

FALL

2012



BAD RIVER NATURAL RESOURCE

# Common Ground

## Wolves...Where Are We Now?



Figure 1: Trail camera photo that was submitted to the Bad River Natural Resources Department.

A lot has happened in the past year in relation to Ma'iingan. The year started off with the delisting of the Gray Wolves from the Federal Endangered Species List, and then soon followed by a bill introducing a wolf hunt in the state of Wisconsin. This bill was rushed through legislation as an Emergency Rule and soon became Act 169, and October 15<sup>th</sup>, 2012 marked the first day of a modern era wolf hunt.

Originally the WDNR intended to sell 2010 permits to meet the harvest goal of 201 wolves. Tribes are eligible for up to half of the allowable harvestable surplus within the ceded territories. According to the WDNR that number came to be 85 wolf tags being reserved for members of Ojibwe Tribes. That brings the harvest goal number down to 116 so the WDNR authorized the sale of 1160 permits. By October 23<sup>rd</sup>, 713 wolf hunting and trapping licenses have been sold to Wisconsin residents and 6 sold to non residents. As of October 23<sup>rd</sup>, twenty wolves have been killed with these permits (zone 1 – 6, zone 2 – 6, zone 3 – 2, zone 4 – 2, zone 5 – 3, and zone 6 – 1).

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## Wolves....Where Are We Now?

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By Lacy Hill, Wildlife/ GIS Specialist



Figure 2: Wolf sighting in the Kakagon Sloughs.

So where is the Bad River Tribe with all of this occurring? The Bad River Reservation as well as Lac Courte Orielles, Lac Du Flambeau, Red Cliff, Menominee, and Stockbridge-Munsee Reservations are all zero quota wolf hunting zones. On May 9th, 2012 Bad River Tribal Council approved an emergency rule prohibiting the harvest of wolves within the exterior boundaries of the Bad River Reservation until further notice. This is in effect until the Tribe has an approved Wolf Management Plan. The Bad River Wolf Management Plan was open for public comment the month of September and the Bad River Natural Resources Department held a public meeting to discuss the plan on September 26<sup>th</sup>. We are currently working on incorporating the received comments into the plan.

If you have any questions regarding the delisting, the current wolf hunt, or Bad River's Wolf Management Plan please contact Lacey Hill, Wildlife/GIS Specialist @ 715-682-7123 or email [wildlifegis@badriver-nsn.gov](mailto:wildlifegis@badriver-nsn.gov). I am also interested in any interesting trail camera pictures or wildlife sighting you may have. We also keep a Wolf Observation Logbook in the Natural Resources Department to document wolf sightings.



### A Note From Forestry



The forestry program is still working on the Education/Forestry test site, located on the end of East Access Road, Aspen Acres. The Education/Forestry test site is an area used to experiment with different ways of planting trees to see what would work best on the reservation and include methods, such as; releasing of the natural regeneration, mechanical mowing, tree protectors and deer fencing to protect the seedling. In the fall of this year we are planning to do a test burn (7-10 acres) in this area, in which white pine seeds will be hand sown.

**"We will be planting this next year, 2013, in the Education/Forestry test site, late April – May. We get our seedling from Cohasset Nursery in Cohasset MN. Tree planting will continue in 2013. I am mowing the planting site now."**

This year we planted 11,000 seedlings on last year timber sales located on Govt. road and Elm hoist. We had an 89% survival rate.

**Emerald Ash Borer (EAB) warnings continue to be in effect. The EAB is a shiny, metallic green beetle about ½ inches long. A native of China, it was first discovered in North America, in the Detroit area, in 2002. The main way that the insect spreads is by people transporting firewood infested with larvae.**

The EAB lay its eggs under the bark of ash trees. When the larvae are growing under the bark they are eating the phloem layer of cells and killing the host tree. We have three types of ash on the reservation (white, green and black) where the EAB does not focus on one type, or only stressed trees, but kills healthy trees of any age or size. We are working with the BIA to develop an EAB response plan and in anticipation of their arrival to our area we have 28 purple EAB traps that will be going up in certain spots on the reservation for early detection of the beetle. **The most important thing that residents can do to protect the reservation is to avoid bringing in firewood from out side the reservation.**

Thank you,  
Doug Tutor- Bad River Forestry



## Manomin Management on the Reservation

Written by: Naomi Tillison, Water Resources Specialist,  
& Jessica Soine, Wetlands Specialist



Conserving and improving the Kakagon and Bad River Sloughs ecosystem is a primary goal of the Natural Resources Department (NRD) as described in the Tribe's Integrated Resources Management Plan (IRMP, 2001). The culturally and ecologically important Sloughs complex has supported manomin (wild rice), fish and aquatic life, wildlife, and Bad River Tribal members for generations. The health of the community and health of the natural resources are interwoven and dependent upon each other.

Though always a primary area of focus for the community and the NRD, the wild rice received even more attention this year because of its poor density. The early spring and warmer water temperatures combined with the severe storm event at the end of June disrupted the growth of the wild rice in not only local waters, but waters across northern Minnesota, Michigan, and Wisconsin. (In the ceded territories the Great Lakes Fish and Wildlife Commission reports that the majority of the wild rice beds were of poor to fair density. See the complete list of results for water bodies surveyed in 2012 at GLIFWC's website <http://maps.glifwc.org/manomin.harvest.info/>.)

After the large storm event in June, the NRD spent time meeting with Tribal Council and the Wild Rice Committee to discuss the condition of the wild rice beds and management of this critical resource. In response to recommendations from both groups, the NRD hosted a Wild Rice Community Forum on August 8<sup>th</sup> to provide an opportunity for community members, Wild Rice Committee members, Tribal Council members, and NRD staff to come together to discuss the current state and management of the wild rice and future actions to take to enhance the wild rice beds.

