



Wisconsin Wolf Management Plan

October 27, 1999

Wisconsin Department of Natural Resources



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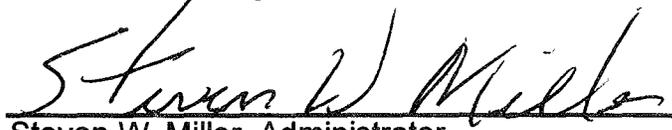
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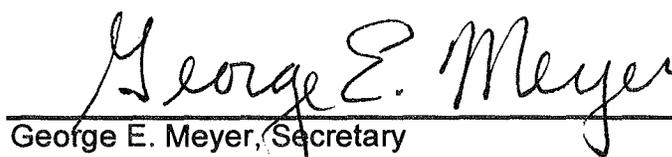
Compiled by the Wisconsin Wolf Advisory Committee
for the
Division of Land of the Wisconsin Department of Natural Resources

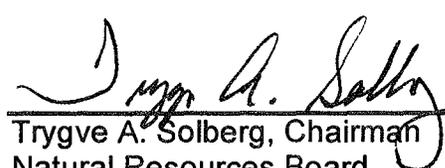
This plan outlines the long term management of wolves in Wisconsin. The plan was presented to the Wisconsin Natural Resources Board for its approval at Hayward, WI., on August 24, 1999 and revised at the Board's direction for its meeting in Madison on October 27, 1999.

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WISCONSIN WOLF MANAGEMENT PLAN EXECUTIVE SUMMARY by the WISCONSIN WOLF ADVISORY COMMITTEE

The Wisconsin Wolf Advisory Committee reports to the Bureau of Endangered Resources Director and Division of Lands, Land Leadership Team of the Department of Natural Resources. Plans prepared by the Wolf Advisory Committee are subject to approval of the Natural Resources Board

The gray wolf returned to Wisconsin in the mid-1970's and was listed as a state endangered species in 1975. A state recovery plan, initiated in 1989, set a goal for reclassifying the wolf from state endangered to threatened once the population remained at 80 or more wolves for 3 consecutive years. By 1999, the population had increased to 197 wolves, and had been at 80 or more since 1995. Therefore the Wisconsin DNR, has reclassified wolves from endangered to threatened, and developed this plan to manage wolves as a threatened and eventually as a delisted species. Efforts have also begun to federally reclassify or delist the gray wolf by the U.S. Fish & Wildlife Service.

This plan will delist the wolf from state threatened to a nonlisted, nongame species when the wolf population reaches 250 animals based on late winter count across the state in areas outside Indian reservations. A management goal of 350 is recommended.

Fourteen strategies were developed for managing wolves. These include:

1. managing wolves in 4 different management zones;
2. intensely monitoring wolf populations through threatened status and delisted status;
3. monitoring wolf health;
4. cooperatively managing wolf habitat;
5. controlling nuisance wolves and reimbursing landowners for losses caused by wolves;
6. promoting public education about wolves;
7. establishing regulations for adequate legal protection of threatened and delisted wolves;

8. encouraging interagency cooperation;
9. establishing a system for program guidance;
10. encouraging programs for volunteer assistance on wolf conservation;
11. recommending future research needs;
12. regulating wolf-dog hybrids and captive wolves
13. establish a protocol for handling wolf specimens;
14. encouraging reasonable ecotourism of wolves and their habitats.

Four zones will be used to manage wolves (Figure 8). Management actions will vary according to wolf population status (Table 1).

Zone 1 consists of Northern Forest deer management units and Menominee County. Limited lethal control would be allowed on problem wolves, but generally lethal control would not be exercised on wolves inhabiting large blocks of public land in areas of suitable wolf habitat.

Zone 2 includes Central Forest deer management units. Limited control would be allowed for handling nuisance wolves, but lethal control would normally not be conducted on large blocks of public land.

Zone 3 consists of areas south of Zone 1 and surrounding Zone 2. Protection would be provided for dispersing wolves, but more liberal control would be allowed for handling nuisance wolves.

Zone 4 represents areas with little or no wolf habitat where liberal control would be allowed on problem wolves.

Wolf population and health monitoring would remain intense for the foreseeable future and will include radio-telemetry tracking, wolf howl surveys, and track surveys. Management activities for Wisconsin's wolf population shall be based on a late winter count.

Cooperative management of wolf habitat will continue to be recommended for a threatened and delisted wolf population in suitable habitat. Habitat management would include access management, vegetation management, protecting corridor habitat, and protecting den and rendezvous sites. Management of wolf packs living within Native American reservation boundaries will be coordinated with tribal governments.

Depredation control activity will focus on preventive methods, while also providing adequate control of nuisance wolves. Once wolves are reclassified as federally threatened, wolves that are verified habitual killers of livestock, may be euthanized. Lethal wolf control activity will not be carried out generally in large blocks of public land in areas of suitable wolf habitat. Once wolves are state and federally delisted, euthanization of depredating wolves may be permitted by landowners or occupants on their private land. Proactive depredation control may be used by government trappers in areas with historical wolf problems after the population level of 350 has been exceeded.

Public education about wolves will continue to be an important strategy of wolf conservation in Wisconsin. Education will involve preparation of special education material, work with cooperating organizations to promote education on wolves, provide special training on wolf management to agency personnel, and continue agency presentations on wolves. The efforts will emphasize the positive aspects of wolves to Wisconsin's forest ecosystems.

Specific regulations will need to be developed for wolves listed as threatened or delisted. Regulations will focus on maintaining a high level of protection, even for a delisted wolf population.

Cooperation among various federal, state, county, local and tribal governments will be an important aspect of future wolf conservation in Wisconsin. A Wisconsin DNR Wolf Advisory Committee will continue to incorporate a diverse group of individuals to address policy and management concerns.

The Wolf Advisory Committee will annually review wolf management in Wisconsin with a citizen stakeholder group. Policy or management changes will be recommended to the Department of Natural Resources Land Leadership Team for Natural Resource Board approval. A public review of the plan and management goals will be conducted every five years by the Department of Natural Resources.

Volunteer programs will be used to provide education on wolves and assist with wolf population surveys.

Research will continue to be used to address management concerns as wolf populations increase and emphasis will be on developing accurate and economical survey techniques, as well as continued evaluation of future impacts on wolf populations and their habitats.

Legislative authorization will be sought to restrict ownership of hybrids and to obtain authority to control free-roaming wolf-dog hybrids.

Wolf Management costs will increase from a base level of \$130,000 yearly at approximately 10% per year from a base year of 1997-98, for the next five years; this does not include depredation costs. License fees from hunting, fishing or trapping will be used for wolf management only if the species is open for public harvest. Full reimbursement should be made to owners who have lost pets or livestock to wolves; normal costs are estimated at \$20,000 to \$40,000 per year when wolves have reached management goals. The cost of removing depredating wolves and either translocating them to suitable habitat or euthanizing them is estimated at \$15,000 to \$30,000 per year. Therefore the total cost of wolf management activities is estimated at from \$165,000 to \$200,000 per year.

By its nature, the gray wolf interests not only traditional hunters, but many persons who are interested in nature viewing, photography, hiking and nature study. As an apex species, the management of wolves impacts other forest species. It is appropriate for funding for wolf management to come from alternative funding sources, instead of traditional license fees, or strictly from endangered resources funding.

New funding sources need to be identified to provide the Department of Natural Resources the resources to continue reimbursement at fair market value for losses and to maintain a sufficient depredation response program, as well as maintaining sufficient monitoring of the wolf population.

**Table 1. Management actions as prescribed by the DNR wolf plan for specific zones
(See details in text)**

STATE LISTING AND ALLOWED MANAGEMENT OPTIONS														
MANAGEMENT ACTION	Endangered	Threatened Status				Nongame Protected Status				Nongame or Furbearer Status				
	<80 wolves	(80-250 wolves)				(250-350 wolves)				(350 plus wolves)				
	STATEWIDE	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 1	ZONE 2	ZONE 3	ZONE 4	
Depredation: USDA live trap and translocate	yes	yes	yes	yes	no	yes	yes	yes	no	no	no	no	no	no
Confirmed depredation: USDA live trap and euthanize *	no	yes**	yes	yes	yes	yes**	yes	yes	yes	yes**	yes	yes	yes	yes
Depredation: government trapper proactive control***	no	no	no	no	no	no	no	no	yes	yes**	yes	yes	yes	yes
USDA/DNR/Law Enforcement euthanize nuisance wolves*	no	yes**	yes	yes	yes	yes**	yes	yes	yes	yes**	yes	yes	yes	yes
Depredation: Private Citizen: Lethal control by permit***	no	no	no	no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes
Depredation: Landowner may kill wolf attacking stock or pets on private land***	no	no	no	no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes
Public Harvest***	no	no	no	no	no	no	no	no	no	yes	yes	yes	yes	unlikely
Coyote hunting closure during firearm deer season	yes in part	yes	no	no	no	yes	no	no	no	yes	no	no	no	no

* Federal downlisting to threatened status must first occur before these actions can take place.
 ** Lethal Controls would rarely be authorized on large blocks of public land in areas of primary wolf habitat
 *** Federal delisting must first occur before these actions can take place.

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I. INTRODUCTION

The gray wolf (*Canis lupus*) was listed as a Federally Endangered Species in 1967 by the U.S. Fish and Wildlife Service (USFWS), and was again listed in 1974 under provisions of the 1973 Endangered Species Act. All gray wolves in the lower 48 states were considered Endangered by the U.S. Government. In 1978 wolves in Minnesota were upgraded to threatened status.

The Wisconsin Department of Natural Resources (WDNR) listed the state population as Endangered in 1975, as wolves began to recolonize the state after being extirpated for 15 or more years. A recovery plan for Wisconsin wolves was initiated in 1989, and its goal of 80-plus wolves for the state was first achieved in 1995.

The State of Wisconsin downlisted wolves to state threatened in 1999. The federal downlisting process to reduce wolves from endangered to threatened will be initiated in 1999 and should be completed in 2000. Federal delisting from both the endangered and threatened lists should begin in 2000 and be completed within two years. Because Wisconsin's gray wolf population has recovered from an endangered status, guidelines need to be developed for managing wolves as a threatened species and eventually as a nonlisted species. This plan provides guidelines for managing wolves in Wisconsin for the next 10 to 15 years. These guidelines provide a conservation strategy for

maintaining a healthy viable population of gray wolves in the state, and contribute toward national recovery, while addressing problems that may occur with wolf depredation on livestock or pets.

The WDNR is directed by State Statute 29.605 (formerly s.29.415) to implement programs "directed at conserving, protecting, restoring and propagating selected state endangered and threatened species to the maximum extent practicable". This management plan provides the guidelines for managing a threatened wolf population, supply criteria for delisting wolves as no longer in jeopardy of extirpation, and provide a conservation plan for managing a delisted wolf population.

This management plan is based on state listing of endangered, threatened, or delisted wolves in Wisconsin. Mention in the plan of listing criteria and management actions will only refer to state listing, unless specifically called "federal" listing. Although the management actions in this plan are related to state listing, in some cases, federal downlisting or delisting will also need to occur before the management actions take place. Therefore although state listing criteria may be met, in some situations, it may be necessary for federal actions to take place before certain activities are permitted.

Across the State of Wisconsin are numerous Indian Nations which have management authority on tribal lands. While wolves are federally listed, tribes are required to follow federal guidelines, but once federally delisted, wolves will be managed independently on tribal lands. Portions of northern Wisconsin also consist of lands ceded from the various Chippewa bands who reserved hunting and gathering rights on these lands. Management actions proposed for this region will require cooperation with the tribes, including considerations of public harvest.

II. HISTORY OF WOLVES IN WISCONSIN AND PUBLIC ATTITUDES

Wolves occurred throughout Wisconsin prior to settlement (<1832) (Jackson 1961, Thiel 1993). Estimates of presettlement numbers vary, with the more credible being 3,000-5,000 (Wydeven 1993, Jackson 1961).

Prior to settlement, five species of ungulate were found in Wisconsin: bison, elk, moose, caribou and white-tailed deer (Schorger 1942, Scott 1939). All five species were potential prey for wolves (Mech 1970). Indeed, fur traders in the Wisconsin-Minnesota region between 1770 and 1830 documented wolf predation on bison and deer (Thiel 1993). By 1880, deer were the only wild ungulate species remaining in viable numbers within the state (Scott 1939).

Native Americans occupying Wisconsin at the time of European contact revered wolves as

evidenced by their prominent role in culture and spiritual beliefs. Early fur traders were generally indifferent to the presence of wolves because they posed no threat, and were not considered valuable furbearers (Thiel 1993). Negative attitudes towards wolves prevailed among Europeans who settled in the Territory in the late 1830's. After the end of the Civil War, wolves were perceived as a menace to livestock, and in response, the state legislature instituted a bounty in 1865 (Thiel 1993).

Wolves were exterminated from southern Wisconsin during the 1880's (Schorger 1953). The last wolf in central Wisconsin was killed in Waushara County in 1914 (Thiel 1993). By 1930, wolves were restricted to less than a dozen counties in northern Wisconsin. By this time, sport hunters also favored a bounty on wolves because wolves were considered unwanted competitors for deer (Flader 1974, Thiel 1993).

