Red Cliff Band of Lake Superior Chippewa

Wolf Protection Plan

Ma'iingan

Gananaagitaawiminonaanig

TNR Forestry and Wildlife 2015

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Summary

The status of wolves in Red Cliff, the State of Wisconsin, and the Great Lakes region will continuously change through time. This plan should be reviewed every 5 years to account for the changes in wolf ecology, policy, recommendations, and research findings. Additionally, new developments regarding wolves within or near the reservation boundary may lead to changes to the plan and its recommendations regarding Red Cliff specific policy. Here is a summary of critical points found within the plan:

- The Red Cliff Band of Lake Superior Chippewa recognizes wolves as a ***Tribally Important Species.***
- The Red Cliff Band of Lake Superior Chippewa prohibits hunting and trapping of wolves within the reservation boundary.
- Red Cliff works cooperatively with APHIS-WS on wolf conflict issues within a 6-mile buffer zone around the reservation.
- Red Cliff requests the establishment of a "wolf protection area" of zero-quota during any future public hunts surrounding the reservation and that it be recognized by applicable state and federal agencies. An example buffer would be the proposed 6-mile buffer. However, an area larger than the 6-mile buffer should be requested considering the success of recent Wisconsin wolf hunts.
- Red Cliff will not manage for a minimum or maximum number of wolves.
- Wolf den and rendezvous sites are protected areas within the reservation boundary and State of Wisconsin.
- Wolves that are incidentally trapped within the reservation must be released immediately, and the RC TNR and wardens offices notified immediately.
- Wolves found dead within the reservation or 6-mile buffer must be reported to RC TNR and wardens offices immediately.
- Declare Red Cliff Reservation a wolf sanctuary.
- Continued monitoring and research of wolves at Red Cliff is needed. Future efforts to include remote motion sensor videography and photography, mapping home range and habitat use from wolf collar location from WDNR pilots and telemetry data, and potentially unmanned aerial videography.

Introduction

The Red Cliff Band of Lake Superior Chippewa is a sovereign nation located in Bayfield County on the tip of the Bayfield Peninsula in far northern Wisconsin. Considering the exterior boundary, the reservation (Figure 1) encompasses an area of approximately 14,000 acres, though currently it has a "checkerboard" ownership of tribal and non-tribal land (Red Cliff Band of Lake Superior Chippewa, 2006). The reservation resides within the Lake Superior Coastal Plain Ecological Landscape-Boreal Forest Transition and is mostly forested. Much of the area surrounding the reservation is rural and heavily forested, providing ideal habitat for wildlife. Ma'iinganag (wolves) are one of the species documented in the region as well as the reservation. Ma'iinganag are a culturally important species to the Ojibwe people of northern Wisconsin and more specifically the Red Cliff Band of Lake Superior Chippewa (Red Cliff Wolf Survey, 2012). This document is intended to define the status of the wolf from the perspective of the Red Cliff reservation and its people. As wolf dynamics and ecology are likely to change through time, so should this plan. Revisiting the plan with potential updates every 5 years is recommended.

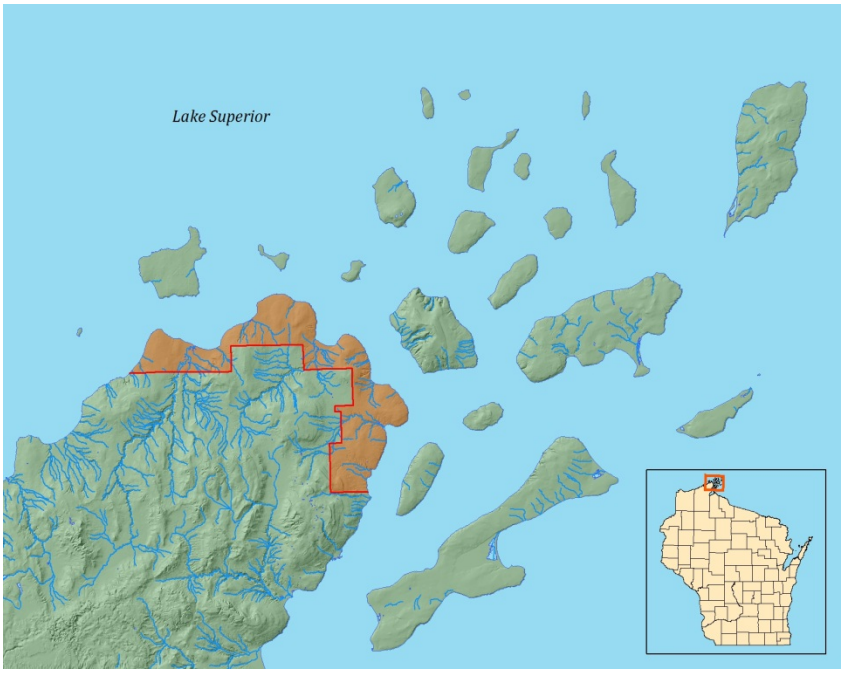


Figure 1: Red Cliff Reservation shown in red.

Ma'iinganag and the Anishinaabeg-Wolves and the Ojibwe

The Ojibwe people (and more specifically the Red Cliff Tribe) hold a deep relationship with Ma'iinganag (wolves) that spans back to the origin story of the Anishinaabeg people (Benton-Banai, 1979). According to Benton-Banai (1979) in his retold version of the Ojibwe creation story, Original Man was the last species placed on Earth. However, unlike all other species, Original Man was placed on Earth alone and not in pairs. When Original Man asked the Creator why he was alone, the Creator sent him a brother, the ma'iingan. Original Man and ma'iingan walked the Earth together becoming very close to each other along their journey. Eventually, the Creator told Original Man and ma'iingan that they would travel separate paths, though their lives would be forever linked and what shall happened to one would also happen to the other.

