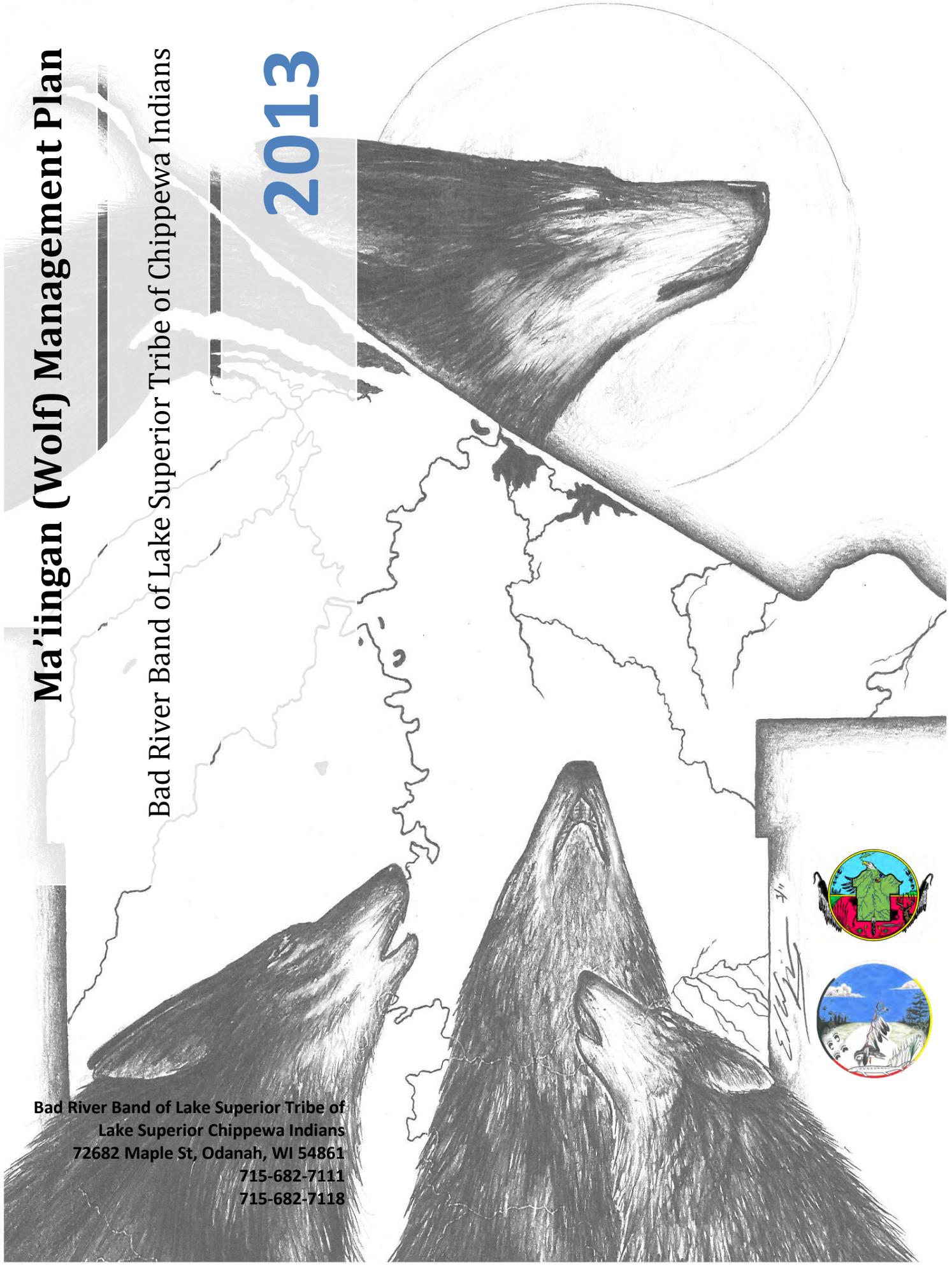


Ma'iingan (Wolf) Management Plan

Bad River Band of Lake Superior Tribe of Chippewa Indians

2013



Bad River Band of Lake Superior Tribe of
Lake Superior Chippewa Indians
72682 Maple St, Odanah, WI 54861
715-682-7111
715-682-7118

Suggested Citation:

Hill, L. Bad River Band of Chippewa Indians Natural Resources Department (BRB NRD). 2013. Bad River Bands Ma'iingan (Wolf) Management Plan. Bad River Band of Lake Superior Tribe of Chippewa Indians Natural Resources Department, Odanah, WI, USA.

Contents

Major Findings and Conclusions	4
Acknowledgements.....	5
Background	5
Introduction	6
History of Wolves on the Bad River Reservation and in Wisconsin.....	7
Ma'iingan and the Ojibwe.....	7
Wolves in Wisconsin	8
Tribal Views (A Study by Victoria Shelly)	10
History of Wolf Management on the Bad River Reservation.....	11
Wolf Biology and Ecology.....	12
Description.....	12
Track and Scat Identification.....	13
Habitat and Diet.....	14
Causes of Mortality.....	15
Wolf Behavior and Social Structure	15
Goal of the Bad River Wolf Management Plan	16
Bad River Wolf Management Policy	16
Bad River's Policy on the Harvest of Wolves	17
Bad River Natural Resources Department Responsibilities	18
Bad River Wolf Management Zone.....	19
What makes a wolf a "Reservation Wolf?"	21
Conflict Management	21
Guidelines for Conducting Depredation Control of Wolves on the Bad River Reservation and Within the Buffer Area Surrounding the Exterior Boundary of the Reservation.....	22
Disturbance Protection	24
Incidental Wolf Capture or Mortality	24
If the Population Falls Below the Minimum Goal	25
How to Obtain a Wolf Hide	25
Education and Outreach	26
Research and Monitoring of Wolves on the Bad River Reservation.....	26
Future Wolf Program Needs	29

Literature Cited30

Appendix A. Overview of Federal Delisting and State Management Goals.....32

 Delisting of the Western Great Lakes Distinct Population Segment of Gray Wolves.....32

 Summary Wisconsin’s Wolf Management Plan (1999)32

 A Wolf Season in Wisconsin.....33

 Wisconsin Landowner Wolf Control Permits.....35

Appendix B. Wolf Survey Protocols and Forms.....37

 Winter Carnivore Tracking Survey Form and Protocol37

 Winter Track Survey Form40

 Wolf Howling Survey Form and Protocol.....41

Appendix C. Websites and Additional Information.....44

Appendix D. Contact Information44

Appendix F. Bad River Tribal Council Resolution Approving Bad River Wolf Management Plan45

Major Findings and Conclusions

- I. The Tribe will acknowledge the cultural significance of the Ma'iingan to the Anishinabe in all wolf management activities.
- II. On the Bad River Reservation, wolves (Ma'iingan, *Canis lupus*) will be listed as a "Tribally Protected Species."
- III. Classification of the wolf and the contents of this management plan will be revisited by the Tribal Council and Bad River Natural Resources Department (BRNRD) every 5 years.
- IV. The Bad River Band will not manage a maximum number of wolves, but will manage in a way that minimizes human-wildlife conflicts on and around the Bad River Reservation. The Tribe will however set a minimum wolf population goal of two packs of at least three wolves on the Bad River Reservation.
- V. The Bad River Tribe will continue to use the best available science and technology to monitor the wolf population on the Bad River Reservation.
- VI. The Tribe will continue to coordinate wolf management activities with state and federal agencies as well as private landowners, to ensure the sustainability of wolves on the Bad River Reservation, in the state of Wisconsin, and in the Great Lakes Region.
- VII. The Bad River Tribal Wildlife Specialist and Bad River Tribal Wardens will be responsible for coordinating co investigations with the Wisconsin Department of Natural Resources (WDNR) and/or Animal & Plant Health Inspection Service – Wildlife Services (APHIS-WS) within the exterior boundaries of the Reservation and within the Bad River Wolf Management Zone (BR-WMZ).
- VIII. Any conflicts with wolves on the Bad River Reservation or within the BR-WMZ should be reported to the BRNRD and/or a Bad River Tribal Warden within 24 hours of occurrence by either the individual involved with the conflict or by the immediate responding agency (WDNR or USDA-WS) dependent on location of incident.

- IX. The Tribe does not have any funding available to provide financial assistance for property lost or injured by wolves.
- X. In the event that a dead wolf is found anywhere on the Bad River Reservation or within the buffer area surrounding the Reservation, the BRNRD and/or Bad River Tribal Wardens should be notified immediately by either the individual that found the carcass or by the immediate investigating agency (WDNR or USDA-WS), dependent on location of incident.
- XI. If a wolf is incidentally trapped, it should be released immediately, if alive. If the animal is found dead, follow the above statement for the event of a dead wolf being found.

Acknowledgements

We thank Ed Wiggins for drawing the cover page image and the BRNRD staff, Bad River Legal Department Staff, Bad River Tribal Council, and Bad River Community members for reviewing and providing comments. We would also like to thank Jason Suckow and Bob Willging from APHIS-WS and Jon Gilbert and Peter David from Great Lakes Indian Fish and Wildlife Commission (GLIFWC) for their review and technical input.

Background

The Anishinaabe share an integral bond with Ma'iingan; Ma'iingan is the brother and companion of the Anishinaabe as gifted by the creator. Management of wolves on the Bad River Reservation is a complicated issue due to the ecological characteristics of wolves and also because of the many political and social factors involved. Few, if any, wolves live their entire life confined to the boundaries of the Bad River Reservation, because of their large territory sizes and dispersal characteristics; they may only spend a short period of their lives within the boundaries of the Reservation. In addition, the Bad River Reservation includes lands owned by the Tribe and tribal members, but also lands owned by private, non-tribal individuals and

corporations. All of these factors illuminate the complexity of wolf management around the Reservation and the necessity of coordinating management with state and federal partners.

Introduction

The Bad River Tribe is a self-governing entity with which the Federal government relates to on a government-to-government basis and which has the capacity to develop their own wolf management plan independent of state jurisdiction (Federal Register, 2000).

