BAD RIVER BAND OF LAKE SUPERIOR
TRIBE OF CHIPPEWA INDIANS

CHIEF BLACKBIRD CENTER

P.O.Box 39 • Odanah, Wisconsin 54861

July 23, 2008

Bharat Mathur
Acting Regional Administrator
US Environmental Protection Agency, Region V
77 West Jackson Blvd.
Chicago, Illinois 60604

Re: Supplemental Information to Application for Treatment as State for Purposes of Sections 303(c) and 401 of the Clean Water Act

Dear Administrator Mathur,

The Bad River Band of the Lake Superior Tribe of Chippewa Indians ("Band") has demonstrated in its Treatment as a State application dated March 1, 2006, that the waters of the Bad River Reservation provide water, fish, wild rice, and game which the Band's members rely upon for cultural, subsistence, health and economic well-being. The Band has also demonstrated the impairments and potential impairments the broad range of non-member activities have on the Reservation's waters and, thus, the Band's health, culture, welfare, economic security and government. The Band seeks authority under the Clean Water Act to protect against this harm and potential harm within the framework authorized by the Clean Water Act. This letter provides supplemental information for the TAS application of the Band to clarify and further support the Band's position. Please include this information and attachments in the record for this matter. This letter discusses the economic implications from water quality impacts in more detail and includes additional information regarding tribal lands on Madeline Island. The Band also responds to comments received regarding the TAS application.

The State of Wisconsin submitted comments stating that the Band failed to show impairments or potential impairments and stating that the State and Federal regulatory framework provides adequate protection to the Reservation waters. As demonstrated in the application and highlighted below by supplemental information intended to clarify and enhance the previously shown impairments, the Band has suffered impairments, and is faced with many potential and cumulative impairments from non-member activities. The State and Federal regulatory framework does not provide adequate protection of the Reservation waters from existing serious impairments and potential harms, and, contrary to the State's assertion, the current regulatory scheme creates a checkerboard pattern of protection and leaves Reservation waters open to degradation.

Health, Culture, Welfare and Economic Implications from Water Quality Impacts:

Ceremonial

The Tribal Historic Preservation Office (THPO) in the Bad River Natural Resources Department (BRNRD) is primarily responsible for monitoring compliance with Section 106 of the National Historic Preservation Act, among other duties pertaining to the preservation of Tribal history and

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historic properties. The THPO recognizes *Nibi* (water) as a Tribal Cultural Property under the context of cultural hereditary responsibilities. According to the THPO:

> "In Ojibwe history, women are recognized as the caretakers of the water. It is the responsibility of the women in the Tribe to petition the Spirit for the health of Nibi on behalf of *all living things*; which not only includes the conventional mammal, fish, and plant life, but encompasses all living things considered to have a living spirit, such as a rock, or mineral. To pray, respect, and care for Nibi are the assurances needed for the Spirit to provide for the health and safety of all living things that partake and are sustained by the water; such as fish, wild rice, humans: all living things whether living in it, drinking it, traveling and working upon it, cleansing with it, or enjoying it. The responsibility of women as the caretakers of the water recognizes and honors the duality of women and water. If women are not cared for, human life is at risk; if water is not cared for, human life is at risk. As water is the life giving blood of our Mother the Earth; Women are those who carry the water which sustains human life during pregnancy, and ultimately brings forth human life during birthing. The lives of each are contingent upon their relationship with each other. How one cares for the other, is reflected in their health. A healthy population reflects a healthy water source. A sick water source reflects a sick and weak population. When human life is sick, the water will flush the sickness away. When the water is sick, it is the responsibility of the human to flush the sickness away."

The Band holds several water ceremonies during the year. At every Midewiwin Ceremonial Gathering, there is a water ceremony. Water ceremonies are also performed for every monthly Sweat Lodge Ceremony and Grandmother Moon ceremony. There can be around 104 ceremonies or more per year in the area. The primary water ceremonies are held in the spring shortly after the last of the ice has left the rivers and in the fall before the ice returns again for the winter. At the Midewiwin Initiation Ceremonies held towards the end of spring, at least 1500 people are present, with approximately 30 of those actually from the Bad River Band. All others attending are from tribes throughout the U.S., Canada, and Mexico. Held on the shores of *Gitchi-Gumi* (Lake Superior), several families with children swim in the lake, absorbing the opportunities of enjoying a unique place they will not see until next year or to which they may never return. It is also estimated that visitors to Spring Ceremonies contribute approximately $175,000 to the local economy during their stay.

According to the THPO, "the economic implications that are associated to the Tribal spiritual reverence of water is simple: without healthy water, there can be no life. If our Community water source is sick, so will be our Community, and the people visiting, as well." If the water quality is degraded at the Band's Pow-wow grounds, then the Band lacks the capacity to provide for up to 6,000 visitors and tourists during the Manomin (wild rice) Festival weekend; this could result in a $250,000 loss in revenue to the local economy. Most of the 6,000 visitors are of Native American descent and are members of other tribes.

Fisheries Impacts

The fishery resources of the Bad River Indian Reservation are some of the most highly valued resources to tribal members for cultural, social, subsistence, and recreational purposes. Based upon responses to the Bad River Integrated Resource Management Plan (IRMP) questionnaire, fishing was the most highly regarded recreational activity among tribal members living on or off the Reservation.[1] According to the IRMP questionnaire, almost 40% of the tribal members living on the reservation that responded to the survey harvest and consume between 10-20 meals of fish each year from reservation waters.[1]

The TAS application dated March 1, 2006 (p. 9), previously stated that the water resources of the Kakagon/Bad River wetland complex have provided subsistence, cultural, and spiritual benefits to many generations of Bad River Ojibwe. The Bad River is the most conspicuous fishery resource within reservation boundaries.[1] The Bad River supports a diverse fish community, including lake sturgeon, walleye, smallmouth bass, northern pike, yellow perch, rock bass, muskellunge, and white, silver redhorse, shorthead redhorse, and longnose suckers.[1] The Bad River lake sturgeon stock is one of only two documented spawning populations remaining in U.S. waters of Lake Superior.[1] As previously stated in the TAS application dated March 1, 2006 (p.16), the Bad River Falls are an important area to the Tribe for its spring spearing activities.

The Bad River and its tributaries provide more than 391 miles of cold and cool-water fish habitat.[1] Major cold water tributaries, which include the White River, contain resident brook and brown trout and provide spawning and nursery areas for coho, chinook and pink salmon, and rainbow and brown trout. The White River and main stem of the Bad River also support spawning runs of walleye and other coolwater species that migrate into this system from Lake Superior.[1] Other species for which the White River provides spawning habitat include longnose and white suckers and shorthead and silver redhorse. Lake sturgeon have been documented downstream of the White River hydroelectric dam, and it is likely that spawning occurs in the White River.[1]

The Bad River and the White River have important cultural and spiritual meaning to tribal members as these rivers provide members with food, recreation, and ricing opportunities. One tribal member harvests around eleven meals per year by netting in these two rivers and around fifteen meals per year by fishing these two rivers. These meals of brown trout, rainbow trout, walleye, perch, small-mouth bass, or sturgeon are used to feed the immediate and extended family of this tribal member. This family does refer to the fish advisories to make sure they are consuming a safe level of fish. Fishing the Bad River and the White River is a passed on as tradition.

Operating since 1968, the Tribal Hatchery produced 12 million walleye fry, 500,000 walleye fingerlings, 13,500 extended growth walleye, and 1.2 million perch fry in 2005 (TAS application dated March 1, 2006, p.10). The estimated cost of operating the Tribal Hatchery is over $325,000 per year, and the fish released benefit both tribal and non-tribal members. The ability to raise fish depends on the water quality of the Kakagon River as the water from the river is drawn to hatch eggs and raise fingerlings in two rearing ponds. Thus, any degradation in the water quality would have a direct effect on the political integrity, the economic security, and the health and welfare of the Band.