Beyond the importance of ma'iinganag in the Creation Story of the Ojibwe, similarities and other important relationships between the Ojibwe and ma'iinganag are noted. Among them is a social organization with extended family groups where many adults may act as parents to the young. Additionally, both ma'iingan and the Ojibwe are significant predators that often hunt the same species utilizing similar techniques (David, 2009). In fact, the early Ojibwe's understanding of survival in the sometimes harsh environment of the Upper Great Lakes could easily have been influenced through observation of ma'iingan behavior. In contrast to views regarding wolves as a menace on the landscape held largely by European agriculture-based societies, the Ojibwe viewed ma'iinganag from a positive perspective. The Ojibwe realized ma'iinganag require many of the same resources for survival as themselves and wolf sign often suggested greater prospects for survival existed in an area. To many modern deer hunters, finding wolf sign suggests low deer numbers or possibly their absence altogether, whereas historically the Ojibwe took wolf sign as an indicator of good hunting (David, 2009).

History of Wolves in Wisconsin

Wolf populations likely existed in Wisconsin since the last glacial retreat some 10,000 years ago and possibly even earlier in the un-glaciated Driftless Area of Southwest Wisconsin (Wydeven, Van Deelen, & Heske, 2009). Although pre-European exploration (1634) wolf population estimates vary, Wydeven (2009) speculates 3000-5000 wolves inhabited Wisconsin during the period based on probable prey and wolf densities per area. Prey species at the time of European exploration would include bison *(Bison bison)*, elk *(Cervus elaphus)*, and white-tailed deer *(Odocoileus virginianus)* in Southern Wisconsin and moose *(Alces alces)*, deer, and caribou *(Rangifier tarandus)* in the northern part of the state (Wydeven, Van Deelen, & Heske, 2009).

Multiple factors contributed to the decline of Wisconsin wolf populations during the period of European settlement. As the number of settlers increased in Wisconsin, the landscape was quickly transformed from the expansive prairies, oak savannas, and northern woodlands to land suitable for active farming communities. In addition to the impact landscape changes had on wolves, many wolf prey species were hunted excessively to supplement the settler's diets (Thiel, 1993). With lost habitat and scarce prey, depredation of livestock by wolves became an increasing issue and a source of conflict with settlers (Thiel, 1993).

By the late 1800's, the Wisconsin timber boom was reaching its peak with the northern forests being cutover extensively, changing much of the last remaining northern Wisconsin wolf habitat. Additionally, logging slash leftover from the cutover fueled massive outbreaks of wildfires during the 1880's – 1930's, broadening the landscape change (Thiel, 1993).

While Wisconsin's landscape was undergoing drastic changes that impacted wolf populations, bounties for killing wolves were also established. During 1839 to 1847, a bounty on wolves was initiated by the Wisconsin Territory. Following statehood in 1848, a bounty was offered by the

State of Wisconsin from 1865 to 1957 (Wydeven, Van Deelen, & Heske, 2009). Though a bounty wasn't offered immediately following statehood, it is likely that bounties continued through local and county governments (Thiel, 1993). By 1960, wolves were considered extirpated in Wisconsin (Thiel, 1993).

Protection of wolves as a Federally Endangered Species began in 1967 under the first listing of endangered species enacted by the US Fish and Wildlife Service. Subsequently, they were listed again in 1974 following the passage of the 1973 Endangered Species Act (Wisconsin Department of Natural Resources, 1999). Under the newly granted protections, wolves began re-colonizing Wisconsin from neighboring Minnesota populations and received an additional listing of "endangered species" under Wisconsin state law in 1975 (Wisconsin Department of Natural Resources, 1999). As the wolf population increased in Wisconsin, their status as an endangered, threatened, or protected species varied at both the state and federal levels. The state down-listed wolves to "threatened" during 1999 with further delisting to "protected" status occurring in 2004. The federal-level listed status of wolves was more multifaceted with a series of delisting and relisting through the 2000 decade. Multiple lawsuits against delisting efforts contributed to the frequent change in status as an endangered species (U.S. Fish and Wildlife Service, 2013). Below is a table displaying state and federal population requirements dictating protections on wolves:

Wolf Population	State Listing	Federal Listing
Less than 80	**Endangered**	**Endangered**
80 or more for 3 years	**Threatened**	**Threatened**
100+ for 5 years in MI and WI	**Threatened**	Delisted
250 wolves for 1 year	Delisted	Delisted
Decline to less than 250 for 3 yrs	Reclassify as **Threatened**	Delisted
Decline to less than 80 for 1 yr	Reclassified as **Endangered**	Not Specified

According to the U.S. Fish and Wildlife Service Eastern Timber Wolf Recovery Plan, delisting at the 100+ wolves combined in WI and MI results from Wisconsin's location within 100 miles of the much larger Minnesota population (Eastern Timber Wolf Recovery Team , 1992). Thus, 100 wolves were deemed satisfactory for sustaining a viable population considering likely continued emigration from the Minnesota population.

Current Status of Wolves and Wolf Stewardship in Wisconsin

According to DNR population estimates from April of 2014, there are approximately 600-700 wolves in Wisconsin outside of Indian Reservations. According to the state management plan published in 1999 (with addendum in 2007), the wolf population goal for Wisconsin is 350 outside of Indian reservations. Furthermore, the 2007 addendum finds assessments suggesting 500 wolves as the biological carrying capacity of Wisconsin (and possibly up to 800 if wolves

utilized secondary or marginal habitat). It should be noted that in 1999 when the state management plan was published the wolf population was approximately 200 wolves; below the 350 wolf goal and the estimated carrying capacity of 500. In 2007, when the addendum was incorporated into the plan, the population was approximately 530 wolves or just above the estimated carrying capacity. Considering the wolf population was 800 or above by 2012, well above the estimated carrying capacity, it might be reasonable to revisit the numbers set for population goals and carrying capacity.