The Bad River Reservation is located within the Lake Superior Basin and is within the 1842 treaty ceded territory in far northern Wisconsin. It is comprised of 124,644 acres (504.42

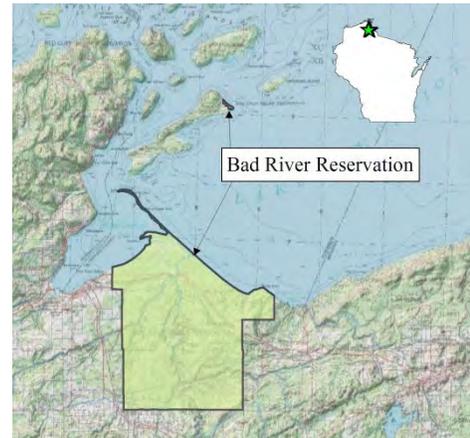


Figure 1. Location of the Bad River Reservation.

km²) in Ashland and Iron Counties (Figure 1). The Bad River Reservation is 77% forested, 11% is wetlands and sloughs, and the remaining area consists of farmland, residential communities, and roads (Elias, 2001).

Anthropogenic disturbances to habitat are the largest threat facing wildlife on the Reservation according to the Bad River Integrated Resources Management Plan (IRMP)(Elias, 2001). Aside from timber harvesting, environmental degradation has been relatively modest in recent years on the Bad River Reservation, and most lands within the Reservation boundary is suitable habitat for wolves.

The purpose of this management plan is to ensure the lasting presence of the wolf on the Bad River Reservation, while simultaneously providing ways to mitigate and respond to human-wildlife conflicts. This wolf management plan will seek to balance the needs of people and wolves on the Bad River Reservation to ensure they continue to live in harmony with one another. Due to the research-intensive nature of this plan, it is recommended it be revisited every five years to remain current as new research is made available and to adapt to changes that may occur on the Bad River Reservation.

History of Wolves on the Bad River Reservation and in Wisconsin

Ma'iingan and the Ojibwe

Original Man was created to walk the earth and name everything. The Original Man grew lonely and asked the Creator why he was alone. The Creator sent the Original Man, Ma'iingan (wolf) for a companion. They traveled the Earth together as directed by the Creator. Once everything was completed, Ma'iingan and Original Man were told they must now travel separate paths, but what happens to one shall happen to the other (Benton-Benai, 1988).

“Both will be feared, respected, and misunderstood by the people that will later join you on this Earth.”

This relationship has shown true over the years. Peter David, wildlife biologist for GLIFWC, outlines the relationship well in his writings. He follows the timeline of the ceded territory treaties and the Voigt decision and how they tie with the recovery of the wolf in the Great Lakes region (David, 2009) (Figure 2).

Many people today view predators, especially wolves, as a competitor for a valuable source of food and sport in the northwoods, the white-tailed deer (*Odocoileus virginianus*, Waawaashkeshii). Historically, that was not the case. Wolves in northern Wisconsin depend on deer for survival and it was traditionally believed that if wolf tracks were found or wolf howling was heard in an area that the hunting would be fruitful because these signs indicated the hunters were in deer country (David, 2009).

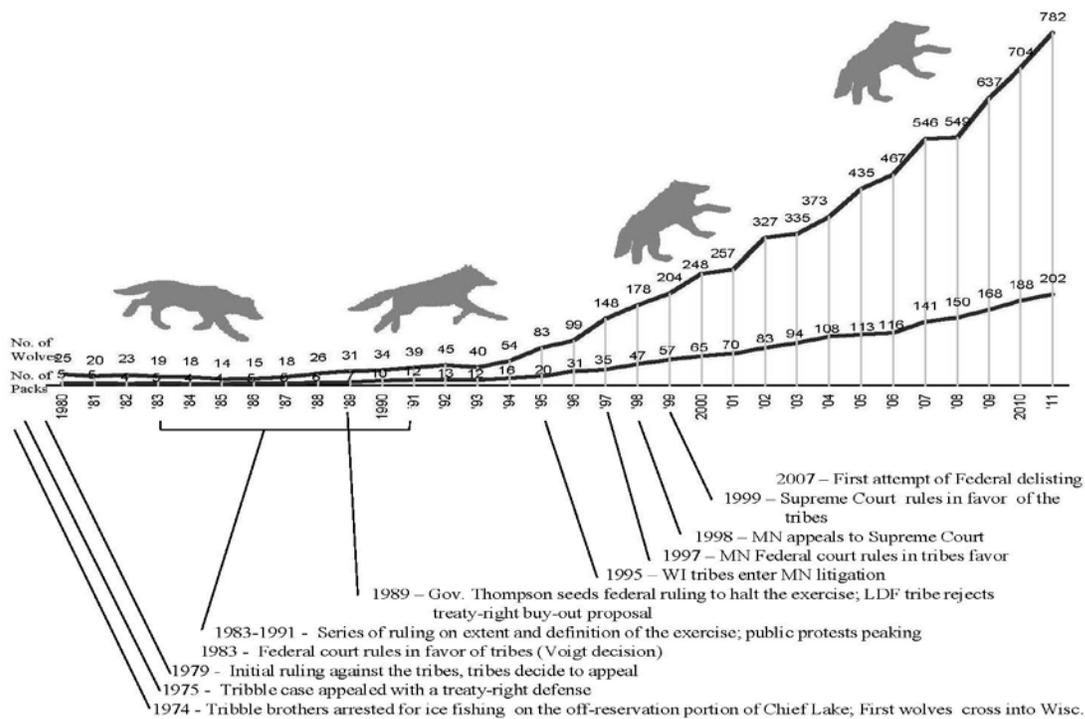


Figure 2. Timeline of battle of Chippewa off-reservation treaty rights and the recovery of the wolf population in Wisconsin. Provided by Peter David, GLIFWC.

Wolves in Wisconsin

Wolves were historically present throughout the entire state of Wisconsin. Prior to European settlement, population estimates for the state ranged from 3,000 to 5,000 wolves (Wydevan, 2000). The war against wolves in the United States started shortly after Europeans began settling on the East Coast (Mech and Boitani, 2003). The hatred of the wolf was brought from Europe, where wolves were known to prey on sheep. European folklore perpetuated an antagonistic relationship between man and ma'iingan. The first wolf bounty was established in 1630 and by 1700 wolves were exterminated from New England (Mech and Boitani, 2003). As settlers moved west, they brought with them their livestock and the war on wolves. Bison, elk, moose, white-tailed deer, and caribou existed in Wisconsin prior to European settlement (Wydevan, et al. 2009). As Wisconsin was settled, the land was logged and by 1880 whitetail deer were the only large prey species available for wolves in Wisconsin (Wydevan, et al. 2009).

The State of Wisconsin first initiated a bounty on wolves in 1865 (Thiel, 1993). In 1957, the Wisconsin legislature gave the gray wolf full protection in the State of Wisconsin (Schanning, 2009). Unfortunately, this was not enough to prevent the last wolves in the State from being killed in 1959 (Thiel, 1993). In 1974, the gray wolf was listed as Endangered under the newly adopted federal Endangered Species Act (1973), which gave the wolf protection under federal law (USFWS, 1992).

Shortly after federal protections were in place, the gray wolf started making a slow comeback in Wisconsin, as wolves re-entered the state from the remnant Minnesota population. The United States Fish and Wildlife Service (USFWS) developed the 1978 Timber Wolf Recovery Plan, which was last revised in 1992. The WDNR began officially monitoring the State's wolf population in 1979 when there were an estimated five packs in the State (WDNR, 1999). A State Recovery Plan was created by the WDNR in 1989 (Wydevan et al., 2009). Wisconsin adopted a State Wolf Management Plan in 1999, and in the same year down-listed the wolf to being a State Threatened Species. In 2004, the wolf population reached 334 animals and the gray wolf was delisted from the State's threatened status even though wolves were still federally listed as threatened under the Endangered Species Act (Wydevan, 2009).

In 2003, the USFWS reclassified the wolves located in WI and MI to threatened status under the Endangered Species Act. In 2004, a proposal was introduced to delist the gray wolf Eastern Distinct Population Segment. This resulted in a lawsuit, and in 2005 wolves were relisted as endangered. In March 2007, USFWS made another attempt at delisting wolves from the federal Endangered and Threatened Species Lists which would again return management authority to the states and tribes. In September of 2008, wolves were placed back on the Endangered Species List. The USFWS tried again in April 2009 to delist wolves, but the delisting was withdrawn in July to provide opportunity for public comment. Wolves were placed back on the Endangered and Threatened Species List in July of that same year. In May 2011, USFWS revised the gray wolf listing by removing 29 other states from the gray wolf range and released another proposal to delist the Western Great Lakes Distinct Population Segment. In December 2011, the final rule to delist the Western