Eighty-four people attended the Wild Rice Community Forum, which is the third forum of its kind hosted by NRD in recent years. The forum began with a presentation from NRD staff which: (a) provided an overview of wild rice ecology; (b) explained factors that affect the health of the wild rice beds, focusing on water temperatures, water levels and flows, and native and non-native plant competitors; (c) described actions implemented by the NRD over the years; and (d) listed additional actions needed to enhance wild rice management. After the NRD presentation, Wild Rice Committee members described the current condition of the wild rice beds and explained their recommendations for the harvest season. Many Committee members testified to the poor condition of the wild rice beds that they witnessed on their trip into the Kakagon Sloughs during their July 25<sup>th</sup> meeting, which led to the Committee deciding by majority vote it would be best to close the Kakagon Sloughs to harvesting for the 2012 season. Testimony by the Wild Rice Committee members transitioned into an open session where community members and Council members also expressed their views on changes to the wild rice beds. Many ideas were discussed at the forum; the NRD has already initiated some of them and hopes to implement others in the future as funding and other resources allow. Some of the actions that the NRD has already taken and are planning on for the future are discussed below.



*The Tribal Council takes a tour of the Kakagon Sloughs (above) to see firsthand the areas of poor wild rice growth that made the Wild Rice Committee concerned enough to vote to close the Kakagon for the harvest season.*

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## Manomin Management on the Reservation

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### Wild Rice Competitor Test Plots

In late August the NRD set up four test plots within the wild rice beds in the Kakagon Slough wild rice beds. These sites are marked with PVC piping and will be used to assess different methods of treating (i.e., removing) plant competitors from the wild rice beds. Each test plot is divided into three equal sections with each section having a different technique applied: competing vegetation was hand-pulled in one section, competing vegetation was cut by hand in another section, and no treatment was implemented in the last section (as a comparison). NRD staff conducted vegetative surveys in each test plot prior to applying treatments. The NRD will continue to implement actions in these test plots next growing season and evaluate changes in vegetative composition, utilizing this information to develop larger scale efforts. The NRD would appreciate the cooperation of the community in this project—avoid disturbing the plot sites when possible and let the Water Resources Program know if you see any damage.



*Test plot in the sloughs after treatment in August; this area will be monitored in the spring to see what grows back.*

This year (2012) marks the second time the wild rice harvest, in the Kakagon Sloughs, was closed in recent years. Harvest was also closed in 2007 due to low water levels. Numerous factors can influence the health of the wild rice beds. Water chemistry, nutrients, substrate composition, weather, competition with other plants (native and non-native), water levels and flow (see Lake Superior water level and Beartrap Creek flow graphs located at the end of the article), and wildlife are just a few factors that directly or indirectly impact the condition of wild rice beds.

Over the years, NRD has implemented a variety of actions to protect and enhance the Kakagon and Bad River Sloughs ecosystem, the upstream areas that flow into the Sloughs complex, and Lake Superior. The NRD has led the development of ordinances and policies, such as the Sloughs Protection Ordinance (more commonly known as the Slow-No-Wake Ordinance), the Tribal Wetland and Watercourse Protection Ordinance, and federally-approved Water Quality Standards. The NRD, through its Fish and Game Program, has controlled non-native carp in the Sloughs, capturing ninety-six carp in 2012. The NRD has controlled non-native invasive plant species, tackling acres of invasive cattails through hand cutting and hand pulling efforts. The NRD has purchased green rice and used it to reseed key areas of the Sloughs, focusing on cattail control areas in recent years. Additionally, the NRD has monitored various aspects of ecosystem health; monitoring is important as it increases our understanding of the complex and dynamic ecosystem and serves as a basis for management decisions. More information about some of the actions taken in 2012 is provided below and throughout this newsletter.

In 2012 the NRD surveyed harvesters at the Bad River boat landing; tried to buy back rice from Bad River harvesters for reseeding the Kakagon; met with Fond du Lac Natural Resources Department staff to discuss mechanized control of native competitors (see side panel “Mechanized Removal of Competitors” for more information); set up test plots along Kakagon, Bear Trap, and Wood Creek within which to test different control methods for plant competitors (see side panel “Wild Rice Competitor Test Plots” for more information); took aerial pictures of the Kakagon and Bad River Sloughs; and collected sediment cores at three locations in the Sloughs complex to gain a better understanding of the history of wild rice on the Reservation. Although this is not a comprehensive list of all the actions NRD has implemented in 2012, it highlights some of the current efforts underway. The *Water Resources Program’s 2012 Highlights* article in this *Common Ground* issue also provides additional information of some of our projects conducted in 2012.



*Beartrap Creek flooded during the late June storm event that dumped over 3 inches in the Odanah area, this resulted in the high water (above) covering almost all but the tallest emergent vegetation in the creek.*

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## Manomin Management on the Reservation

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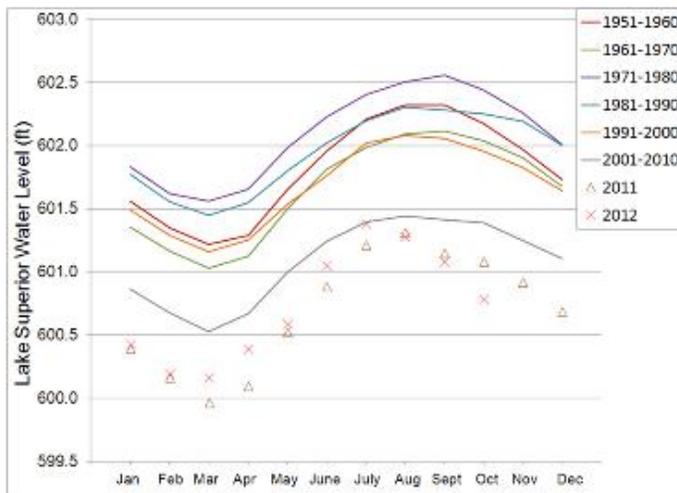
In 2006-2007 the NRD developed a draft *Long Range Plan for the Management of Manomin (Wild Rice) on the Bad River Reservation*. Copies of this draft plan were distributed to the Tribal Council, Wild Rice Committee members, and interested community members throughout this past summer. We will be working on updating and revising this draft plan in the upcoming months. If you would like a copy of the draft plan, please stop by the NRD or contact us at (715) 682-7123.