While tribal subsistence fishing is closely monitored in the Kakagon River system, the number of walleyes taken by anglers is not known.[1] The number of walleye harvested from the Kakagon River for tribal subsistence fishing for 2005 and 2006 was 1,149 and 1,495, respectively. In 2007, 878 walleye were harvested from the Kakagon River for tribal subsistence fishing. Generally, the Band does not place a monetary value on these walleye as they are consumed for subsistence purposes. Some of the walleye harvested for subsistence purposes are donated to feed elderly tribal members. Around 51 elderly tribal members each receive six meals of walleye per year, equaling 306 walleye harvested annually for the elderly. Based on an average of $9 per meal, the value of walleye harvested to feed elderly tribal members is estimated to be $2,754 per year or $54 per elderly member. The remaining walleye harvested provide food for tribal families. Approximately three walleye can feed a family of four to five members. Therefore, the remaining walleye harvested from the Kakagon River in 2005, 2006, and 2007 is equivalent to providing a family with 281 meals, 396 meals, and 191 meals, respectively. The value of walleye harvested to feed tribal families is estimated to be $7,587 in 2005,

$10,692 in 2006, and $5,157 in 2007. The economic threats and impact are real. Band members feel them now. Beyond the impact to the economic well-being of the Band and its members, the true value and impacts on the walleye from non-member activity is outside the computation of simple monetary valuation in terms of cultural survival, health, and general welfare.

The amount of fish caught by the five tribal commercial fishing operations on Lake Superior varies from year to year. In 2005, a total of 178,441 pounds of lake trout and whitefish were caught. Based on an average dollar amount per pound of fish the commercial fishing operations receive, the economic value of the lake trout and whitefish from commercial fishing operation in 2005 is estimated to be $160,600. In 2006, a total of 81,464 pounds of lake trout and whitefish were caught by the commercial fishing operations. The economic value of this amount of fish is estimated to be $73,320. In 2007, the commercial fishing operations brought in a total of 314,869 pounds of lake trout and whitefish with an approximate economic value of $283,385. Certain fish species utilize tributaries of Lake Superior for spawning. Thus, impacts to water resources within the exterior boundaries of the Reservation have the potential to impact the fisheries resources and impact the economic welfare of the tribal commercial fishing operations.

There have been numerous activities that have negative effects on fishery and aquatic resources due to sedimentation including logging, agriculture, road construction, and residential and industrial development occurring both on and off tribal lands.[1] The sediment load to the Bad River has resulted in large expanses of homogeneous habitat, likely reducing production of fish.[1] One example of historic forestry impacts includes the example of a private non-member logger who clear cut timber close to Bad River Falls in 1998 (TAS application dated March 1, 2006, p.16 and Attachment T). Although the Band was able to convince the responsible party to put erosion controls in place and re-seed the road to minimize the impact of this clear cut, this cooperation is not routine.

Nonmember agricultural areas on the south end within the Reservation have been seen to be contributing to nonpoint source pollution of the Marengo River (TAS application dated March 1, 2006, p.12). Analysis of samples from sites on the Marengo River just upstream of the Reservation and on the Reservation has shown high fecal coliform and E.coli counts since the inception of the BRNRD monitoring in 1997 (TAS application dated March 1, 2006, p.12 and Attachment K). Attachment AD, a continuation of Attachment K, contains the E.coli results for the Marengo River monitoring sites analyzed in 2006 and 2007. Water sampling downstream of a non-member small beef farm on a tributary to the Marengo River within the Reservation has shown high nutrient concentrations and high bacterial counts as well as slightly elevated dissolved and suspended solids (TAS application dated March 1, 2006, p.12 and Attachment K).

Another factor affecting the health of the fisheries is the presences of invasive sea lampreys. Non-tribal members may be responsible for introducing and spreading invasive species, such as sea lamprey. The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) studied lamprey populations in seven Lake Superior tributaries and discovered that the majority of lamprey captured came from the Bad River.[2] The Bad River Band is working with the Great Lakes Fishery Commission and the U.S. Fish and Wildlife Service to control the invasive sea lamprey population in the Bad River. Sea lamprey found in the Bad River were analyzed for mercury and found to have concentrations high enough to negatively impact otter and potentially other wildlife (TAS application dated March 1, 2006, p.16).

Despite current regulations, threats to Bad River Reservation fishery resources continue including sedimentation, boat traffic, the invasion and spread of exotic species, increasing numbers of sport

fishers, lack of harvest information, and point and nonpoint source pollution.[1] Low water levels have also affected the fishery and aquatic resources. Low water levels impact the fishery due to higher water temperatures and the reduction of spawning areas. A more recent threat to the fishery, wildlife, and water resources is the release of pharmaceuticals and personal care products to surface waters from agricultural and/or human uses. According to the EPA, studies have shown that pharmaceuticals are present in national waterbodies, and further research has suggested that certain drugs may cause ecological harm.[3]

Activities occurring at non-member cabins located within Reservation boundaries also impact or have the potential to impact the Band's fishery and water resources. There are around 40 non-tribal member cabins spread throughout the exterior boundaries of the Reservation near water resources such as the Kakagon Sloughs. These cabins are utilized for fishing, hunting and/or other recreational activities. There is a fishing guide service offered by a non-tribal member at one of these cabins and is publicly advertised as the River Bottom Camp.[4] Superior Guides and Outfitters, a fishing guide service operated from a non-member cabin located along the shores of the Bad River within the exterior boundaries of the Reservation, was issued a general permit under the EPA's National Pollution Discharge Elimination System (NPDES) for storm water construction discharge in 2007.[5] The application for this active permit estimated 14.25 acres to be disturbed for this project with discharges to the Bad River.[5] During a short period of time, construction sites can contribute more sediments to streams than can be deposited naturally during several decades.[6] Thus, this non-member activity has a direct, harmful impact on the Band and its water resources.

Non-tribal members and their cabins threaten the fisheries and water resources due to improper sewage disposal, improper waste disposal, non-permitted road construction, invasive species introduction and spreading, shoreline development, utilizing motorized watercrafts, not following the "slow-no-wake" ordinance, which is in place to protect the wild rice resources, dock construction, and dredging activities. Shoreline development by non-members has the potential to impact the water resources as studies have shown increases in sediment and nutrient loads due to developing and clearing shoreland lots.[7] One study showed a 700% increase in phosphorus inputs for a 1990s style development with the entire property converted to lawn as compared to undeveloped shoreline.[8] Attachment AF includes photographs of activities occurring at non-member cabins that threaten the quality of the Band's water resources.

Correspondence addressed to the EPA from the Band regarding Clean Water Act violations and water quality concerns found at non-tribal member cabins located within the Kakagon Sloughs is included in Attachment AG. Typical pollutants in household wastewater are nitrogen, phosphorus, and disease-causing bacteria and viruses.[9] Inadequately treated sewage poses a significant threat to drinking water and human health because it can contaminate drinking water wells and cause diseases and infections in people and animals.[9] Improperly treated sewage that contaminants nearby surface waters also increases the chance of swimmers contracting a variety of infectious diseases from eye and ear infections to acute gastrointestinal illness and diseases such as hepatitis.[9] Attachment Q and p.14-15 of the TAS application dated March 1, 2006, provide support for the improper sewage disposal occurring at non-tribal member cabins as shown by the elevated nitrate and phosphate concentrations in the water quality samples collected.

Attachment AF includes photographs showing docks are present at non-member properties within tribal boundaries. Docks may cause water quality problems if not properly constructed and maintained.[10] Vegetation is critical as a food source, habitat, and protection against erosion and can be impacted by docks due to the short-term construction impacts and due to chronic impacts from

shading.[11] The use of naturally resistant wood, metal , or plastic is preferred for dock construction over treated wood because the chemicals used to treat the wood may cause water quality problems.[10] The most common contaminant-related concern related to docks is leaching from preservatives applied to them.[11] Structures placed in moving water have the capability to disrupt the water's flow, which may produce scour and erosion or increased deposition of sediments depending on the conditions and the structure.[11]

Attachment AE also includes a photograph of dredging activities occurring at a non-tribal member cabin within the exterior boundaries of the Reservation. Dredging is an example of a hydromodification, which is defined as an alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources.[12] Channelization, which encompasses dredging activities, can have multiple impacts to water quality including increasing the sediment load to a water body, modifying critical habitat, and increasing turbidity, thus increasing water temperature and deceasing the level of dissolved oxygen.[12] Thus, dredging activities by non-members have impacted or have the potential to impact the quality of the water resources, the health of fishery resources, and the productivity of the wild rice resources of the Band.