On January 27th, 2012 wolves were again removed from the federal Endangered Species List returning management of wolves to the Wisconsin Department of Natural Resources (WDNR) and Tribes. On January 31st, 2012 Senate Bill 411 was introduced by legislators requiring WDNR to issue wolf harvest licenses upon removal of the federal endangered species list. It also specified the proposed wolf season dates and permitted methods of take. SB 411 passed through the Senate and Assembly and was presented to the Governor on March 30th, 2012. The report was approved by the Governor on April 2nd 2012 and became *2011 Wisconsin Act 169,* thereby designating gray wolves as a state game species (State of Wisconsin, 2012). Consultation with tribes, scientists, and WDNR biologists were largely overlooked during the legislative process (Kemble, 2012) (Rowan, 2013).

The first public wolf hunt in modern Wisconsin history was instated during October 2012 and was followed by hunting seasons the next two years. In addition to the public wolf hunt season, wolf depredation control by landowners was allowable under DNR permit. During this period approved (for up to 90 days with possible renewal) landowners were given the right to kill as many wolves as known to exist in the local wolf pack if one of the following existed: (Wisconsin Department of Natural Resources, 2008)

- Depredation has occurred in the last 2 years on owned or leased land.
- Verified depredation has occurred within 1 mile of applicant's property during the current calendar year.
- Human safety concern exists on the property as determined by Wildlife Services (WS) or WDNR.
- Livestock harassment is occurring and APHIS-WS determines a permit should be issued.

During this three year wolf hunting period, hunting or trapping of wolves was prohibited within the exterior boundary of the Red Cliff, Bad River, Lac Courte Oreilles, Lac du Flambeau, Menominee, and Stockbridge-Munsee reservations; and will continue to be prohibited for any future hunts.

In December 2014 a federal judge threw out the previous ruling which had removed the gray wolf population in the western Great Lakes region from the endangered species list. This ruling bans further wolf hunting and trapping in Wisconsin indefinitely. The order, which also affects

Minnesota and Michigan, protects a wolf population that is estimated at around 3,700 (for Western Great Lakes region). The U.S. Fish and Wildlife Service dropped federal protections from those wolves in 2012 and handed over management to the states. U.S. District Judge Beryl Howell in Washington, D.C., ruled that the 2012 the removal was "arbitrary and capricious" and violated the federal Endangered Species Act. Though likely to be overturned in the near future, her decision will block these 3 states from scheduling additional hunting and trapping seasons for the predators. All three states have had at least one hunting season since protections were lifted in 2012, with a combined harvest totaling more than 1,500 wolves.

Contemporary Issues

As the wolf population was recovering in Wisconsin through the 1990's and 2000's, dialogue regarding wolf management at the state level increased. In October, 1999 the Wisconsin Department of Natural Resources released a wolf management plan outlining numerical targets for delisting/relisting, wolf population and health monitoring, habitat protection, response to depredation, and population management.

Considering the cultural significance of wolves in Ojibwe society, it may come as no surprise that wolf management is topic of controversy between the Ojibwe tribes and non-tribal agencies. Discussion regarding ma'iinganag (and especially management) is often discomforting for some tribal members, sensing any talk of ma'iinganag as best left to spiritual leaders and those intimately tied to tribal philosophy (David, 2009). Additionally, the significance of ma'iinganag among the Ojibwe generates a form of disconnect with non-tribal agencies that approach wolf issues from an entirely different perspective. This difference in perspective is portrayed on many of the current wolf management issues facing Great Lakes tribes and states. For example, wolf populations considered "recovered" are delisted and lose protection from federal and state Endangered Species lists as a result of reaching a pre-determined minimum population goal. However, the cultural status of wolves in Ojibwe society may suggest that some form of protection should exist regardless of population or delisting as an endangered species. Peter David (2009) offers the example of the bald eagle as the symbol of the United States and its upholding among most American citizens. Bald Eagle populations were considered recovered and delisting occurred, though protections remained. The Bald Eagle and Golden Eagle Protection Act continued protections of bald eagles after delisting resulting at least in part from their culturally important status within the United States. Additionally, non-tribal agency "population goals" may broaden the divide when one considers the relationship as brothers between the Ojibwe and wolves and the associated awareness of "*what happens to the wolf, happens to you*" described in the Ojibwe Creation Story.

Tribal Views

The Great Lakes Indian Fish and Wildlife Commission's (GLIFWC) Voigt Intertribal Task Force passed a motion opposing SB 411 and are also on record against a public take of wolves in Wisconsin, Michigan, and Minnesota. However, GLIFWC states that opposition to a public hunt should not be construed as a lack of interest in management of wolves (GLIFWC & Zorn, 2012).

Though many tribes declare opposition toward a public wolf hunt (and collaboratively publicized through the Voigt Intertribal Taskforce motion) there is some variation of opinion at the tribal member level. These variations or nuances are described by Shelley et al (2011) who addressed attitudes to wolves between Bad River Tribal Members and non-tribal residents living in wolf range. For example, not all tribal respondents opposed a public hunt or depredation control. Some tribal members left comments in the survey suggesting that though they had great respect for wolves and their cultural status, but they also believed that the Anishinaabe historically took wolves when needed. Another statement by a tribal member who viewed wolves as culturally important discussed the importance of increasing hunting and fishing opportunities for all people and thus wasn't completely opposed to a wolf hunt (Shelley, Treves, & Naughton, 2011). While differing opinions exist within the tribal community, the general results of the study suggest that Bad River members were significantly more likely to have protection-oriented attitudes and oppose public wolf hunting than non-members.