We are currently working on developing our plans for expanding wild rice management efforts in the 2013 field season. We will revisit the test plots set up in the Kakagon Sloughs for hand control to monitor the effectiveness of the treatment techniques and repeat treatment of these test plots as needed. We will also approach the Tribal Council to seek their approval to allow us to have Fond du Lac bring their airboat up in 2013 to complete test treatments of certain areas of the Sloughs that are dominated by native competitors in order to see how this treatment may work for us. We are also hoping to secure additional funds to increase enforcement of Tribal ordinances and to organize opportunities for active community participation in management of the wild rice beds.

Manomin, along with the entire Sloughs ecosystem, is important for many reasons, and the NRD is working to protect and enhance the Sloughs complex for future generations. Outlined above are just some of the ways that protection and enhancement have been carried out in the past and some ways it will be carried out in the future. However, the future of wild rice management is not limited to the discussion here. The NRD hopes to strengthen community engagement to collaboratively implement these management strategies. One way you can help protect the wild rice now is by making choices that protect or improve the health of the watershed. For example, when working on a project that alters the landscape, avoid filling and impacting wetlands; since these wetlands may help store and filter water before it flows to the Sloughs, protecting the wild rice beds. Also, avoid actions that increase pollution in the surface waters on the Reservation and within the watershed, such as disposing of trash properly; since all streams eventually flow into the Kakagon or Bad Rivers you'll keep pollutants from damaging the wild rice ecosystem. These are just some ways you can protect the wild rice, and you can help more just by remembering that when it comes to nature everything is connected—by doing this you'll not only protect wild rice, you'll help protect the watershed as a whole.

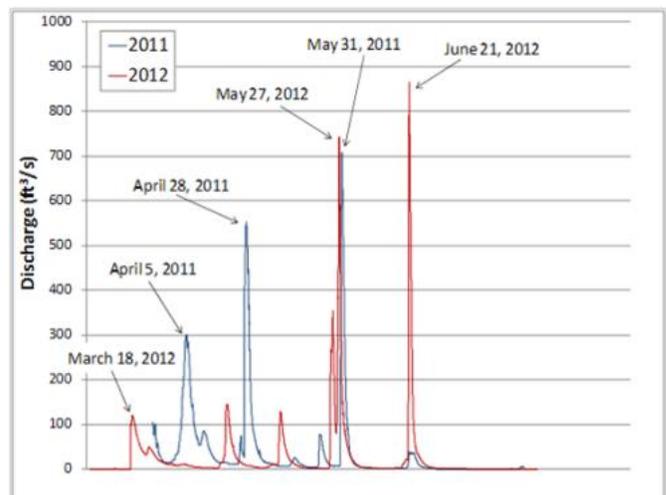
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### Water Levels



Lake Superior water levels have varied over the years as shown by the decadal trends. The average monthly water levels from 2001-2010 are lower than the decadal averages starting in 1951. In August and September 2007, the average monthly water levels were at a record low for the lake. The average water level in October 2012 is just barely above the record low associated with this month. Source of data: <http://www.lre.usace.army.mil/greatlakes/hh/greatlakeswaterlevels/currentconditions/greatlakeswaterlevels/>

### Peak Flow



Peak flows measured in 2011 and 2012 at the USGS station installed on Beartrap Creek at U.S. Highway 2 occurred during snowmelt and early summer storm events. The maximum flow measured at this site was associated with the large storm event in June 2012. Source of data: <http://waterdata.usgs.gov/wi/nwis/rt>

## 2012 Fish Hatchery Production

### Manomin Management on the Reservation

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#### Mechanical Removal of Competitors

An option the NRD is researching for removing plant competitors in the wild rice beds is using cutting arms attached to an airboat to mow areas with aquatic vegetation. This method has been used by Fond du Lac's staff to treat small lakes. The cutting arms are lowered to about two feet below the water surface to cut through the emergent portion of the plants. This mowing is done in early to mid June and every two weeks through July. Repeated cutting prevents the plant from flowering and producing seed, and it stresses the plant, causing it to use up winter starch reserves to produce new shoots. Thus, the cutting not only reduces seed for the next year but also reduces the plants chance of surviving the winter and successfully producing shoots the next spring.



*Photographs are of the cutting arms on the back of the airboat (top) and the swath of mown vegetation following a visit from the airboat (bottom).*



By Tim Wilson— Fisheries Specialist

The Bad River Fish Hatchery has completed another successful season. During 2012, 40% of the 10 million walleye eggs incubated in the Bad River Fish Hatchery successfully hatched. The hatchery rearing ponds, Kakagon River, and Bad River were stocked with 1.1, 2.3, and 0.6 million two day old walleye fry respectively. Walleye stocked in the hatchery ponds were reared for 55 to 57 days and the 391,000 walleye fingerling harvested from the ponds averaged 1.75 inches. Fingerlings were stocked in the Bad and Kakagon rivers, with 290,000 fingerlings being stocked in the Bad River and 101,000 fingerlings being stocked in the Kakagon River.

This year, 253,000 yellow perch eggs were also collected and incubated at the Bad River Fish Hatchery. Approximately 75% of the yellow perch eggs hatched this year, and 190,000 yellow perch fry were stocked into a rearing pond. The yellow perch were reared for 85 days and the 59,000 two and a half inch fingerlings harvested from the pond were stocked in the Kakagon River, Bad River, and Chequamegon Bay. If you have any questions regarding this year's fish production or if you would like more information, contact Tim Wilson, Tribal Fisheries Specialist at 715-682-7123 ext. 1552.



*Hatchery Crew Member Ken Couture tending walleye eggs at the Bad River Fish Hatchery. Photo by Ed Leoso, BRNRD.*

*Underwater picture of fingerling walleye being stocked into the Kakagon River. Photo by Tim Wilson, BRNRD.*



# Bad River NAGPRA Project 2012

## Historic Preservation Members Meet On Madeline Island

By Tony Gilane, NAGPRA Coordinator



(Above) Delegates stood by the site where the Treaty of 1884 was signed. The treaty allowed the Lake Superior Ojibwe to stay within the states of Michigan and Wisconsin.

Delegates from nine Lake Superior Chippewa Tribes gathered on Madeline Island for a 3-day consultation regarding the Native American Graves Protection and Repatriation Act, or NAGPRA (Pub. L. 101-601, 25 U.S.C. 3001 et seq., 104 Stat. 3048, 16 November 1990). The event was hosted and organized by the Bad River Tribal Historic Preservation Office and NAGPRA Office. Working under a National Park Service grant Tribal Historic Preservation Officers and NAGPRA reps of Lake Superior Chippewa Bands from Minnesota, Michigan and Wisconsin were invited to participate in the meetings at the historic Ojibwe Park on Madeline Island, in La Pointe, Wisconsin.