Large numbers of non-tribal member boats have been observed on the Kakagon Slough more than once with over 182 boats observed during a 1996 fly over (TAS application dated March 1, 2006, p.17). Non-tribal member boats have also been observed in rivers within the exterior boundaries of the Reservation. Boat usage has been shown to impact the water quality and the aquatic ecosystem. Boats have been shown to affect water clarity and can be a source of nutrients and algal growth in aquatic ecosystems especially in shallow lakes, shallow parts of lakes and rivers, and channels connecting lakes.[13] Build-up of certain compounds in sediments due to outboard motor exhaust and related pollution from fuel leakage have been documented in some studies and may be detrimental to bottom dwelling organisms.[13] Boats can influence shoreline erosion especially in river systems, channels connecting lakes, and small lakes.[13] Research has shown a negative relationship between boat traffic and submerged aquatic plant biomass due to the direct cutting of plants, scouring of the sediment, uprooting of plants, and increase wave activity.[13] Although there is a "slow-no-wake" ordinance in place to minimize the negative impacts on aquatic plants due to boat activity, non-tribal members do not always adhere to this ordinance. Boat usage can impact fish habitat (water quality, clarity, and aquatic plants), which subsequently may impact fish populations.[13] Boat activity certainly causes many wildlife species to be disturbed from a variety of activities.[13] Non-tribal members also have the potential to impact the surface waters by utilizing boat ramps and adjoining parking areas. Oil, grease, lubricants, and other materials deposited on parking surfaces and boat ramps can be washed into the nearby surface waters.

The health of the Band's members depends upon a healthy fish population, as does the Band's economy. A diet that is high in protein and low in fat is an important source of subsistence to many Tribal Members. The importance of this type of diet is highlighted below in a statement from Becky Lemieux, the Nutritionist of the Band:

> "Through observation as a health department member and through my own personal experience as a native that is predisposed to diabetes, we're finding that protein is necessary in maintaining low blood sugar. Eating traditional meats, like venison, game bird, partridge, and fish, helps reduce cholesterol. By assisting and gathering data with the dietary health nurse, we have found that a diet that is high in protein and low in fat is essential for maintaining low blood sugar and low cholesterol."

Current fish advisories apply to the Band's water resources and limit the consumption of fish due to human health issues. Consumption guidelines for ogaa (walleye) due to unsafe mercury levels for lakes harvested by the Band are provided by GLIFWC (TAS application dated March 1, 2006, Attachment U). The Wisconsin DNR established safe eating guidelines for inland (non-Great Lakes) waters due to mercury and PCB concentrations.[14] For northern pike and walleye, the Wisconsin DNR recommends eating no more than one meal a week for women beyond their childbearing years and men and no more than one meal a month for women of childbearing years whom intend to become pregnant and all children under 15 years. The Wisconsin DNR has special advice that applies to a variety of fish species including walleye from Lake Superior and its tributaries up to the first impassable barrier due to higher concentrations of PCBs.[15] For walleye larger than 26 inches, the Wisconsin DNR recommends eating no more than one meal a month for women beyond their childbearing years and men. For walleye less than 26 inches, the Wisconsin DNR recommends eating no more than one meal a week for women beyond their childbearing years and men and no more than one meal a month for women of childbearing years whom intend to become pregnant and all children under 15 years. For more information about the fish advisories and guidelines, refer to page 16, Attachment U, and Attachment V of the TAS application dated March 1, 2006, and Attachment AH of this letter.

Fish advisories are necessary to protect the health of both tribal members and non-members. Tribal members consume fish for subsistence, and stricter standards are thus necessary to ensure a safe food supply at the subsistence level. Further, fish advisories have an economic impact for tribal members who depend on fish for food. The amount of fish eaten by tribal members varies from person to person. The following information was used to estimate the economic impact to an individual due to the fish advisory: (1) the tribal member eats 36 meals of walleye per year (3.7% of the responding tribal members living on the Reservation eat between 30-40 meals of fish each year[1]) and one meal is equivalent to eight ounces; (2) the tribal member is part of the sensitive population, which includes women of childbearing years and children under 15, and is therefore advised to consume only one meal per month of walleye less than 26 inches; (3) the average cost of a walleye meal is $9 per person. Using this information, the fish advisory would limit the tribal member to eating one walleye meal per month instead of the normal three meals per month. Thus, the tribal member would not be able to eat two walleye meals per month, or 24 meals per year, due to the advisory. The economic loss due to the fish advisory for the tribal member would be $216 per year, a substantial amount in a community with a median household income of only $27,303 and 21.5% of the families on the Reservation below the poverty line (U.S. Census, 2000). A tribal member would experience a greater economic loss due to the fish advisory if the member consumed more than 36 meals a year. One study determined the mean fish consumption rate for a Wisconsin Chippewa Indian was 1.2 meals/week or 62.4 meals/year.[16] This higher consumption rate would result in an economic loss of over $450 per year. The mean consumption rate was higher during peak consumption months of April and May (1.7 meals/week), and unemployed individuals consumed more fish than employed individuals.[16]

Wildlife

Wild game is harvested for subsistence purposes annually on the Reservation. As discussed above in the Fisheries section, consuming traditional meats, such as venison, game bird, partridge, and fish, is an important component of a high protein/low fat diet needed by tribal members since it helps maintain low blood sugar and reduce cholesterol. As previously stated in the TAS application dated March 1, 2006 (p.10), the animals that are hunted and trapped by tribal members depend on specific riparian and wetland habitats for shelter and food. According to the Wisconsin DNR, around 75% of Wisconsin wildlife species use wetlands during some stage of their life cycle.[17] Hence, the quality of the water

and wetlands affects the health of the wildlife living in it and/or drinking and eating from it. One example showing the effects the quality of water had on the health of wildlife is the high levels of mercury found in trapped otter fur (TAS application dated March 1, 2006, p.16). Attachment W of the TAS application dated March 1, 2006, provides details of the elevated mercury concentrations found in otters, in one mink, and in lampreys captured within the exterior boundaries of the Reservation. Video footage collected in a recent eagle study conducted within the Reservation showed an adult eagle feeding a lamprey to its young, which emphasizes the connection between water quality and wildlife health. Potential sources of mercury are discussed further in the Forestry section below. Healthy and functioning wetland ecosystems are necessary to maintain a resource base for hunting, trapping, fishing, and gathering activities.[1] Statewide, Wisconsin has lost more than five million, or approximately half, its original wetland base since European settlement.[18] Protecting the water resources protects the lifestyles and ways important to the very existence of the individual tribal member.[1]

Hunting and trapping along with fishing and wild-ricing are traditional cultural activities enjoyed by many people of the Reservation and are important to the cultural and spiritual identity of tribal members.[1] To show the importance of wild game on subsistence, results from the IRMP questionnaire are listed below:

- Over half the tribal members responding felt that hunting (either with firearm or bow) is important or very important. 51.4% of respondents indicated that hunting with firearm and 54.6% of respondents indicated that hunting with bow was either important or very important.
- Around two-thirds (67.7%) of the tribal members responding felt that the Band should manage its wildlife and timber resources in a manner that maximizes game species.
- The majority (82.4%) of the tribal members responding felt that the Band should develop harvest quotas to protect on-reservation wildlife resources from over harvest when necessary.[1]

All furs that leave the Reservation are tagged, and any bobcat and otter pellets leaving the reservation require a federal tag. However, the majority of the furs from trapping activities are used on the Reservation. The furs are used as part of cultural traditions such as ceremonies and Pow-wows. To emphasize the importance of hunting and trapping activities, comments from tribal members of the Band are included below:

Hunting and trapping activities are the most important things for cultural and subsistence purposes. They are part of our cultural identity. Hunting and trapping activities help pass on our culture to the youth, and these activities help keep the kids off the streets and out of trouble. Hunting and trapping activities are important for spiritual reasons and contribute to the Band's sense of being. It's part of the culture to give thanks for the animals you take from the land. No part of the animal is wasted as parts are used for subsistence and ceremonial purposes.

As I was growing up, I was taken out of school every spring and fall to go to fishing and hunting camps. It helped us learn to honor and respect our elders and learn to respect nature. Respect for nature equals respect for yourself; if nature is unhealthy, you'll be unhealthy. As part of the culture, we look out for the health of our natural resources for seven generations.

Due to the terrain in the region, the waterways are the most important areas for hunting and trapping activities. Waterways are critical to the hunting, trapping, and fishing activities. If the quality of the water is degraded, then we lose everything. The waterways are the reason why the

animals are here. The animals found on the Reservation tend to be healthier than animals found in other regions. Animals, such as wolves, are an indicator organism; if the wolves are unhealthy, then we will be unhealthy.

It is important to protect water resources near and on the Reservation in order to protect the fish and wildlife using the waterways. Many lakes and forests around the region are used by tribal members so it is important to collaborate with others across the region and the state to protect the health of the ecosystem. If the animals get sick, our ability to trap them decreases. The fish I harvest every spring is used to feed my family along with the deer I capture every fall. Trapping also brings in income that I use for food and other needs. A lot of the harvests are done for cultural reasons. I take my kids with me since the passing of knowledge that you have to future generations is important.