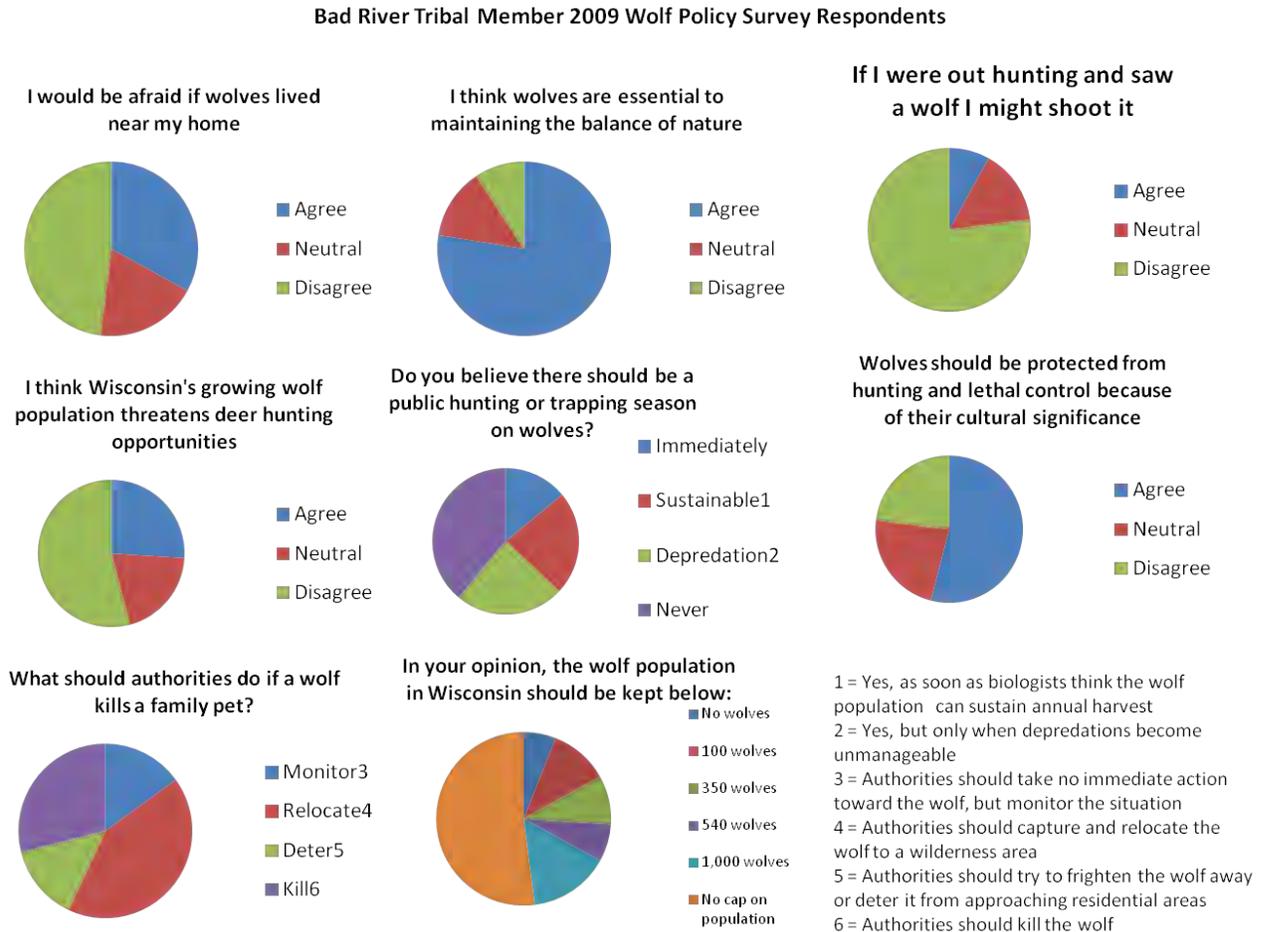
Great Lakes Distinct Population Segment was published (USFWS, 2012). Wolves were classified as protected wild animals in Wisconsin until April 2nd, 2012 when Governor Walker signed Act 169 classifying the wolf as a state game species.

Tribal Views (A Study by Victoria Shelly)

Researchers have been documenting and studying the declines and lack of human acceptance for carnivores for many years. Carnivores are often viewed as competition for a food source or as dangerous. In 2009, Victoria Shelley, a graduate student from the University of Wisconsin – Madison, conducted her thesis research on the Bad River Reservation to assess, “The Influence of Culture on Attitudes to Wolves and Wolf Policy among Ojibwe Tribal Members and Non-tribal Residents of Wisconsin’s Wolf Range.” She completed this study by randomly mailing out questionnaires to Bad River Tribal members and randomly selected non-tribal members that live in the wolf’s current range in Northern Wisconsin. A community Wolf Information Meeting was held at the Bad River Casino & Convention Center on December 8, 2009 to discuss the study and its results.

The study demonstrated that Bad River Tribal members were more supportive of protective wolf policy and less supportive of a proposed wolf harvest than the non-tribal respondents (Figure 3). It also showed Bad River tribal members are more supportive of protective wolf policy and have a higher tolerance for wolves than non tribal members (Shelley, 2011). This management plan was written to support the strong cultural relationship that Bad River tribal members have with Ma’iingan. Since the creator told Original Man and Ma’iingan that what happens to one will also happen to the other, many Bad River Ojibwe believe the recovery and attitude towards the wolf in Wisconsin is a direct reflection of their own recovery and attitudes towards them.

Figure 3. Results from 2009 Victoria Shelly survey of Bad River Tribal Members.



History of Wolf Management on the Bad River Reservation

The BRNRD began conducting wolf research on the Bad River Reservation in 1996 when it was deemed imperative to gain more knowledge on wolf movement and rendezvous and den sites in order to protect the Reservation’s wolf population and critical wolf habitat on the Reservation (Doolittle, 2001). In 1996, the BRNRD determined three wolf packs spent time within the Bad River Reservation boundaries (Doolittle, 2001). These packs became known as the Potato River, West Firelane, and Morrison Creek or Little’s Girls Point Packs.

In 2008, the Tribe partnered with APHIS-WS and WDNR to jointly monitor wolves on the Bad River Reservation. Through this partnership, Nii-Jii (Ojibwe word for “friend”), an adult male wolf, was radio-

collared from the Kakagon Sloughs Pack (a recently established wolf pack), providing the Tribe with three years of valuable information on the pack’s movements and home range. Since then, BRNRD, with the assistance of the WDNR and APHIS-WS, has been able to collar an additional five animals. Of the six totals, Nii-Jii went off air spring 2011, another two disappeared, one dispersed and now is a part of a pack in the Rice Lake area, one was hit by a car on Highway 169, and one was shot less than one mile from the Reservation under a landowner permit in the fall of 2012. With the data collected from these collared wolves, home ranges, pack sizes, dispersal distances, causes of mortality, and total population has been determined. There is a map located on page 28 of this plan showing the known home ranges of these four reservation packs.

Wolf Biology and Ecology

Description

At first glance, some may mistake a large gray wolf for a large domestic dog (*Canis familiaris*, Animosh). Wolves are the largest members of the Canidae (dog family), in North America. They can stand 26 to 38 inches (66 to 96 cm) high at the shoulder, with a body length 40 to 58 inches (101 to 147 cm) long, and weight of 60 to 100 pounds (27 to 45 kg) (Busch, 1995). Wolves differ from domestic dogs

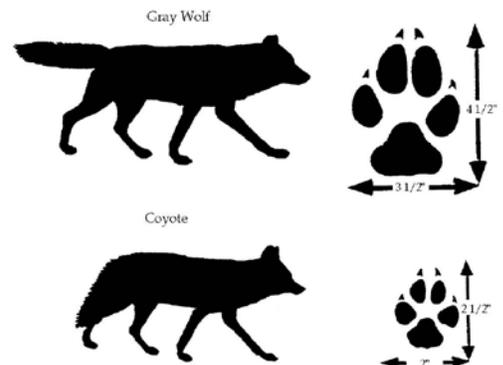


Figure 4. Gray wolf and coyote silhouettes and tracks (Hygnstrom, 2005).

in several ways and these differences can be used to differentiate the two. A wolf differs from a domestic dog in that it has longer legs, larger feet, a narrower chest, a straight tail that does not curl up, and tufts of hair on the sides of their face extending from below the ear (Paquet and Carbyn, 2003).

Other members of the dog family that are found on the Bad River Reservation include the coyote (*Canis latrans*, Wiisagiz Maa’ingan), red fox (*Vulpes vulpes*, Waagosh), and the gray fox (*Urocyon cinereoaryenteus*, Wabikwe Waagosh). Wolves are much larger than any of these species and coyotes have a narrower face and pointier ears than wolves. Wolves, when crossing a road, may be mistaken for a deer due

to their long legs. Wolves' eyes are golden brown and when shined at night the eyes appear greenish-orange in color and appear closer together than deer eyes do (Busch, 1995).

Wolves can be various shades of gray, tan, brown, white, and even all black. Each of these colorations have been observed and documented among the various packs on the Reservation. Black wolves are more common in the northern part of their range and can comprise up to one-third of the northern wolf population (Busch, 1995).

Track and Scat Identification

Wolf tracks look similar to that of a domestic dog. Each track consists of a pad, four toe prints, and four indentations above the toe pads, which are the claw marks. A wolf's track size is typically 4.5 to 5.5 inches (11 to 14 cm) in length and 3.5 to 5 inches (8 to 12.5 cm) in width, which is an unmistakable large paw print (Forrest, 1988). The print of a coyote is substantially smaller, typically 2.5 to 3.5 inches (6 to 9 cm) in length and 2 to 2.8 inches (5 to 7 cm) in width (Forrest, 1988) (Figure 5). Large domestic dogs can leave a track similar in size to the wolf, but on a domestic dog track the outside toes point slightly outward, whereas wolves will point straight ahead (Busch, 1995). Wolves also have more direct paths of travel and their tracks will often appear in a straight line versus a domestic dog which will tend to meander.

Wolf scat may appear similar to a domestic dog in size, but wolf scat is mostly comprised of hair and bone fragments. The feces are 0.5 to 6 inches (1 to 15.25 cm) in length and 1 to 1.5 inches (2.5 to 4 cm) in diameter and have tapering ends (Busch, 1995; Forrest, 1988). Coyote scat may appear similar, but is rarely over 4 inches (7.6 cm) in length or 1 inch (2.5 cm) in diameter (Forrest, 1988) (Figure 5).

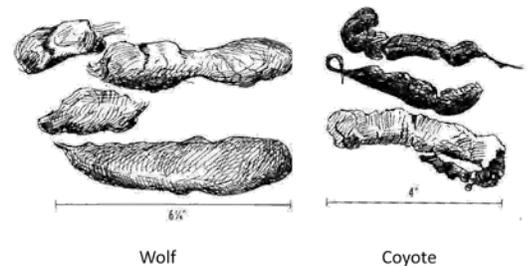


Figure 5. Wolf and Coyote Scat (Forrest, 1988)

Habitat and Diet

Wolves are considered to be “habitat generalists” and can survive in a variety of habitat types, dependent on prey availability. Wolves do require large tracts of land with adequate prey populations. A wolf’s diet in northern Wisconsin is primarily comprised of deer, beaver, and snowshoe hare. However, wolves have been known to supplement their diet with rodents, birds, eggs, fish, berries, carrion, and other carnivores such as bears and river otters (Paquet and Carbyn, 2003). However, these foods only supplement a wolf’s diet and cannot solely sustain a wolf.

Despite the common belief that wolves are competing with people for venison, they can be beneficial for prey populations (Burt, 1952; DelGiudice, 2010). Wolves cull the old, sick, and very young from the herd, which can stimulate productivity by freeing more food and cover to support a healthy population of deer (Kurta, 1995). White-tailed deer fawns are important prey for wolves in the summer. Research conducted in Minnesota found that nine fawns are eaten per adult deer and each wolf has an estimated kill rate of eighteen deer per year (DelGiudice, 2010). However, the kill rate is not universal and is dependent on location, winter severity, and a number of other factors. Wolves are not efficient hunters of deer and studies have shown that most hunts are brief and unsuccessful (Stark, 2009).