Lengthy dialogue and many concerns were openly discussed between the representatives present at the consultation. Potential remedies for the return of burial items, human remains and artifacts considered sacred and collectively culturally significant, were proposed during the daily sessions. Barriers to repatriating from institutions known to be difficult in working with regional Lake Superior Chippewa Tribes were also discussed at length.

The meeting was held in hopes that educational and legal challenges, to the withholding of various items by private and public institutions, will someday be overcome by greater cooperation with the holder of those sacred articles and human remains.

For further information regarding the 2012 Bad River NAGPRA project you can contact Tony Gilane at the Bad River Tribal Historic Preservation Office at ext. 1558.



One of many pages that was written and discussed by delegates.

## Water Resources: 2012 Year in Review

Written by: Naomi Tillison, Water Resources Specialist,  
& Jessica Soine, Wetlands Specialist

The Water Resources Program had another busy year, covering topics from mining to climate change and from wild rice bed health to the health of Tribal beaches. We were involved in numerous projects aligned with water resources management. We worked hard to implement the Tribe's water quality standards. We monitored the current condition of the surface waters by collecting water chemistry data at around 40 sites scattered throughout and upstream of the Reservation. We collected biological data (e.g., macroinvertebrate, vegetation surveys) at multiple locations, including wetlands and streams/streams. We also collected some groundwater samples, primarily from private wells, and shipped them to a laboratory for detailed analysis. We collaborated with partners to address non-point source pollution occurring in the watershed, such as working with the Bad River Watershed Association and others to develop the Marengo River Watershed Action Plan. We helped coordinate our Department's Climate Change Adaptation Project, evaluating the current forestry management goals and objectives for two parcels and discussing measures to adapt these sites based on a range of impacts linked to a changing climate. We participated in outreach activities, such as our Department's Lake Superior Day Celebration and Water Celebration events held in July. We reviewed development projects and recommended ways to avoid and minimize impacts to wetlands and other water resources. Two of the projects implemented in 2012 are highlighted in more detail below. Although we are proud of our progress and accomplishments during the past year, we recognize that our work is not done. We are dedicated to enhancing the management of the Tribal waters and improving the integrity and resilience of the watershed, as the health of our community is intertwined with the health of our environment.



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*In the top, picture Ed Kolodziejski and Naomi Tillison complete monitoring along a river reach. In the bottom picture, Jessica Soine and Charles Wiggins complete a vegetation survey at a wetland site.*



*In the picture on the left, Ed Wiggins (foreground) and Ryan Grady from the Limnological Research Center look at a sediment core collected from Northeast Slough (see "Improving Wildlife Habitat through Wild Rice Monitoring" paragraph below for more information about this project). In the middle picture, Nick Blanchard collects data to complete monitoring at one of the Tribal beaches. In the picture to the right, Adam Oja collects data concerning wind speed, humidity, and temperature as part of our beach monitoring project.*

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## Water Resources: 2012 Year in Review

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### ***Improving Wildlife Habitat through Wild Rice Monitoring***

Our Department has been collecting data concerning wild rice on the Reservation for years, including—but not limited to—information on density, non-native and native competitors, and reseeding efforts. However, there are gaps in this data that need to be filled. Through funding from the Wisconsin Tribal Conservation Advisory Council we were able to refine our wild rice density count protocols and collect density data; develop wild rice harvester surveys and have an employee at the Bad River landing to interview harvesters; and, in cooperation with the a contractor, collect and analyze sediment cores for phytoliths from wild rice plants to better understand the historic density of this plant within the Sloughs. Collecting this data will help us to discover trends between wild rice bed health and other monitoring parameters, including disease, pests (e.g., rice worms), mammal and bird abundance, and water quality. Overall, this project helped enhance data collection efforts that will allow us to better understand wild rice ecosystem dynamics.



*In the picture on the left, Stephanie Julian (second from left) talks with Joe Rose (left) and visitors at the 2012 Lake Superior Day Celebration; Stephanie was instrumental in helping coordinate this year's celebration for the Department. In the middle picture, Grillmaster (and retired NRD Warden) Bob Wilmer takes a break from flipping burgers and hot dogs at the festivities. In the picture to the right kids, examine the macro invertebrate display at the Water Resources booth which contained bugs, leeches, and a clam from the stream near Joe Rose's property where this celebration event was hosted.*

### ***Habitat Restoration Project through the Chequamegon Bay Area Partnership***

The Chequamegon Bay Area Partnership (<http://www.northland.edu/cbap.htm>) successfully secured Great Lakes Restoration Initiative funds through the U.S. Environmental Protection Agency (EPA) to restore in-stream and riparian habitat in the Lake Superior watershed. Culverts were replaced and riparian habitat was enhanced in the Bad River/Montreal Watershed through the Ashland County and Iron County Land and Water Conservation Departments. A portion of this habitat restoration work was implemented along the upstream reaches of Beartrap Creek and its tributaries. As part of this collaborative project, we worked with U.S. Geological Survey (USGS) to conduct monitoring along Beartrap Creek, continuing our nutrient study that was initiated in 2007. The USGS station installed on Beartrap Creek at U.S. Highway 2 was maintained and operated during the project period, providing valuable flow data and enhancing the collection of storm event samples. We collected water samples during base flow and storm events at two monitoring sites: Beartrap Creek at U.S. Highway 2 and Beartrap Creek at Maslik, located just downstream of the restoration work. Water samples were analyzed for nutrients and suspended sediment. We also completed cross-section surveys and pebble counts at the Maslik site prior to and after culvert replacements occurred. Looking at the monitoring results from 2011, we see elevated nutrient loading transported in Beartrap Creek during snowmelt and early summer storm events. Monitoring and assessment will continue in Beartrap Creek utilizing Clean Water Act funds through the EPA. We're hoping to see further improvement in this creek as a result of this collaborative effort.