For the average tribal member, 20 to 100% of their meals are supplemented with wild game. For some tribal members, 100% of their income comes from hunting and trapping activities. The spirituality of tribal elders is impacted if they do not consume one to two meals of wild game. Spiritual and culture subsistence is just as important as the physical part of subsistence.

Previously mentioned in the Fisheries Section, there are approximately 40 non-tribal member cabins spread throughout the exterior boundaries of the Reservation utilized for hunting, fishing, and/or other recreational activities. Numerous non-tribal members have been observed participating in deer hunting season within the exterior boundaries of the Reservation. In 2002, 212 deer killed within the exterior boundaries of the Reservation were registered by non-tribal members through the Wisconsin DNR. During hunting season, up to ten to twelve people have been observed staying at one cabin. Some non-tribal members have been observed participating in bear hunting within the Reservation boundaries, and 25 bears killed were registered by non-tribal members through the Wisconsin DNR in 2006. Non-tribal members also participate in duck hunting within the exterior boundaries of the Reservation with 10-15 boats being observed in the Kakagon Sloughs and Bad River. Non-tribal members threaten the water quality and the associated resources due to improper sewage disposal, improper waste disposal, utilizing ATVs for baiting and hunting, and ignoring the "slow-no-wake" ordinance in place to protect the wild rice productivity. Tribal wardens have observed non-tribal members driving ATV's through wetlands, creeks, and other water resources. On average, there are two ATV's seen at the non-tribal member cabins during the fall resulting in approximately 80 ATV's that could potentially impact the water resources. The use of ATVs and snowmobiles can have a severe effect on lakes and rivers by increasing erosion, turbidity, and sedimentation.[10]

Wild Rice

Wild rice is an integral part of the lives of tribal members as it is part of the migration story and has been a cornerstone of tribal culture, subsistence, and commercial enterprises for several generations (TAS application dated March 1, 2006, p.9). Manomin (wild rice) is the source of subsistence, carrying tribal members through times of plenty and of hardship. Traditionally, wild rice has been elevated above being food simply for consumption or barter, and tribal stories and legends show the centrality of wild rice to a traditional Ojibwe life. According to the legend, the Ojibwe people traveled west from the east coast St. Lawrence River area to "search for a place where the food grows on the water; that food is wild rice."[19] The privilege of gathering wild rice, hunting, and fishing upon the lands, the rivers, and the lakes was recognized in the major land cession treaties with the Ojibwe.[20] Today, the wild rice is served in the restaurant of the Bad River Casino and Lodge. The Band's wild rice is so legendary that not only was it mentioned on the Public Broadcasting show Tastes of America

(TAS application dated March 1, 2006, p.9), but the wild rice was also featured on the TV show *From Martha's Kitchen* in the "Autumn Harvest" episode (Season 3).

Wild rice is important to the Band, and the results of the Bad River IRMP questionnaire illustrates the importance of wild rice. Ricing is considered a very important cultural activity to 66.3% of the responding tribal members who live on the reservation, and an additional 13.3% consider ricing an important cultural activity.[1] Ricing was the highest ranked cultural activity by the responding tribal members who live on the reservation.[1] As mentioned above in the Ceremonial section, the harvest of wild rice is celebrated annually at the Manomin Festival. According to one tribal member, wild rice is "not just a food crop – it's medicine."[21] Appendix I of the TAS application dated March 1, 2006, contains historical and cultural perspectives from tribal elders regarding the Band's resources; pages 9-11 specifically include responses about wild rice, such as the one below from Sam Livingston reflecting on harvesting wild rice as a child:

> "The Rice would sustain them through the hard time, through the rest of the year. And they also gave it to other people. There were relatives mainly, and people who were in need."

The Kakagon Sloughs, where the bulk of Bad River's wild rice is harvested, is the Band's most culturally significant wetland. Listed on the National Registry of Natural Landmarks, the Kakagon Sloughs are described by the National Park Service as "an excellent representative of a true freshwater delta by virtue of its large size, complex mixture of marsh, bog, and dune vegetation types and undisturbed condition. They are perhaps the finest marsh complex in the Upper Great Lakes."[22] The health and the management of the wild rice beds in the Kakagon Sloughs are considered a priority, and the Bad River Tribal Council and the Bad River Wild Rice Committee have requested a comprehensive management plan be drafted.[23]

Anecdotal evidence suggests that wild rice productivity has declined over the last 40 years. One tribal elder, Eugene Bigboy, states (TAS application dated March 1, 2006, Appendix I):

> "I can remember way back when there was more rice on Bad River and the sloughs and the Honest John area. Why it sort of diminished I really don't know."

The BRNRD has plans to collect field data to supplement the community's knowledge of diminishing wild rice productivity. The new data collection protocols include aerial photography to assess wild rice stand densities, an annual survey for wild rice harvesters and processors, and field data, such as stem density counts, plant heights, tillering, and emergence. The annual survey for harvesters and processors will provide the BRNRD with a more accurate number of people involved in wild rice harvesting and processing and the amount of rice commercially sold. In 2006, the new data collection protocols were pilot tested. In 2007, the new data collection protocols were planned to be fully implemented. However, these new protocols could not be fully implemented because the Bad River Tribal Council, the BRNRD, and its Wild Rice Committee decided to close the harvest of wild rice on the reservation due to the low water levels of Lake Superior. The 2007 closure marks the first time in history that the harvest of wild rice was closed within tribal boundaries. According to the Wetland Specialist, "by letting the rice beds rest for a year, the reduced amount of rice now growing throughout the reservation will have a greater chance of both survival and expansion through reseeding."[21]

Protection of wild rice also helps to support healthy wildlife populations on tribal lands and the surrounding lands. Wild rice provides shelter and habitat for waterfowl, muskrats, insects, macroinvertebrates, and other aquatic organisms. Wild rice and/or the organisms living within the

wild rice vegetation provide food for a variety of wildlife. Wildlife observed within or near the wild rice beds include, but are not limited to, fishers, snakes, mice, muskrats, beavers, hawks, deer, moose, bears, raccoons, and badgers. Hence, the quality of the water directly affects the productivity of wild rice and the health of the wildlife depending on both the water and the wild rice.

Wild rice is important to the Band's culture and spirituality, and the production of wild rice is threatened by numerous factors. One tribal member's concern about the health of the wild rice production in the Kakagon Sloughs is as follows:

> "Dredging, fishermen repeatedly trolling over the wild rice and environmental degradation such as water pollution are to blame for the decline of our wild rice. We want the area designated a sacred site because of the wild rice – that is our culture, it's our way of life, it's part of the reason why we (the Ojibwe) were here."[24]

Wild rice production is also threatened by invasion by exotics (e.g., carp, purple loosestrife), increased boat traffic, and increased sediment and/or nutrient supply.[25] The concentration of dissolved oxygen is a limiting factor in wild rice germination and development, and an increase in nutrients can change the concentrations of dissolved oxygen in the water and substrate.[23] In a study investigating sediment thickness and its effect on wild rice productivity, wild rice seeds that were buried "under eight centimeters of sediment resulted in almost a complete absence of emerging seedlings…whereas plants developing under moderate or no sediment burial showed about a 20 to 30% survival."[26] Other potential threats to the wild rice resources include atmospheric deposition and activities affecting the natural water levels in the Lake Superior Basin.[23] Wild rice productivity in the Kakagon Sloughs is affected by lakewide water level changes with the optimal depths for wild rice development occurring between 13 and 45 inches.[26]

Loss of ricing opportunity presents a threat to the economic security of the Tribe. Wild rice is harvested by 24 to 36 families each year (TAS application dated March 1, 2006, p.9). It is common for one family to have up to four to six canoes harvesting the rice. With a two member team in each canoe, one family may have eight to twelve tribal members harvesting rice. However, the benefit of the harvest for one family is felt by more than just the members actually gathering the rice since the rice feeds the extended family of three generations from grandchild to grandparent. Wild rice is also provided to elderly tribal members who are no longer capable of harvesting the rice themselves. The wild rice harvest has a monetary potential of over $200,000 per year (TAS application dated March 1, 2006, p.10). The potential annual economic loss associated with diminishing wild rice productivity is estimated to range from $5500 to greater than $8300 per family harvesting the wild rice. However, this monetary estimate does not begin to describe the worth of the wild rice to the Band.