To manage habitat to support a wolf population, one must manage the habitat for the wolf’s prey. According to the USFWS’s Eastern Timber Wolf Recovery Plan, the most feasible way to increase prey numbers is through commercial and non commercial timber sales (USFWS, 1992). White-tailed deer in northern Wisconsin benefit from a high percentage of early successional forests; most importantly, early succession of shade intolerant species, such as aspen stands (USFWS, 1992). In the winter, deer require shelter as well as browse, which can both be found in stands of white cedar, hemlock, and balsam fir.

Causes of Mortality

Each year, approximately 70% of wolf pups die and deaths among wolves one year or older averages 25% (Wydevan et al., 2012). According to Wisconsin's 2011 Year End Wolf Population Monitoring Summary, 80 wolves were found dead in the State during the year, 11% of which were pups. Of the 80 dead wolves: 53% were killed by vehicles, 32% were illegally shot, 2% other wolves, 1% were euthanized for human safety concerns, 1% artillery fire, 1% capture related, 1% disease, and 4% unknown (Figure 6).

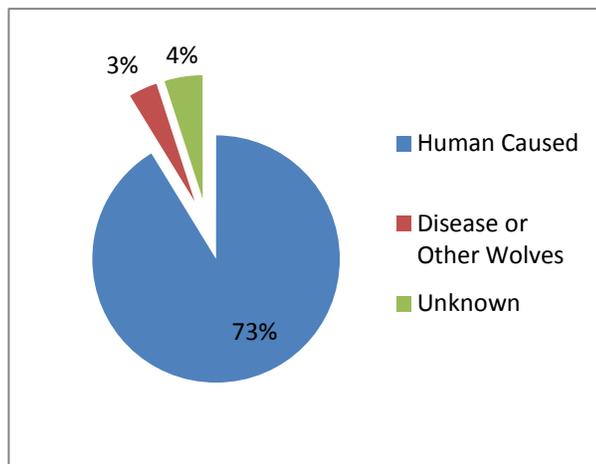


Figure 6. Causes of wolf mortality in Wisconsin during 2011.

Wolves are susceptible to many diseases and parasites.

Canine distemper, canine parvovirus, lyme disease, and blastomycosis have all been documented in wolves in

Wisconsin (WDNR, 1999). Sarcoptic mange has also been frequently observed on wolves and has been documented on the Bad River Reservation (Jimenez, 2010; Doolittle, 2001). Wolves are also susceptible to external parasites such as flies, ticks, fleas, mosquitoes, and mites.

Wolf Behavior and Social Structure

Wolves are social animals and live in family units known as packs. By definition, a pack always consists of at least a breeding pair, which is known as the alpha male and female. Pack size changes on an annual basis and often consists of the pup's produced that year, the previous year's surviving offspring, and sometimes older offspring that have not dispersed or an unrelated adult that was accepted into the pack. The average wolf pack in Wisconsin has three to four animals before pups are born (Paquet and Carbyn, 2003).

Wolves typically mate from January to April. A female is in estrus for five to seven days and can easily be distinguished by urination marking in the snow (Paquet and Carbyn, 2003). Wolves can become breeders between one to three years of age, but not all will breed. Often young wolves disperse from their packs in

order to find breeding opportunities. A wolf can find a mate in a new territory or form their own pack, be accepted into a pack and wait for a breeding opportunity, or oust an alpha and take over their position as a pack breeder (Mech, 2003).

Pups are born from early April to early June after a 62-63 day gestation period (Paquet and Carbyn, 2003). Litter sizes vary from one to eight pups, with an average litter size being six (Paquet and Carbyn, 2003). At four weeks old, pups will begin to leave the den and pups are able to travel up to a mile from the den at five weeks old (Busch, 1995). Pups are moved to a rendezvous site once they are physically able to make the journey. A rendezvous site is an area where the pups stay while the rest of the pack hunts; it can also be referred to as a summer nursery site. One pack may have several rendezvous sites in its territory. At twelve weeks, pups will accompany adults on hunts and by seven to eight months pups actively hunt as a member of the pack (Busch, 2005).

Goal of the Bad River Wolf Management Plan

The goal of this wolf management plan is to set a framework of guiding principles to help the Bad River Band conserve and protect Ma'iingan while at the same time educating and resolving potential wolf-human conflicts that may occur.

Bad River Wolf Management Policy

Prior to Bad River's Wolf Management Plan, the Tribe's wolf management policy has been to follow federal wolf management policy and to work cooperatively with the State, USFWS, and GLIFWC. After being delisted, wolves were classified as a "tribally protected species", by

Definition:

Tribally Protected Species – Any species that may or may not exist on the Bad River Reservation that the Bad River Tribal Council and Bad River Natural Resources Department determine needs additional protections placed on it and that species is not already protected by being state or federally listed under the tribe's existing conservation codes.

the Bad River Tribal Council. This classification will be revisited every 5 years by the Bad River Tribal Council and BRNRD. Classification can be revisited sooner if deemed an emergency by Tribal Council and the BRNRD.

The Bad River Tribe will acknowledge the cultural significance of the wolf to the Anishinabe in all wolf management activities. The Tribe will not manage towards a maximum wolf population on and around the Bad River Reservation, but instead will manage to ensure the long term presence of the wolf and to alleviate conflict. The Tribe will however set a minimum wolf population goal of two packs of at least three wolves on the Bad River Reservation. In conflict areas, management will focus on prevention and mitigation rather than removal. Under this plan, the only legal taking of wolves will occur when there is a question of human safety or in circumstances where nonlethal methods have not worked or are not deemed feasible by BRNRD staff.

The Bad River Tribe will continue to use the best available science and technology, per BRNRD's mission statement, to continue monitoring the wolf population on the Bad River Reservation. The Tribe will also continue to coordinate wolf management activities with state and federal agencies as well as private landowners to ensure the sustainability of wolves on the Bad River Reservation, within the Ceded Territories, in the State of Wisconsin, and in the Great Lakes Region.

Bad River's Policy on the Harvest of Wolves

At the Bad River Tribal Council meeting on May 9th, 2012, the Tribal Council and the Community members present spoke out against the sport harvest of wolves. At the meeting, the Bad River Tribal Council approved an emergency rule prohibiting the harvest of wolves within the exterior boundaries of the Bad River Reservation. The Bad River Tribe is presently opposed to the State of Wisconsin Wolf Hunt and the State's current population goal of three hundred fifty individuals. The Bad River Tribe feels there should be no population cap placed on Ma'iingan and management should be directed towards resolving current and future wolf conflicts.

Bad River Natural Resources Department Responsibilities

The Bad River Wildlife Specialist, under the BRNRD's Fish & Game Program, will be responsible for the implementation of this plan. The Wildlife Specialist, with the assistance of Tribal Wardens, will also be responsible for co-investigations with WDNR and/or APHIS-WS conducted within the BR-WMZ, the coordination of interagency monitoring and management activities, and ensuring accurate population counts and records are kept on an annual basis.

The Wildlife Specialist will also be responsible for participating in the State Wolf Stakeholders Meetings and the Regional Wolf Stewards Meetings. At these meetings, population counts, as well as management and research activities, and the future of the species are discussed. Summaries of these meetings will be kept on file at the BRNRD and updates will be provided to the BRNRD Department Director on an annual basis. The BRNRD will continue to provide comments on proposed state and federal wolf management strategies and documents, as well as participate in, necessary meetings. Routine coordination will occur with federal, state, and surrounding land managers to ensure proper protections for local wolf populations are taking place.

Regulations under this Wolf Management Plan will be enforced by Bad River Tribal Wardens and necessary coordination with federal, state, and local authorities will occur under the guidelines of this plan.

Bad River Wolf Management Zone

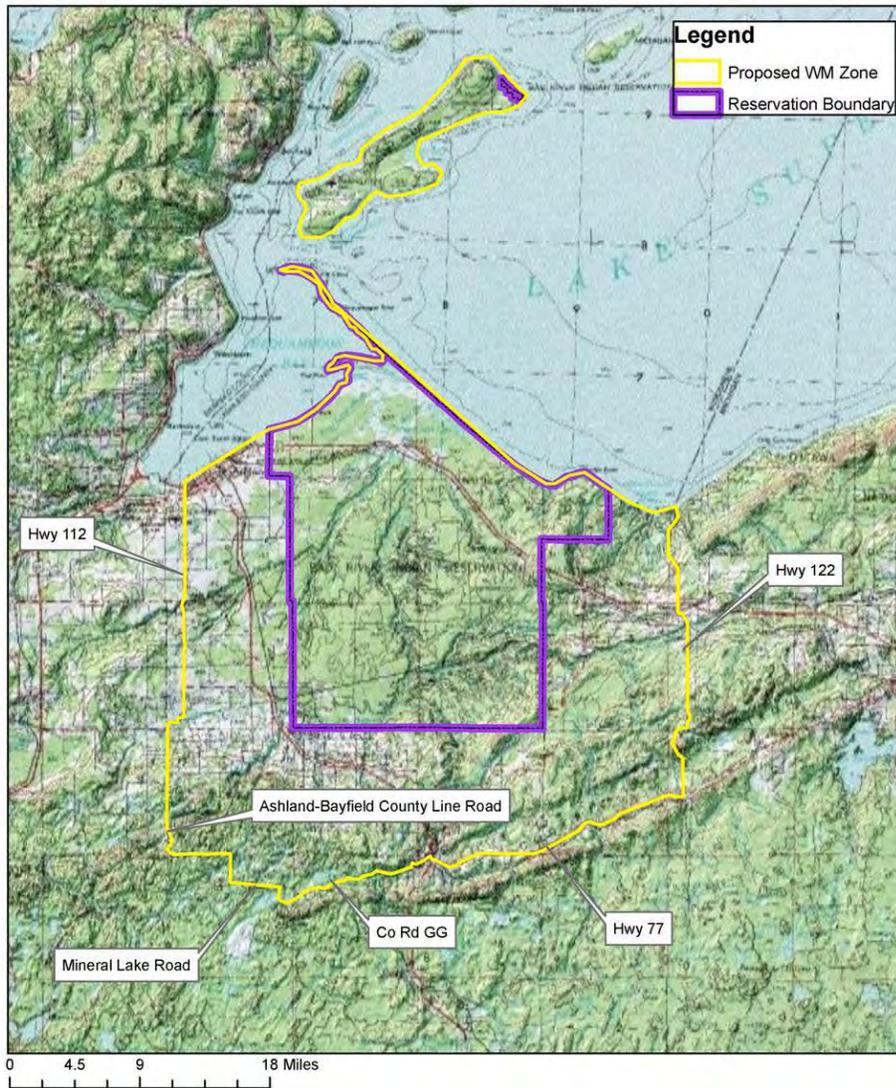


Figure 7. Proposed Wolf Management Unit Surrounding the Bad River Reservation.