## Part III: MINING & ECONOMICS

### *The Emperor's New Jobs*

By Cyrus Hester, Bad River Environmental Program

*"...it is important to offer an alternative approach. That alternate approach begins not with the businesses, but with the landscape and the community."*

In newspaper headlines, political debates, and daily discourse over the past couple years, we have repeatedly heard about the royal rumble of "jobs vs. the environment." It's been a knock-down, drag-out, barn-burner of a melee that makes Ali vs. Frazier look like crumpets with the Queen. But, let's pass on the Tea Party and see how modern mines, like the flickering proposal of Gogebic Taconite, may affect the local economy.

The first place to start is with the major factors driving metal prices over the last century. After all, despite claims by GTAC representatives that they are proposing to mine now because they are exceedingly clever, the real reason is because metal prices are high. In fact, the price of most metals (e.g. aluminum, copper, lead, iron) have risen to historic highs at the same time that world stocks are at (or near) historic lows. According to the US Geological Survey, major drivers of those prices over the last century include: wars, recessions, the dissolution of the Soviet Union, and economic growth in China. As China has aggressively expanded its infrastructure, it has become the leading consumer of metals in the world. It's also estimated to control about 3 times the usable iron ore of the United States.

With metal prices high, the common perception is that mining will bring an economic bonanza to the North. This "common sense" approach sees the extractive industry as the foundation of economic activity by injecting outside resources into the local economy. The assumption, then, is that mining equals jobs, income, and poverty reduction. Unfortunately, these "common sense" economics don't hold up in the real world, even during boom times. We need only look to the Mesabi Range in Minnesota, where taconite mining productivity increased by 3-fold between 1979-2005. During that same period, employment at those mines declined by 73%.

We can even expand our scope. In 2002, Bill Freudenburg and Lisa Wilson reviewed over 300 studies that analyzed the economic impacts of mining in rural areas of the US. Their study indicates that mining can have a positive influence on average rural income, but *in the same breath* also be associated with increased poverty and unemployment. How's that? A major reason is labor displacing technology. Modern mines are large scale and depend upon energy-, water-, and capital-intensive extraction techniques. This means that the jobs they provide are increasingly skilled and limited, with fewer and fewer going to a blue-collared workforce. So, when a mining company promotes a project with high median wage estimates, it's *possible* that they are being accurate. But, that does not intrinsically result in a benefit to the local economy, even during the life of the mine.

What extractive and export industries *do* impart to local communities are the fluctuations and volatility of national and international markets. The spillover effects (often termed "multipliers") of those influences are highly dependent on the structure of the local economy. Large purchases of specialized equipment, wages for long-distance commuters, and profits to stakeholders are all examples of revenues leaking out of the local economy. When proponents of any development project promise a multiplier effect derived from a different community, especially if that effect is greater than 2, the results should be treated with great skepticism. Local impact predictions (positive or negative, environmental, social, or economic) require local research that is well-reasoned and transparent. It's also important to remember that global markets rise and fall with no regard for how that may impact the local economy (i.e. boom and bust). With indications that the Chinese economy may be slowing, the future of projects assuming the stability of today's metal prices could be tenuous.

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## Part III: MINING & ECONOMICS

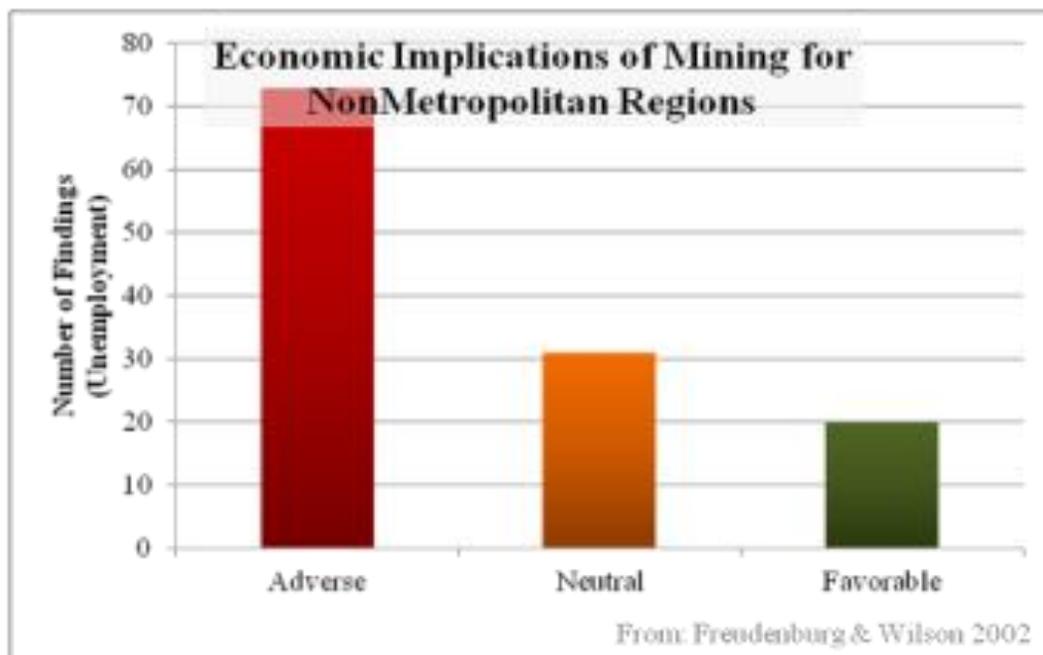
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When discussing the economics of mining, we should also remember that mining is a profit-driven venture. Companies are seeking to profit while providing the metals demanded by contemporary society. In this case, profit is maximized by matching the rate of extraction with the highest fixed unit price; while minimizing costs. This has two key implications: 1) mining persists until it is no longer profitable and that profit is significantly influenced by global prices. Mining does not continue unwaveringly for generations until all the ore is gone. 2) The more tenuous the profit margin (e.g. established competition, limited existing infrastructure, low-grade ore that is difficult to access) the more pressure there is for a company to reduce costs. In application, this tends to mean seeking subsidies, loopholes, exemptions, minimizing labor costs and influence to maximize per capita productivity, and selecting pollution-reducing technology and practices by cost over effectiveness. Each of these cost reducing strategies, including environmental degradation and regulatory loopholes, distort the true cost of mineral extraction and make it difficult for alternative, sustainable technologies (i.e. recycling) to compete.