Forestry

As previously stated in the TAS application dated March 1, 2006 (p.15), the County of Ashland distributed permits in 2003 for cuts on 3,996 acres of private lands within the exterior boundaries of the Reservation, and in 2004, permits were issued for cuts on 149 acres within the exterior boundaries of the Reservation. Non-tribal members were responsible for logging 98% of the acreage permitted by the County of Ashland in 2003-2004. Only 80 acres of the total 4,145 acres for which permits were issued in these two years were for logging done by tribal members.

As previously stated in the Fisheries section, there have been numerous activities that have negative effects on aquatic resources due to sedimentation including logging and road construction occurring

both on and off tribal lands.[1] Nonpoint source pollution is one of the biggest threats to water quality in the United States, and about 5% of Wisconsin's nonpoint source pollution comes from forestry practices.[27] Although 5% sounds small, localized nonpoint source pollution can be significant and can contribute to the degradation of water quality.[27] The nonpoint source pollution that can be generated from forest management activities include sediment, organic debris, nutrients, temperature, chemicals such as pesticides, and streamflow.[27] Sediment is the primary pollutant associated with forestry activities, especially at stream crossings for forest roads and skid trails.[27] The TAS application dated March 1, 2006 (p.15) includes information that over 2% of the Bad River watershed is clearcut every year and not all of the remaining cuts use Wisconsin Best Management Practices (BMPs). Research has suggested that watershed disturbances that stimulate the transport of particulates and/or lead to higher water yields (e.g., construction, forest harvesting) will likely lead to greater total mercury in runoff and subsequently in surface waters.[28] Research has also suggested that clear-cutting can increase the total mercury and the methyl mercury concentrations in runoff to surface water resources for multiple years.[29] Also mentioned in the TAS application dated March 1, 2006 (p.15), BMPs were not followed or were followed incorrectly for 24% of timber sales visited in the region according to the Wisconsin DNR 2002 BMP Monitoring Report. In a study comparing the effects of BMP implementation on streamwater quality, the watershed in which BMPs were not utilized to control forest impacts resulted in greater streamflow, accelerated suspended sediment flux, and increased concentrations of nitrate and other nutrients.[30]

The TAS application dated March 1, 2006 (p.16), describes a specific logging job completed by a private non-tribal member logger who harvested timber in a clear cut close to the Bad River. In this case, the Band was able to convince the logger to stop the harvest to implement appropriate BMPs to minimize the negative impacts to the Bad River. There are multiple anecdotal accounts of other poorly implemented logging jobs completed by non-tribal members within the exterior boundaries of the Reservation. One example is when the Band was in the process of purchasing land from a timber company, the company clear cut as much of the land as possible. One of the clear cuts was done all the way down to a stream bank. The Band questioned the company multiple times regarding the types of BMPs they were utilizing to minimize the negative environmental impacts, but the Band was ignored. The Band also tried to stop the company from clear cutting as much as they could before the land purchase was finalized, but again, the Band was ignored. This incident is another example showing that the Band needs clear authority to protect its waters from improper practices within the Reservation.

Illegal Dumping, Salvage Yards, and Non-Permitted Construction

The TAS application dated March 1, 2006, describes at pages 17 and 18 incidents of illegal dumping of papermill de-inking sludge and household garbage within the exterior boundaries of the reservation by non-tribal members. The Band, in cooperation with the USEPA, BIA, and USGS, has been investigating the sludge sites for potential groundwater contamination since 1994. The 1997-98 investigation indicated the ponds at these sludge sites are hydraulically connected to the shallow ground-water system and the inorganic and organic constituents of the papermill sludge have been detected in water quality samples collected from on-site monitoring wells.[31] There is so much concern in the tribal community about these sites and their effect on the Band's ground water resources that the Band is currently paying for bottled drinking water for members in a quarter-mile radius around the unregulated sludge site.

Illegal dumping has also occurred at other locations within the exterior boundaries of the Reservation, potentially by non-members. An Open Dump Survey conducted by the University of Wisconsin on the

Bad River Reservation in 1999 identified 77 dumpsites with 43 of these sites containing more than one cubic meter of household waste.[32] Of the 43 larger dumpsites, eleven sites contained more than five cubic meters of household waste and eighteen contained significant amounts of household hazardous waste.[32] Each of the 77 sites identified by the Open Dump Survey has been addressed by the Bad River Recycling Solid Waste Program.[32] In 1997, the Army Corp of Engineers verified that violations of federal law were occurring in the Band's wetlands; these violations included illegally placed fill, illegally placed outhouses, and waste materials and garbage thrown into the wetlands.[33]

Both licensed and unlicensed salvage yards exist within the exterior boundaries of the Reservation. Salvage yards have the potential to impact the Band's water resources through polluted runoff entering surface waters. Ashland Auto and Truck Recyclers, a licensed salvage yard located within the exterior boundaries of the Reservation, has a Storm Water Auto Parts Recycling permit (#S059145) through the Wisconsin DNR. Two unlicensed salvage yards operated by non-tribal members are located within the exterior boundaries of the Reservation and in the close vicinity of Beartrap Creek. During a 2001 aerial flyover of one unlicensed salvage yard, 79 vehicles were identified on the property (Attachment AM). Around twenty abandoned vehicles are visible from the road of each of these illegal salvage yards and more vehicles are likely parked on the properties. Fuel tanks, batteries, oily scrap, automobile bodies, antifreeze, waste oils, and leaky hydraulic lines can potentially contaminate stormwater, which is one of the largest sources of surface water contamination.[34]

Currently, there are multiple cases under investigation of non-permitted road construction within the exterior boundaries of the Reservation (Attachment AG). Private landowners are performing road construction activities without stormwater pollution prevention plans, which has the potential to negatively impact environmental and cultural resources and violating the Band's IRMP and conservation efforts. These construction activities are impacting a variety of rivers, streams, and wetlands throughout the Reservation. Photographs of the impacted sites are provided in Attachment AN. The majority of these cases under investigation have occurred on non-tribal fee lands. The Band and other agencies, including the EPA and the Army Corp of Engineers, are currently investigating these incidents.

Sand/Gravel Mining Potential

Recently, a soils survey was conducted by the Bureau of Indian Affairs to investigate the potential for sand/gravel mining on the Reservation. This study indicated that there was no potential for sand/gravel mining on tribal lands. There may be potential for sand/gravel mining on private lands in the exterior boundary of the Reservation. However, this study was abandoned, and there is no sand/gravel mining currently planned by the BIA or the Band within the exterior boundaries of the Reservation. A historical tribal sand pit was located in Township 47N, Range 1W as shown on the Bad River Reservation map published by the Bureau of Indian Affairs, Great Lakes Agency (TAS application dated March 1, 2006, Attachment D).[35] This sand pit was closed in the 1990's prior to the development as a residential area. A current gravel pit operated by non-tribal members in Township 46N, Range 1W is located less than two miles outside the exterior boundaries of the Reservation (TAS application dated March 1, 2006, Attachment D).[35] Less than a half mile from the Potato River, this gravel pit is located within a watershed that is partly within the exterior boundaries of the Reservation. Thus, the gravel mining operated by non-tribal members has the potential to impact the Band's water resources. The lens associated with this gravel pit may extend within the exterior boundaries of the Reservation leaving the potential for private landowners within tribal boundaries to extract gravel and impact the Band's water resources in the future. According to the Wisconsin DNR:

> Nonmetallic mining is a widespread activity in Wisconsin. The variety of geologic environments provides for a diverse industry. An estimated 2,000 mines provide aggregate for construction, sand, gravel and crushed stone (limestone and dolomite) for road building and maintenance as well as for agricultural use as lime. A smaller number of sites provide dimension stone for monuments, volcanic andesite for shingles, peat for horticulture and landscaping, industrial sand for export out-of-state for the oil industry and a considerable variety of materials for other uses.[36]

Recreational Uses

According to the Marketing Department, approximately 30,000 people visit the Bad River Casino and Lodge each year. The Lodge offers 18,250 rooms per year, and occupancy levels for the Lodge are approximately 35%. Hence, there are 6,400 rooms sold annually to local and non-local visitors. People visit the area for a wide variety of reasons including, but not limited to, entertainment events, snowmobile clubs, bus tours, cultural events, and meetings in the convention center. If the area receives an adequate amount of snowfall, people will visit the area to participate in winter recreational activities. Snowmobiling is a popular winter recreational activity, and non-tribal member have been observed participating in this activity on the weekends in groups up to ten people. As stated in the Wildlife section, the use of off-road vehicles, such as ATVs and snowmobiles, can have a severe effect on lakes and rivers by increasing erosion, turbidity, and sedimentation.[10] Winter tourism typically tapers off in March, and the levels of patronage begin to increase in May as the summer season unfolds. Tourism is at its peak in the summer to early fall. During this time span, a variety of cultural activities occur, such as the Manomin Festival weekend, and there are multiple recreational activities to participate in, such as fishing. The Band has offered tours of the Kakagon Sloughs in the past, and this recreational activity brings in around $2,000 each year. Degradation of the water quality threatens a loss of tourism income for the Band.