Likewise, a study conducted by the Red Cliff Treaty Natural Resources Division found varying attitudes among tribal membership regarding wolf management issues. However, similar to the Bad River study, protection-oriented attitudes and opposition to public harvests appear more predominant among the membership population. Additionally, non-lethal measures (such as relocation) that address problem or depredating wolves have much greater support than lethal methods of management among Red Cliff members (Red Cliff Treaty Natural Resources Division, 2013).

Due to the cultural significance of ma'iingan to the Ojibwe, the Red Cliff Band of Lake Superior Chippewa view ma'iingan as a ***tribally important species*** and officially declared wolves a ***protected species*** within the exterior boundary of the Red Cliff reservation (Red Cliff Band of Lake Superior Chippewa, 2011). Hunting or trapping of wolves is prohibited.

Concurrent to the Tribe's prohibition of wolf hunting within the reservation, the National Park Service (Apostle Island National Lakeshore) which holds land adjacent to and within the reservation boundary also has prohibited wolf hunting and trapping within Park boundaries.

Wolf Biology and Ecology

Description

Gray wolves (*Canis lupus),* also called timber wolves, are the largest member of the Canidae family in North America. According to the Wisconsin wolf management plan (1999), captured Wisconsin adult male wolves averaged 77 pounds (57-102lbs) and adult females averaged 62 pounds (46-75lbs). Length of wolves from nose tip to tail tip range from 4.5ft to 6.5ft with height ranging from 28 to 34 inches at the shoulder. Wolves in Wisconsin generally display brownish coloration with grizzled gray and black, though some all black wolves have been identified. They differ from large domestic dogs by generally exhibiting longer legs, larger feet, and a narrower chest (domestic dogs are often broad or barrel chested with legs spaced further apart). Wolves typically carry the tail straight rather than curved upward (as commonly seen in domestic dogs) and the head appears fairly large resulting from hair tufts that project down and outward from the ears. Wolf tracks are often 3.5" or greater in size and exhibit direct registration where the rear foot falls in line with the fore foot (most dogs do not). Wolves tend to travel in fairly straight lines across the landscape whereas domestic dogs vary their gait and weave about (Wisconsin Department of Natural Resources, 2013).

Social Structure

Wolves live in social groups known as "packs" that in Wisconsin; generally include 2-10 wolves. Packs are comprised of the "alpha" or dominant breeding pair, surviving previous year offspring, and current years pups (Mech, 1981). Occasionally, older offspring remain with the pack or an unrelated adult may be accepted as a member. Dispersing yearling wolves usually leave the pack during October – January in search of new territory and a mate and may travel up to 500 miles, though the average is 71 miles in Wisconsin (Wisconsin Department of Natural Resources, 1999). They may also be accepted into other packs as either a non-breeding sub-dominant or breeding alpha.

Reproduction

The alpha pair is generally the only breeding pair within the pack as they typically inhibit breeding between any subdominant pairs. Breeding takes place during late January through early March. Pups (avg. 5-6) are born at the den site in early-to-mid April. After approximately two months the pups are moved to the first of a series of rendezvous sites where they are raised for the remainder of the summer. In September or October, the pups are big enough to abandon the rendezvous sites with the adults and travel throughout their territory (Wisconsin Department of Natural Resources, 2013).

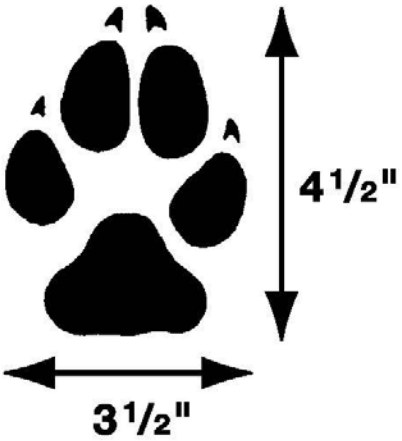
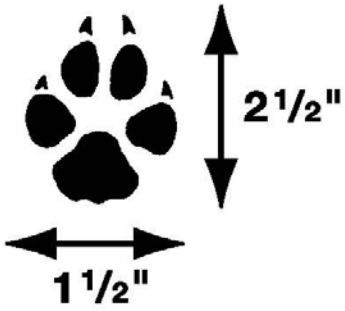
Habitat and Food

Wolves are considered habitat generalists, adaptable to varying landscapes and cover types. They do however require large landscapes with sufficient prey base and minimal human interaction. Average pack territory in Wisconsin is 70 square miles and does not overlap other

wolf territories. To maintain a viable population, clusters of at least 2-3 wolf packs must exist suggesting approximately 200 square miles of suitable habitat are needed to sustain a long-term wolf population (Wisconsin Department of Natural Resources, 1999).

Wolves are carnivores that eat a variety of prey species including deer, beaver, snowshoe hare, mice, squirrels, and other small mammals. Though white-tail deer may supply 50% of the wolf diet, they are unlikely to have major impacts on deer populations, which is contrary to popular belief. It is estimated that each wolf consumes 20 deer per year. When the population is at or near 800 wolves (which is more than the current population), **16,000** deer are consumed by wolves in Wisconsin annually. Annual car mortality of deer is **27,000**. Annual hunter mortality of deer is approximately **340,000**. Additionally, numerous studies in Minnesota conclude wolves are only a small factor among many that determine deer populations. According to a 15-year study conducted in Minnesota, wolves are ineffective hunters of white-tail deer even when deer populations outnumber wolves 175:1 as is the case in Minnesota's forest zone (DelGuidice, 2009). Additional studies reinforce this claim, clearly stating most hunting attempts by wolves are brief and unsuccessful endeavors (DelGuidice, 2009). Indeed, many studies conclude wolves as a factor in deer populations, but in perspective their influence is fairly minimal. Influences such as winter severity, forest maturation, seasonal migration (leaving localized areas with low deer numbers), car mortality, other predator influence, and hunter deer harvest also need consideration before placing responsibility squarely on wolves for what may appear as low deer numbers.