The wolf population declined from an estimated 150 in 1930 to less than 50 by 1950 (Thiel 1993). Wolf range was also reduced to less than 10% of the state (Figure 1). The last wolf packs in Wisconsin disappeared by 1956-57,

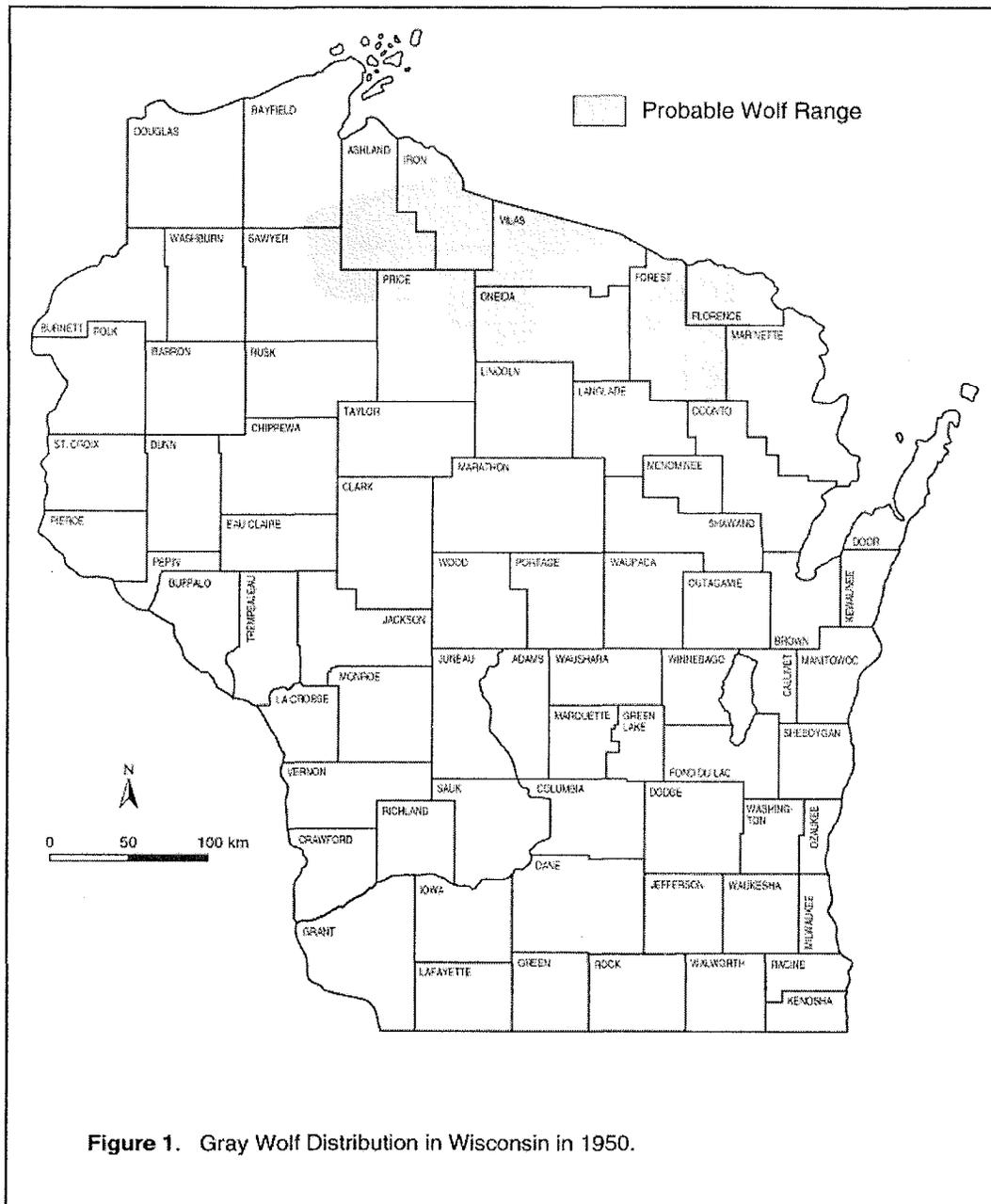


Figure 1. Gray Wolf Distribution in Wisconsin in 1950.

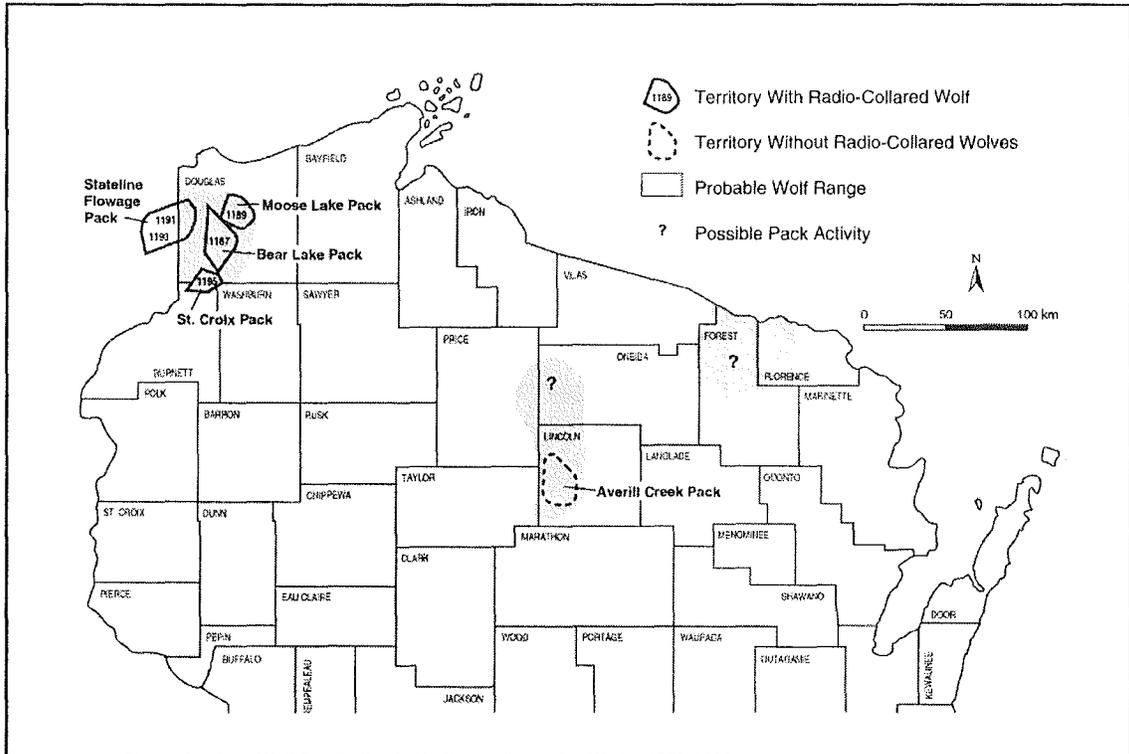


Figure 2. Gray Wolf Distribution in Northern Wisconsin: Winter 1979-1980.

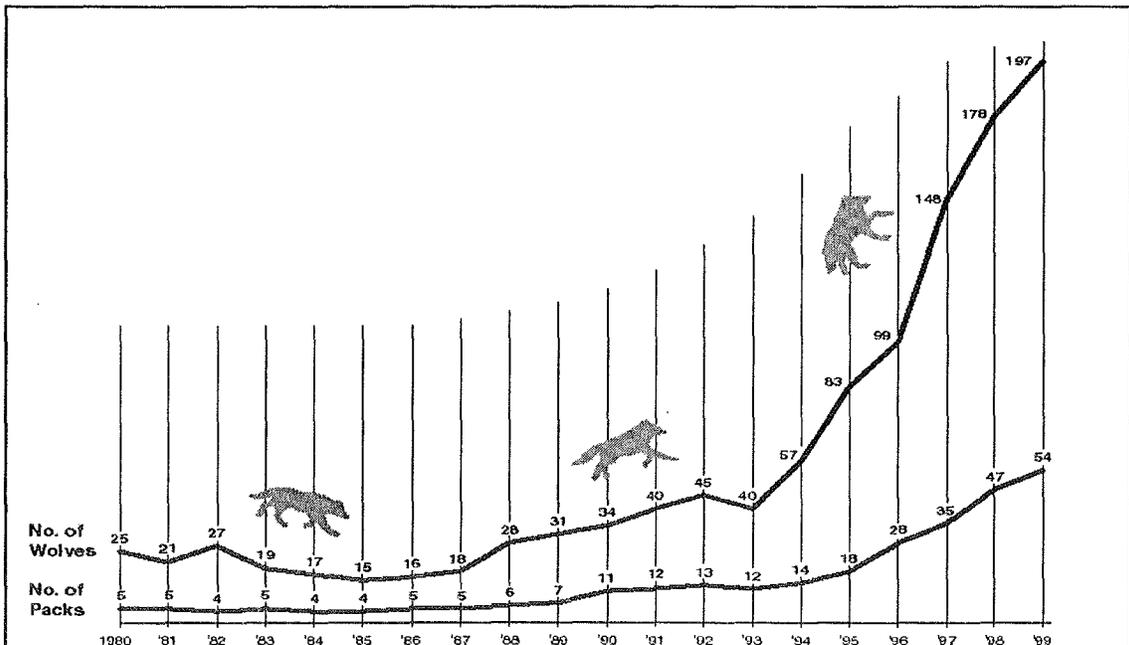
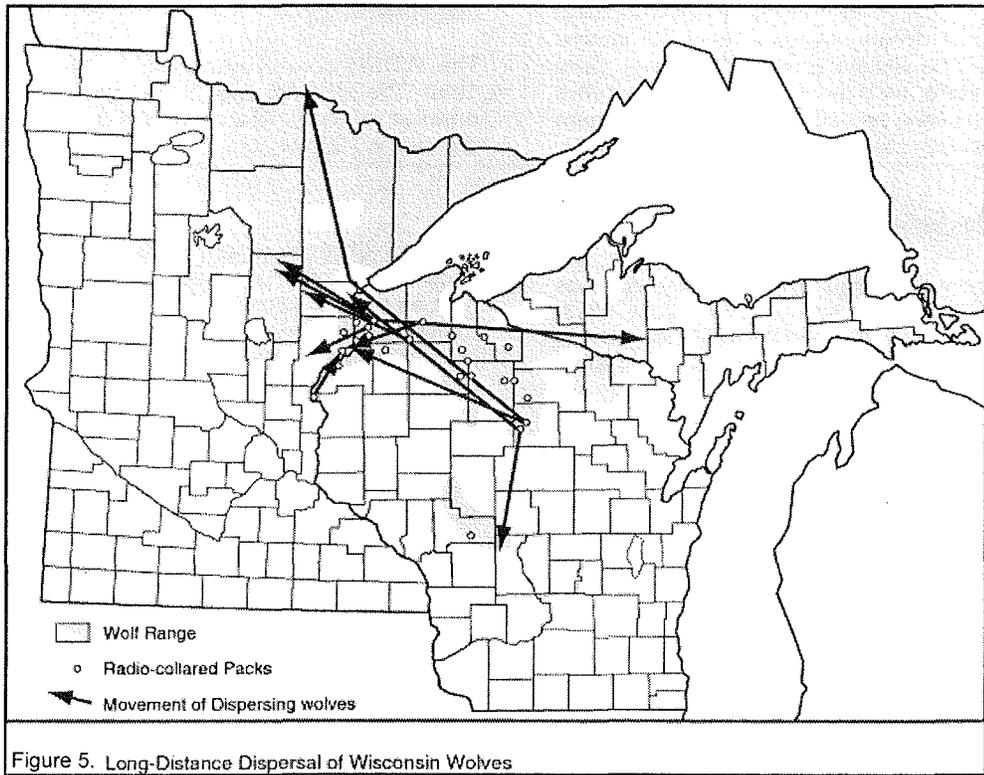
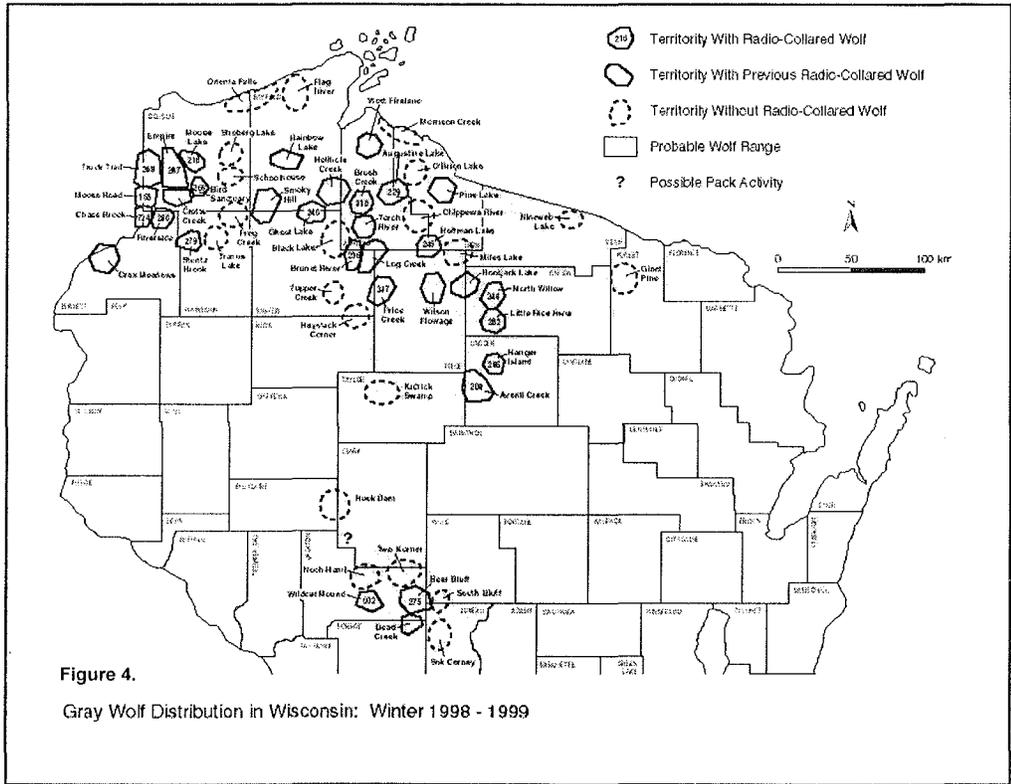


Figure 3. Changes in Wisconsin Gray Wolf Population: 1980 - 1999



just when the state legislature removed the timber wolf from the bounty. The last Wisconsin wolves were killed in 1958 and 1959 (Thiel 1993).

Between 1960 and 1975 the wolf was considered extirpated in Wisconsin (Thiel 1978). In 1973 wolves were afforded the protection of the federal Endangered Species Act. The Minnesota wolf population began expanding (Thiel and Ream 1995). In winter 1974-75, a wolf pack was discovered in the border area between Wisconsin and Minnesota south of Duluth-Superior (Thiel 1993). By 1980, five wolf packs were found in Wisconsin: four in Douglas County near the Minnesota border, and the other in Lincoln County (Figure 2)(Thiel 1993, Wydeven et al. 1995).

An intensive wolf monitoring program was instituted by the WDNR and the USFWS in 1979. During the 1980's wolf numbers fluctuated between a low of 15 animals (1985) to a high of 31 (1989) (Wydeven et al. 1995). High mortality rates (greater than 35% annually) were caused primarily by humans, with gunshot the leading cause of death (Wydeven et al. 1995).