Energy Transport and Energy Development

Two energy companies operate pipelines transporting natural gas through the exterior boundaries of the Reservation. These companies have right-of-way easements with the Band. There are 44.9 miles of natural gas pipelines running through the Reservation crossing numerous water resources including rivers, streams, creeks, and wetlands (TAS application dated March 1, 2006, Attachment D).[35] Within the exterior boundaries of the Reservation, there are also 8.3 miles of abandoned power lines and 25.6 miles of long distance electric transmission lines (TAS application dated March 1, 2006, Attachment D).[35]

The right-of-ways associated with energy transport require routine maintenance including, but not limited to, manually clearing brush and applying chemicals to control unwanted plant growth. These maintenance activities have impacted the Band's water resources in the past and have the potential to impact these resources in the future. While manually clearing the brush in the right-of-way of a natural gas pipeline in 2004, one energy company potentially impacted the Band's water resources as shown by the photographs in Attachment AO. This maintenance activity resulted in ground compaction, large ruts, and bare soil, which leads to an increase in erosion, sedimentation, and nutrient loads to the water resources within the watershed. A 2006 Habitat Development Agreement with the U.S. Fish and Wildlife Service was the result of impacted fisheries and water resources caused by the placement of a natural gas pipeline on the Bad River. The velocity of the river scoured and exposed the pipeline leading to the need for restoring, enhancing, and protecting and eroding bank and mature riparian forest area on the Bad River with the goal of restoring fish and wildlife habitat. Great Lakes Gas

Transmission LP was issued two general permits under the EPA's National Pollution Discharge Elimination System for the Bad River Revetment Project.[5] The estimated acres to be disturbed for this non-member energy transport project was 15 acres with discharges to wetlands and the Bad River. These non-tribal member energy transport activities have degraded the water quality in the past and have the potential to impact the quality of the Band's water resources in the future.

Alternative energy development is a possibility for Ashland County and may have the potential to impact the water resources. One company is exploring the possibility of converting 30,000 acres in northern Wisconsin for canola, sunflower, and other feedstocks to produce biodiesel.[37] Although biodiesel releases fewer emissions during use than petroleum diesel, production of crops for biodiesel requires the use of herbicides, pesticides, and fertilizers, which have the potential to impact the water resources. Wisconsin ranks among the highest in its potential to produce forest biomass for bioenergy through harvesting waste residues and developing energy plantations.[38] According to estimates from the National Renewable Energy Laboratory, the greatest quantities of residues exist in the northern part of Wisconsin.[38] One company located in Ashland County is exploring the potential to more than double its current waste wood consumption for bioenergy production.[37] The ecological impacts of harvesting residues for bioenergy have not yet been fully defined by research and will depend on the type of residues removed and the intensity of the removal. Energy plantations developed to produce bioenergy offer considerable environmental benefits as compared to traditional row crops. However, plantations will not approach the biodiversity present in well-established forests, shrublands, or grasslands.[38] Although producing forest biomass for bioenergy does have positive ecological impacts, it may also have negative ecological impacts such as potentially impacting the quality of water resources similar to impacts from forestry practices.

Madeline Island

As stated in the TAS application (p.4), the Band asserts authority over tribal land on Madeline Island as shown in the TAS application dated March 1, 2006, Attachment D).[35] On the northeastern part of Madeline Island, the Bad River Band reserved 195.71 acres of lake front property to ensure the security and implementation of the Band's fishing rights, under the second clause of the second article of the Treaty of 1854. The Treaty of 1854 was signed on Madeline Island and designated the land on the northern extremity of the Island as a fishing ground. Designated a Conservation Area by the Band, this acreage is protected as it is a unique area within the Reservation and is also significant on a regional scale.[1] The Bad River IRMP recognizes that Tribal Conservation Areas will be managed primarily for their natural ecological and cultural values and will be protected from timber harvest activities as well as future residential, industrial, and recreational development.[1]

Madeline Island holds more than natural resource value to the Bad River people. The Island is of great spiritual significance to tribal members and is recognized as a Traditional Cultural Landscape and Traditional Cultural Property to all Chippewa people. It retains its historic relevance as a key ceremonial site and meeting place of the Chippewa Nation. Through oral history at Bad River, Madeline Island is the area recognized as the seventh and final stopping place of the Great Migration from the east. During historic treaty negotiations it was documented that the "Lake Superior Indians did not seem…to care so much for future annuities either in money or goods as they did for securing a home for themselves…They also reserved a tract of land…along the Eastern end of La Pointe or Madeline Island so that they would not be cut off from the fishing privilege."[39] Also, of great spiritual and cultural significance to tribal members are the ancestors of Bad River Tribal members, who are laid to rest in Historic Burial Grounds located throughout the Island. Additionally, tribal lands on Madeline Island are used by Tribal members for fishing, hunting, gathering, recreational, and other

activities such as culturally relevant educational expeditions conducted by Tribal Youth Programs. The coastal wetland located on Madeline Island is known for its cranberry bogs and rose hips. Berry-picking and medicinal plant gathering are traditional cultural activities enjoyed by many tribal members at Madeline Island. However, anecdotal evidence suggests that berry production has declined over the years.[1] The quality of water could affect the production of cranberries, which are found in tamarack swamps located throughout the Reservation. A constant at Bad River is that Madeline Island is one of the most spiritual and culturally relevant places among the Chippewa Nation and will perhaps remain so forever.

The geology of Madeline Island consists of underlying bedrock composed of PreCambrian sandstone buried under glacial deposits; the soils contain varying amounts of clay, silt, and sand.[40] The clay present on the island is a thin, non-continuous layer. Tribal lands on Madeline Island border about 1.6 miles of Lake Superior shoreline. Near the lake shore, the soils are sandy. Approximately 4200 feet of the western border of these tribal lands runs through the Bog Lake wetland complex. The wetland complex of Bog Lake, also referred to as Big Lake, is around 84 acres, and tribal lands comprise of over half (approximately 44 acres) of this wetland complex. The outlet of Bog Lake runs through tribal lands before draining into Lake Superior. Tribal lands on Madeline Island are located at a low point of an 888-acre watershed. The elevation of these tribal lands ranges from about 530 to 620 feet while the elevation of non-tribal lands included in this watershed reaches up to 790 feet.[35] Therefore, activities occurring on non-tribal lands located in this watershed have the potential to affect the water quality on tribal lands.

The groundwater and surface water on Madeline Island are hydraulically connected. There is some clay on the island, but as stated above, the clay layer is thin and is not a continuous layer. The soils of tribal lands are sandy without clay. According to records of wells located in Range 2W of the island, the groundwater is between two to nine feet below ground surface near the lake shore and is between 22 to 30 feet below ground surface in the more inland portion of the island.[41] There are also some artesian wells located throughout the island.[42] Land uses both on and off tribal lands on Madeline Island have the potential to impact the water resources of the Band due to the hydrologic connection between the groundwater and surface water and due to the mobile nature of water-borne pollutants.

According to the *Town of La Pointe 2007 Zoning Ordinance with Amendments* (Attachment AP), the tribal lands on Madeline Island are surrounded by W-1 Wilderness Preservation Districts 1 and S-1 Shoreland Protection Districts. A small portion of land surrounding Bog Lake is designated as a W-P Wetland Protection District in the zoning ordinance. A S-1 Shoreland Protection District is "intended to provide for development along the shorelines in a manner which will not deplete or destroy the character of shoreline resources."[43] Permitted uses in S-1 Shoreland Protection Districts include single-family dwellings, production of agricultural products excluding livestock, and production of forest crops. Conditional uses in S-1 Shoreland Protection Districts include, but are not limited to, airports, production of livestock products, quarrying and mining, parking lots, and planned unit developments. A W-1 Wilderness Preservation District 1 "provide(s) for the continuation of forest programs and related uses."[43] This type of district "provides for a very low density of development, depending upon location relative to existing facilities and services to provide a continuation of the wilderness character and a sense of isolation."[43] Permitted uses in W-1 Wilderness Preservation Districts include production of forest and agricultural crops and products, single-family dwellings, and game preserves. Conditional uses in W-1 Wilderness Preservation Districts include, but are not limited to, airports, junk/salvage yards, sewage and solid waste disposal facilities, quarrying and mining, travel trailer parks, and fuel storage. The purpose of a W-P Wetland Protection District is "to prevent development from areas: (1) not generally capable of supporting structural development; (2) having

vegetative cover which is easily destroyed or damaged; and (3) providing the wetlands necessary to the support of various species of wildlife."[43] Although there are no permitted uses in a W-P Wetland Protection District, the conditional uses include public fish hatcheries, forest management programs, game preserves, public utilities, public service utilities, and sewage disposal facilities.