In the State of Wisconsin, the WDNR, APHIS-WIS, and tribes with large reservations have been working cooperatively on reservations, within a six mile buffer of the reservations, and within the Ceded Territories. If there is a conflict between people and wolves within six miles of a reservation (Bad River, Red Cliff, Lac Courte Orielles, Lac Du Flambeau, Menominee, Stockbridge-Munsee), tribal representatives are notified and are given

the opportunity to investigate the scene with APHIS-WS professionals. At an investigation, a reactive depredation control method is discussed with all parties including the landowner.

The Bad River Tribe has recommended that a Distinct Wolf Management Zone encompassing six miles around the Reservation's boundary is created. The proposed boundary runs along easily distinguishable roads to reduce possible confusion. The proposed zone would run from Chequamegon Bay along Hwy 112, to Ashland-Bayfield County Line Road, to Mineral Lake Road, to Co Rd GG, to Hwy 77, and then back along Hwy 122, and ending at the Wisconsin-Michigan border (Figure 7). Within this zone, the Bad River Tribe requests a zero quota for public harvest. The Tribe does recognize the importance of private landowners and the right for them to protect their personal property. Therefore, the Tribe is not against the issuance of individual landowner permits as long as they fall under the following guidelines:

- Depredation occurred with the last calendar year and there was tribal representation on the investigation.
- Other non lethal abatement methods were tried and documented but found unsuccessful.
- Multiple livestock damage has occurred and has been verified by co investigations with tribal staff.
- After co investigations with APHIS-WS and BRNRD it has been determined lethal methods are necessary.

Bad River staff must be involved in depredation investigations in this distinct management zone because of the small number of wolves associated with the Bad River Reservation and frequent use of both on and off-Reservation lands and the small population of Reservation wolves could be significantly impacted by depredation control.

What makes a wolf a “Reservation Wolf?”

During the delisting process and the introduction of Wisconsin Act 169 2011, the term “reservation wolf” or “reservation pack” was commonly used. The Bad River Band defines a reservation wolf as a wolf or pack that part of its home range is found within the exterior boundaries of the Bad River Reservation. Wolf location information is confirmed by radio collar locations and combined tracking efforts between BRNRD and WDNR. BRNRD expects these packs to be protected when they travel off-Reservation as well as on Reservation, hence the wolf management zone that is discussed above.

Conflict Management

Conflict management is the most controversial issue related to the development of a wolf management plan. Wolves can and will kill and eat domestic animals, including sheep, cows, chickens, and dogs. Depredations do not happen often, but can greatly impact the individual(s) involved. **The goal of the BRNRD will be to investigate and develop methods for resolving these conflicts.** Any conflicts with wolves on the Bad River Reservation or within the BR-WMZ should be reported to the BRNRD and/or a Bad River Tribal Warden within 24 hours of the occurrence by either the individual or the immediate responding agency (WDNR and/or APHIS-WS).

In order for management and investigation to remain consistent, BRNRD will follow the verification procedures provided by APHIS-WS and the WDNR and will ensure all parties are notified in a timely matter. Authority to control and manage problem wolves in Wisconsin is held by the WDNR. Authority to control and manage problem wolves on tribal lands is held by the BRNRD. On lands within the BR-WMZ, authority shall be shared between the BRNRD and WDNR as an effort to cooperatively co-manage the wolf population.

If a depredation does occur, all traffic in the vicinity must be kept to a minimal and the depredated animal must be covered with a tarp until designated staff are able to arrive and complete a thorough investigation. Photos shall be taken of the incident and an incident report shall be completed and kept on file

at the BRNRD. Copies of these reports shall also be provided to all parties involved in the conflict, and copies of reports from other agencies shall also be collected and placed on file at the BRNRD.

Private landowners have the right to shoot and kill any wolf in the act of killing, wounding, or biting a personal domesticated animals on their own private property as stated by Wisconsin NR code 10.02(1)(b). In this event, a Bad River Tribal Warden and/or Bad River Wildlife Specialist and appropriate staff from WDNR and APHIS-WS must be notified immediately by the landowner or current care taker of the property where damage has occurred to investigate the scene. See Appendix D for contact information. Any wolves killed for the above listed reasons shall not be kept by the individual who killed the wolf. All wolves shall be properly handled by the Bad River Wildlife Specialist and/or the Tribal Wardens.

The Tribe does not provide financial assistance for property lost or injured by wolves. The BRNRD can offer assistance and education on prevention tactics. Conflict issues will be dealt with on a case by case basis. As a federal agency, APHIS-WS will co-investigate any depredation occurring within the exterior boundaries of the Reservation as well as any occurring within the BR-WMZ with Bad River Wildlife Staff and/or Bad River Tribal Warden.

Guidelines for Conducting Depredation Control of Wolves on the Bad River Reservation and Within the Buffer Area Surrounding the Exterior Boundary of the Reservation

The BRNRD's goal is to identify long term, non lethal solutions to areas with chronic wolf depredations. The killing of individual animals that have caused a depredation is a short term fix. To ensure a long term, non lethal solution is achieved; the mechanism driving the depredations must be identified and resolved. The impact wolves have on farms across wolf country is minimal compared to other negative impacts, but repeated wolf depredations on a single farm can cause significant economic challenges to that farm (Breck and Meier, 2004).

According to USDA – National Agriculture Statistics Service (NASS) Cattle Death Loss 2011 Summary, 53.1 % of cattle and calf death loss due to predation in the United States is caused by coyotes. That compares to the 3.7% caused by wolves in the United States. Of the 3.99 million cattle and calves that were lost in the United States in 2010 only 5.5% of the total deaths can be contributed to predation with coyotes and dogs accounting for the majority of the losses. The largest cause of cattle losses in Wisconsin was due to respiratory problems and lameness or injury; whereas the largest cause of calf losses was due to digestive problems and respiratory problems (NASS, 2011)(Figure 8).

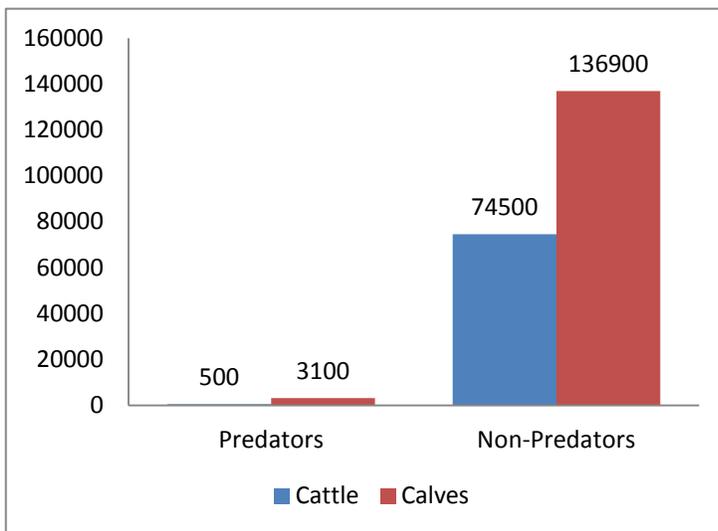


Figure 8. Number of Head Lost by Cause in Wisconsin (NASS, 2011)

After a cooperative investigation between BRNRD, APHIS-WS, and WDNR has verified a wolf depredation, the cooperating agencies will work with the landowner on site to develop a Depredation Management Plan with a list of recommendations to reduce the future risks of depredations. Recommendations will vary depending on the land owner and the circumstances. All nonlethal options will be considered before lethal control will be recommended. Lethal control will only be recommended after all other non lethal options have been exhausted or deemed not to be a reasonable fit for that particular landowner.

The first step of depredation control is prevention. Livestock owners have always had conflicts with predators. With centuries of accumulated knowledge and advancing technologies, steps can be taken to reduce the likeliness of a depredation event.

Disturbance Protection

Studies have shown that wolves are intolerable to human activity around den sites (Paquet and Carbyn, 2003). The BRNRD recommends a one mile (1.61 km) buffer be placed around known active wolf den locations from March 1st to July 1st. Since pups are more mobile later in summer and packs usually have multiple rendezvous sites, there will be no human disturbance restrictions at these locations. The buffer area around den sites will be declared when BRNRD staff reviews proposed timber sales, development proposals, and certain access permits for that time frame.

Incidental Wolf Capture or Mortality

In the event that a dead wolf is found anywhere within BR-WMZ, the BRNRD and Bad River Tribal Wardens should be notified immediately by the finder or immediate investigating agency), whether it be APHIS-WS or WDNR. Depending on the location of the wolf, other authorities may also need to be notified. Upon notification, the scene will be investigated by the proper authorities (Bad River Tribal Warden on tribe land or WDNR or APHIS-WS on non tribal land) and the wolf remains will be handled properly as designated by the Bad River Tribal Historic Preservation Office (THPO).

In the event of a trapper incidentally trapping a wolf in their trap, it shall be immediately released. Any Tribal Member interested in assisting with the trapping of wolves for research and monitoring purposes should contact the BRNRD.

Any wolves found deceased on the Bad River Reservation shall be handled in a respectful way by the BRNRD. Samples may be taken from individuals if deemed necessary for biological studies or law enforcement

investigations. BRNRD will cooperate with a certified lab and WDNR for necropsies and biological sampling of individuals. Some hides and skulls may be kept for educational and cultural purposes.

If the Population Falls Below the Minimum Goal

The Bad River Tribe will not set a population cap on the wolf population on Bad River Reservation, but a minimum population for the Reservation will be set. Since 1996, the BRNRD has monitored three to four wolf packs annually utilizing Reservation lands. A minimum population goal of at least two packs of three wolves has been set for the Bad River Reservation. The Reservation has proven over the past seventeen years with BRNRD's and WDNR's monitoring efforts that it can sustain more wolves than this minimum goal.

If the population were to fall below this goal, immediate consultation will occur with the USFWS and the WDNR. BRNRD monitoring efforts will be evaluated to try and identify a possible reason for the decline. BRNRD will identify any major habitat changes, prey population declines, and/or possible disease outbreaks. Management outside of the Reservation's Wolf Management Zone will also be evaluated. BRNRD use the guidelines provided by the United States Fish & Wildlife Service for the recovery of the Western Great Lakes Distinct Population Segment of the Gray Wolf to restore the Reservation's wolf population, if needed (USFWS, 1992).