Attitudinal surveys of deer hunters conducted in the early 1980's indicated that as many as 20% of Wisconsin gun-deer hunters in Douglas and Lincoln Counties harbored negative attitudes towards wolves (Knight 1985). In general, most (69%) of northern hunters believed wolves should not be eliminated from Wisconsin. Generally farmers, as a group, were less supportive of wolf recovery, and 50% of farmers in northern Wisconsin opposed wolf recovery in the 1980s.

III. WOLF BIOLOGY AND ECOLOGY

The gray wolf, Canis lupus, also known as "timber wolf", originally occurred across North America, Europe and Asia (Nowak 1995). Coyotes, Canis latrans, are sometimes called "brush wolves" but are not true wolves.

Wisconsin's wolves were formerly classified as the subspecies, Canis lupus lycaon (Eastern timber wolf) when the 1989 Timber Wolf Recovery Plan was approved (WDNR 1989). Recently the number of subspecies of the gray wolf has been reduced from 24 to 5 (Nowak 1995). The revised classification places all wolves in the Great Lakes Region west of Sault Ste. Marie, Michigan with the subspecies Canis lupus nubilus (Great Plains Wolf). For the purpose of this management plan, we will refer only to the species, Canis lupus.

(Nelson & Franson, 1988) Recently surveys found that in 1997, 78% of hunters felt protection of wolves and other predators was important, and that only 20% opposed increasing the wolf population (See appendix H).

In 1986, the WDNR created a Wolf Recovery Team to develop a state wolf recovery plan. Public input was a critical factor in developing a plan that would lead to the successful recovery of wolves. The Wisconsin Wolf Recovery Plan was approved by WDNR in 1989, and has been the template, guiding managers in decisions that affect wolf recovery in Wisconsin (WDNR 1989, Thiel and Valen 1995). The plan's goals were to:

- 1) support a minimum of 80 wolves for a minimum of 3 consecutive years;
- 2) reclassify the wolf as state threatened;
- 3) contribute to federal downlisting of the wolf to threatened in the Great Lakes Region.

The recovery goal of 80 wolves was first achieved in 1995 when 83-86 wolves were counted. By 1999, the population was up to 197-203 wolves (Figure 3), distributed in 54 territories in 20 northern and central Wisconsin Counties (Figure 4). A Wisconsin Wolf Advisory Committee was formed in 1992 to oversee wolf recovery in Wisconsin, and develop a Wolf Management Plan with criteria for reclassification. The Wolf Advisory Committee conducted a public review of the Wolf Recovery Plan in 1994, and found public support for continued wolf recovery. The Wolf Advisory Committee began work on development of a new Wolf Management Plan in 1996.

The WDNR downlisted wolves to state threatened in 1999. The USFWS has announced plans to federally downlist wolves in Wisconsin and plans to complete the process in 2000 or 2001.

Physical Characteristics: Gray wolves resemble large dogs but usually have longer legs, larger feet, and a narrower chest (Banfield 1974). Their tail is straight rather than curving upward, and their head appears more massive due to wide tufts of hair that project down and outward from below the ears (Mech 1970). Adult males captured in Wisconsin averaged 77 pounds (57-102 pounds) and adult females averaged 62 pounds (46-75 pounds)(Wydeven et al 1995). They are 4.5 to 6.5 feet long from tail tip to nose tip and stand 28-34 inches at the shoulder. Pelt color seldom varies from a grizzled gray/brown, but at least 2 black individuals have been recently observed in Wisconsin.

Social System: Wolves live in family groups called "packs" that consist of a dominant breeding pair ("alphas"), and generally surviving offspring from the previous year, and the current year's pups (Mech 1970). Occasionally older offspring remain with the pack or an

unrelated adult wolf may be a member. Pack size in Wisconsin ranges from 2-10 wolves and averaged 4.3 wolves during the 1996-97 winter (Wydeven and Cervantes 1997). Each family group occupies an exclusive territory of 20-160 square miles, averaging 70 square miles in Wisconsin (Wydeven et al. 1995). Territories rarely overlap and are defended against other wolves (Peters and Mech 1975).

Yearling wolves normally disperse from their natal packs, usually during October-January, to seek a mate and their own territory. Adult dispersal has also been noted (Fritts and Mech 1981). Dispersers may travel up to 500 miles in less than 10 months (Fritts 1983). Wisconsin wolves dispersed an average of 71 miles from natal territories and have traveled 300 miles (Figure 5) (Wydeven et al. 1995).

Reproduction: Wolves are sexually mature at 22 months but generally only the alpha male and female breed (Mech 1970). The alpha pair normally inhibit sexual contact between other mature members (Packard et al. 1983). Breeding takes place between late January to early March, and gestation is 60-63 days. Pups (4-8) are born in early to mid April (Fuller 1989). The pups are kept at a den site for 6 to 8 weeks. By mid June the pups are moved to rendezvous sites where they stay while adults search for food. Throughout summer, wolves utilize 2-3 rendezvous sites (Fuller 1995). In September and October, when the pups become large enough to travel with the adults, rendezvous sites are vacated and the pack moves as a single unit throughout its territory.

Mortality: Keith (1983) found that wolf populations declined when annual mortality rates of wolves greater than 6 months exceeded 30-40%. Wydeven et al. (1995) reported that average annual mortality rates for Wisconsin wolves greater than one year old decreased from 39% during 1979-85 to 18% during 1986-92.

Wolves are susceptible to diseases, predation, human persecution, starvation, and accidents. Human-caused deaths declined from 72% in 1979-85 to 22% in 1986-92. In recent years (1993-1996) 50% of wolf mortality was caused by humans, and over 25% of mortality was caused by vehicle collisions (WDNR files). Mortality rates for wolves 1 year old or older continues to be less than 20% annually.

Diseases such as canine distemper, canine parvovirus, Lyme disease, and blastomycosis have been observed in Wisconsin wolves. Wydeven et al. (1995) felt that canine parvovirus negatively impacted Wisconsin's wolf population during 1982-86. Parasites observed in Wisconsin wolves include protozoans and intestinal worms, ticks, mites, lice,

and heartworm (Mech et al. 1985, Archer et al. 1986, Thiel, unpubl. data). Mange has been observed frequently in Wisconsin wolves since 1992, and has been diagnosed as the primary cause of death for at least nine wolves in the past 5-6 years. In 1992 and 1993, 58% of wolves handled by WDNR had signs of mange, but this has declined to 15% in recent years (WDNR files).

Food Habits: In the 1940's, deer occurred in 97% of 435 wolf scats found in Wisconsin, at a time when deer populations were very high and beaver numbers were low (Thompson 1952). Deer comprised 55% of scats collected between 1980 and 1982 and analyzed by Mandernack (1983). Beaver comprised 16% and snowshoe hare 10% in his analysis. Miscellaneous items accounted for the remainder. Some wolves have also killed domestic animals in Wisconsin in recent years (Appendix A).

Habitat Requirements: Wolves are adaptable and can survive on large landscapes with adequate prey populations and low rates of human persecution (Fuller 1995). Pack territories are typically 70 square miles (average pack territory size) and contain low human densities, limited public accessibility, and minimal livestock production (Thiel 1985, Mech 1986, Fuller 1995). Fuller (1995) suggested that clusters of 2-3 packs (areas of 200 square miles) represents the minimal number of packs necessary to support a viable population. The large land requirements of wolves can conflict with human use of those lands. Examples of direct conflict over land use by humans include livestock production, urban areas, and intensive recreational activities. Conflicts may also arise anywhere people have the opportunity to encounter wolves either accidentally or intentionally.

Keith (1983) and Fuller (1989) found that over 90% of the variation in wolf densities could be accounted for by variation in prey populations. In northeast Minnesota, Mech (1986) and Nelson and Mech (1986) reported a density of 1 wolf per 17 square miles in an area with deer densities of about one deer per square mile, but moose and beaver also occurred in this area. In north-central Minnesota, wolf densities of 1 wolf per 10-13 square miles were found in an area supporting 10-26 deer per square mile (Fuller 1989, Fuller 1990). Average deer density in deer management units comprising Wisconsin's Northern Forest, which includes most of Wisconsin's wolf range, was 22 deer per square mile during the 1996-97 winter and density of wolves in 2,200 square miles of wolf range was 1 wolf per 15 square miles (Wydeven and Cervantes 1997). Prey abundance should not be a limiting factor in Wisconsin.

Mladenoff et al. (1995) estimated that approximately 5,700 square miles of suitable wolf habitat exists in Northern Wisconsin and that it is highly fragmented.

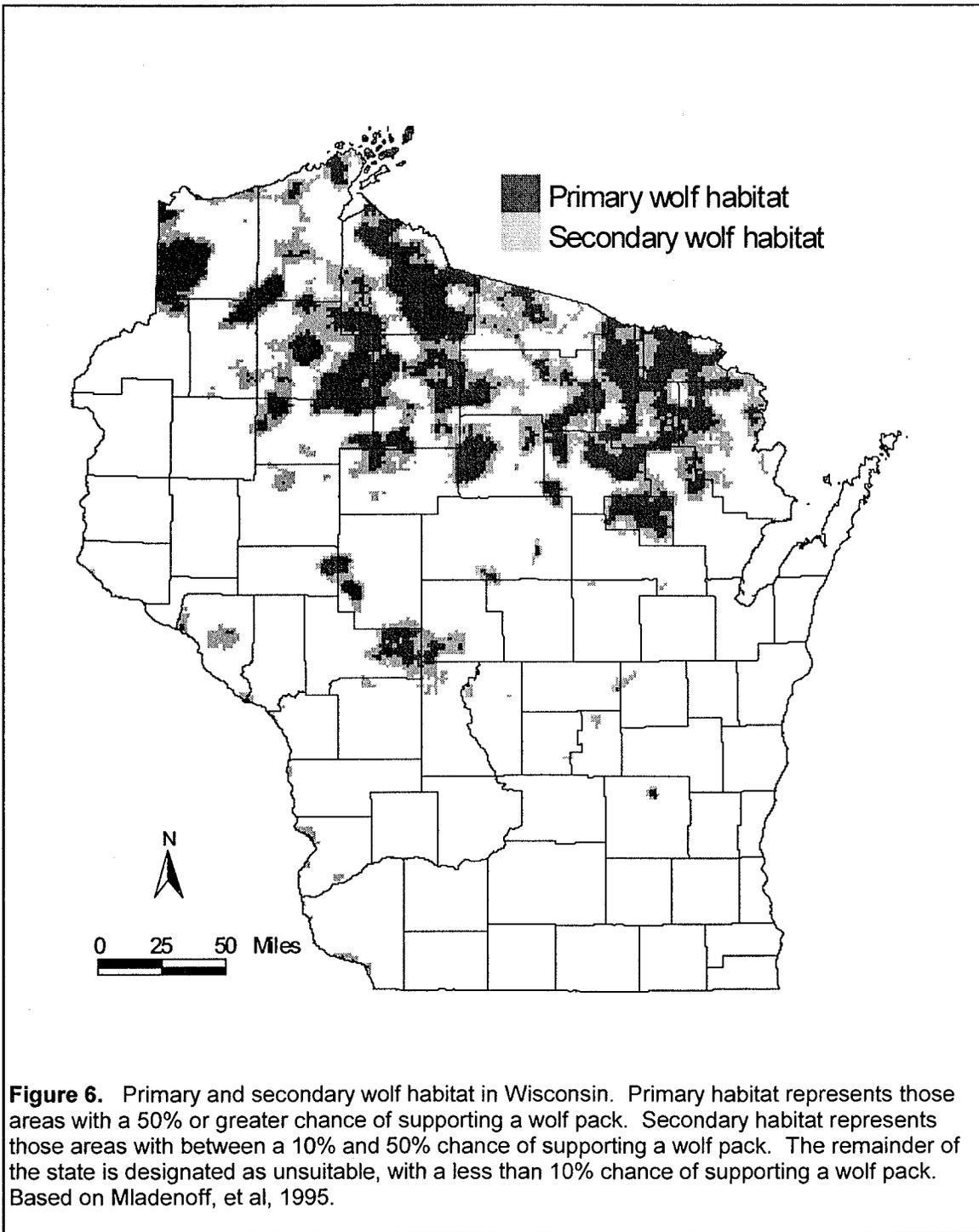


Figure 6. Primary and secondary wolf habitat in Wisconsin. Primary habitat represents those areas with a 50% or greater chance of supporting a wolf pack. Secondary habitat represents those areas with between a 10% and 50% chance of supporting a wolf pack. The remainder of the state is designated as unsuitable, with a less than 10% chance of supporting a wolf pack. Based on Mladenoff, et al, 1995.

continued habitat loss due to human development could reverse wolf population trends in a fragmented region such as Wisconsin. An update of

this analysis shows 5,812 mi² of primary wolf habitat, 5,015 mi² of secondary habitat, and 45,252 mi² of unsuitable habitat on a statewide basis (Figure 6).

IV. MANAGEMENT GOAL AND CRITERIA FOR DETERMINING ENDANGERED, THREATENED OR DELISTED STATUS

The Wisconsin DNR proposes to delist wolves as neither state endangered or threatened when a late winter count of 250 wolves are achieved outside of Native American reservations in the state. At the delisted level, landowner control on nuisance or problem wolves can occur, and control can be expanded for law-enforcement officers. The state population management goal would be a late winter count of 350 outside of Native American reservations. At the management goal, proactive depredation control by government agents can be authorized.

A. Background

The Wisconsin Wolf Advisory Committee spent a great deal of time developing the delisting level and establishing a population management goal. Four major factors were considered in the development of the population goals:

1. The goal needed to meet or exceed federal recovery criteria.
2. The goal must represent a population level that can be supported by the available habitat.
3. The goal needed to be compatible with existing information on gray wolf population viability analysis.
4. The population goal needed to be socially tolerated to avoid development of strong negative attitudes toward wolves

The U.S. Fish and Wildlife Service (1992) Recovery Plan for wolves in the eastern U.S. recommended maintaining a minimum of 100 wolves in Wisconsin and Michigan to federally delist wolves in the region. Since the Wisconsin – Michigan population was located within 100 miles of the much larger Minnesota population (2450 wolves in 1998), 100 wolves was considered adequate for maintaining a regional viable population. The same plan recommended that if a second wolf population in the eastern U.S. was more than 100 miles from the Minnesota wolf population, it should consist of at least 200 wolves. Therefore, 100 wolves in Wisconsin and Michigan represents

the bare minimum level at which federal delisting can be considered for the region. The wolf population in Wisconsin needs to avoid approaching this level to prevent wolves from becoming relisted as Federally Endangered or Threatened.