Currently, the Madeline Island Wilderness Preserve (MIWP), a non-profit land trust, owns over 1,000 acres of land located at the higher elevation of the watershed in the northeast portion of Madeline Island; these lands are called the Reuel Harmon Forest.[44] The MIWP lands are open to the public for hiking, skiing, berry picking and hunting. The Reuel Harmon Forest is enrolled in the Managed Forest Land (MFL) program until December 31, 2021. Since this land is MFL, the MIWP was required to develop a forest management plan. In 2004, the MIWP awarded timber sales on 120-acres of this land to the Eco Wood Company.[44]

There are multiple private residencies located near tribal lands on Madeline Island. Only a small portion of Madeline Island is hooked up to a community sanitary system. The community sanitary system is located in the western portion of the island in Sections 29 and 32 of Township 50N, Range 3W. This part of the island is the most heavily developed. The remaining portion of the island is not as heavily developed with the majority of the development occurring along the Lake Superior shoreline. The private residences located in this portion of the island have septic systems, mainly holding tanks, to contain their sewage. According to the Wisconsin DNR, there are two Septage Hauling Business Licenses on Madeline Island: Island Septic and Lapointe Gas and Septic.[45] According to the *Town of La Pointe 2007 Zoning Ordinance with Amendments*, all facilities for disposal of sewage must be in accordance with the regulations of the Ashland County Sanitary and Private Sewage System Ordinance.[43] However, it is unknown to the Band if the facilities for sewage disposal of these nearby residencies are in accordance with this ordinance.

Both tribal and non-tribal members utilize the Reservation on Madeline Island. No permanent residents live on these tribal lands. The Band leases 17 acres to the Amnicon Bay Association. At one time in the history of the Tribe, the leasing of this land was the only source of income for the Tribe. The Association then subleases the land in the Amnicon Bay Subdivision. Typically, these subleases are to non-tribal members for seasonal residency. The Amnicon Bay Subdivision is located on government lot 1 of Section 26 and government lots 1 and 2 of Section 35 in Township 51N, Range 2W. The Amnicon Bay Subdivision borders over 3,000 feet of Lake Superior shoreline.

The Band is currently working on enforcing its recently approved Ordinance 406 *Private On-site Wastewater Treatment and Disposal Systems Ordinance* (Sept. 6, 2006) throughout the Reservation, including Madeline Island. An informal inspection of septic systems in the Amnicon Bay Subdivision in May 2006 revealed that more than half of the systems at the lease sites are older than 20 years and multiple systems are not properly maintained including one 35-year old septic holding tank that has never been emptied.[46] The twelve septic systems in the Amnicon Bay Subdivision were inspected more thoroughly in September 2007 (Attachment AQ). The inspector recommended that seven out of the twelve septic systems be excavated, pumped, and abandoned and new systems be installed.[47] Typical pollutants in household wastewater are nitrogen, phosphorus, and disease-causing bacteria and viruses.[9] Improperly maintained and/or failing septic systems on and off tribal lands pose a significant threat to the water resources.

A large gravel/sand pit is located on Madeline Island within two miles of tribal lands.[35] The active gravel/sand quarry has the potential to impact the tribe's water resources due to its proximity to tribal land and to the groundwater recharge zone. Since the clay layer has been removed in the quarry to

extract gravel and sand, any pollutants that enter the quarry will infiltrate into the groundwater due to the removal of the impermeable layer.

Numerous potential impacts to the water resources caused by non-tribal members exist on Madeline Island. As discussed above, failing or improperly maintained septic systems and the gravel/sand quarry have potential negatively impacts for the water resources. The majority of the septic systems on the Island are holding tanks, and holding tanks that are improperly drained could impair the water resources. New developments are occurring on the island, including the building of new residential homes in the northeastern portion of the island along the shoreline. Studies have shown increases in sediment and nutrient loads due to developing and clearing shoreland lots.[7] One study showed a 700% increase in phosphorus inputs for a 1990s style development with the entire property converted to lawn as compared to undeveloped shoreline.[8] Farming is occurring within two miles of tribal lands that could negatively impact the water quality if pesticides/herbicides and excessive fertilizers are applied to the land. Island Septic has a spread permit through the Wisconsin DNR to spread sewage on the land during certain conditions. According to Chapter NR 113 of the Wisconsin Administrative Code, the maximum loading rate for septic tank or holding tank wastewater is 39,000 gallons per acre on an annual basis and cannot exceed 13,000 gallons per acre per week.[48] At a minimum, the depth from the surface to the bedrock and groundwater must be three feet.[48] For non-winter land applications of septage where the site has a slope between 0 to 6%, the minimum distance to a stream, river, pond, lake, sinkhole, flowage, ditch, or wetland is 200 feet.[48] For winter land applications of septage where the site has a slope between 0 to 2%, this minimum distance is increased to 750 feet.[48]

Response to Comments on Bad River's Application

The Band would like to note the many comments received in support of the Band's application for TAS, including those from local governments and a petition in support of the application containing over 80 signatures.[49a]

In contrast, many comments in opposition to the Band's application are not relevant to the issue before the EPA. EPA's regulations provide that comments to the TAS applications "shall be limited to the Tribe's assertion of authority." 40 CFR Sec. 131.8(c)(3). The majority of the opposing comments submitted to the EPA are not relevant to this issue, including those related to access and navigability and that the DNR rather than the Band should be regulating on the Reservation.[49b,50] As for comments regarding the stringency of Tribal water quality standards, these objection comments are not relevant to authority but may be made and considered when the Band submits its water quality standards for public comment after program approval is granted.

With regard to those comments misconceiving the scope of the Band's application, the Band is seeking authorization under the Clean Water Act to pursue the adoption of a water quality standards program under the CWA Sec. 303 and to adopt and implement the certification program found at CWA Sec. 401.

With regards to the comments from the LaPointe Iron Company, the Band does see a mine as a threat to the Tribe's water quality. Whether or not LaPointe or RGGS is a mining company, they do own the property that contains the iron deposit, and efforts were made to ensure mining was included in the comprehensive planning of the towns and counties, raising the possibility of mining as a potential harm.

Other comments raise the issue of off-reservation economic impacts. While not necessarily relevant to the EPA's inquiry, as demonstrated in the application, water quality has a direct impact on the Band's economy (TAS application dated March 1, 2006, p.8, 11-19). The Band intends to use its authority to protect its economic stability from threats to the quality of its waters. The positive economic impacts of a healthy water supply for the Band will have a corresponding beneficial impact on the off-reservation economy by protecting the region's most valuable resources – its natural resources, which are important to its economy through the recreation, hunting, fishing, and tourism industry.

Response to the State of Wisconsin's Comments

The Band's application answers the issues raised by the State's comments, but the Band wishes to highlight certain points for the benefit of the EPA and to provide supplemental information to clarify its position.

In promulgating regulations for TAS under the Clean Water Act, the EPA concluded that "a tribe may regulate the activities of non-Indians on fee lands within its reservations when those activities threaten or have a direct effect on the political integrity, the economic security, or the health or welfare of the Tribe." 56 Fed. Reg. at 64878.

The State's comments primarily focus on how the State views the application, in the State's opinion, as having failed to show a threat to "health and welfare." The State comments that the Band's application "has failed to show a sufficient impairment of reservation waters by nonmembers that would have a serious and substantial effect on the health and welfare of the Tribe" and asks that the application be denied. See letter of Scott Hassett dated Nov. 16, 2006. The State comments that the Tribe must explicitly assert that the impairment of waters by the activities of non-Indians would have a serious and substantial effect on the health and welfare of the Tribe.

