/clean_up_waste.cfm

ITS HOT DOG SEASON!!!

TIPS ABOUT ANIMAL SAFETY AND OTHER PET ADVICE FROM THE RED CLIFF WARDENS

The Red Cliff Wardens would like to remind pet owners to keep their dogs safe during the hot weather season. Just remember that even in Northern Wisconsin the interior of a car can reach 160 degrees in a matter of minutes. That means if you travel with your pet, parking in the shade with the windows cracked just won't do. It is easy to get distracted and leave your pet waiting longer than intended, and it's not worth the risk.

If you keep your dog outside, the Red Cliff Code of Laws requires you to provide for your dog, access to appropriate shelter/shade, clean water and food. Making sure your dog has access to water is one of the most important factors in preventing your dog from overheating. Dogs that are tied up or secured by chains can often tip over water dishes. It is recommended you use "tip proof" water dishes or consider digging a hole and putting the water dish in it so the dish is below or at ground level. This will greatly reduce the risk your dog will tip over the water dish. It is also recommended during hot days that you check on your dog frequently.



Heat stroke in dogs can develop rapidly and can lead to organ failure and death. Pets with shorter noses, like bulldogs are more susceptible to heatstroke than breeds with longer noses because there is less area for heat to evaporate. Dogs don't sweat through their skin like humans. Dogs cool themselves by rapid breathing and when the temperature outside is hot and close to their internal body temperature, it means dogs must work even harder to stay cool. So when it is hot for you, it's even hotter for them!

Signs of heat stroke include heavy panting, agitation, glazed eyes, rapid pulse, staggering, vomiting and a deep red or purple tongue. If you think your dog has become overheated, place them in a cool place and apply cool (not cold) water all over its body. Apply ice packs or cold towels only to the head, neck and chest. Let them drink small amounts of cool water or lick ice cubes and immediately contact a veterinarian.



If you have concerns about the welfare of a dog or have other animal control concerns please contact the Red Cliff Wardens at 715-779-3732. If you do not get an answer, leave a message, messages are checked frequently. If you have an emergency, contact the Bayfield County Sheriff's Department Dispatch at 715-373-6120.



ATTENTION CAMPERS



Fee-exempt Camping at National Forest Campgrounds

Through an agreement between participating GLIFWC member bands and the U.S. Forest Service, Tribal members may camp for free with a permit in U.S.F.S. campgrounds. The free camping permits are available at the Red Cliff Wardens Office (715-779-3732).



To Use A Fee-Exempt Campground You Must:

1. Be a Red Cliff Tribal member or member of another Band that has ratified the Tribal/USFS Campground Agreement.
2. Obtain a Tribal camping permit from the Red Cliff Wardens. Call to make an appointment A list of fee-exempt campgrounds, and the booklet entitled *Regulations Summary: National Forest Treaty Gathering and Camping* are available at the Wardens Office.
3. Follow the camping registration procedures at the campground. Generally, this involves providing information requested on the registration envelopes found at the campground and placing it in the deposit box. Free parking passes are also available.
4. Camp only at the campsite for which you have registered.
5. You may not leave your possessions unattended at a campground for more than 24 hours. If left unattended for 24 hours or more, your possessions may be confiscated and retained by GLIFWC law enforcement personnel.

Other information regarding to camping or other Treaty Rights may be found on the GLIFWC website or by calling the Red Cliff Wardens at 715-779-3732.

**ATTENTION RED CLIFF TRIBAL MEMBERS
FEE-EXEMPT PARKING IS AVAILABLE AT USFS
VALHALLA RECREATION AREA**



Through an agreement between participating GLIFWC member bands and the U.S. Forest Service, Tribal members may park for free with a permit in U.S.F.S. recreation areas. The free parking permits are available at the Red Cliff Wardens Office (715-779-3732).

**MEYERS BEACH/SEA CAVE PARKING
AREA**

To enhance the opportunity to exercise treaty-retained rights within the Lakeshore, **NO-FEE PARKING** may take place at Meyers Beach subject to the following conditions:

No member shall park at Meyers Beach without providing the following information **ON AN AVAILABLE FEE ENVELOPE (insert no money):**

- 1) Member's Name
- 2) Member's Address
- 3) Member's Tribal Affiliation
- 4) Member's Enrollment Number





Microbead-Free Waters Act of 2015

On December 28th, 2015 President Obama voted to phase out the use of plastic microbeads in beauty products such as face wash, body wash, hand soap and tooth paste. These particles can vary in size from 10 micrometers to a few millimeters (credit cards are about 1 millimeter in width) and are small enough to pass through most wastewater treatment facilities. Microbeads then make their way into waterways where they can absorb chemicals and pass them onto fish and wildlife that mistake them for food.