Comparison of wolf and coyote:

	GRAY WOLVES (adult)	COYOTES (adult)
LENGTH:	4.5 to 6.5 feet	3.6 to 4.4 feet
HEIGHT (at the shoulder):	26 to 32 inches	16 to 20 inches
WEIGHT:	60 to 115 lbs	20 to 50 lbs
PELAGE:	buff tans grizzled with gray and black, but can also be black or white	gray or reddish brown with rusty legs, feet and ears, and whitish throat and belly
EARS:	rounded, relatively short	pointed, relatively long
MUZZLE:	large and blocky	petite and pointed
TRACK SIZE:		
DOG TRACK:	Variable depending on breed. Only a few breeds of dogs leave tracks longer than 4 inches (Great Danes, St. Bernards, some bloodhounds).	

WOLF, COYOTE AND TRACK ILLUSTRATIONS COURTESY OF MICHIGAN DNR

Figure 2: Wolf and Coyote Comparison. Image credit: International Wolf Center, 2002

Red Cliff Wolves-Past Monitoring Efforts and Recent Updates

Very little is known about wolves living on Red Cliff lands, which means that pack territories are relatively unknown. Previously, WDNR surveys had determined that the Echo Valley pack (consisting of two wolves as of July 2012) uses at least the western end of Red Cliff lands seasonally but likely spends the majority of the year further inland (Naas, 2012). Indeed, RC TNR has captured photos of a pair of wolves using motion sensor trail cameras placed within the western end of the reservation, thus reinforcing the likelihood of the Echo Valley pack's presence. Whether Red Cliff's land base is large enough to support another pack without territorial disputes is questionable but certainly not impossible. However, it is likely for dispersing wolves from other areas to be funneled up to the tip of the Bayfield Peninsula where they intersect the reservation and are stopped by Lake Superior. Photos of lone wolves have been captured by trail cameras in various locations around the reservation suggesting the presence of dispersers, though they could be traveling as part of a pack with other wolves not captured within the picture frame.

Figure 3: Red Cliff Wolf

Additionally, many community members report wolf sightings in various locations around the reservation. The relative small size of the Red Cliff reservation (and it's long but thin shape at the tip of the Bayfield Peninsula) almost certainly prevents Red Cliff from having true reservation wolves or packs that spend the majority (>50%) of their time within the Red Cliff Reservation (Wydeven A. , 2013). Considering the average Wisconsin wolf pack territory of 70

square miles reconfirms the unlikeliness of a true “reservation pack”. The Echo Valley pack’s seasonal movements are marginally understood through field surveys, which suggest the majority of time spent off reservation lands.

The most recent development occurred in June 2014, when the Wisconsin DNR successfully collared a female member of the pack they call the Echo Valley Pack, on Bayfield County land adjacent to the reservation. According to DNR wildlife biologist Todd Naas, the female was believed to be 2-4 years old and approximately 60 pounds. The WDNR is currently sharing the wolf’s GPS coordinates, obtained from weekly flyovers, with the RC TNR, which is providing vital information on the movements and home range of this pack that utilizes the Red Cliff Reservation. Since learning of the collaring, the RC TNR has placed motion sensor trail cameras on the reservation in the vicinity of the capture site. This monitoring has produced many photographs, not only of the collared female, but of her four pups and her mate as well. This is the first known documentation of breeding wolves on the reservation. This is an important first step in determining the overall population and subsequent reservation habitat requirements of this ecologically and tribally important species.

Figure 4: Collared Female Red Cliff Wolf with 4 Pups

Red Cliff Wolf Stewardship

Considering the small size of the Red Cliff reservation and its probable inability to accommodate multiple packs of wolves for any length of time, wolf management policy has largely been non-existent. Wolves are listed as a ***tribally protected species*** pursuant to RCCL Chapter 8, Section 6 and are protected from hunting and trapping within the reservation. Red Cliff is not committed to managing wolves for a minimum or maximum population within the reservation. Preservation of quality landscape-scale habitat ensuring long-term potential for wolf existence (and other species) at Red Cliff is the main priority. This should include consideration of new road construction or other developments that may fragment wolf habitat or increase human-wolf interaction. Studies identified in the Wisconsin Wolf Management Plan suggest wolves prefer road densities at less than or up to 1 linear mile of open improved road per square mile. Another study suggests pack territories generally exist in areas of even less road density (avg. 0.37mi/sq. mi). However, as the Wisconsin wolf population increased so did tolerance of road density, displaying at least some adaptability by wolves. Regardless, lower road density and development is favorable and also recommended for the benefit of additional species; such as marten, bobcat, lynx, and fisher.