A second concern was an assessment of the potential habitat base in Wisconsin. Studies done in Wisconsin using a Geographic Information System (GIS) with known pack territories, showed that 5812 mi² of land had a high probability of being settled by wolf packs (Mladenoff et. al. 1995, Appendix C). As many as 300 to 500 wolves could occur on the most suitable habitat at full occupancy (Mladenoff et. al. 1997, Appendix C). If wolves also occupied secondary or marginal habitat, possibly 500 to 800 wolves could occur in the state. On the other hand, if wolves are unable to fully occupy the most suitable habitat, and few occupy marginal habitat, the potential population could be considerably less than 500. Based on this assessment, 500 wolves occurring on about 6000 mi² of suitable habitat seemed to be a reasonable estimate of the potential carrying capacity of wolves in Wisconsin. Therefore, in the first draft of the wolf plan, an upper limit of 500

Table 2. Wisconsin Wolf Listing/Delisting Criteria

<u>Wolf Population</u>	<u>State Listing</u>	<u>Federal Listing</u>
less than 80	Endangered	Endangered
80 or more for 3 yrs.	Threatened	Threatened
100 plus for five years Wisconsin and Michigan	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.	Reclassify as Endangered	Not Specified

wolves was established for Wisconsin. Because of concerns expressed by many on the first draft, the figure was modified to a management goal of 350. The management goal represented the minimum level at which a full array of population control activities could occur including pro-active depredation control and the possibility of public harvest.

Long term viability of the Wisconsin wolf population was a third concern addressed by the Wisconsin Wolf Advisory Committee. Fritts and Carbyn (1995) conducted an extensive review of wolf population viability analysis, and determined that although no one really knows the minimum viable population of wolves, it appears that 100 or more wolves would be needed to maintain viability in isolation. Others have suggested that as many as 500 wolves may be necessary for long-term viability in isolation (Soule 1980). Haight et al. (1998) determined by modeling, that 16 wolf territories could maintain long-term survival in disjunct populations if immigration was adequate and portions of the population are highly protected; Haight et al. (1998) considered packs to average 4-8 wolves, or an overall average of about 6 wolves. Thus, the 16 territories would represent about 96 wolves, and with an average 15% loners, would consist of about 110 wolves. Therefore, Haight et al. (1998) would further support the idea that about 100 wolves could maintain viability if adequately connected to other populations. Thus, the literature seemed to suggest that about 100 wolves would be adequate if highly connected, but if isolated, populations may need to be at levels of 200 to 500 wolves to maintain long-term viability.

We further examined population viability analysis by conducting analysis of the Wisconsin population (Appendix B). Population viability analysis provides a useful way of looking at the dynamics of a wildlife population, but needs to be cautiously interpreted and should not be used by itself to set management goals (Bessinger and Westphal 1998, Reed et al. 1998). When examining varying levels of reproduction, environmental variability, and catastrophes, risk of extinction or relisting as endangered were often fairly high at 100 animals. But at populations of 200 or more animals, risk of extinction or relisting declined drastically, and the risks for 300 to 500 animals were similar and relatively low for most categories. The analysis was done on an isolated population to provide a conservative estimate of animals needed for long-term viability if exchange of wolves among the Great Lakes population declines in the future. Based on this analysis, a population between 200 to 300 seemed appropriate for delisting wolves in Wisconsin.

The fourth area of concern that needed to be ad-

ressed in developing a population goal is the social intolerance of wolves that may develop at a high population level. Habitat modeling, literature reviews, and population viability analysis provide somewhat systematic means for determining viable levels and potential populations for state wolves, but determining levels of social tolerance is more subjective. The Wolf Advisory Committee settled on a management goal of 350 wolves as a reasonable first attempt at assessment of social tolerance. The 350 level was intended to be the minimum level at which proactive control and public harvest would occur. This management goal falls about half way between the delisting level (250 wolves) and the perceived biological carrying capacity (500 wolves) for the state. During the review of the second draft of the wolf plan, of persons commenting on the population goal, 38% supported the goal, 38% felt it was too low, and 24% felt it was too high. Therefore, the goal seemed to be a reasonable compromise between population capacity, minimum level of viability, and public acceptance.

B. Delisting and Relisting Criteria

Delisting and relisting criteria for Wisconsin wolves are shown in table 2 and figure 7. Table 2 also illustrates federal listing criteria. State reclassification from endangered to threatened occurred in 1999. The state delisting level may be achieved within 2 more years and the management goal could be achieved in 5 years (Figure 7). Federal criteria for downlisting to threatened were achieved in 1997 and the downlisting process may be finalized in 2000. The federal delisting process will probably begin in 2000 and should be completed sometime in 2001 or 2002.

Some management proposed under state delisting will not be possible until federal delisting also occurs. Federal reclassification from endangered to threatened will allow DNR and USDA-WS to kill wolves causing depredation to livestock and pets. Total federal delisting will be required before the following can occur: lethal control by landowners; and proactive control by government trappers and public harvest.

V. WOLF MANAGEMENT STRATEGIES

A. Wolf Management Zones

Zone management is frequently recommended as part of wolf recovery plans and management plans (Mech 1995) and the establishment of protective areas helps assure long-term survival of small, disjunct wolf populations (Haight et al., 1998). The Federal Recovery Plan for the Eastern Timber Wolf provides 5 different zones for managing wolves in Minnesota (U.S. Fish and Wildlife Service 1992). Fritts (1990, 1993) suggested 3 levels of zone management for wolves in the Yellowstone Ecosystem. Fritts (1990) indicated that normally only 3 zone levels would be needed for wolf management to avoid unnecessary confusion. On the other hand, the

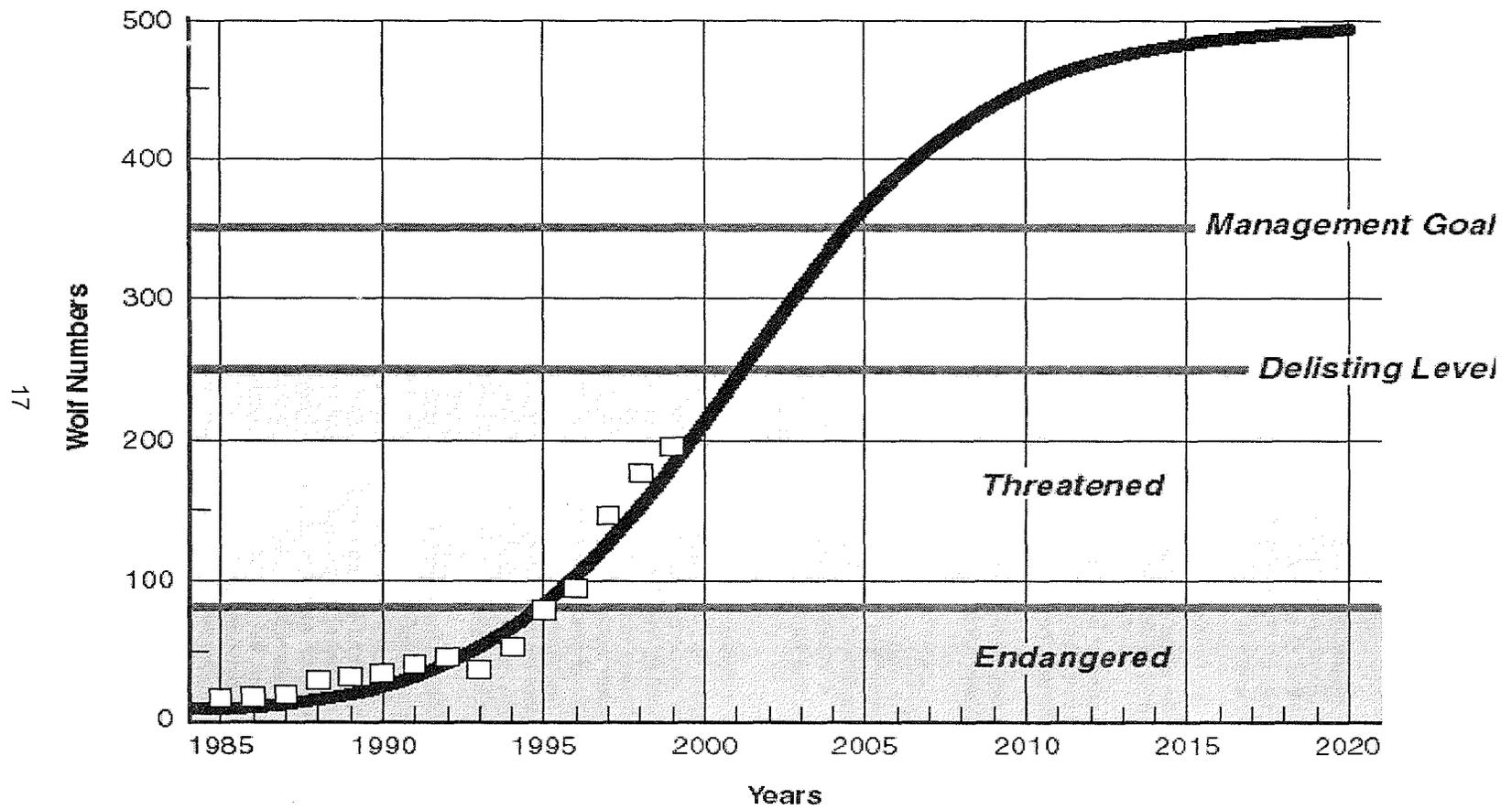


Figure 7: Wisconsin Wolf Population Growth If Carrying Capacity Is 500 Wolves

Alaska Board of Game adopted a strategy for wolf management in 1991 that incorporated 7 zones, ranging from Zone 1 (Full Protection) to Zone 7 (High Use/Intensive Management) (Anonymous 1992).

The purpose of zone management is to vary management depending on potential wolf habitat and the possibilities of conflicts between wolves and humans. Fritts (1993) listed 3 assumptions inherent in zone management for wolves:

- 1) Wolves belong in some areas and not others because of potential conflicts with humans.
- 2) Adequate habitat to support a viable population should exist in the zone(s) where the species is afforded the most protection.
- 3) The species should receive high priority in the areas of most suitable habitat.

Generally the fewer the zones, the more simplified the management and greater the understanding by the public and agency personnel (Fritts 1990). A disadvantage to fewer zones is that less fine tuning of management is possible.

The WDNR will utilize 4 zones to manage wolves in the state (Figure 8). Such a system provides maximum protection in most portions of suitable habitat, yet allows a flexible system for controlling wolves in less suitable areas where higher levels of conflict are likely to occur. The characteristics of the 4 zones under this management system are listed below. On tribal lands, tribal governments will determine management of wolves once the species is delisted.

Zone 1 Northern Forest: This zone consists of 18,384 square miles within the Northern Forest Deer Management Units and Menominee County. About 634 square miles of Zone 1 would consist of Indian reservations that have unique management systems and in many cases would provide additional protective areas for wolves. Zone 1 could support an estimated 300-500 wolves. Habitat consists mainly of forest and contains relatively little farm land or urban area. The zone includes 90% of the states' favorable (primary) wolf habitat. Reimbursement for losses and perhaps payments for abatement practices would be provided. Depredation controls would in-

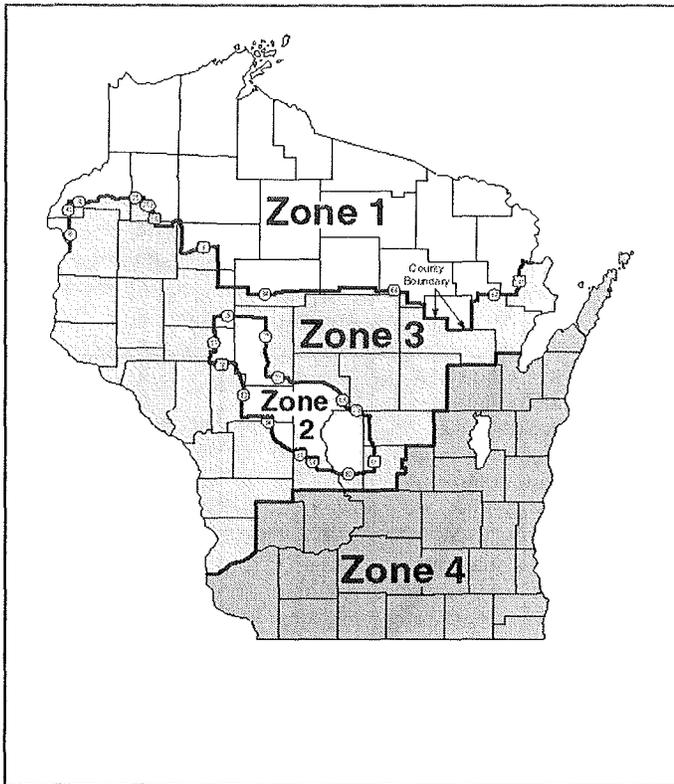


Fig. 8. Wisconsin Wolf Management Zones

clude livetrapping and translocation if suitable habitat exists, or euthanization of depredating wolves. Agents of the USDA-Wildlife Services; Department of Natural Resources and law enforcement agencies could euthanize nuisance animals within 0.5 miles of depredation sites. Normally lethal control would not be authorized on or adjacent to large blocks of public land in suitable wolf habitat. Wolf habitat maintenance would be encouraged on suitable portions of public lands by access management, protection of den and rendezvous sites, and forest management to support adequate prey populations. An existing coyote hunting closure during the deer firearm season would remain in effect for Zone 1. This would be an acreage reduction from the existing coyote closure area of 44% of the state to 33% of the state.

Following state delisting control of depredating wolves could be done by landowners /occupants acting on private land under WDNR permit; they also will be allowed to kill wolves in the act of attacking pets or livestock on their land. If the management population is exceeded, proactive trapping by government trappers may occur in areas with chronic wolf depredation problems.

Zone 2 - Central Forest Zone: This zone consists of 4,521 square miles in the Central Forest Deer

Management Units. The area is capable of sustaining approximately 20-40 wolves. Wolf habitat maintenance would be encouraged on suitable portions of public lands by access management, protection of den and rendezvous sites, and management for younger forests to support prey population. No major change in management would be required in this zone as the wolf is delisted. The wolf population would be allowed to fluctuate with the deer population. Deer populations are primarily impacted by hunter harvest, and winter severity. Reimbursement for losses and perhaps payments for abatement practices could be provided. Depredation controls would include livetrapping and translocation if suitable habitat exists and euthanization of wolves within 0.5 mile of a depredation site. Agents of the USDA-Wildlife Services; Department of Natural Resources and law enforcement agencies could euthanize nuisance animals. No coyote closed area is being proposed for this zone.