There are several exfoliating alternatives to microbeads such as ground up fruit pits, oatmeal, sea salt or pumice, and if the Microbead-Free Waters Act of 2015 becomes law, companies producing personal care products that contain microbeads will be required to utilize other options such as those listed here by January 1st, 2018.

Microbeads are a known pollutant in the Great Lakes and action on the federal level to ban their use sends a strong message that the greatest solution to this problem is by preventing microbeads at their source.

2018 is a long ways away,

what can you do in the meantime to avoid microbeads and help protect Lake Superior?

Check before buying personal care items- if it contains any of the following, do not buy it!

Polyethylene, polypropylene, or acrylate (co)polymer

Look for personal products that use natural ingredients such as ground up fruit pits (such as apricots), oatmeal, sea salt or pumice.

Try making your own hand scrub by mixing 3 simple ingredients:

1 cup coarse salt

1/2 cup melted coconut oil

A few drops of essential oil (pick your favorite scent)

American Marten & Fisher Research Update

Red Cliff Wildlife & Forestry

Treaty Natural Resources: Spring Newsletter 2016



American Marten



May/June Project Notes

- *First marten photos in over 14 months in late May, again in early June*
- Fisher showing up more consistently at trail camera stations
- Live trapping for marten and fisher resumed June 13th-June 27th
- 30 Live Traps
- Traps are covered and insulated with hay
- 3 types of trap covers: plastic bucket, wooden box, rubber cylinder
- Bait used=Venison
- Scent lure=Gusto
- Most photographed at trap site=Black Bear
- Caught a skunk in 5 different traps
- Many traps and buckets thrown/dropped out/closed by bears

Recent Fisher Trail Cam Photos



First GPS Collared Fisher



Tales from the Trap-line: Assistant Wildlife/Forestry Biologist

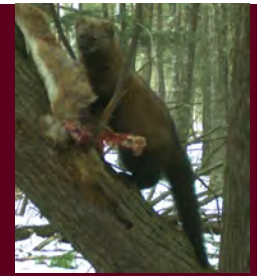
Saturday, June 18th 2016, is a day the Red Cliff Wildlife and Forestry Staff will not soon forget. Almost two years to the day since work began on the grant writing that ultimately funded this project, one of the two focal species was finally captured in a live trap. Curled up in the dark back of the covered trap was a big healthy female fisher! She was 8 lbs 8.5 oz and was 36 inches long including the tail.

After capture, the fisher was taken to Country Care Pet Hospital where Dr. Gretchen Gerber and staff assisted and provided hands on training to Red Cliff Wildlife Staff for the immobilizing and processing of the fisher. The fisher, collar designation F12, was immobilized using isoflurane gas to allow for an overall health inspection, drawing of blood and genetic samples, size and weight measurements, appropriate collar fitting, testing of the collar, and a final EKG to determine how she was responding to the anesthesia.

Later that day, Red Cliff Wildlife and Forestry Staff released fisher F12 at the exact location she was caught. Over the next year, we will track her and periodically download data from her GPS collar remotely so that we can map out her territory and evaluate it's characteristics.



Red Cliff Tribal Youth Intern Program



RC Tribal Youth Interns Assist Wildlife Staff With Marten/Fisher Research

During the June trapping session, RC Wildlife Staff received help from the Tribal Youth Intern Program. Tribal Youth Interns: checked trail cameras, set/baited/covered traps, applied long distance scent lure, prepared bait, used GPS to map trap locations. Youth interns also attempted to locate the collared fisher, F12, with both a VHF antenna and receiver and a UHF remote data downloading base station.

Tribal Youth Interns also: learned how to triangulate wolves using the bisect the null method and a telemetry unit with 3 element antenna; checked trail camera stations for wolf activity. Interns were able to practice their telemetry skills by trying to find a collar hidden by staff in the woods. This allows beginners to work, or by finding an intern wearing the collar. These demonstrations gave the interns the opportunity to get hands on training with the telemetry equipment while also making them appreciate how time and labor intensive tracking can be with VHF collars and telemetry vs Satellite GPS collars.

Pictured Bottom Left: Mijen Armstrong-Intern, Ron Nordin-Wildlife and Forestry Technician, Shyenne Gordon-Intern, Ceaira Gordon-Intern



Trap Placement/Covering



Bait Preparation



Scenting The Trap Sets



Hatchery News

During the spring and summer the Fish hatchery begins to shift gears, moving from the brook trout fry to the yearlings. It is during this time when we begin to prep our year old brook trout for release. This means fins need to be clipped and fish samples need to be taken. After all fish have been clipped and a sample of fish have been weighed and measured the fish will be ready for release along the reservation shoreline.