Figure 5: Red Cliff Wolf, Image Captured on August 21, 2014

Wolf Conflict Management

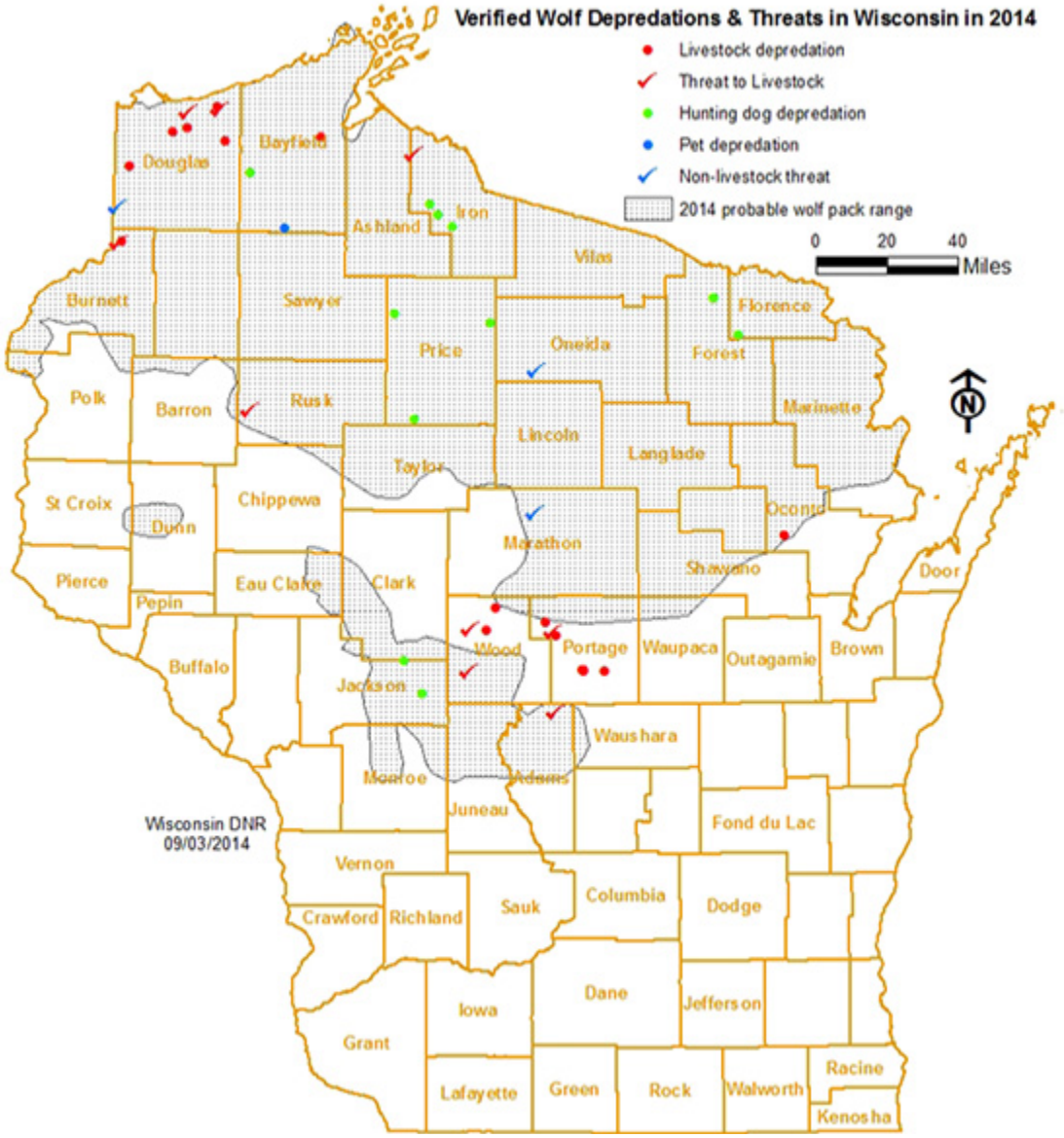


Figure 6: 2014 Wisconsin Wolf Range and Depredations (WDNR 2014).

Though conflict with wolves at Red Cliff is non-existent as of current, minimizing potential for conflict is recommended. Wolves are known to, on occasion, kill and eat domestic animals. Cattle, sheep, chickens, goats, or other farm animals are all potential targets. Domestic dogs are also possible targets of wolf attacks. Minimizing potential for depredation is recommended to avoid potential problems before they develop. Domestic dogs that run free are more likely to come into conflict with wolves, especially if they roam far from owners or houses. Farm animals within the reservation (outside of chickens) don't appear to exist at this time. However,

agriculture and animal husbandry does exist within the 6-mile buffer of the reservation. Only one occurrence of a potential wolf depredation (farm based) occurred within the 6-mile buffer. If conflict does occur, the focus should turn to prevention and mitigation. Red Cliff wardens in cooperation with APHIS-WS can implement programs addressing conflict issues. If human safety issues arise or conflict management has failed, RC TNR in cooperation with APHIS-WS can recommend to Tribal Council the need to remove a wolf.

Preventative strategies in the agricultural setting include changes in farm management practices and animal supervision, proper carcass disposal, frightening devices, exclusion, guard animals, and habitat modification (USDA APHIS-WS, 2012). Wolf conflict within the reservation boundary should be reported to tribal wardens who can request aid from APHIS-WS to address the issue. If a wolf conflict issue occurs within the 6-mile buffer, APHIS-WS and the Tribe should be notified and will work cooperatively with the land owner to address the issue using non-lethal mitigation strategies. Red Cliff does not provide subsidies to offset property losses or injuries resulting from wolf depredation.

6-Mile Buffer

A 6-mile buffer around the Bad River, Red Cliff, LCO, LDF, Menominee, and Stockbridge-Munsee reservations has been recognized for numerous years. Within the 6-mile buffer APHIS-WS, WDNR, and the tribes have worked cooperatively on wolf conflict management. If a report of wolf conflict is issued within the 6-mile buffer, APHIS-WS will notify tribal representatives and the conflict will be investigated jointly and discussed with the landowner. As within the reservation boundaries, non-lethal mitigation techniques are generally applied first. In the case of failed mitigation attempts or human safety concerns, other actions may be considered. In accord with the Red Cliff and APHIS - Wildlife Services Memorandum of Understanding (MOU), carcasses of euthanized or incidentally killed wolves (e.g. hit by car) within the 6-mile buffer can be requested by the Tribe for cultural or educational purposes.

In addition to the conflict management cooperation within the 6-mile buffer, the tribes have expressed interest in a zero quota zone for public harvest within the buffer. Furthermore, a much larger “wolf protection area or refuge” around the reservations, beyond the 6-mile buffer, appears as a strong possibility. The first two public wolf seasons presented no difficulty in reaching the state-set quotas. Thus, additional acres of a potential “refuge” or “sanctuary” are likely not needed to hit quotas and would aid the protection of reservation wolf packs that travel off reservation lands. It is possible that higher zonal quotas could be set in areas of agriculture/depredation to offset the additional protection areas, if needed.