Following state delisting control of depredating wolves could be done by landowners /occupants acting on private land under WDNR permit; they also will be allowed to kill wolves in the act of attacking pets or livestock on their land. If the population exceeds 350, proactive trapping by government trappers may occur in areas with ongoing wolf problems.

Zone 3 - Wolf Buffer Area: This zone represents areas having very limited habitat for packs to colonize, but probably contains patches of suitable dispersal habitat that connects the north and central management zones. The zone covers about 18,000 mi² including the mixed forest/farming areas of central Wisconsin and the rugged Coulee country of western Wisconsin (counties are 20% to 60% forested) . Most of the area has less than a 10% chance of being occupied by wolf packs, but some of the rugged bluff country or bottom land areas along the Mississippi River have greater than 25% chance of being occupied by wolf packs. Generally less than 20 wolves are likely to occur in this zone. Because of the importance of maintaining genetic diversity in the Central Forest wolf population, some level of protection will be provided for dispersing wolves in this area. Unless these wolves cause problems, they will not be controlled. Wolves that do become depredators on livestock or pets will be vigorously controlled. Trapping by government agents can be conducted up to 5 miles from depredating sites. Wolf packs that establish may be allowed to persist, but if depredation occurs the whole pack may be removed.

Following state delisting, control of depredating or nuisance wolves could also be done by the landowners /occupants on their land with WDNR permits; in addition the landowners / occupants would be allowed to kill wolves in the act of depre-

dation on their land. Proactive trapping by USDA-Wildlife Services would be considered if the wolf population builds up in an area and causes chronic problems after the wolf population exceeds 350.

Zone 4 -- This zone represents areas that have almost no opportunity for colonization by wolf packs. Wolves entering this zone have a high probability of conflicting with people. This zone would include southern and eastern counties that have less than 20% wildlands and would include all the urban areas across the state. The zone would cover about 16,000 mi². Few wolves are likely to occur in this area. Although non-depredating wolves that avoid areas of human or livestock concentration can receive some level of protection, any wolf or wolf-like animal that lacks fear of people and readily approaches pets, livestock or people should be captured or controlled. Many of the wolf-like animals that would be controlled under such circumstances would probably be free roaming wolf-dog hybrids. Along with federal and state trappers, local law enforcement and animal control officers will be allowed to control nuisance wolf-like animals in this zone.

Following state delisting, landowners or occupants could be granted WDNR permits to kill wolves or wolf-like animals on their land and would be allowed to kill wolves in the act of attacking pets or livestock on their land. Proactive control by government agents could begin once delisting has occurred at the state population level of 250, unlike other zones where the proactive control would not occur until a management goal of 350 is reached.

B. Population Monitoring and Management

1. Population Monitoring

Accurate counts are necessary to determine if wolves are attaining management goals. Radio tracking of collared individuals is the most precise way to monitor wolf populations (Mech 1974). By observing collared wolves with other pack members, complete counts can be made of wolf packs in winter (Mech 1974). One or two radioed animals per pack enables biologists to monitor whole packs. However, the presence of a collared wolf is not always a guarantee that the whole pack will be monitored. Sometimes collared wolves disperse prior to winter, or a pack may occur in dense conifer cover where few observations are possible. Snow tracking can be used to estimate pack size (Thiel and Welch 1981, Wydeven et al. 1996). Counting wolves by snow tracking is less precise than observing wolves from the air, but is useful for assessing wolf numbers, especially if done in conjunction with radio telemetry. The tracks of a wolf pack need to be observed several times over a winter to get an accurate count.

Howling surveys are useful for determining summer home sites for wolves and pup production (Harrington and Mech 1982). These surveys are done mainly from July to October. Although howling surveys rarely allow opportunity for precise counts, the technique allows as-

assessment of relative numbers and helps separate packs.

Since 1979, the Wisconsin DNR has surveyed the state wolf population using the techniques described above. Wolf live-trapping has been performed during each spring and summer (approximately May 1 to September 15), and 3-17 wolves were caught and radio-collared each year. Wolves were located by airplane 1-2 times per week and remained on the air from 1 week to 4 or more years. Normally about 15-20% of the population was captured each year and 30-40% of the population had active transmitting collars during the year. During the winter about 50-60% of packs had at least one collared wolf. Usually 2 crews, each consisting of 2-3 people, conducted live trapping each year.

It requires 10-12 days to trap each wolf. Radio collars placed on wolves cost about \$350 and it normally costs about \$300 to locate all the collared wolves using aerial surveys. It costs about \$1,000-1,500 to capture each wolf. Live-trapping and radio-tracking is the most precise system for monitoring wolves, but is expensive.

Snow tracking has been used to supplement telemetry data on wolves. Most winters, 2,500 - 3,000 miles of survey were conducted in suitable habitat. These surveys normally proceed at about 4-5 miles per hour thus representing 500-750 hours of track surveys.

During summers, howling surveys are conducted in pack territories across the state to determine pup production. These surveys take about 100 hours to complete.

Monitoring efforts need to expand with population growth for the foreseeable future. Federal funds for monitoring will be eliminated 5 years after federal delisting. The WDNR will survey wolves at current rates of monitoring for the next five years and will incorporate information from other surveys to supplement and enhance wolf population information. Efforts will be made to more thoroughly gather reports of wolf observations by the general public.

Existing and potential surveys that could help assess wolf abundance include:

- 1) Furbearer winter track counts, consisting of 2 ten-mile segments per county of snow covered roads that are examined for furbearer abundance each winter by wildlife managers.
- 2) Annual reports of observations by DNR field people on selected state mammals.
- 3) Marten surveys done by Endangered Resources and Science Service personnel by snow tracking 100-300 miles in the Chequamegon and Nicolet National Forest.

4) Wolf reports by the general public and agency personnel (rare mammal reports) will be collected, investigated, placed in a data file and used to guide winter and summer DNR surveys.

5) Bow hunter surveys of wildlife observations by bow hunters.

6) Reports from USDA Wildlife Services on depredating wolves.

7) Additional population modeling may be possible in the future using indices from other surveys, as well as information from road kill and depredation controlled wolves.

8) Occasional statewide population counts may be done similar to Minnesota where field people are asked to assess areas occupied by wolves and the population estimated is based on known densities, pack size and other parameters of the wolf population (Fuller et al. 1992).

A volunteer carnivore track survey was initiated by the WDNR in fall 1995 (Wydeven et al. 1996). Surveyors were asked to conduct 3 or more surveys of 20 - 30 miles each on snow covered roads in each of the 123 survey blocks (200 square miles each). In 1996, 32 of 46 (67%) surveys were returned for assigned survey blocks, and in 1997, 37 of 51 (75%) blocks were surveyed. Surveyors in 1997 conducted 3,317 miles of survey, averaging 90 miles and 4.7 surveys per block. Volunteer surveyors were very close to WDNR estimates of wolf numbers in 1996, but much less in 1997, probably due to poor tracking conditions. Once the volunteer tracking program has been adequately tested and refined, it may also be used as a monitoring tool, and be turned over to a volunteer organizations such as the Timber Wolf Alliance (TWA) and Timber Wolf Information Network (TWIN).

General recommendations for wolf population monitoring under threatened status and as a delisted population are described below.

Threatened and Delisted Status — Live-trapping of wolves and radio-tracking will continue. As the wolf population increases, the percentage of wolves captured and radio-collared each year will decline. Emphasis would be on collaring packs in new areas, core areas, Central Forest Areas, or in research projects where special funding is available. Other packs would be monitored mostly by snow tracking and summer howling surveys. Greater reliance would be on tracking and howling surveys conducted by volunteers. Other WDNR surveys would also be used more extensively for comparing wolf abundance with track and telemetry surveys. Meetings will be conducted each spring with agency wolf surveyors and members of the general public to determine the overwinter wolf population.

2. Population Management

The Wolf Advisory Committee believes population growth will be slowed by actions listed in this plan, including take by USDA-Wildlife Services related to depredation, control by law enforcement officers, and the take by private landowners of wolves in an act of depredating, or landowner control by permit in chronic problem areas.

USDA-WS will be allowed to use lethal control as soon as federal reclassification occurs. Landowner control throughout the state and proactive control by government agents in Zone 4 can occur when the wolf population exceeds 250. Such control actions, along with normal mortality, will impact overall population growth. If the population exceeds 350, proactive depredation control by government trappers will be allowed in all four zones and public harvest can be considered.

Threatened Status --- Only wolves causing depredations on pets or livestock would be euthanized while wolves are classified as threatened. All depredation control activity would be conducted by WDNR or USDA-WS. Under special circumstances, authorization to control nuisance wolf-like animals can be given to local law enforcement or animal control officers in urban areas. Landowner control would not be considered while wolves are listed as threatened.

Delisted status -- Once delisted, the gray wolf would be classified as a "protected nongame species" (similar to the badger). Most control activity would continue to be done by WDNR or USDA - WS personnel. Within Zone 4 and urban areas, local law enforcement officers and animal control officers could be authorized by WDNR permit to control wolf-like nuisance animals that are free-roaming in urban areas. Control in these type of situations should be flexible and be based on animal behavior. Most wolf-like animals that would be controlled in these situations would probably be wolf-dog hybrids or captive raised wolves.

Once wolves are delisted landowners/occupants may be issued permits to kill nuisance wolves on their land. Landowners/occupants would also be allowed to shoot wolves in the act of attacking pets or livestock on their land, with the requirement that a Conservation Warden must be contacted within 24 hours. All wolves killed by landowners must be turned over to the State.

Proactive control by government trappers would be used by the WDNR to control the wolf population once the management goal of 350 is achieved. This would consist of lethal controls in areas with a history of depredation problems, or areas with a high probability of wolf-human conflicts. Such control would have the effect of slowing or perhaps stabilizing the growth of the wolf population.

A public harvest can be considered if other control activities do not adequately maintain the population near the 350 goal. All other control activities such as government trappers, law enforcement officer controls, and landowner controls will first be used to attempt to maintain the population at this goal. The Wisconsin State Legislature would have to approve authority for a controlled public harvest of wolves.

The development of legislation that would allow a limited public harvest of wolves would require extensive public interaction as part of the process. Harvest by private citizens is controversial, but the taking of wolves in a recovered population is consistent with the management of other furbearers in the state of Wisconsin. Any public harvest would be closely monitored to ensure that the population does not decline below the management objective of 350 wolves. The Wisconsin Department of Natural Resources adheres to the principles of adaptive management, and the Wisconsin Wolf Management Plan will be periodically reviewed, and adapted to meet changing biological and social conditions.

C. Wolf Health Monitoring

Health monitoring is necessary to assess impact of diseases and parasites on the wolf population. Health monitoring includes collection and analysis of biological samples from live-captured wolves, analysis of wolf scats, and necropsies of dead wolves found in the field. While federally listed as endangered/ threatened, biological samples of live captured wolves and analysis of scats will be conducted by WDNR, and wolf necropsies will be conducted by the National Wildlife Health Lab in Madison. When federal delisting occurs, all health monitoring will be the responsibility of WDNR.

Intensive health monitoring will continue while wolves are listed as a state endangered or threatened species. Live-captured wolves will be tested for diseases, physiological condition and parasites. Ideally about 10% of a population of 100 wolves should be examined, but as the population continues to increase, the percentage of the population live-captured will decline. In recent years 12 to 17 wolves were captured annually. Wolf scats will be collected to monitor canine viruses and parasite levels. Dead wolves will be necropsied to determine cause of death, physical condition and disease status.

Following state delisting, live-trapping will continue, but the percentage of the population captured each year will decline. Periodic scat analyses will be done to test for diseases and parasite loads. WDNR will continue to examine dead wolves. Special research studies may occasionally be done on wolves and these should include health monitoring. Wolf health monitoring should be part of the capture protocol of all live-capture studies of any wild wolves in Wisconsin, and should be carefully coordinated with WDNR wildlife health specialists.

D. Habitat Management

1. Potential and Favorable Wolf Habitat

Based on computer models, Wisconsin contains large tracts of potential wolf habitat (Mladenoff et al. 1995, 1997, Appendix C). The variables used to determine what makes up potential habitat include human population density, prey (deer) density, road density, vegetation cover, spatial landscape pattern, and land ownership. Of these, density of improved roads and complexity of spatial pattern are most important. Wolves have selected areas that are most remote from human influence, and with the least amount of landscape pattern (e.g. least amount of agricultural land, lakes, and other separate land cover patches). Based on these findings, there are currently 5,812 mi² (15,052 km²) of favorable wolf habitat in Wisconsin (Figure 6). Favorable (primary) habitat is defined as areas that have a greater than 50% probability of being occupied by wolf packs. Most of this favorable (primary) wolf habitat is located on public land, especially county forests, followed by national forests, and private industrial forests (Mladenoff et al. 1995 Appendix C). Wolves have naturally expanded into Wisconsin and have better defined what favorable habitat is to them by currently occupying 2,200 mi² (5,700 km²), most of which is also within the areas identified as favorable through computer models (Figure 6).

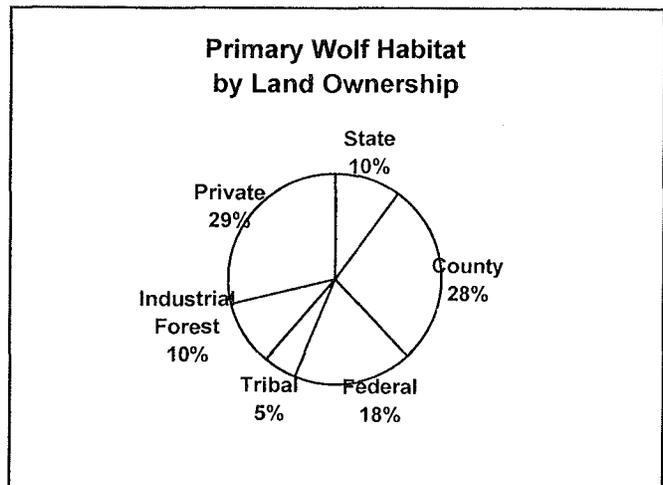
The Wolf Advisory Committee will facilitate cooperative habitat management efforts with land agencies and industrial forest and private land owners, especially in the 5,812 mi² of the most favorable habitat (Mladenoff 1995, Appendix C). Habitat management should include efforts at access management, corridor protection, vegetation management, and den site protection. Such habitat management should continue for wolf populations listed as threatened or delisted.