How to Obtain a Wolf Hide

The WDNR obtains numerous wolf carcasses each year. These wolves were either found dead or taken legally by lethal abatement methods conducted by APHIS-WS or a private land owner off-Reservation. These wolves can be made available for educational or cultural uses. Bad River Tribal Members interested in obtaining a wolf hide or any parts of a wolf should contact the BRNRD. Distributions of wolf hides shall happen on a first come, first serve basis and will ultimately need to be approved by Tribal Council.

Education and Outreach

BRNRD shall use a variety of media to help keep the community informed about wolf management and the status of the wolf population on the Bad River Reservation. These media will include information at public events held by BRNRD, updates in the BRNRD quarterly newsletter, and information on the Tribe's website. Changes to any Reservation Wolf Management Policy will also include a public meeting to allow the communities a chance to comment on the proposed changes.

BRNRD will work with WDNR to reach out to private landowners within the BR-WMZ. This may include attending town meeting within this zone, creating and distributing information pertaining to the BR-WMZ, and administering surveys within the zone. Private landowners within this zone will also be given an equal opportunity to submit comments and input on how depredation controls are working for them and how they could be improved.

Research and Monitoring of Wolves on the Bad River Reservation

The BRNRD has been monitoring the wolf population on the Reservation since 1996. The Tribe has worked cooperatively in this effort with the WDNR, USFWS, and APHIS-WS. Monitoring methods currently utilized by the BRNRD are as follows: radio telemetry, winter track surveys, howling surveys, scat surveys, and keeping a wolf observation log book.

The use of radio collars on wolves is the best tool for learning more about Reservation wolf packs and is the most reliable way to document that amount of time a "Reservation wolf or pack" spends on the Reservation. Data collected from radio collared wolves has provided valuable information on home range size and location, distances traveled, sites and habitats most utilized, locate dens and rendezvous sites, and pup dispersal. Radio collars have also helped BRNRD staff locate deceased wolves, which allows the cause of mortality to be determined.

Winter track surveys and howling surveys are also valuable tools for monitoring the Reservation's wolf population. The BRNRD follows similar winter track survey and howling survey protocols established by the WDNR, which facilitates joint efforts to monitor wolves both on and off Reservation. The protocols for these surveys can be found in Appendix C and the Department welcomes any Bad River Tribal Member to participate with these surveys. The data collected by the BRNRD is shared with WDNR and other cooperating agencies to help quantify how the wolf population is doing in the Great Lakes region.

All wolf observation reported to the BRNRD are entered into the Wolf Observation Log. Each entry includes information on the location, number of animals, animal color and size. Following a reported sighting, the Tribal Wildlife Specialist, Natural Resource Aide, or Tribal Warden may investigate the sighting and obtain information that can be used to help estimate the Reservation's wolf population. BRNRD also collects trail cam photos from hunters on the Reservation to document wolf sightings. Photos can be emailed to the Tribe's Wildlife Specialist at wildlifegis@badriver-nsn.gov or delivered to the BRNRD Office.

Scat is collected by BRNRD Wildlife Program staff when found anywhere on the Reservation. This scat can be used to monitor wolf population health by examining it for viruses, parasite levels, diet, and genetics. BRNRD will coordinate with a certified lab for the analysis of the samples if/when funding is available.



Figure 10. Bad River Wolf Management Zone with Associated Known Wolf Ranges from 2011 data.

Future Wolf Program Needs

The Tribe shall continue to work with State and Federal agencies, as well as neighboring land owners, to monitor and manage the local wolf population. There shall also be a continued effort to pursue new technologies to monitor wolves on and off Reservation. The BRNRD will continue to pursue the use of satellite collars to monitor wolf movements on and off the Reservation. There shall also be a continued effort to build a citizen monitoring network to aid the BRNRD in acquiring more knowledge about the resident wolf packs. Citizen monitoring can also be used as an education/outreach tool for children and local school groups. There is also a continued need to study and monitor wolf prey populations, primarily deer and beaver. More research also needs to be conducted on the seasonal diets of Bad River wolves to help the Tribe better manage its habitat for future generations. Knowledge is power, and the more we learn the more we will be able to protect Ma'iingan.

Literature Cited

- Benton-Banai, E. 1988. *The Mishomis Book: The Voice of the Ojibway*. Indian Country Communications Inc. 1988.
- Breck S. and T. Meier. 2004. *Managing wolf depredation in the United States: past, present, and future*. USDA National Wildlife Research Center – Staff Publications. Paper 83.
http://digitalcommons.unl.edu/icwdm_usdanwrc/83.
- Burt, W. 1952. *A Field Guide to the Mammals of North America*. Peterson Field Guides. Houghton Mifflin Company, New York.
- Busch, Robert. 1995. *The Wolf Almanac*. The Globe Pequot Press, Connecticut.
- David, P. 2009. *Ma'iingan and the Ojibwe* in T.R.V.D. Adrian P. Wydeven, Edward J. Heske (ed.), *Recovery of Gray Wolves in the Great Lakes Region of the United States: An Endangered Species Success Story*. New York: Springer Science + Business Media, LLC 2009.
- DelGuidice, G.D. 2010. *Do wolf tracks and few deer in your fall hunting area mean what you think they mean: Forest Wildlife Population & Research Group Minnesota Department of Natural Resources*.
- Doolittle, T. 2001. *Movement Patterns and Habitat Use of Timber Wolves on the Bad River Reservation*. Bad River Natural Resources Department Document.
- Elias, Joan. 2001. *Bad River Reservation Integrated Resource Management Plan*.
- Federal Register. November 06, 2000. *Presidential Documents: Executive Order 13175*. Vol 65, Number 218, pgs 67249-67252.
- Forrest, L. 1988. *Field Guide to Tracking Animals in the Snow*. Stackpole Books, Pennsylvania.
- Hygnstrom, S., et al (ed.). 2005. *Fig. 3. Internet Center for Wildlife Damage Management*. Accessed 23 Aug, 2012. <<http://icwdm.org/handbook/carnivore/wolves.asp>>
- Jimenez, M.D., et. al. 2010. *Sarcoptic Mange Found in Wolves in the Rocky Mountains in Western United States*. *Journal of Wildlife Diseases*, 46(4), 2010, pp. 1120-1125.
- Kurta, A. 1995. *Mammals of the Great Lakes Region*. University of Michigan Press, United States of America.
- Mech, David and Luigi Boitani (ed.). 2003. *Wolves*. The University of Chicago Press, United States of America.
- Paquet, P. and Ludwig Carbyn. 2003. *Gray Wolves*. *Wild Mammals of North America*. Pg.482-510. The John Hopkins University Press. Maryland.
- Schanning, K. (2009). *Human Dimensions: Public Opinion Research Concerning Wolves in the Great Lakes States of Michigan, Minnesota, and Wisconsin*. In T. R. V. D. Adrian P. Wydeven, Edward J. Heske (Ed.), *Recovery of Gray Wolves in the Great Lakes Region of the United States: An Endangered Species Success Story*. Springer, New York. New York: Springer Science+Business Media, LLC 2009.

Shelley, V., Treves, A., Naughton, L. 2011. Attitudes to Wolves and Wolf Policy Among Ojibwe Tribal Members and Non-tribal Residents of Wisconsin's Wolf Range. *Human Dimensions of Wildlife* 16: 397-413.

Stark, D. 2009. The Impact of Wolves on White-tailed Deer in Minnesota. Minnesota Department of Natural Resources.

Thiel, R. P. 1993. *The Timber Wolf in Wisconsin: The Death and Life of a Majestic Predator*: University of Wisconsin Press.

United States Fish & Wildlife Service. 1992. Recovery Plan for the Eastern Timber Wolf. Twin Cities, MN. 73pp.

United States Fish & Wildlife Service (USFWS). 2012. Gray Wolf – Western Great Lakes Distinct Population Segment: Final Register Rule Delist. Accessed 23 Aug, 2012.

<http://www.fws.gov/midwest/wolf/delisting/FRgrwoWGLdelistfinal28Dec2011.html>.

USDA-APHIS-WS. 2008. Pre-decisional Environmental Assessment for the Management of Wolf Conflicts and Depredating Wolves in Wisconsin in cooperation with WDNR and USDA-FS-CNNF.

USDA-NASS. 2011. Cattle Death Loss (May 2011). <http://www.nass.usda.gov>.

Wisconsin Department of Natural Resources. 1999. Wisconsin Wolf Management Plan.

Wisconsin Department of Natural Resources. 2008. Guidelines for Conducting Depredation Control on Wolves in Wisconsin Following Federal Delisting.

Wydevan, A.P. 2000. Wolf Recolonization in Wisconsin. International Wolf Center. Accessed 15 Aug, 2012.

[http://www.wolf.org/wolves/learn/wow/regions/United States/Wisconsin Subpages/History2.asp](http://www.wolf.org/wolves/learn/wow/regions/United_States/Wisconsin_Subpages/History2.asp).

Wydevan, A.P., et al. (eds.). 2009. Recovery of Gray Wolves in the Great Lakes Region of the United States. History, Population Growth, and Management of Wolves in T.R.V.D. Adrian P. Wydeven, Edward J. Heske (ed.), *Recovery of Gray Wolves in the Great Lakes Region of the United States: An Endangered Species Success Story*. New York: Springer Science + Business Media, LLC 2009.

Wydevan, A.P., et al. 2012. Wisconsin Endangered Species Report #142- Status of the Timber Wolf in Wisconsin. Bureau of Endangered Resources – Wisconsin Department of Natural Resources.

Appendix A. Overview of Federal Delisting and State Management Goals

Delisting of the Western Great Lakes Distinct Population Segment of Gray Wolves

On May 5th, 2011, the USFWS published a proposal to remove Endangered Species Act Protection for the Western Great Lakes Distinct Population Segment of the Gray Wolf (Figure 1). On December 28th, 2011 the final rule from the proposal was published in the Federal Register. The final Rule took effect on January 27th, 2012.