Along with this years yearlings, we also have a few two year old fish that will be released as well. Roughly 175 of these two year old fish will be released with an acoustic tag implanted inside them. These tags, along with receivers placed in the lake, will help to track the movements of our brook trout. By tracking the movements the hatchery will



get a better understanding of where these released fish are going. Receivers will be placed along the reservation shoreline and each time a fish passes one of these receivers data will be stored logged on that receiver. Having a better understanding of where these fish are going will help the hatchery in the future stocking efforts.

Top Right: This is an acoustic tags that will be implanted in the two year old brook trout. The tag is sitting on top of a dime.

Middle: This is a photo of hatchery staff helping a few kids learn to cast during the ECC kids fishing day.

Bottom Right: This is a photo of a the two year old brook trout that will be getting the acoustic tag implant.





Above are some of the some photos from the ECC kids fishing day at the Red Cliff Fish Hatchery.

Pictured Top Left: Ron Nordin Jr. showing off the catch of the day!

Pictured Top Right: A few youngsters practicing their casting skills.

Pictured Middle: A young lady with her pole hoping for a bite.

Pictured Bottom Right: A few children getting a close look at the wildlife from the area.

Great Lakes Governors Approve the City of Waukesha to Borrow Great Lakes Water

Representatives of the eight Great Lakes states voted on June 21st to approve Waukesha's application to withdraw up to an average of 8.2 million gallons per day from Lake Michigan. Waukesha will return approximately 100% of that volume to the lake via the Root River, a tributary, after being treated. Waukesha first applied to divert water from Lake Michigan in May 2010, updating their application in 2013, and the WI DNR hosted public hearings in 2015. Waukesha's application originally requested to be able to divert up to 10.1 million gallons per day. The city applied for this diversion because their primary water supply is considered unsustainable, due to a layer of shale that restricts recharge from rain and snow. The city is also under a court order to come into compliance with the federal safe drinking water standard for radium.

Under the Great Lakes - St Lawrence River Basin Sustainable Water Resources Agreement and the Great Lakes Compact, diversions of water from the Great Lakes-St. Lawrence River Basin (Basin) to areas outside the Basin are banned with limited exceptions that are available only when rigorous standards as described in the Compact and Agreement are met.

The exception for Waukesha is that they are considered a community within a county that straddles the edge of the basin (shown in the photo to the right).



Waukesha Water Supply Diversion from Lake Michigan

The city of Waukesha was also required to meet standards of having “no reasonable water supply alternative,” conserving water, and recycling the water back to the lakes after use and treatment.

Waukesha is the first community to apply for the exception since the Compact became law in 2008. But Waukesha Mayor Shawn Reilly said, “This approval does not change the law that prohibits diversions to locations like Arizona or California. The Compact strictly prohibits water from going beyond straddling counties.” Communities with no connection to the Great Lakes watershed are prohibited from even applying for a diversion.

“Probably the most unique aspect about Waukesha is that our current groundwater supply is hydrologically interconnected with the Lake Michigan basin. About 30% of the water we pump from our deep aquifer wells is water that comes from the Lake Michigan watershed, without being returned. The findings of fact concluded that switching from groundwater to surface water will actually result in an *increase* of water in the Great Lakes watershed and eliminate this unintentional diversion of Great Lakes water.” - Mayor Reilly

The submitted application did not initially meet the standards set forth and was approved with significant conditions:

1. Waukesha must follow all overarching principles of the Compact.
2. The approved diversion area and amount (8.2 million gallons/day) shall not be exceeded.

3. Waukesha must continue implementing and enforcing their water conservation plan. The plan must aim for a 10% demand reduction and must be updated at a minimum of every 10 years.
4. Existing groundwater wells may only be used in emergency situations and may not be used as part of the regular water supply. All water quality discharge standards must be met.
5. WI DNR must use its authority to prevent other groundwater use consequences within the diversion area (impacts to surface waters and wetlands, extraction of radium, withdrawal of groundwater from Lake Michigan Watershed and disposal into the Mississippi River Watershed).
6. WI DNR must use its authority to prevent other groundwater withdrawals that would reverse the benefit of Lake Michigan water returning to Lake Michigan rather than entering the Mississippi River Watershed.
7. Waukesha must implement a pharmaceutical and personal care products recycling program and encourage reduction of such products entering wastewater.
8. Returned wastewater must go through the Root River (a Lake Michigan tributary).
9. The Root River must be monitored for a minimum of 10 years from the beginning of the return flow to the Basin. This will determine any changes that may result from return flow (volume, temperature, quality) and will require Waukesha to adapt return flow to minimize adverse impacts.
10. An annual report must be submitted that documents daily, monthly, and yearly amounts of water diverted and returned. The report must also include a section on the effectiveness of water conservation and verification of compliance for all conditions. This report must be made available to the public.
11. Waukesha must also obtain and comply with any and all necessary federal and state permits.
12. For as long as the city of Waukesha is diverting water from Lake Michigan, it must allow the Compact Council or any Party of the Council to conduct an inspection and audit of operations. The state of Wisconsin must also allow the Compact Council to inspect its records related to enforcement.