2. Access Management

Wolf populations are affected by human caused mortality (see Appendix F). Motorized access, and the level of human use on such access, has been shown to be a key factor in establishing and maintaining wolf populations (Thiel, 1985; Mech et al. 1988). These studies suggest that wolves exist primarily in areas with less than, or up to, one linear mile of open improved road per square mile (0.6 km/km²). Mladenoff et al. (1995) showed that road densities within pack territories were lower, averaging 0.37 mi/mi² (0.23 km/km²). The expanding wolf population in the Lake States, however, has shown

increased tolerance for slightly higher road densities in recent years (WDNR unpubl. data; per comm. Bill Berg, MN DNR).

Access management is important for many economic, social, and biological reasons. Managing the amount, type and level of public motorized access is recommended for Zone 1 and 2. Access management can include avoidance of new road construction, using temporary or winter-only roads, closure of existing roads not needed for management or public access with gates berms or large rocks, and road obliteration. Emphasis in access management should be on maintaining existing low road densities in areas of suitable habitat. Access management may help reduce maintenance costs, provide remote recreational experiences, and may benefit certain wildlife including bear, marten, bobcat, moose, goshawk, and spruce grouse. In deciding upon an access management program, variables such as administrative controls, economic and recreational land use, human population demographics, ownership patterns, atti-



tudes of the local population towards wolves, and historic trends in wolf mortality need to be taken into account.

Low standard roads (the ones that are not shown on county maps, including Forest Service class D roads), off-road motorized vehicle trails (including all-terrain vehicles and dirt bike areas), and open areas, are access situations not adequately addressed in the Wisconsin Wolf Recovery Plan. Low road density correlates well with wolf colonization because road density is directly related to levels of human access. Impacts associated with open areas where off-road vehicles are not restricted to trails, and the occurrence of low standard roads are difficult to measure, but probably have similar effects on wildlife species such as wolves. Development of low quality roads or trails for motorized vehicles should receive thorough review when being proposed in areas with suitable wolf habitat.

3. Vegetation Management

Wolves require deer, beaver and other prey to survive. Deer are generally most abundant in early successional forests. Historically, disturbances such as windstorms and fires created this vegetation condition, but in recent times timber harvest and other forest management practices have provided this habitat. Beaver are especially fond of aspen for food. Aspen, jack pine, and regenerating forests of all types are preferred by deer. Oak is important to deer in central Wisconsin, and seasonally throughout the state for its periodic acorn crop. Dense conifer cover such as hemlock, cedar and mixed conifer swamps are important as winter thermal cover for deer. Small grassy upland forest openings are important components of deer summer range. Wolf pack territories have a higher proportion of mixed conifer-hardwood forest and forested wetlands than non-pack areas (Mladenoff et al. 1995). Wolf territory size tends to increase as local deer populations decrease, and territory size decreases when deer numbers increase (Wydeven et al. 1995).

An ecosystem management approach to forest management on public and private land will balance considerations for wolves with other forest species. Young forests provide summer habitat for deer and mature conifer forests provide wintering areas. Young forests provide higher populations of prey, and large blocks of forest with a low density of roads provide seclusion for wolves.

4. Habitat Linkages and Corridors

Wisconsin is more fragmented with roads, towns, and open agricultural land than is northern Minnesota and the Upper Peninsula of Michigan. To maintain a wolf population in Wisconsin, it is important to provide forested habitat linkages and corridors for wolf dispersal to and from Minnesota and Michigan, as well as within Wisconsin. Forested blocks of land that connect wolf habitats across Wisconsin should be maintained. The WDNR will encourage private landowners, tribal governments and public land agencies to cooperatively manage corridor habitats. Protection of corridor habitat should be a factor in considering acquisition of public land for other conservation purposes.

5. Den and Rendezvous Site Management

Wolf pups are born in dens in April and remain there until mid to late June. Dens may be excavated in the ground, or may be hollow logs and stumps, old beaver lodges, or rock caves. Wolf pups are moved to rendezvous sites in mid or late June which are used until late Sep-

tember or early October when wolves begin their nomadic hunting period of fall and winter. Rendezvous sites often consist of grassy areas or sedge meadows near beaver ponds or forest streams, often near dense conifer cover.

Active den sites and rendezvous sites in areas of suitable wolf habitat need protection. Areas within 330 feet (100m) should receive total protection from tree harvest, and areas within 0.5 miles (0.8km) would be recommended for protection from disturbance such as logging from March 1 to July 31. These recommendations would generally serve as policies on public land, and be encouraged on private land in areas of suitable wolf habitat. Den and rendezvous site protection should be included even after wolves are delisted. Wildlife biologists responsible for designating such sites, and foresters will be encouraged to cooperate to manage logging operations to protect wolves during forestry projects. Normally only one or two den sites would be affected within a 50-square mile area.

6. The Role of Wilderness and other Forest Reserves

Federal wilderness (69 mi², 5 areas), state wilderness (50 mi²) and other non-timber managed forest reserves with limited or no motorized access contribute to wolf habitat in that they provide refuge areas where wolves are not subject to high human disturbances. Although designated wilderness areas are used by wolves, experience in Wisconsin and other areas of the Great Lakes have shown that managed forests with adequate access management also provide suitable wolf habitat. Therefore it is not necessary to designate areas as wilderness for the benefit of wolves.

E. Wolf Depredation Management

Wolf depredation management is one of the most sensitive segments of this Wolf Management Plan. WDNR is charged with protecting and maintaining a viable population of wolves in the state, but also must protect the interests of people who suffer losses due to wolf depredation.

Wolves occasionally kill livestock, poultry, and pets. Although wolf depredation is not anticipated to impact a significant portion of the livestock growers, poultry producers, and pet owners, it can bring hardship to individuals. Minnesota currently has more than 2,000 wolves but fewer than 1% of the farms in wolf range experience wolf depredation problems.

WDNR paid \$55,575 in wolf damage compensation claims for 45 calves, 11 sheep, 140 turkeys, and 36 dogs during 1976-98. (See Appendix A.) Depredation on dogs represented 76% of reimbursement payments provided by WDNR. Only 0.4% of the farms in the current wolf range have experienced wolf depredation problems. Through 1998, six wolves have been translocated as a result of depredations.

Reclassifying wolves from federally and state endangered to threatened status will provide an option to euthanizing

depredating wolves. Under threatened status only government agents would euthanize wolves. Once wolves are delisted, permits may be issued by WDNR to enable private landowners to take depredating wolves. Public comments in autumn 1996 revealed concerns about killing wolves, particularly through public harvests. Other comments strongly supported public harvest. Most who supported euthanizing depredating wolves felt this should only be done by government professionals. Many urged educational programs and preventive efforts by livestock producers to minimize depredation losses. There was strong support for continued damage compensation programs.

1. Depredation Management Plan

The objective of the wolf depredation program is to minimize depredations and compensate people for their losses. Euthanization is listed a depredation management option statewide, but depredation management will focus on prevention and mitigation rather than wolf removal. The Department will work with the livestock industry to develop guidelines for preventing or minimizing wolf depredations. Wolf removal without adequate prevention and mitigation, will likely result in large annual expenditures of time and money.

2. Verification Procedures

Quick, uniform, and accurate verification of wolf depredation is critical. Previous experience has shown that the majority of wolf complaints turn out to be non-wolf problems when properly investigated. Immediate response to complaints by qualified people is necessary to reasonably determine cause of death.

A. Upon receipt of a possible wolf depredation complaint, WDNR will immediately notify USDA-WS agents responsible for investigating complaints.

B. USDA-WS will contact the complainant by phone within 24 hours and make an onsite inspection within 48 hours of receipt of the complaint if it appears to be legitimate.

C. USDA-WS will classify the complaint under one of the following categories:

1. Confirmed Depredation. Clear evidence that wolves were responsible for the depredation, such as a carcass present with bite marks and associated hemorrhaging, wolf tracks in the immediate vicinity or other wolf sign.
2. Probable Depredation. Carcass missing or inconclusive but presence of good evidence such as kill site, blood trails, wolf tracks and scat in the immediate vicinity
3. Confirmed Non-Wolf Depredation. Conclusive evidence that something other than a wolf killed the animal. Wolf-dog hybrids and wolves that appear to have been raised in captivity. will be treated as domestic animals.

4. Unconfirmed Depredation. Any depredation or livestock loss that does not meet the above criteria. This could be missing animals, animals that died of other causes, and even animals killed by wolves but unconfirmed because of lack of evidence.

The first two categories, "Confirmed" and "Probable" are the only ones that will warrant further action. If the investigating USDA-WS agent classifies a depredation complaint as "Confirmed Non-wolf Depredation" or "Unconfirmed Depredation", no further action will be taken except that the incident will be recorded and, if the depredation is determined to be caused by wild animals other than wolves, USDA-WS will provide the appropriate assistance.

3. Control Response Options

Five control response options are available to resolve confirmed or probable depredations. (Table 3a and 3b) The depredation management program will use a combination of these options as appropriate depending upon the individual situation. These include:

1. Technical assistance to help prevent/minimize problems,
2. Compensation for losses caused by wolves.
3. Livetrapping and translocation of wolves causing problems.
4. Trapping and euthanization of depredating wolves by government agent.
5. Landowners /occupants may be allowed to kill depredating wolves by DNR permit after delisting has occurred. They would also allowed to shoot wolves attacking pets or livestock on their land.

Under cases of "Confirmed Depredation" or "Probable Depredation", the local WDNR Wildlife Biologist, the WDNR Regional Wildlife Expert, and USDA-WS will jointly determine appropriate management activities using the following criteria:

- A. Technical assistance will be provided in all Wolf Zones. These may suitable include abatement materials or practices. This may also include development of a depredation prevention plan for the farmer and recommendations for increased abatement measures which would be cost-shared by WDNR.
- B. Compensation will be provided in all Wolf Zones for verified and probable losses of domestic animals to wolves. The present compensation program is funded through Endangered Resources revenues, but following delisting, compensation for damage done by gray wolves may no longer be available. The WDNR is seeking sources for

funding the compensation program . The Mammalian ecologist will notify possible claimants of the findings of USDA-WS within 7 days of receiving verbal notification that a wolf kill has occurred. The Madison Office of the WDNR will respond to a claimant within 14 days, either affirming the claim and initiating processing, or seeking additional justification for the claim. Farmers must follow any technical assistance recommendations to remain eligible for com-

penation payments. Damage appraisals will continue to be performed by USDA-WS to provide accurate, timely and fair compensation for losses.

C. Translocation -Depredating wolves may be translocated from Zones 1,2 and 3. Translocation may be effective in some situations, but success will vary depending on the trapping history of a problem wolf. Eventually translocations may be limited as the number of suitable

Table 3a. Depredation Management Options by Management Zones For a Threatened Wolf Population in Wisconsin (80-250 wolves)				
Possible Depredation Control Activity	Zone 1	Zone 2	Zone 3	Zone 4
Technical Assistance and Compensation	allowed	allowed	allowed	allowed
Translocation of Wolves	allowed	allowed	allowed	not allowed
Euthanize Wolves (USDA-Wildlife Services)	allowed*	allowed	allowed	allowed
Private Landowner Control	not allowed	not allowed	not allowed	not allowed

Table 3b. Depredation Management Options by Management Zones For a Delisted Wolf Population in Wisconsin (250+wolves)				
Possible Depredation Control Activity	Zone 1	Zone 2	Zone 3	Zone 4
Technical Assistance and Compensation	allowed	allowed	allowed	allowed
Translocation of Wolves	allowed	allowed	allowed	not allowed
Euthanize Wolves (USDA-Wildlife Services)	allowed*	allowed	allowed	allowed
Private Landowner Control	allowed	allowed	allowed	allowed

* Lethal Control will rarely be used on large blocks of public land.

release sites are occupied by wolves. Identification of release sites and agreements with appropriate land owners/ managers must be done before translocation efforts can be initiated.

- D. Euthanization – Some wolves may be euthanized in the future due to conflicts with humans. This option can be used when:
- 1) there have been significant documented, confirmed losses at a site,
 - 2) the producer has a signed depredation management plan for the property and follows abatement/ husbandry recommendations,
 - 3) the USDA-WS Depredation Specialist recommends euthanasia, and the WDNR approves.
 - 4) wolf-dog hybrids will be euthanized in any zone where they are captured at depredation sites.

Initiation of translocation and/or euthanization efforts will depend upon the Wolf Management Zone in which the depredation problem occurs and the status (threatened or delisted) of the wolf population. Guidelines for each Wolf Zone are as follows:

1. Zone 1 —On large blocks of public land in primary wolf habitat, euthanization of wolves will not normally occur.
2. Zones 1 and 2 - While wolves are state threatened, trapping efforts will be initiated only in cases with repeated depredation problems. Trapping will be limited to areas within 0.5 miles of the confirmed depredation site. Wolves will be translocated or euthanized. After wolves have been state delisted, landowner /occupant control with DNR permit will be allowed at depredation sites on their property which have had a history of recurring problems.
3. Zone 3- While wolves are state threatened trapping efforts will be limited to repeated depredation problems and to areas within 5.0 miles of the depredation site. Wolves will be translocated or euthanized. After wolves have been state delisted, private landowner control will be allowed with DNR permit to control wolves on their property.
4. Zone 4 - While wolves are state threatened live trapping will be done on any wolf causing depredation with no limits from depredation sites on trapping. Such wolves will normally be euthanized. After wolves have been state delisted, proactive trapping may take place, local law enforcement officers may be allowed to kill wolves, and private land owners or their agents may be given permits to kill depredating wolves.

F. Wolf Education Programs

Public education about wolves was a major factor in the success of wolf recovery in Wisconsin. Education emphasized greater acceptance of wolves, and have reduced unfounded fears and myths. Education about wolves will continue to be important in future wolf management, with more focus on ways to live with wolves,

needs for wolf control activity, and needs for more of an understanding of the role of wolves in forest ecosystems. Educational information will also be needed to explain the reclassification and delisting process to the general public as wolves pass through threatened and delisted status.

A multifaceted and multi-agency approach will be used to encourage wolf education in Wisconsin. Some of the major education steps are listed below.