Finally, since we have discussed in some length why the extraction-driven economic model is faulty, it is important to offer an alternative approach. That alternate approach begins not with the businesses, but with the landscape and the community. We find that the quality of the land (healthy environments, recreational opportunities, and cultural diversity) attract higher-quality, lower-cost labor that businesses compete for and, together, the people and employers generate economic activity. Local cycles of investment and spending sustain communities, so long as those social and environmental foundations remain protected and intact.

That being said, it's important to remember that economics are just one tool for understanding the world around us. It has no effective tool for articulating the value of moonlight through aspen, a campfire crackling in the cool of autumn, eating food harvested by hand, or watching *Migizi* soar across a clear sky. Those things can only be understood by living.

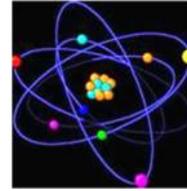
*"...look to the Mesabi Range in Minnesota, where taconite mining productivity increased by 3-fold between 1979-2005. During that same period, employment at those mines declined by 73%."*





## Out Goes Radon!

By Daniel Wiggins– Air Quality Technician

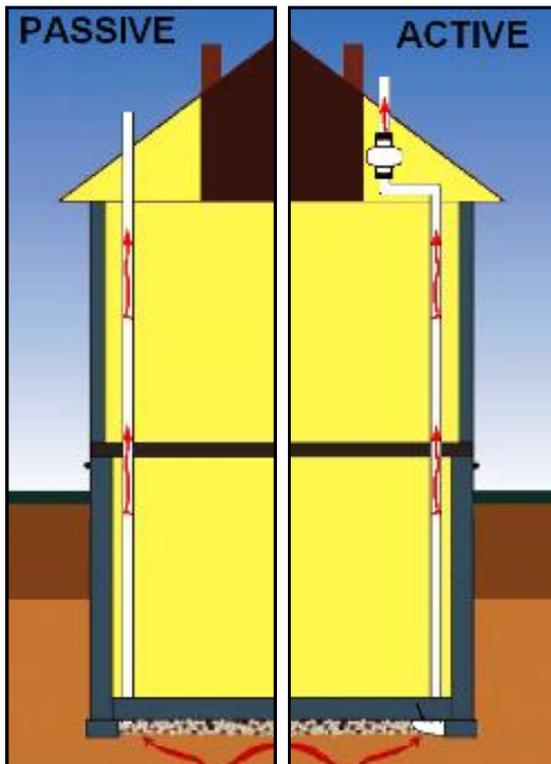


During the natural breakdown process of uranium, radon gas is created. Unfortunately, radon is the second leading cause of lung cancer behind environmental tobacco smoke. In addition, one out of every 15 homes in the United States is estimated to have radon concentrations over the EPA's action level of 4.0 picocurie liters (pCi/L). However, now that you have tested your home and discovered that it has high radon concentrations, then what?

Not many homeowners are prepared for the affects of radon, yet the rehabilitation to a home to lower it. There have been many radon reduction (mitigation) techniques attempted over the past decades, and are still several being used. The EPA realizes the complexity of radon reduction and has published the *Consumer's Guide to Radon Reduction* (<http://www.epa.gov/radon/pdfs/consguid.pdf>), which will help homeowners in locating the right contractor, understanding the right radon reduction method, and maintaining those systems after installation.

**So, what type of contractor are we looking for?** Finding a contractor that is licensed for radon mitigation and that understands your State/Tribal building codes are both important qualities. Some states, such as Wisconsin, do not require a licensed professional, but do however offer websites that list certified radon contractors ([www.lowradon.org](http://www.lowradon.org)). A radon professional will look at three major contributing factors of radon: strength of the source (amount of radon in the soil and home), air pressure differences, and the pathways of radon. Having a contractor that understands these three factors are essential in installing an effective system that lowers radon concentrations below 4.0 pCi/L.

**Understanding your system is the next step.** Soil depressurization has become one of the most common methods utilized and has proven to be up to 99% efficient in removing radon. It involves reversing the air pressure relationship from indoors, and the source (or soil), at the same time reducing the concentration of those sources that are next to the structure. It relies heavily on a suction point, which is determined by the type of foundation (crawl space, basement or slab) and the concentration of the radon source. Other structure characteristics further determine what type of system to install; however, there are basically two types of Soil Depressurization Systems; active and passive.



**Active Soil Depressurization (ASD)** utilizes a fan, with PVC, which directs the radon gas, from underneath the foundation and disperses it above the roofs edge. A pit is sometimes excavated, which will create more surface area for the fan to "suck on," which in return allows the fan to extract the radon with less energy or within the capacity of the fan's range. Each fan must also be installed in a non-livable area, such as; a garage, attic, or outside to assure radon is not allowed to seep back into the home.

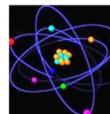
**Passive Soil Depressurization (PSD)** is unlikely used in existing structures and more often applied in the beginning stages of building a home. Having clean-aggregate, which allows for easy movement of gases underneath the foundation, is one reason why. Basically, PSD involves a PVC pipe being tapped into this space underneath the foundation and then directed above the roof's edge for disbursement; very similar to Active with the absence of a fan. This has been proven to be very reliable and cost efficient as long as it is applied in the beginning phases of construction. To assure the effectiveness, contractors should test 24 hours after the installation and recommended future testing of every two years. Later if this has proven to be inefficient, in lowering indoor radon concentrations, an Active system can later be installed, by the simple addition of a fan.

-Continued on page 13-



## Out Goes Radon!

*-Continued from page 14-*



**Maintenance and costs** after installation are minimal for either system. Post testing should be done 24 hours after installation and every two years to assure the system is working properly. A manometer is a device that measures pressure differentials and is an addition to the system to give the homeowner assurance that it is working properly. Any costs associated with energy use of a PSD have been considered to be very minimal to no cost at all, due to the absence of a fan. ASD, on the other hand, has estimated annual costs as little as a \$1.50 a week, but depends highly on the size of fan installed and the number of suction points needed.