Save the Date!

Red Cliff Treaty Natural Resources Division
Open House Event

Thursday, August 11th
5:00 - 7:00 pm

Everyone is welcome to stop by and visit with our
departmental programs!

Red Cliff Conservation Projects: Health Clinic and Eagle Bay

Article Submitted By: Todd Norwood—Project Coordinator

Later this summer you may notice excavating equipment and activity near the Red Cliff Health Clinic and also along Eagle Bay Road. If you travel these areas and see these activities, you may be left wondering what's going on. Read on and I'll provide you the details!

The two locations, the Red Cliff Health Clinic and Eagle Bay Road, are two separate projects that Treaty Natural Resources (TNR) is working on with funding and design provided by the Natural Resources Conservation Service (NRCS). Following construction of the new Health Clinic, TNR staff identified a resource concern where erosion was occurring in a small drainage between the clinic driveway and the Minobimaadiziwin Gitigaanin Tribal Farm. The area we are concerned with starts at the south end of the apple orchard where many small groundwater springs produce a flow of water, especially when combined with spring runoff or heavy rain events. The drainage continues downslope between the clinic driveway and the farm and as it flows it erodes the channel, sometimes with a substantial "headcut" or vertical drop. The eroded material is carried downstream during elevated water flow and often deposits in areas that may cause ecological or structural harm (e.g. deposits may disturb fish spawning habitat, fill wetland habitat, or obstruct small culverts). The NRCS design will reshape the drainage and provide a protective "liner" of grass, geotextile fabric, and in some areas, rock. The results of the project will slow the flow of water in the channel and prevent future erosion and downstream sedimentation.

The project near Eagle Bay is a wetland enhancement located on the west side of Eagle Bay Road. You may remember this site as a much bigger pond many years ago which was originally created by beaver, used by waterfowl, and even had a bit of wild rice seeded in its waters. To this day, the wetland still exists and is of high quality but it does lack the open water character it once displayed. During 2013, Treaty Natural Resources held a "Listening Session" at Legendary Waters Casino where multiple Tribal Members voiced interest in seeing this wetland returned to its former pond-like environment, which this project seeks to provide. As an added benefit, we hope the increased water storage will help prevent excessive flows downstream at the culverts on Blueberry Road where much road gravel is stripped away and transported downstream into the Raspberry River system and estuary. The project will include a device that allows pond water levels to be altered depending on the need or season. For instance, we could lower the water levels during the fall in anticipation for spring snowmelt and rain that will refill the basin. This control may help address the excess flow issue and our resource concern of sedimentation in the Raspberry River system.

Stay tuned to future TNR newsletters and the Miisaniinawind Tribal Newsletter about an upcoming project to stabilize the eroding bank at Spirit Island!



Onboard Drill Instructor Course

Red Cliff Treaty Natural Resources Division staff attended an Alaska Marine Safety Education Association (AMSEA) Commercial Fishing Vessel Emergency Instruction & Drill Instructor training course held at Legendary Waters Resort and Casino. The course was developed to help commercial fishermen under the Vessel Safety Act of 1988: monthly onboard drills and emergency instructions.



Figure 1: Hatchery Manager Chase Meierotto and Red Cliff commercial fisherman Eric Peterson extinguishing a fire.

It was a 10 hour course that ranged from class time, watching videos, creating emergency assignments for personnel onboard, learning and understanding distress broadcasts, and person overboard drills to name a few. Onboard drills were conducted in the Buffalo Bay marina on the Red Cliff Fisheries research vessel.



Figure 2: Red Cliff Warden Zach Peterson donning an Immersion Suit during the onboard portion of the course.



Figure 3: The course instructor Jerry Dzugan up front and center with the group.