1. Develop Special Education Materials

- a. The current (1996) edition of the "Timber Wolf Life Tracks" publication will be updated about every 5 years or when major changes in status or population occur.
- b. A pamphlet will be developed between WDNR and USDA-WS on means for livestock owners to reduce or avoid depredation problems by wolves and other predators.
- c. A booklet will be prepared that explains Wisconsin wolf management to general audiences.
- d. Periodically write and publish news releases and articles on Wisconsin wolves for state newspapers, magazines, and others include the "Wisconsin Natural Resources Magazine".
- e. Incorporate information on wolf identification, protection, and trap release methods in hunting and trapping pamphlets, and incorporate wolf identification/ecology information into hunter and trapper education courses.
- f. Incorporate wolf information on the WDNR's Web Page (www.dnr.state.wi.us)

2. Work with other organizations

WDNR will continue to work with other organizations to promote wolf education including: Timber Wolf Alliance (TWA), Timber Wolf Information Network (TWIN), International Wolf Center, and other organizations involved in promoting wolf education. The WDNR will provide a person to serve on the advisory committee for TWA, provide training at TWA workshops, review and edit educational material for TWA, and help TWA promote the annual "Wolf Awareness Week". The WDNR will assist TWIN with workshops when requested and provide survey information for TWIN to use in developing educational materials. Periodic updates on Wisconsin wolf status and management will be provided to the International Wolf Center.

WDNR will assist other wolf organizations, schools, colleges, and educational organization to teach members about wolves and assist in developing wolf education material.

3. Provide Special Training

As wolf populations continue to expand, and wolf management becomes more decentralized, there will be more of a need to teach others about wolf management including WDNR wildlife biologists and technicians, other WDNR field workers, other agency personnel and tribal natural resources personnel. Education on wolf management would include: identification of wolves and wolf sign, methods of determining local wolf populations, methods of trapping and releasing wolves, procedures for wolf habitat management, and means for reducing wolf depredation problems. The WDNR will develop and conduct such programs to teach others about wolves. Other programs in which WDNR wolf program personnel will be involved would include training for USDA-WS trappers, and track training for WDNR, Great Lakes Indian Fish and Wildlife Commission (GLIFWC), tribal natural resource personnel, Forest Service, and other agency personnel conducting furbearer and carnivore surveys. WDNR wolf program personnel will assist in the training of university personnel conducting wolf studies on methods of trapping, handling and monitoring of wolves.

4. Provide general wolf presentations

The WDNR wolf program coordinator will continue to provide presentations to the general public on Wisconsin wolves, as will others working on the wolf program. But as wolves become delisted and wolf management becomes more decentralized, no one individual will be as intensely involved with the wolf program. Therefore the need to give wolf presentations should be shared more broadly with other WDNR wildlife biologists, park naturalists, other agency biologists, and trained volunteers.

G. Law Enforcement

Strict legal protection has been a key in the improved status of wolves in Wisconsin and the Great Lakes region. In Wisconsin, important factors in the increase of wolves has been the closing of coyote hunting across the northern half of the state during the firearm deer hunting season, increased fines for killing of endangered species, and vigorous investigation of illegal killing of wolves. Changes and potential regulations necessary for reclassified and delisted wolf populations are listed below:

1. Threatened Status Regulations

- a) The term "threatened species" needs to be added to Wisconsin Stats. 29.65 (civil actions for damage caused by law violations), and 29.9965 (wild animal protection assessments). These statutes would set the value of an illegal killed wolf at \$875, the value

set for all endangered species, but currently not including threatened species. This amount would be added to the penalty for illegal killing of a wolf upon conviction.

- b) Penalties for killing threatened species remains the same as for endangered species, that being (Wisconsin Stats. 29.605 (formerly ss 29.415 (5) (a) (1):) **Unintentional violations** would be subject to a fine of \$500 to \$2,000 and 1 year loss of hunting privileges. **Intentional violations** would be subject to a fine of \$2,000 to \$5,000 or up to 9 months in prison, or both, and loss of hunting privileges for 3 years.
- c) A state endangered or threatened species permit would be required for possessing of captive wolves.
- d) Coyote-closed zones during the gun-deer season would be modified to cover Zone 1 (Figure 8), and would reduce areas with restricted coyote hunting from 44% to 33% of the state.
- e) While wolves remain federally listed as endangered or threatened, all law enforcement work will be coordinated with the USFWS. Decisions as to whether to prosecute violations as state or federal will be made by federal and state wardens in consultation with the local district attorney. Generally, federal violations carry much heavier fines and longer periods of imprisonment.

2. Delisting Regulations

- a) The wolf should be added to the animal list in Wisconsin Stats. 29.65 (1) (6) and 29.9965 (1) (6) (2). It would be added to moose, elk, fisher, prairie chicken, and sandhill crane as animals valued at \$262.00 for illegal kills.
- b) The wolf should be added to the list of species for which unlawful hunting would result in a "forfeiture of not less than \$1,000 nor more than \$2,000 and revocation of hunting privileges for 3 to 5 years" which currently exists for moose, elk, bear, and deer.
- c) Additional regulations should be added to Wisconsin Statutes Chapter 29 making it illegal to possess either wolf or wolf-dog hybrids in captivity without obtaining a permit from the WDNR. Legislative authority should be sought for Conservation Wardens to destroy free-roaming wolf-dog hybrids.
- d) Wolves would be added to Wisconsin Administrative Code NR 10.02 (1) as a "protected

wild animal".

- e) A coyote-closed zone would be maintained during the gun-deer season only in Zone 1.
- f) Investigations of illegal killing of wolves would be done by Wisconsin Conservation Wardens or Tribal Wardens, and federal involvement would not occur unless transport of illegally killed wolves crosses state lines.
- g) Wolf dens would be included under the category of regulations against disturbing or molesting in Wisconsin Administrative Code under NR 10.13(2) and create a new subparagraph "(d) Molest or disturb any gray wolf den".

H. Inter-Agency Cooperation/Coordination

Achieving the objectives of this plan requires the continued involvement and cooperation among many agencies, private individuals and organizations. The WDNR will continue to mesh its objectives with the USFWS Recovery Plan (1992), Minnesota DNR, Michigan DNR, Wisconsin counties, industrial forest owners, Native American Nations, and other concerned agencies and organizations.

In 1992 a Wisconsin Wolf Advisory Committee was formed similar to other species advisory committees coordinated by the WDNR. The Wolf Advisory Committee is charged with reviewing and making recommendations on policies and management procedures affecting wolves. The current management plan was developed by the Wolf Advisory Committee. Advisory committee membership includes WDNR, USFWS, U. S. Forest Service, GLIFWC, County Forests, University of Wisconsin-Stevens Point, USDA- WS, and Wisconsin Conservation Congress. The committee will continue to meet regularly once the plan is approved to review and monitor progress. Committee meetings are open to the general public and other agencies.

Since 1989 Great Lakes Wolf Stewards (an informal group of state, U.S. Fish & Wildlife Service and U.S. Forest Service biologists working with wolves) has met during most years to discuss wolf management issues affecting the Great Lakes region. This group consists of representatives from various agencies and private organizations from Michigan, Minnesota, and Wisconsin. The "GIS Analysis of Wolf Habitat in the Great Lakes Region" (Mlandenoff et al. 1995) and "Guidelines for Wolf Management in the Great Lakes Region" (Fuller 1995) are two products that resulted from these meetings. The WDNR will continue to promote, support and occasionally sponsor Great Lakes Wolf Stewards meeting.

The chair of the Wisconsin Wolf Advisory Committee and the U.S. Forest Service representative also serve

on the Federal recovery team for the eastern population of gray wolves in the U.S. This committee is reviewing the 1992 recovery plan to determine if reclassification and delisting criteria are being met. The Wisconsin members serve on the federal recovery team with members from Michigan, Minnesota, Wisconsin Chippewa tribes, and the National Park Service. This committee will finalize recommendations for federal delisting in close cooperation with the states.

Once wolves are state delisted, the Wisconsin Wolf Advisory Committee will meet at least annually to review wolf management in the state. Wisconsin biologists will meet periodically with biologists from Michigan and Minnesota to coordinate wolf management especially maintenance of habitat corridors that connect wolves across the three states.

I. Program Guidance and Oversight

A Wolf Advisory Committee will continue to oversee state wolf management in Wisconsin. The Wisconsin Wolf Advisory Committee reports to the Bureau of Endangered Resources and Wildlife Management and Division of Lands, Land Leadership Team of the Department of Natural Resources. Plans prepared by the Wolf Advisory Committee are subject to approval of the Natural Resources Board. The chairperson of the wolf advisory committee will be the coordinator for wolf management activity in the state. Composition of the Wisconsin Wolf Advisory Committee (DNR Wolf Technical Committee) may include the following:

- a) The chairperson should be the mammalian ecologist in the WDNR Bureau of Endangered Resources .
- b) WDNR wildlife biologists from regions that have wolves,
- c) WDNR wildlife education specialist,
- d) WDNR wildlife depredation specialist,
- e) WDNR wildlife health specialist,
- f) WDNR conservation warden,
- g) USDA-WS,
- h) USFWS biologist,
- i) USFS biologist,
- j) Tribal biologists,
- k) WDNR mammalian research ecologist,
- l) WDNR public affairs manager,
- m) Conservation Congress representative,
- n) County Forest Administrator,
- o) WDNR Furbearer Ecologist, and
- p) GLIFWC biologist
- Q) WDNR, BER Staff Biologist

The DNR will also create a stakeholders group that will include agencies, organizations, and other members of the general public interested in wolf management (Appendix D). The Wolf Advisory Com-

mittee should meet at least once per year with the stakeholders group to assess the state wolf population, assess wolf management zones, review depredation control activities, assess impact of educational activities, review problems and determine needs for new policies or management procedures. The stakeholder group will provide a balanced spectrum of publics concerned about wolves. Other public involvement techniques also will be used to encourage all persons who are interested in wolves to participate in discussions. All interested people should have a chance to make their viewpoints known. Annually the Wolf Advisory Committee (technical group) will make a written report to the public. At 5 year intervals, a thorough review should be made of the state wolf population status, and a public review should be made to assess concerns and support of wolf management.

J. Volunteer Programs

Many people have volunteered for wolf recovery efforts since the development of the Wisconsin Wolf Recovery Program in the 1980's. Volunteers have assisted in education programs, population monitoring, and financial donations to wolf management. Such efforts have expanded levels of wolf recovery work, provided additional funding, and helped foster citizens that are very committed to wolf recovery. As the wolf population expands, and are reclassified to threatened and eventually delisted, greater reliance will be placed on volunteers to conduct wolf conservation activity.

Timber Wolf Alliance (TWA) was formed in 1987 as a means for involving private citizens into Wisconsin wolf recovery efforts. The Sigurd Olson Environmental Institute out of Northland College, Ashland, Wisconsin sponsors TWA, in a similar fashion as it has sponsored Loon Watch, a successful program for volunteer monitoring of loon populations in the Great Lakes. TWA has developed a speakers bureau of volunteers that give wolf talks and assist at wolf education programs at sports shows and other events. TWA also has an Adopt a Pack program which provides education to groups and donates part of those proceeds from the program to DNR wolf population monitoring efforts.

Students of Northland College and UW-Stevens Point have monitored wolves. Students monitor wolves through snow tracking, howl surveys, and radio-tracking. Programs such as these can continue, and could expand to include universities, technical college and high schools.

Timber Wolf Information Network (TWIN) was formed in 1990 to encourage wolf recovery through wolf education programs. TWIN provides a wolf

ecology course through which many people have been taught about wolves. TWIN also has an Adopt a Pack program to teach schools and youth groups about wolves and encourage wolf research. Volunteers trained through TWIN's workshops have assisted on wolf population monitoring efforts in the state.

The WDNR initiated a volunteer tracking program in 1995, to use trained volunteers to search for wolves in winter and assess abundance of other medium and large carnivores in Wisconsin. Forested portions of north and central Wisconsin were delineated into 123 survey blocks averaging 200 square miles each. Volunteers are requested to conduct 3 or more good snowtracking surveys, covering about 30 miles each of snow-covered roads on their survey block each winter.

Opportunities for volunteers to work directly with WDNR wolf workers are limited, therefore WDNR will continue to work with other organizations and develop the volunteer tracking program. The WDNR will continue to search for other opportunities for volunteer involvement.

Work with volunteers will also be important in developing methods for preventing depredation and providing factual information to members of the public about wolf behavior. It may be desirable to enlist a volunteer organization to fund wolf depredation claims once delisting occurs and WDNR endangered species funds are no longer available.

K. Wolf Research Needs

The WDNR has been monitoring the status of the wolf population in the state since 1979. Emphasis has been placed on determining population status, pack sizes and distribution, mortality rates and factors, productivity, rates of recolonization, dispersal behavior, and disease/health status. More intensive research was initiated in 1992 in extreme northwestern Wisconsin to determine the impacts of highway expansion on resident and dispersing wolves near U.S. Highway 53. Results of these efforts have provided excellent data for tracking the progress of Wisconsin's recovering wolf population.

Reclassifying of wolves from "Endangered" to "Threatened" status, and hopefully down to "Protected" status in the future will require additional research to safeguard the wolf population and develop/evaluate future wolf management practices. Future wolf research needs include:

- 1) Development of reliable, but more economical wolf census techniques to accurately document numbers and distribution.
- 2) Re-measurement of public attitudes towards wolves and recovery in the state to define reason-

able wolf population goals and acceptable wolf habitat.

- 3) Identification of wolf travel corridors and development of appropriate management practices for travel corridors to allow continued interchange of wolves among Minnesota, Wisconsin, and Michigan.
- 4) Development of a model that can predict potential den and rendezvous sites within suitable wolf habitat so these areas can be protected from human disturbance.
- 5) Continued health monitoring to identify factors causing low pup survival and to document any future outbreaks of diseases or parasites that may have significant negative impacts on the wolf population.
- 6) Development of policy/procedures for handling depredating wolves and explore possibilities to minimize depredation problems.
- 7) Identification of factors apparently limiting wolf colonization in northeastern Wisconsin
- 8) Conducting special long-term research on wolf ecology, population growth, and depredation concerns in central Wisconsin.
- 9) Documentation of the impacts of future wolf populations on deer, beaver, coyote and other wildlife within wolf range.
- 10) Conduct research on non-lethal means of reducing wolf depredation and thoroughly examine the ecology of depredating wolves.
- 11) Developing models that estimate the state wolf population using existing survey and population data, as well as identifying needs for additional surveys. Use modeling to further examine viability of the state wolf population.