Wolf Disturbance Restrictions

Beyond the landscape-scale habitat concerns, another area of recommendation for disturbance protection is at wolf den and rendezvous sites. These areas are critical to the success of wolf reproduction and recruitment and if found should be protected. The state wolf management plan

currently recommends a 330 foot total protection buffer around any potentially active den or rendezvous site. An additional buffer of 0.5 miles around den and rendezvous sites is recommended from March 1st until July 31st limiting activities such as logging, trapping, and hunting that may disturb wolves during denning and pup growth and development stages. According to the WDNR plan (1999) dens are often excavated into the ground, though hollow logs, old beaver lodges, or rock caves are also used. Rendezvous sites are often grassy or sedge dominant areas near beaver dams or streams. Thick conifer cover is often nearby.

No officially known den or rendezvous sites are present at Red Cliff at time of writing. It is presumed the Echo Valley pack has den and rendezvous sites further inland. However, future monitoring of wolves at Red Cliff or other natural resources based activities (such as forest stand inventory) may discover an active site, necessitating the implementation of protections.

Incidental Wolf Kill or Capture

Within the reservation boundary, if a wolf is unintentionally trapped in a set by a trapper targeting other species, the wolf must be released immediately and then Red Cliff Treaty Natural Resources must be notified. If a wolf is found dead within the reservation boundary or within the 6-mile buffer, Red Cliff TNR must be notified. If the deceased wolf is found within the 6-mile buffer, APHIS-WS will also be notified and will cooperatively assess the kill with Red Cliff representatives. Samples from the wolf may be taken if necessary to aid necropsy studies or law enforcement investigations. Wolf hides can be made available to Tribal members for cultural or educational purposes.

Education and Outreach

Red Cliff Treaty Natural Resources will use various social events (e.g. public listening session, open houses) and media opportunities (e.g. RC TNR newsletter, community emailing) to keep the community updated on wolf management issues within the reservation, 6-mile buffer, and/or State of Wisconsin. Changes or future updates to the Red Cliff Wolf Management Plan will include a public listening session to allow public comment regarding the proposed changes.

Recommendations

Since much is still unknown about reservation packs, further monitoring for the foreseeable future is recommended. It is recommended that monitoring should continue to include data shared by the WDNR, in addition to the continuation of motion sensor trail camera monitoring, and that telemetry equipment should be purchased or an agreement reached with local agency to allow for regular borrowing of equipment to facilitate more productive monitoring. The purchasing of telemetry equipment would allow RC TNR staff to gather a significant amount of additional data points on the movements of the pack, which would yield more detailed information on critical habitat and den sites, thus allowing the Tribe to better protect those areas. In addition, the continued use of motion sensor trail cameras will allow for a better understanding of the yearly population fluctuations of pack(s) that use the reservation.

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Appendix A: Red Cliff Community Wolf Survey

Red Cliff Band of Lake Superior Chippewa
Ma'iingan (Wolf) Survey

This survey is intended to allow the Natural Resources Division a better understanding of perspectives held by the Tribal Community regarding ma'iinganag (wolves). Information from this survey will assist the Natural Resources Division in making management decisions and recommendations regarding ma'iingan-related issues while considering Tribal Community views. Miigwech for helping with this effort!

Tribal response: 58 people **Non-Tribal response: 21 people**

Are you a Red Cliff Tribal Member?	Yes 73%		No 27%	
Age Group:	Under 18yrs	T=5% NT=10%	18yrs or older	T=95% NT=90%

Section 1: Safety Concerns

Please indicate your level of concern in each of the following situations. Please mark a response for all the questions, regardless of whether or not you have children, pets, livestock, etc.

If you knew ma'iinganag lived by your house, how concerned would you be about:	Very Concerned	Somewhat Concerned	Not Very Concerned	Not At All Concerned
1. Your own safety	T=31% NT=14%	T=28% NT=57%	T=22% NT=14%	T=19% NT=14%
2. The safety of children	T=48% NT=43%	T=26% NT=33%	T=16% NT=10%	T=10% NT=14%
3. Safety of livestock	T=20% NT=24%	T=34% NT=33%	T=23% NT=14%	T=23% NT=29%
4. Safety of pets	T=29% NT=43%	T=40% NT=43%	T=17% NT=5%	T=14% NT=10%

1

Section 2: Activities

The following is a list of activities that people participate in that may be affected by the presence of ma'iinganag. Please indicate how your participation in these activities would be (or is) affected if you knew ma'iinganag lived in the area in which you participated in these activities by marking the most appropriate choice. Mark "Not Applicable" if you do not participate in the activity.

If I knew ma'iinganag lived where I participated in the following activities I would:	No Changes	Participate More Frequently	Participate Less Frequently	Stop Participating	Not Applicable
5. Hunting	T=55% NT=57%	T=2% NT=0%	T=10% NT=0%	T=7% NT=5%	T=26% NT=38%
6. Trapping	T=45% NT=48%	T=3% NT=0%	T=5% NT=0%	T=7% NT=5%	T=40% NT=48%
7. Bike Riding	T=44% NT=67%	T=4% NT=0%	T=30% NT=19%	T=11% NT=5%	T=12% NT=10%
8. Riding ATV/Snowmobile	T=62% NT=62%	T=7% NT=0%	T=14% NT=5%	T=9% NT=5%	T=9% NT=29%
9. Walking/Hiking/Running	T=57% NT=62%	T=9% NT=0%	T=21% NT=24%	T=12% NT=14%	T=2% NT=0%
10. Gardening	T=53% NT=76%	T=5% NT=0%	T=14% NT=14%	T=9% NT=5%	T=19% NT=5%
11. Bird Watching	T=53% NT=71%	T=3% NT=0%	T=16% NT=10%	T=7% NT=5%	T=21% NT=14%
12. X-Country Ski/Snowshoe	T=41% NT=48%	T=2% NT=5%	T=16% NT=19%	T=7% NT=5%	T=34% NT=24%
13. Canoeing/Kayaking	T=48% NT=67%	T=5% NT=5%	T=14% NT=5%	T=7% NT=5%	T=26% NT=19%
14. Fishing	T=53% NT=71%	T=10% NT=5%	T=16% NT=5%	T=9% NT=5%	T=12% NT=14%
15. Camping	T=50% NT=62%	T=10% NT=5%	T=17% NT=14%	T=10% NT=10%	T=12% NT=10%
16. Food/Medicine Gathering	T=43% NT=52%	T=9% NT=5%	T=16% NT=14%	T=9% NT=10%	T=24% NT=19%