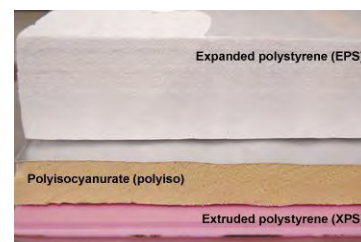
Chemicals of Mutual Concern Listed by US and Canada

U.S. Environmental Protection Agency Administrator Gina McCarthy and Canada's Environment and Climate Change Minister Catherine McKenna announced on May 31st that Canada and the U.S. have agreed to target reductions of eight chemicals of mutual concern (CMCs) to protect public health and the environment in the Great Lakes region under Annex 3 of the binational Great Lakes Water Quality Agreement.

The Agreement requires the two governments to prepare cooperative strategies to reduce exposure to the new CMCs and to coordinate the development of water quality standards. As the result of much collaboration, the following chemicals were designated as the first Chemicals of Mutual Concern under the new Great Lakes Water Quality Agreement:

1. Hexabromocyclododecane (HBCD)

Used as a flame retardant in insulation for the building and construction industry, as well as in consumer products. HBCD is highly toxic to aquatic organisms. It also presents human health concerns based on animal test results indicating potential reproductive, developmental and neurological effects.



2. Polybrominated Diphenyl Ethers (PBDEs)

PBDEs are flame-retardant chemicals that are added to a variety of consumer products to make them difficult to burn (furniture and electronics).

PBDEs affect thyroid levels in laboratory animals and in wildlife, and may cause birth defects.



3. Perfluorooctanoic Acid (PFOA)

PFOA is used extensively in commercial applications for its chemical properties of being highly stable and having low surface tension. PFOA may be found in compounds such as Teflon® and Gore-tex® as well as in other products including carpet and furniture protectants. PFOA can be an endocrine system disruptor and can cause prenatal developmental effects and cancer.



4. Perfluorooctane Sulfonate (PFOS)

Previously used as the key ingredient in Scotchgard, the 3M-made fabric protector, PFOS has been part of consumer culture for over 40 years, valued for its ability to protect materials from stains because it repels both water and oil. Uses range from fire extinguishing foams to wrapping for microwave popcorn and other food products. Exposure to PFOS over certain levels may result in adverse health effects, including prenatal developmental effects, cancer, liver effects, immune effects, and thyroid effects.



5. Long-Chain Perfluorocarboxylic Acids (LC-PFCAs)

Long-chain PFCAs are used for surfactant applications and in the production of fluoropolymers, primarily polyvinylidene fluoride (resistant plastic). Based on available information, long-chain PFCAs are rarely used intentionally in products. Commonly used precursors which are present in commercial products degrade to long-chain PFCAs. Little information is available about the health effects of LC-PFCAs, but they are known to be highly persistent in the environment.



6. Mercury

Mercury exists in various forms: elemental (or metallic) and inorganic (to which people may be exposed through their occupation); and organic (e.g., methylmercury, to which people may be exposed through their diet).



Elemental and methylmercury are toxic to the central and peripheral nervous systems. The inhalation of mercury vapor can produce harmful effects on the nervous, digestive and immune systems, lungs and kidneys, and may be fatal. The inorganic salts of mercury are corrosive to the skin and eyes. Neurological and behavioral disorders may be observed after inhalation, ingestion or dermal exposure of different mercury compounds. Symptoms include tremors, insomnia, memory loss, neuromuscular effects, headaches and cognitive and motor dysfunction.

7. Polychlorinated Biphenyls (PCBs)

PCBs have been used in many different products, including electrical equipment, surface coatings, inks, adhesives, flame-retardants, plastic containers, and paints. People exposed directly to high levels of PCBs, either via the skin, by consumption, or in the air, have experienced irritation of the nose and lungs, skin irritations such as severe acne and rashes, and eye problems. PCBs are also a probable carcinogen, and can cause prenatal developmental affects, as well as disrupt hormone, thyroid, and immune system functions.



8. Short-Chain Chlorinated Paraffins (SCCPs)

SCCPs are mainly used in extreme pressure lubricants in the metal processing industry. They are also used in fillers or sealers, glues and coating materials used in the building industry, and in rubber and leather treatments. SCCPs are persistent and bio accumulative.



SCCPs persist in the environment, accumulate in human livers, kidneys, fat tissues, and breast milk, can kill small

aquatic creatures and travel to remote regions of the globe. SCCPs are highly toxic to small aquatic invertebrates and plants that fish and other animals feed on, so the chemicals may endanger aquatic ecosystems. But toxicity to humans and other mammals has been more difficult to determine.



Left and background: Farm Manager Nathanael Secor organizes plants for the Annual Plant Giveaway at Red Cliff's Community Farm

Right two: Community members plant fruit trees at the Community Farm's Planting Celebration in honor of Carl Butterfield

**RED CLIFF BAND OF LAKE SUPERIOR
CHIPPEWA**

Treaty Natural Resource Division



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