Starting on January 27th, 2012, State and Tribal laws dictated wolf management. Minnesota, Wisconsin, and Michigan all had wolf management plans in place and the plans are now the guidelines for wolf management in those states. Although the wolf has been delisted, monitoring of wolf populations must still occur in the core wolf recovery areas in Minnesota, Wisconsin, and Michigan for the next five years. This is mandatory for all species that have recovered and been removed from the Lists of Endangered and Threatened Wildlife and Plants under 50 CFR 17.11 and 17.12.



Figure 1. Western Great Lakes Distinct Population Segment

Summary Wisconsin's Wolf Management Plan (1999)

In 1999, the WDNR developed a wolf management plan to help formalize wolf management in the state. Many components of the plan could not be implemented until after federal delisting occurred. Wolves in Wisconsin were briefly delisted in both 2008 and 2009, but subsequently relisted following legal challenges, before delisting again in 2012.

The WDNR chose to use management zones as part of the state-wide wolf management plan. There are currently four wolf management zones in the state of Wisconsin: Zone 1 – The Northern Forest Zone, Zone 2 – The Central Forest Zone, Zone 3 – The wolf buffer area, and Zone 4 – southern area that presumably

has little to no opportunity for colonization by wolf packs (figure 2). The Bad River Reservation is located in Zone 1. Zone 1 includes 634 square miles of Indian Reservations, which, in most cases, will remain as protective areas for wolves. Zone 1 is considered to have the most suitable wolf habitat in the state because it is a mostly forested landscape with few agricultural and urban areas.

Prior to federal delisting, a few depredating wolves were occasionally live trapped and relocated, but since delisting lethal control has typically been the option used at confirmed depredation locations. Control of depredating wolves can be done by landowners/occupants acting on private land under WDNR permit or by government trappers; landowners can also kill wolves that are in the act of attacking pets or livestock on their land under NR 10.02(1)(b).

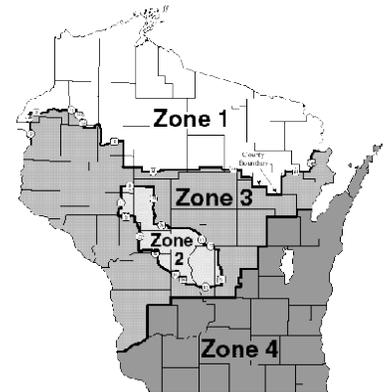


Figure 2. Wolf Zones as documented in 1999 Wisconsin Wolf Management Plan

The WDNR’s population management goal for the state is 350 wolves.

Wolves will be relisted as threatened by the State if the population falls below 250 wolves for three years, and as endangered if they fall below eighty. As long as the State’s wolf population remains above target levels, lethal management will continue in areas with a history of depredating wolves or areas with high probability of human-wolf conflict. The Bad River Band of Lake Superior Tribe of Chippewa Indians does not support the state’s population goal for wolves.

A Wolf Season in Wisconsin

On January 31st, 2012 Senate Bill 411 was introduced by Senators Moulton, Holperin, and Lasee. The bill was related to the hunting and trapping of wolves in Wisconsin. On April 2nd, 2012 the bill was signed by the Governor. The bill is now known as 2011 Wisconsin Act 169 which was published on April 16th, 2012. On

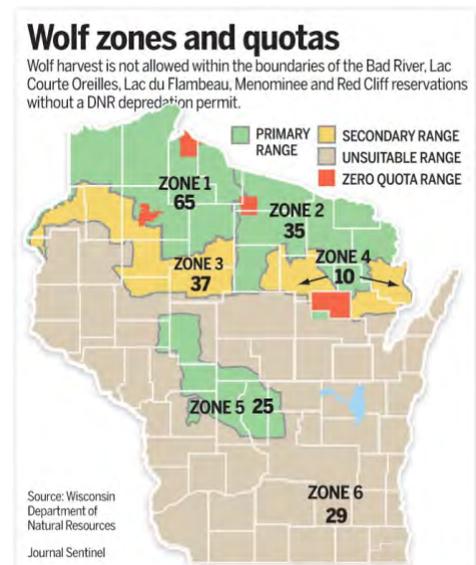


Figure3. 2012 WDNR Proposed Wolf Harvest Zones and Quotas. The quotas are subject to change on an annual basis.

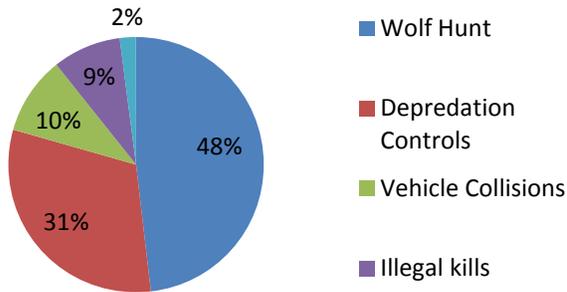
October 15th, 2012, wolf hunting and trapping began under a permit/quota system with the exception that the following reservations were closed to harvesting: Bad River, Red Cliff, Lac Courte Orielles, Lac du Flambeau, Menominee, and Stockbridge-Munsee.

The Wisconsin Natural Resources Board (NRB) chose a total harvest quota of 201 individuals for the 2012 season. This quota predicted a reduction in the state wolf population by 14%. WDNR divided the state into six zones excluding the six reservations previously mentioned, and set their harvest goals for each zone. Twenty percent of the known minimum wolf population in zones one, two, and five would be harvested; forty percent of zones three and four, and seventy five percent of zone six would be harvested. The percentage was set high for zone six because this is deemed as unsuitable wolf habitat by the state of Wisconsin and there is a high probability for human-wolf conflict.

The WDNR then took the quota of 201 individuals and subtracted half of the harvest quota in the ceded territories for the tribes to claim based on Voigt case requirements. Half of the ceded territory quota amounted to 85 leaving the final 2012 wolf season quota at 116 individuals. The quota of 116 animals established for state harvesters was reached by December 23rd, 2012; no WI tribe allowed on or off-reservation wolf seasons for their members in 2012.

The total known human caused mortality of wolves for 2012 was 243 individuals. There were 117 killed under the 2012 wolf hunt, 76 under depredation controls (including landowner permits), 24 documented vehicle collision, 21 known illegal kills, and 5 unknown mortalities (figure 4). The minimum population count for the 2011-2012 tracking season was ranged from 815-880. The midpoint of this range provides a population estimate of 847, which means there was a 29% human caused mortality of the 2012 minimum population count. The impact of the 2012 hunt on the Wisconsin wolf population has yet to be determined.

Fig. 4. 2012 Known Human Caused Wolf Mortalities



Wisconsin Landowner Wolf Control Permits

Since the final rule on delisting the gray wolf in the Western Great Lakes Distinct Population Segment, the WDNR has had authority to issue permits for the shooting or trapping of wolves on privately owned property. The criteria for obtaining a wolf control permit are as follows:

- At least one verified depredation has occurred within the last 2 years on owned or leased land;
- A verified depredation has occurred within one mile of the applicant's property with vulnerable animals within the current calendar year;
- Human safety concern from wolves exists on the property as determined by U.S. Department of Agriculture Wildlife Services or WDNR; or
- Harassment of livestock is occurring and based on the judgment of Wildlife Service's a permit should be issued.

Permits are usually valid for 90 days after issuance and can be renewed by the WDNR. Hunting and trapping of wolves is allowed under these permits, often with no limit to the number of animals to be removed or destroyed. The following are additional permit conditions:

- Authorized participants are the permittee and resident family members. Up to two additional persons may be designated at the time of permit issuance to assist with the removal of wolves. Assistants must be listed on permit.
- Shooting hours will be normal hunting hours, unless wolves are in the act of killing or attacking domestic animals.
- Baiting is not allowed. All livestock that is killed must be disposed of pursuant to Section 95.50, Wisconsin Statutes.
- Shooting and trapping will only be permitted on land owned or leased by the permittee.
- All wolves shot or trapped must be reported within 24 hours and turned over to the Department.
- A trapping license is required for trapping of wolves as are specific trapping techniques and equipment which will be conditions of any trapping permits issued.

As a result, the BRNRD works with the State and APHIS to investigate reports of potential wolf depredation both within the Reservation's exterior boundary, and within a pre-designated buffer area around these lands. While lethal depredation control may be permitted when depredation is verified and non-lethal methods are considered ineffective, it may also not be approved if the impacts to local packs is deemed exclusive.

Appendix B. Wolf Survey Protocols and Forms

Winter Carnivore Tracking Survey Form and Protocol

Developed using standardized survey methods provided by Wisconsin Department of Natural Resources.

(Wydeven, A., et. al. 2004. Guidelines for Carnivore Tracking During Winter in Wisconsin. Wisconsin Department of Natural Resources.

http://www.dnr.state.wi.us/org/land/er/mammals/volunteer/pdfs/tracking_guidelines.pdf)

Introduction

Since wildlife does not know our political boundaries, it is important to work in cooperation with neighboring agencies to better monitor and assess population trends. To standardize survey methods, I decided it best to design the Bad River Reservations survey after the already existing guidelines provided by the Wisconsin Department of Natural Resources. However some of the guidelines have been modified to better suit the need of the reservation.

In the future, I hope to be able to use these guidelines to enable tribal members the opportunity to volunteer and assist in the tracking program. If there is enough interest handbooks could be made for interested trackers and workshop could be held annually in December.

Tools Needed

- Tracking guide book(s)
- Detailed map of the survey area
- Data sheet, clipboard, and pencils
- 6 in ruler and tape measure
- Camera
- GPS

Completing the Data Forms

-Please make sure forms are completely filled out. If you have any questions pertaining to the forms please call Lacey @ 715-682-7123

Surveyor(s): Names of people conducting track survey

Date: Month/Day/Year track survey was completed

Survey Block ID: See attached map for survey block ID's.

Survey Start Time: Time survey began.

End Time: Time Survey ended that day.

Temperature: Temperature at the beginning of the survey.

Time of Last Snow Fall: If it snowed within the last 48 hours, write down how many hours it has been since the last snowfall. If it hasn't snowed for more than 48 hours record the number of days since last snowfall.

Snow depth: Record the total snow depth in inches. Avoid areas of plowed, drifted, or under trees where snow depth is affected.

New Snow Depth on Road: Record amount of snow present on the road of survey in inches. This may change as you move onto new roads make sure to record this in the comments section.

Amount of snow from last snowfall: Record in inches how much snow was received our last snowfall.

Percent Cloud Cover: Circle percentage nearest to the amount of cloud cover.