Either system is rather effective, cost efficient, and can be installed in a short period of time. Many homes will continue to be found with high radon concentrations. With this in mind, new homeowners should consider installing a system in the beginning phases of construction to save costs and avoid high indoor radon concentrations. Never the less, whether a new home or existing, everyone should test for radon and if found with high levels, should mitigate.

**If you have any other questions you can contact Daniel Wiggins, the Air Quality Technician, at [Air1@badriver-nsn.gov](mailto:Air1@badriver-nsn.gov) or 715-682-7123.**



## Saving Money & Air Quality While Driving in the Winter

By Nathan Kilger, Air Quality Specialist

The ground-level ozone (bad ozone) at Bad River had been getting better the last several years; however, that trend has now stopped in 2012. The highest ozone this year was found to be a little bit higher than previous years. There are many factors in the creation of bad ozone – daily weather, wind direction, sunshine – that we cannot control, but there are some factors that we can control. For human and environmental health, we would like to continue the downward ozone trend and continue moving towards cleaner air.

As we get into the colder winter months and everyone wants to warm up their cars, leaving cars and trucks idling becomes a huge source of pollution. Some of that auto exhaust directly contributes to increased ozone.

The extra pollution from leaving your car idling is not the only side effect... it's also affecting your checkbook and wallet. If your car normally gets 25 miles-per-gallon when you drive, it is getting 0 miles-per-gallon while the engine is running when parked. That's the equivalent of throwing money away.

### Here's an example:

- Your car gets an average of 25 miles-per-gallon
- The current gas price is \$ 3.40
- You need to pick up some paint at the hardware store, 30 miles away
- You leave the engine running in the parking lot

Idling for those 10 minutes drops your gas mileage by 3.6 mpg, giving you only 21.4 miles-per-gallon on that trip, which costs \$ 1.37. If this car was idling for 10 minutes every day, that adds up to nearly \$10 in one week!

That money is actually going up in smoke!

As an added bonus, I ran the numbers on extra weight in the car. Everyone probably has some junk in their trunk that probably doesn't need to be driven around. 100 extra pounds in your car can reduce fuel efficiency up to 2%, so depending on the cost of gas, additional costs between 2-7¢. If I were to remove 100 extra pounds of weight in my car, I would save 82¢ every time I fill up my tank or gain 6 mpg.

So not only will turning your engine off prevent extra pollution, that we breathe and actually measure, it will save you money.

It all adds up and makes a human health difference too!



## FEMA In Action

By Marge Lemieux, Lease

There is always someone who desperately needs a lease or perhaps someone who is no longer here and their lease has to be cancelled, in addition to the regular granting of new leases and modifying of existing ones. The latest issue is the FEMA (Federal Emergency Management Agency) trailer situation and locating a proper lease site for tribal members who had their name drawn at the October 12<sup>th</sup>, Tribal Council meeting.

FEMA has become an important issue among many tribes throughout the nation, due to the lack of available housing for their Tribal Members. This year the Tribe was fortunate to obtain 20 trailers for their members, in which 40 people applied and were approved to draw for a trailer after completing the application process. Although one trailer would go to the Housing Authority, the other 19 would be available for members. Though it was found that some of the applicants had lease sites available for immediate usage, it was also found that others would not. Finding sites for these applicants was not easy, but necessary, as they had to have a site available for immediate hookup and placement of the trailer. Some applicants are still not entirely site-ready; some have their financial obligation to take care of beforehand, in which I must work with the Chippewa Valley Bank to acquire the proper documentation for a lease term to be extended and to comply with a loan. As the trailers arrive in late November, there is still plenty work to be done.

So, I've been out with perspective leaseholders tramping the countryside to find sites, not all FEMA, but also those who just need a lease site. I have recently submitted my list of potential land sales to the Council, but have not been informed of the finances to purchase land. However, I do have inquiries on easements, most of them non-members and that are considered "landlocked." In addition, there are still lease holders that will be cited, that do not reside on their site and who may also be hauling things like older trailers and other articles that clutter up a site.

Currently, I am trying to get through the FEMA trailer land situation, so that other aspects of reality can be worked on. Other things on the agenda are, such topics as; waiting for the Cobell case to be settled, fee-to-trust to be looked at thoroughly, and the tax negotiations with some of the townships. These issues, although unresolved, are ongoing and major objectives for the Reality Office Activities. If you have any questions please contact me at 715-682-7123 or email me at [RealitySupvr@badriver-nsn.gov](mailto:RealitySupvr@badriver-nsn.gov), Thank you!



## MEMORY LANE

By Ervin Soulier

Dear Tribal Members,

Recently at a meeting with the Tribal Chairman, he stated that he would like to see archived articles from the GLIFWC newsletter, the *Mazina'igan* in an effort to recognize people who were at the start of GLIFWC. This would let outsiders know of the earlier staff contributions and would be like a "memory lane".

I thought this was a good idea so I decided to include an article in the Department's newsletter which contained tribal members I grew up with when I wore younger men clothes. This article was taken from a newsletter entitled "Great Lakes Intertribal Voice" dated 1967. It reads as follows:

This was submitted by Tom Herbert who was also a VISTA worker for the Tribe.

*With school now closed and summer hopefully on the way, twenty Odanah youths have either left or are in the process of getting ready to leave to participate in one three summer programs. Six boys and four girls left four Eau Claire and the Upward Bound program on June 12. Those participating in the program are Linda Plucinski, John*

*Denomie, Mike Denomie, Dale Wolf, Doris Tutor, Martin Soulier, Ervin Soulier, Jr., Roland Lemieux, and Glenn Scott. On the same day Vernon Stone left for Riverside, California Air Force Base as part of a program sponsored by the BIA.*

*On June 25, four boys and four girls will leave for the Reading Improvement and Cultural Enrichment Program to be held at Wisconsin State University at Superior. Those leaving for the one month session are John Lemieux, William Soulier, Steve Bouley, Patricia Connors, Raeann Maday, Louis Plucinski, MARJORIE Plucinski, and Gladys Whitebird.*

*On Sunday, June 18, two of the summer VISTA's will arrive in Odanah for a two month period. The two girls will be living in the Denomie's old house. It is hoped that the girls will be able to help out with NYC and Headstart supervision.*

*With the Fourth of July quickly approaching, there is a movement afoot to arrange some sort of celebration. Money has been allotted for fireworks, races of various sorts, street dancing, and other activities are being planned. If anyone has any other ideas, contact Ed Bouley.*

*With baseball season already here, it is hoped that the BIA trailer will soon be fixed so our ball diamond can be scrapped.*

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# Who's New?