The Tribe has asserted serious and substantial effects on the health and welfare of the Tribe (TAS application dated March 1, 2006, p.11-19). The application describes the threats to the Tribe in detail and with specificity, and this letter provides further specificity. Further, the application clearly demonstrates that the threats are likely to grow as more development occurs on and around the reservation. The Band faces a broad range of non-member activities on fee lands, including forestry, building and road development, septic and other waste treatment systems or violations, potential sand and gravel excavation, dumping and landfills, wetland fills, and farming activities (TAS application dated March 1, 2006, p.11-19). The Band asserts that forestry, cabins, and failing septic systems are owned by non-members, and illegal dumping has occurred by non-members (TAS application dated March 1, 2006, p.11-19). These impacts collectively create serious existing and potential adverse effects for the Reservation's water quality. Much of the evidence provided includes impacts on the reservation waters from activities occurring or potentially occurring within the exterior boundaries of the reservation.

Further, EPA considers both the actual and potential threats to the reservation waters. The test applied by the EPA in monitoring a Tribe's application for TAS does not require a tribe to demonstrate to EPA that nonmember activity is actually polluting tribal waters, if the tribe shows a potential for such pollution in the future. Montana v. EPA , 141 F. Supp. 2d, 1259, 1262 (D. Mont. 1998), quoting Montana v. EPA, 941 F. Supp. 945, 951 (D. Mont. 1996), aff'd 137 F.3d 1135 (9th Cir. 1998), cert. den. 525 U.S. 921 (1998).

With regards to the upstream impacts noted, all of the waters flowing through the reservation are impacted by activities both on and off-reservation. In Wisconsin v. EPA, 266 F.3d 741 (7th Cir. 2001),

the court recognized that upstream uses may result in contamination of downstream on-reservation waters. The court noted that "activities located outside the regulating entity (here the reservation), and the resulting discharges to which those activities can lead, can and often will have 'serious and substantial' effects on the health and welfare of the downstream state or reservation" and further that "[t]here is no case that expressly rejects an application of Montana to off-reservation activities that have significant effects within the reservation, and it would be exceedingly hard to say that the EPA's interpretation is contrary to law in the face of the express recognition of this issue and the choice of a solution in the statute itself." Wisconsin v. EPA, 266 F.3d at 749.

The State also raises the equal footing doctrine. However, this argument has been rejected by the 7th Circuit. See Wisconsin v. EPA, 266 F.3d 741 (7th Cir. 2001). The reasoning by the court in that case as to the inapplicability of the equal footing doctrine is applicable to this case as well.

The State indicated in its comments that it does not interpret the Tribe's application to apply to any water considered to be part of Lake Superior. The Tribe has addressed the boundary of the Reservation in its application (TAS application dated March 1, 2006, p.4-5). The jurisdiction within the boundaries described is necessary to protect the quality of the waters resources of the reservation. For purposes of this application only, and reserving the right to assert its jurisdiction over additional areas as necessary to protect the waters of the reservation and for other purposes, the Band asserts its jurisdiction under the Clean Water Act over all areas described in the Treaty of 1854 (TAS application dated March 1, 2006, p.5 and Attachment A) as evidenced by the Bureau of Indian Affairs map of the reservation (TAS application dated March 1, 2006, Attachment D; refer to footnote 35 of this letter) and the plat of survey approved in 1864 based on surveys conducted in 1852 by E.S. Norris, in 1856 by George R. Stuntz, and in 1858 by J. Allen Barber (plat of survey approved by Henry A. Wiltse, Surveyor General, on September 23, 1864; refer to Attachment AR of this letter), which reasonably demonstrates the understanding of the Tribe at the time of the signing of the treaty, and includes the original rice beds, which the Tribe would necessarily have understood to be a part of the reservation (Band's Migration Story; TAS application dated March 1, 2006, p.9 and Attachment I; Works Progress Act: Indian Research Project, 1947; Armstrong, B.G. and T.P. Wentworth, 1892; Danziger, E.J., 1979; refer to Attachment AR of this letter).

The State urges the EPA to "seriously" consider the existing regulatory scheme presented by the state and federal framework and alleges a patchwork pattern will emerge if the Band is granted authority. The Tribe does not see this argument as holding weight. Currently, a patchwork pattern does exist, which is one of the reasons the Band seeks TAS to ensure adequate protection of all of the waters of the reservation, which are connected regardless of land ownership. The EPA provides a mechanism for dealing with any disputes over water quality standards through mediation or arbitration if the State and Band cannot agree. See 56 Fed. Reg. at 64887 and 33 U.S.C. sec. 1377(e).

The Band had provided evidence of the necessity of water quality standards that meet the needs of its members and the resources upon which its members rely. Currently, fish advisories prevent Tribal members from consuming a healthful amount of walleye from the Reservation, which has direct economic, health and welfare impairments, and current practices of management of logging activities impairs the waters, lack of regulation or enforcement over wetland filling, septic systems, farming, illegal dumping, and the potential for sand and gravel mining all have existing and potential negative effects on the Reservation waters. Currently, there are no water quality standards for point source discharges, and, the lack thereof poses a substantial threat of impairment to the Band's water quality.

The State also contends that the ability to enforce water quality standards would not alleviate the nonpoint threats to water quality as there are no permit criteria that can be enforced. The Band again disagrees. The application and this letter clearly describe how these threats currently impair and are likely to grow. As the cumulative and collective impacts of the broad range of threats impairs Tribal waters, the cumulative effects of protection, of which the authority under the CWA programs are a crucial and necessary component, are critical to the Band protecting its water and water dependent resources. Tribal water quality standards will include the Tribal definition of designated uses for the Reservation, a narrative statement of water quality to be maintained and an antidegradation policy, as well as numeric criteria or use in permits. This package, as a whole, can be used to control nonpoint sources of pollution, whereas the federal criteria alone may not, and thereby leave the Band's health and welfare at risk.

If you have any questions, please do not hesitate to contact Ervin Soulier, Natural Resources Manager, at the BRNRD Office (715-682-7123).

Sincerely,

Eugene Bigboy, Sr.
Bad River Tribal Chair

CC: Tinka Hyde, Acting Director of Water Division, EPA Region 5
Ervin Soulier, Natural Resources Manager, Bad River Natural Resources Department
Naomi Tillison, Water Resources Specialist, Bad River Natural Resources Department

Attachments:
Copies of relevant documents that support the Band's assertion of authority are listed below and are attached to and incorporated into this application.

Attachment AC:	Sources Cited and Additional Footnotes.
Attachment AD:	Tabulation of Marengo River Monitoring Data – A Continuation of Attachment K. (BRNRD, 2008)
Attachment AE:	Trapping Activities and Population Estimates of Adult Sea Lamprey in Tributaries of Lake Superior During 2007. (Mattes, 2007)
Attachment AF:	Photographs of Non-Member Activities Occurring within the Reservation Boundaries that Potentially Threaten the Quality of the Water Resources of the Band (BRNRD).
Attachment AG:	Relevant Correspondence with the Federal Agencies

Telephone (715) 682-7123 *Natural Resources Department* Fax (715) 682-7118

Attachment AH:	Wisconsin DNR Fish Consumption Advisories and Special Advice of PCBs and Other Chemicals. (Wisconsin DNR, 2008)
Attachment AI:	Fish Consumption Patterns and Blood Mercury Levels in Wisconsin Chippewa Indians. (Peterson, D.E. et al., 1994)
Attachment AJ:	Relevant Articles Published in Local Newspapers
Attachment AK:	Hydrogeology and Ground-Water Quality of the County Road A Disposal Site on the Bad River Indian Reservation, Ashland County, Wisconsin: 1997-98. (Dunning and Yeskis, 2001)
Attachment AL:	Integrated Solid Waste Management Plan: Bad River Band of Lake Superior Tribe of Chippewa Indians. (Black Rock Environmental Science, 2007)
Attachment AM:	Photograph of Unlicensed Salvage Yard Operated by a Non-Member. (BRNRD, 2001)
Attachment AN:	Photographs of Impacted Sites due to Non-Member Non-Permitted Road Construction. (BRNRD, 2007)
Attachment AO:	Photographs of Impacted Site due to Non-Member Energy Transportation Activities. (BRNRD, 2004)
Attachment AP:	Town of La Pointe Zoning Ordinance with Amendments. (2007)
Attachment AQ:	Individual Water and Septic System Evaluation for the Existing Homes on Madeline Island Amnicon Bay. (Lindman, 2007)
Attachment AR:	Documents Relating to the Treaty of 1854 and to the Boundaries of the Bad River Reservation.