Rate Track Conditions:

Poor: It is snowing heavily, hasn't snowed in a while, heavy crust on snow layer impacting amount of tracks present.

OK: Tracks are visible but lack detail near road, need to follow off road a little ways to identify.

Good: Tracks register well in the snow. Some lack details necessary to distinguish between similar species.

Excellent: Tracks register well and show a good amount of detail. Tracks are easily distinguishable.

When you Encounter Tracks

- 1) Consult your tracking guide to identify the species that made the tracks.
 - a. Some species tracks may look similar so make sure to pay close attention to the gait pattern (sequence of foot movements).
 - b. Sometimes it may be necessary to follow the tracks into the woods a short distance to find a better track that is more easily identifiable.
- 2) When wolf tracks are encountered follow the protocols in the wolf tracking guidelines (see attached). A photo of the track next to the ruler should be taken as well as a GPS location.
- 3) If rare species such as: Elk, Moose, Cougar, Canada Lynx, or wolverines are identified. A GPS location should be taken at the site. (See below for GPS location protocol)
- 4) For all species but wolves, all tracks encountered within 0.3 miles of each other should be recorded as one animal.
 - a. For wolves follow tracks backward and forward until you can get a good count of the number of animals present. Wolves will often loop around and follow portions of a route more than once, so what appears to be the tracks of four animals may only be two wolves.

- 5) Record any other related sign encountered while tracking. (Carcasses killed or scavenged by carnivores, signs of urinations (raised leg urination or squat urination), evidence of blood in the urine, scat...)
- 6) If you are uncertain about a track record UNK on the data sheet, record the location, and take a few photographs and ask the Wildlife Specialist about it.

Key Points to Remember

- Canines (dog family) vs. Felines (cat family)
 - To distinguish the difference between these tracks check for claw marks. Members of the cat family have retractable claws and rarely show claw marks in the snow. If they do they appear thin and knifelike.
 - The heel pad on a cat will be asymmetrical and have 3 similar sized lobes on the bottom of the track. A dog's heel pad will be symmetrical, the lobes on the bottom will not be similar in size, and the top of the pad will be more round and pointed.
- Measure any small fisher tracks to make sure they are not marten tracks. Fisher tracks will generally be at least 1.6 inches long and 1.5 inches wide.

Wolf Howling Survey Form and Protocol

HOWL SURVEYS FOR WOLVES IN WISCONSIN

By Adrian P. Wydeven

Howling surveys are conducted to determine general location, home site locations, general abundance and pup production in wolf packs. Use the article by Harrington and Mech (1982, J. Wildl. Manage. 46: 686-693) as a general guide on doing wolf howling surveys.

Surveys usually should be done from June 20 through October, with July and August being the best period. Time of day should be from ½ hour after sunset until 1:00 or 2:00 a.m. Areas to be covered should consist of a series of roads that traverse or surround the likely territory of wolves. Howl attempts should be made at about 1.5 mile intervals, but can be modified by 0.2 to 0.3 miles to avoid hollows, occupied residences or noisy stream edge, and to take advantage of higher elevations. Also, make special attempts to howl from most intersections.

At each stop, walk about 100 feet from your vehicle. Start off with 4-5 quiet howls for about 25-30 seconds. Wait 90 seconds for a response. If no response, give 4-5 loud howls for 25-30 seconds. Again, wait 90 seconds for a response. Give a second series of loud howls followed by 90 seconds of waiting time if no response occurs. If no responses after this third howling attempt, drive to your next stop.

Use of the Howl Survey Form

General Location: List area being covered, especially the county and pack name.

Start Location: Write the legal description of the first howl attempt stop.

End Location: Write the legal description of the last howl attempt stop.

Date: Date of survey; remember that if you go past midnight the date will change.

Temp: Temperature at start of survey.

Skies: List percentage of cloud cover.

Precip: Indicate any precipitation falling; if moderate to heavy rain occurs, stop survey.

Wind: Indicate approximate wind speed; if winds exceed 8 miles/hr. stop survey.

Previous Day(s) Weather: List high and low of survey day and any precipitation that occurred

Observer(s): List all persons taking part in the survey.

- Road Name:** Write the name of each road you are surveying and give the odometer reading when you first enter a road.
- Other Columns:** At each stop, write the odometer reading and time when you initiate the howling attempt. If you get a response from wolves write down the time when wolves respond to your howling attempt, number of wolves responding, direction of response, exact location (legal description) of response, and any comments. Generally the number of wolves recorded should be 1, 2 or 2+ adults and/or 1, 2 or 2+ pups; beyond 2 adults or 2 pups it is impossible to accurately count the wolves unless you actually get to see them. When you get no responses, under "Time Response" write "none". You may want to record responses from other animals such as owls or coyotes under "Comments". If you are not sure whether you are hearing coyotes or wolves, write down that you are not sure.
- Totals:** List the total miles from the first to last stop; list the total number of stops at which you attempted howls; list the total number of responses you received under "Time Response"; and list the estimated number of wolves responding under "Wolf No.".

Equipment

Pen or pencil, clipboard, data sheet(s), watch, flashlight, compass, map of study area at scale of 1:150,000 or larger, and tape recorder with empty tape and wolf tape (optional).

Do's and Don'ts

Avoid using brights when driving through open country.

Don't attempt to shine flashlights at wolves that may approach you.

Attempt to be as quiet and inconspicuous as possible.

Turn off all lights and avoid using flashlights when you arrive at your stops.

Never attempt to walk into an area from where you hear howling.

Don't take a large number of people with you; limit the number of people on the survey to 4 or less.

Generally only one person should do the howling, but you can trade off so no one person needs to do all the howling.

Generally no more than one survey per week per territory should be conducted; unless there is need to gather additional data.

When you have received a response, don't stay at a site too long, and do not keep howling at the same group.

Avoid disclosing exact locations of howling responses to people outside of your survey group.

Wolf Howl Survey

EXAMPLE

General Location: Chequamegon N.F., Sawyer Co., Log Creek Area

Start Location: Section 25 T 40 N, R 3 E or W

End Location: Section 6 T 39 N, R 3 E or W

Date July 10, 1992 Temp 60-65° Skies Clear Precip None Wind <2mph

Previous day(s) weather Warm, high 80° low 55°; clear skies, light wind

Observer(s) Jane Brown and John Smith

Road Name	Odometer	Time Howl	Time Response	Wolf No.	Direction	Comments and Estimated Location, Sec., T, & R
Co. EE & FR 161	00.0	----				Going N on FR 161
FR 161	01.5	2200	none			
FR 161	03.0	2215	none			
FR 161	04.5	2230	none			
FR 161	06.0	2245	2248	2A 2+P	20°E of N	Probably in Sec. 2, T40N R3E
FR 161	07.5	2300	none			
FR 161 & FR 162	08.5	2315	none			
FR 162	10.0	2330	none			
FR 162	11.5	2345	none			
FR 162	13.0	2400	none			
FR 162	14.5	2415	none			Stop survey.
TOTALS	14.5 miles	9 stops	1 response	4+		

Appendix C. Websites and Additional Information

For more information about wolf delisting and the USFWS go to: www.fws.gov/midwest/wolf/

For more information on the Wisconsin's State Wolf Management Plan go to:
<http://dnr.wi.gov/org/land/er/publications/wolfplan/toc.htm>.

For more information on Land Owner permits you can visit this website:
<http://dnr.wi.gov/topic/wildlifehabitat/wolf/permit.html>.

2011 Wisconsin Act 169: <https://docs.legis.wisconsin.gov/2011/related/acts/169>

Federal Register Delisting the Gray Wolf in the Western Great Lakes:
http://www.fws.gov/midwest/wolf/delisting/pdf/FR_grwoWGLDelist28Dec2011.pdf

Bad River Tribe Wildlife Program Website: <http://badriver-nsn.gov/natural-resources/wildlife-program>

Great Lakes Indian Fish & Wildlife Commission Website: <http://glifwc.org/>

Appendix D. Contact Information

USDA-WS Wolf Depredation Hotline: 1-800-228-1368

Bad River Natural Resources Department: 1-715-682-7123

Bad River Tribal Game Wardens:

John Patrick: 715-292-7822

Doug Tutor: 715-292-2134

Bad River Wildlife Specialist, Lacey Hill: 715-292-8282

Email: wildlifegis@badriver-nsn.gov

**Appendix F. Bad River Tribal Council Resolution Approving Bad River
Wolf Management Plan**

BAD RIVER BAND OF LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS

CHIEF BLACKBIRD CENTER

P.O.Box 39 • Odanah, Wisconsin 54861

Resolution No. 4-3-13-55

Authorization of the Bad River Ma'iingan (Wolf) Management Plan

WHEREAS: the Bad River Band of Lake Superior Tribe of Chippewa Indians is a federally recognized Indian tribe with a Constitution enacted pursuant to the Indian Reorganization Act of 1934, 25 U.S.C. Section 476; and

WHEREAS: Article VI, Section 1(a) of the Constitution authorizes the Tribal Council to negotiate with Federal, State, and local Government on behalf of the Band; and

WHEREAS: Article VI, Section 1(n) of the Constitution directs the Tribal Council to encourage and foster the arts, crafts, traditions, culture, wildlife, and natural resources of the Band; and

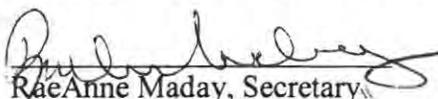
WHEREAS: the Bad River Integrated Resource Management Plan (IRMP) is utilized as the guiding document for the conservation, preservation, and sustainable use of the natural resources of the Bad River Reservation.

NOW THEREFORE BE IT RESOLVED, that the Bad River Tribal Council hereby approves the attached *Bad River Ma'iingan (Wolf) Management Plan*;

AND BE IT FURTHER RESOLVED, that this resolution is effective beginning on this date and continuing until the Resolution is rescinded.

CERTIFICATION

I, the undersigned, as Secretary of the Bad River Band of the Lake Superior Tribe of Chippewa Indians, an Indian Tribe organized under Section 16 of the Indian Reorganization Act, hereby certify that the Tribal Council is composed of seven members, of whom 5 members, constituting a quorum, were present at a meeting hereof duly called, noticed, convened, and held on the 3 day of April, 2013; that the foregoing resolution was duly adopted at said meeting by an affirmative vote of 3 members; 0 against and 0 abstaining, and that said resolution has not been rescinded or amended.


RaeAnne Maday, Secretary
Bad River Tribal Council