## Kim Ness-GIS Specialist



Hi there! My name is Kim Ness. I'm so excited to help support natural resource management for the Bad River Band as the new Geographic Information Specialist (GIS) Specialist. In this new position, I'll be organizing, updating, and re-vamping the mapping technology and resources for the Reservation. Having grown up in the little town of Mauston, near WI Dells, living up north makes me feel at home. I studied GIS and remote sensing, wildlife management, and conservation at the University of Wisconsin-Madison. I am well-prepared for managing the data for the Natural Resources Department in many topics due to all my experiences over the years, such as:

**Wildlife management:** 1) Monitored sand-hill crane populations with the International Crane Foundation in Baraboo, WI for 3 years and prepared mitigation plans for protecting the endangered whooping cranes; 2) Tracked bats through forests of Virginia and inventorying the tree and shrub species.

**Water Quality Assessment:** Water quality modeling with the DNR in Madison for monitoring beach health; 2) Estimated mercury concentration in the Great Lakes with the US Geological Survey.

**Mapping:** 1) Created maps to help the public understand the effects of water quality, namely arsenic contamination for the School of Nursing; 3) Developed statewide maps of natural resources for the State Cartographer's Office.

If you have any questions email me at [gspec@badriver-nsn.gov](mailto:gspec@badriver-nsn.gov) or call me at 715-682-7123.

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## John Patrick-Bad River Conservation Warden



*Boozhoo*, My name is John Patrick, Bad River Band of Lake Superior Chippewa member. I was recently hired as the Bad River Natural Resource Department Conservation Warden and would like to share a few things about myself with the community.

I began my studies at North Central Technical College in Phillips, WI in the Emergency Medical Technician-Basic program (EMT-B). I went on to study in the Law Enforcement program at Chippewa Valley Technical College in Eau Claire, WI. Later, I would transfer and graduate from Northland College, in Ashland WI, with a Bachelors of Environmental Liberal Arts and Science with a Major in Native American Studies, a Minor and Emphasis in Outdoor Education with a Directed Studies in Civil Liberties.

April 1<sup>st</sup> 2012 I traveled to Artesia, NM to begin a 17 week training course, ending on July 31<sup>st</sup>. The training course was the Land Management Police Training (LMPT) program with the United States Indian Police Academy, Bureau of Indian

Affairs, under the Department Of Homeland Security located on the grounds of the Federal Law Enforcement Training Center.

The LMPT program is a basic training program for uniformed officers in charge of enforcing Federal laws and regulations on Federal (tribal) lands and waters within the United States and its territories. The main mission includes protecting natural and cultural resources, public recreation, facilities, visitors and residents. I will use this training to the best of my ability to fulfill duties as Bad River Conservation Warden. I will also be working closely with Bad River Natural Resource Departments, Bad River Police Department, Great Lakes Indian Fish & Wild Life Commission Conservation Wardens, Ashland County Sheriff's Department, Wisconsin State Conservation Wardens, Apostle Island National Park Service, and the Bad River Community. If anyone needs to contact me for any reason I encourage you to do so. I look forward to meeting everyone in the future. *Miigwech. Gigawaabaamin minowa!*

### Bad River Conservation Warden Contact Information

Chief Blackbird Center  
72682 Maple Street  
PO Box 39  
Odanah, WI 54861

Office: 715-682-7123 x1564  
fax : 715-682-7118  
Mobile: 715-292-7822  
[brwarden@badriver-nsn.gov](mailto:brwarden@badriver-nsn.gov)

# DEPARTMENT EVENTS



## BAD RIVER NATURAL RESOURCES

Bad River Natural Resource Department

Chief Blackbird Center

72682 Maple Street

Odanah, WI 54861

Phone: 715-682-7123

Fax: 715-682-7118



Photo By Daniel Wiggins

"Kakagon (River) Sloughs"

**We're On The WEB!**

**[www.badriver-nsn.gov](http://www.badriver-nsn.gov)**

Actual Prize Camera not pictured.



Drawing Will Be Held On  
02/08/12.

For more information  
contact Lacy Hill or John  
Patrick

### Contact:

Lacy Hill: 715-682-7123

John Patrick: 715-292-7822

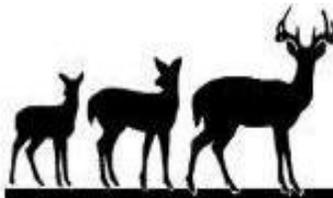
## ATTN: BAD RIVER TRIBAL MEMBERS BRING YOUR DEER IN & WIN PRIZES YOU COULD WIN A TRAIL CAMERA!!!

The Bad River Natural Resources Department is interested in collecting more accurate deer harvest information to better monitor the population of Whitetail Deer on the Bad River Reservation. To do this we need your help! Registering your deer will allow the Tribe to collect age and sex information, better estimate the number of deer harvested, and collect CWD samples for testing. Everyone who registers will be entered to WIN!

### Contest Rules:

- 1) Last day to register deer February 1st, 2013 at 4PM. All deer **MUST** be registered **within 24 hours of harvest!**
- 2) Raffle drawing will be held on February 8th, 2013.
- 3) Winners will be notified by phone.
- 4) You must be a Bad River Tribal Member.
- 5) Winners will be notified using the name, address and phone number that the winner has written on the registration stub. In the event the BRNRD is unable to contact the winner it is the sole responsibility of the winner to contact BRNRD to claim their prize.
- 6) PRIZE MUST BE CLAIMED AND TRANSFER COMPLETED WITHIN 90 DAYS OF THE DRAWING!!!
- 7) The head of a harvested deer can be submitted to the BRNRD through a Warden or NRD office. If a hunter does not wish to submit a head, they can register their deer by photographing the animal and tagging it with a tag issued by the NRD. Age and sex information is required from all registered animals.
- 8) One entry per head submitted.

This is NOT an incentive to shoot more deer.



## ***-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.*