Section 3: Attitudes

The following are a list of statements sometimes made about ma'iinganag. Please indicate the level to which you agree or disagree by marking the appropriate box.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17. The ma'iingan is a symbol of beauty and a wonder of nature.	T=57% NT=75%	T=38% NT=15%	T=5% NT=10%	T=0% NT=0%	T=0% NT=0%
18. The ma'iingan is a culturally important animal.	T=53% NT=65%	T=34% NT=25%	T=12% NT=10%	T=0% NT=0%	T=0% NT=0%
19. If there are enough ma'iinganag, I think we should have a limited hunt.	T=21% NT=15%	T=19% NT=40%	T=29% NT=10%	T=10% NT=5%	T=21% NT=30%
20. It's wrong to kill ma'iinganag because they are intelligent and communal.	T=24% NT=30%	T=31% NT=30%	T=26% NT=20%	T=12% NT=15%	T=7% NT=5%
21. Ma'iinganag are part of a vanishing wilderness that should be protected.	T=46% NT=35%	T=30% NT=30%	T=23% NT=15%	T=0% NT=15%	T=2% NT=5%
22. Ma'iinganag help keep deer herds healthy by killing sick and weak animals.	T=34% NT=35%	T=38% NT=25%	T=22% NT=30%	T=5% NT=5%	T=0% NT=5%
23. The elimination of ma'iinganag throughout much of the US has resulted in an overabundant and unhealthy deer population in some places.	T=19% NT=30%	T=43% NT=30%	T=33% NT=35%	T=3% NT=5%	T=2% NT=0%
24. Ma'iinganag are essential to maintaining a balance of nature.	T=45% NT=40%	T=43% NT=55%	T=10% NT=0%	T=2% NT=5%	T=0% NT=0%
25. Ma'iinganag threaten deer hunting opportunities in Wisconsin.	T=7% NT=0%	T=19% NT=10%	T=29% NT=30%	T=22% NT=30%	T=22% NT=30%

Please indicate the extent you agree or disagree regarding the management of ma'iinganag.

Ma'iingan Population Management	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
26. A State public hunting season on ma'iinganag.	T=10% NT=5%	T=19% NT=20%	T=22% NT=35%	T=17% NT=10%	T=31% NT=30%
27. A State public trapping season on ma'iinganag.	T=10% NT=5%	T=16% NT=20%	T=26% NT=20%	T=19% NT=20%	T=29% NT=35%
28. A Tribal Reservation hunting season on ma'iinganag.	T=12% NT=0%	T=24% NT=30%	T=26% NT=45%	T=17% NT=0%	T=21% NT=25%
29. A Tribal Reservation trapping season on ma'iinganag.	T=12% NT=0%	T=21% NT=20%	T=28% NT=35%	T=14% NT=10%	T=25% NT=35%
30. Tribal or Federal officials shooting ma'iinganag to control population.	T=10% NT=0%	T=21% NT=25%	T=31% NT=40%	T=21% NT=10%	T=17% NT=25%
31. Tribal or Federal officials trapping ma'iinganag to control population.	T=12% NT=5%	T=29% NT=30%	T=28% NT=35%	T=14% NT=5%	T=17% NT=25%
32. Tribal officials radio-collaring a ma'iingan to better understand population and ecology.	T=38% NT=35%	T=47% NT=45%	T=7% NT=5%	T=9% NT=5%	T=0% NT=10%
33. Ma'iinganag do not need to be managed.	T=10% NT=5%	T=19% NT=15%	T=31% NT=40%	T=24% NT=25%	T=16% NT=15%

Managing Problem ma'iinganag	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
34. Having Tribal or Federal officials shoot problem ma'iinganag.	T=14% NT=25%	T=28% NT=20%	T=28% NT=30%	T=21% NT=15%	T=10% NT=10%
35. Having Tribal or Federal officials relocate problem ma'iinganag.	T=17% NT=15%	T=38% NT=35%	T=28% NT=20%	T=12% NT=15%	T=5% NT=15%
36. Allowing permits for land owners to shoot problem ma'iinganag.	T=10% NT=5%	T=22% NT=40%	T=28% NT=20%	T=26% NT=15%	T=14% NT=20%

If a ma'iingan causes harm to livestock or a domestic animal, the ma'iingan should be:	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
37. Captured and moved to a new location by Tribal or Federal, officials.	T=28% NT=15%	T=38% NT=45%	T=22% NT=25%	T=10% NT=10%	T=2% NT=5%
38. Killed by Tribal or Federal officials.	T=9% NT=10%	T=26% NT=5%	T=22% NT=60%	T=24% NT=10%	T=19% NT=15%
39. Ignored, it is just doing what it has to do to survive.	T=5% NT=0%	T=22% NT=10%	T=31% NT=45%	T=36% NT=30%	T=5% NT=15%
40. Ignored, because you never know if you get the actual ma'iingan causing damage.	T=3% NT=0%	T=29% NT=10%	T=33% NT=50%	T=28% NT=25%	T=7% NT=15%