Availability of funding and personnel will determine the rate at which these research needs will be met. Other research priorities may arise with changes in wolf populations, human development, and land management practices. Some research would be conducted by WDNR, universities and other cooperators. Attempts will be made to secure outside funding to allow more thorough research than possible under current funding.

L. Wolf-Dog Hybrids and Captive Wolves

A wolf-dog hybrid is the offspring of the mating of a wolf (*Canis lupus*) with a domestic dog (*Canis familiaris*). Normally these are bred in captivity because wild wolves rarely breed with dogs. These animals have rapidly grown in popularity in the late 1980's and 1990's, and seem to be the pet of choice for a growing segment of the public that wants a pet that is different, intelligent, semi-wild, and independent. The characteristics of wolf/dog hybrids make them highly desirable to some people, but also highly unpredictable. Estimates of the number of privately owned hybrids in this

country run as high as 400,000 (Hope 1994).

The normal "predatory behaviors" of wild predators like the gray wolf have been lost in most domestic dogs. However, in hybrids these instincts are present to varying degrees, yet the animals commonly lack a fear of humans.

Attacks, maulings, dismemberments and deaths caused by wolf/dog hybrids have received national media attention. Four children are known to have been killed by hybrids between 1981 and 1988. The death of a four year old in Florida in August of 1988 seemed to heighten media attention on this subject. In this case a publicly trusted institution--an animal shelter--featured a hybrid as the "pet of the week". Two hours after the animal had been brought to its adoptive home, it killed the neighbor's child. The shelter paid a \$425,000 settlement to the boy's family. This tragedy set a national precedent for animal shelters/agencies: wolf/dog hybrids are to be put down or returned to their original owner, but are not to be adopted out to an uneducated, unsuspecting public.

This precedent makes it very difficult for distressed owners of unmanageable adult wolf/dog hybrids to find a "good home" for the animal they still love but just can't live with anymore. There are numerous wolf and wolf/dog hybrid shelters throughout the country, however, space is limited and such shelters are often filled. Unfortunately for the animals and the reputation of wild wolves, many overwhelmed hybrid owners resort to "setting their wolf free" when they cannot find a suitable home for them. These freed hybrids however lack the hunting skills and pack structure needed to survive by hunting wild prey. When these animals become hungry, they instinctively return to humans for food, invariably get into trouble, and often are shot to death by local enforcement officers. There have been twenty-one cases of free-roaming wolf/dog hybrids in Wisconsin between 1989 and 1998. (see Appendix G).

Free-roaming hybrids, and the problems they cause give wild wolves a bad reputation. Wildlife biologists may spend an extensive amount of time attempting to identify wolf-dog hybrids, document problems, and attempt to rectify such problems, which diverts time and expenses from management of wild wolves.

Wildlife biologists are concerned about escaped or released wolf/dog hybrids interbreeding with wild wolves--diluting the gene pool with the instincts and behaviors of domestic dogs (Hope 1994). Dog genes in a wolf population may reduce long term viability and increase rates of livestock depredation.

Attacks on humans by captive wolves and wolf/dog hybrids will continue to contribute to a negative image of wolves to the public. Additionally, released/escaped hybrids have the potential of destroying the genetic purity and hence, the legal status, of wild wolves in Wisconsin.

Possession of pure wolves is presently allowed only by WDNR permit. While this species is listed as Endangered or Threatened the WDNR Bureau of Endangered Resources is responsible for issuing such permits. These permits can only be issued for "zoological, educational, or scientific purposes or for propagation for preservation purposes" (s.29.604 WI Stats.). The possession of wolves will continue to be highly regulated following delisting. The WDNR will promulgate specific Administrative Rules to ensure this.

Possession of wolf/dog hybrids also needs to be regulated due to their potential impact on wild, free ranging wolves. The WDNR will seek statutory authority to regulate the ownership of these animals in the state. Twenty-five other states presently regulate the possession of these animals; these regulations range from simple registration to a total prohibition of possession.

Free-roaming wolf-dog hybrids trapped at depredation sites will be euthanized unless collars provide the identification of an owner. The owner of such an animal may be responsible for the cost of depredations. Legislative authority will be sought to allow Wisconsin Conservation Wardens to destroy free-roaming wolf-dog hybrids. Local law enforcement officers may kill animals which cause a substantial risk or threat to human life by attack or aggressive behavior.

M. Wolf Specimen Management

To date wolf carcasses found in the wild have been necropsied (examined) to determine cause of death and health status. While wolves were listed as endangered, the DNR policy was to have all wolf carcasses studied by the National Wildlife Health Lab in Madison, Wisconsin. Eventually all became specimens at research institutions, with most wolf specimens deposited at the University of Wisconsin - Zoology Museum in Madison. With reclassification and eventual delisting, the management of wolf specimens will be modified. The Wisconsin Wolf Advisory Committee developed guidelines for managing wolf specimens under threatened and delisted classification.

1. Wolf Specimen Management - Threatened

With reclassification to threatened, research, population monitoring and health evaluations of dead wolves found in the wild will remain the top

priority. Additional wolf carcasses will be made available as euthanasia of depredating wolves become possible, and accidental mortality caused by vehicle collisions increases. All wolf carcasses will be necropsied (examined) by the National Wildlife Health Lab, and specimens will be turned over to interested research museums when there is an identified need and use for such specimens. If specimens remain available after research needs have been met, the second priority for use of wolf carcasses would be for education purposes and Native American cultural and religious purposes. Such carcasses can be made available to tribal governments, nature centers, state parks, wolf education organizations, WDNR and other agency offices. Carcasses would not be available for private ownership.

Wolves found dead in the field should be collected by wildlife biologists, wildlife technicians or conservation wardens and placed in WDNR freezers until arrangements can be made to ship the carcasses to Madison. Any wolves euthanized by USDA-Wildlife Service will also be turned over to WDNR for necropsies. All carcasses should be tagged, and labeled with all pertinent information kept with each carcass. The WDNR regional wildlife expert should be notified of all wolf carcasses found in his/her region. The wildlife expert will coordinate shipment, necropsies, and eventual designation of specimens. Regional wildlife experts will keep lists of organizations interested in receiving carcasses, and will coordinate distribution of carcasses. Reports will be submitted at the end of each year to WDNR - Endangered Resources by regional wildlife experts on carcasses collected, and final disposition of each. Any wolf suspected of being killed illegally will be held for conservation wardens until legal investigation and prosecution are completed.

2. Wolf Specimen Management - Delisted

When wolves are no longer listed as threatened or endangered in Wisconsin, ownership of wolf carcasses can be broadened. Wolf carcasses would be available from depredation control activities, natural mortality, illegal kills, and accidents.

Research will continue to be an important priority, but will require a research proposal identifying needs and anticipated results, and such proposals would need WDNR and/or tribal approval. A portion of carcasses collected each year may be requested by WDNR-Wildlife Health specialist to evaluate health status, and all skinned carcasses may be requested most years. Following research and health monitoring, wolf education

and Native American cultural use would be the next priority for ownership of wolf carcasses. Skins and skulls would be made available for Native American tribal governments, schools, nature centers, state parks, WDNR and other agency offices, tribal centers, and wolf education organizations. Wolf specimens could be turned over to private individuals if specimens are not needed for above purposes. No carcasses should be provided to landowners conducting control on their land, or to persons involved in accidental killing of wolves. Dead canids suspected of being wolf-dog hybrids, but which appear to be mostly wolf, should be treated as wolves for the purpose of wolf specimen management.

Regional wildlife experts will coordinate wolf specimen management in each WDNR region. The wildlife experts will maintain lists of organizations and individuals interested in receiving specimens, and will determine disposition of carcasses. Annual reports will be submitted to WDNR Endangered Resources on carcasses collected and handled in each region, including biological information and final disposition of carcasses.

N. Ecotourism

Ecotourism has developed in recent years as a means for obtaining financial benefits from natural ecosystems and wild animals, while also encouraging protection of wildlands (Hunter 1996). Ecotourism at times can be a double-edged sword; it may encourage protection and conservation of biological diversity, but at times could cause disturbance of wild animals and disruption of their habitats. Guidelines and occasional regulations may be necessary to prevent or minimize negative affects of ecotourism.

Wolves can at times contribute to ecotourism. In Ely, Minnesota, tourist visits to the International Wolf Center provide a \$3 million annual impact to the local economy (Mech 1996). Ecotourism dealing with wolves is not likely to be as profitable in Wisconsin, but there are means that ecotourism involving wolves could impact local economies. Howling sessions could potentially be conducted by tour guides across portions of northern Wisconsin. Tours of wolf territories to search for wolf sign could be done during winter months. Snowmobiling and ATV tours of wolf territories have been suggested for the Minocqua area. Volunteer or paid naturalist at resorts could include wolf programs and tours of wolf territories. Naturalist programs by WDNR, Forest Service or National Park Service could attract tourist use of surrounding areas by providing wolf programs. Persons attending wolf workshops at Drummond and Tomahawk, make use of restaurants, taverns, gas stations and convenient stores in the local areas.

Ecotourism could also potentially have negative im-

pacts on wolves in Wisconsin. Excessive howling sessions could cause abandonment of preferred rendezvous sites, and perhaps displace wolves to less suitable areas. Disturbance of den areas may cause premature abandonment of den sites, and may expose pups to mortality; wolf pup mortality is already fairly high in Wisconsin.

The Timber Wolf Alliance and Timber Wolf Information have developed guidelines for minimizing impact from howl surveys on wolves. These guidelines include: avoid howling during the denning period in April-June, limit howls in specific territories to once per week or less, avoid repeated howlings at individual wolf packs, and refrain from visiting rendezvous sites. Similar guidelines would be recommended to others planning to conduct wolf howls in Wisconsin.

Encouragement will be made to groups conducting wolf tours or howl sessions to minimize impact on wolves, avoid certain portions of wolf territories, and refrain from excessive visits to wolf areas. It would also be recommended to any groups conducting such tours that these be conducted by individuals knowledgeable in wolf ecology and behavior. It may be necessary in the future to regulate wolf tours done for profit, in a fashion similar to existing guide permits.

VI. WOLF MANAGEMENT BUDGET

Expenditures for the Wisconsin wolf recovery program by fiscal year are shown in the Table 4 below. A total of \$ 1,547,333 (\$1,139,225 federal, \$408,148 state funds) was spent on wolf recovery efforts since 1979 (Table 4). Since 1990, when a recovery plan became effective program expenditures have averaged \$ 115,326 per year during the past eight fiscal years (i.e. 1990-1998); Federal funds accounted for 77%, state funds 23%.

Federal funds have come from the U.S. Fish and Wildlife Service (source: Federal Endangered Spe-

cies Act, Pittman-Robertson Wildlife Restoration Act) and from the U.S. Forest Service. State funds have come from the Wisconsin Endangered Resources Fund (ie the check-off on Wisconsin income tax forms and Endangered Resources License Plate funds), donations from The Timber Wolf Alliance and gifts from the public.

The Wisconsin Endangered Resources Fund pays for all damages done by state listed (endangered/threatened) species in addition to partially funding the wolf recovery program. Between 1984 and 1998, \$55,575 has been paid to compensate people for losses due to wolves. Compensation payments are not included in the tables below.

Table 4.

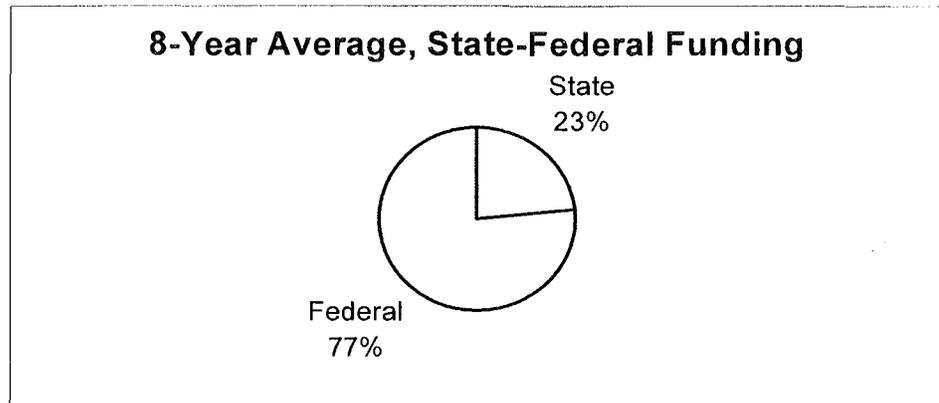
WI Timber Wolf Recovery Program Expenditures			
Year	State	Federal	Total
1979-80	\$5,000	\$15,000	\$20,000
1980-81	\$5,425	\$16,275	\$21,700
1981-82	\$7,734	\$35,000	\$42,734
1982-83	\$13,013	\$35,200	\$48,213
1983-84	\$27,905	\$51,440	\$79,345
1984-85	\$11,804	\$28,125	\$39,929
1985-86	\$23,625	\$60,600	\$84,225
1986-87	\$44,129	\$56,305	\$100,434
1987-88	\$14,864	\$62,592	\$77,456
1988-89	\$23,888	\$18,069	\$41,957
1989-90	\$20,411	\$48,319	\$68,730
1990-91	\$15,508	\$95,198	\$110,706
1991-92	\$25,769	\$67,443	\$93,212
1992-93	\$38,651	\$58,893	\$97,544
1993-94	\$19,006	\$68,893	\$87,899
1994-95	\$19,404	\$91,265	\$110,669
1995-96	\$30,819	\$112,119	\$142,938
1996-97	\$29,909	\$120,450	\$150,359
1997-98	\$31,284	\$98,039	\$129,323
PROJECT			
TOTAL:	\$408,148	\$1,139,225	\$1,547,373
YEARLY	State	Federal	
AVERAGE:	\$21,481	\$59,959	\$81,441

It is anticipated that wolf management will cost approximately \$130,000 in state fiscal year 1999-2000 and increase about 10% per year each year thereafter.

Approximately one-third of the project costs are for the salary of the wolf program coordinator and about \$42,000 are costs involving radio-telemetry surveys. Five years after wolves are federally delisted, Section 6 Endangered Species funds will no longer be available. In recent years Section 6 funds have normally ranged from \$20,000 to \$40,000 and Forest Service monies have ranged from \$6,000 to \$12,000. Pittman-Robertson Wildlife Restoration funds would still be available for wolf conservation work, but less may be available due to competition with other endangered species and wildlife management projects. Some Forest Service funds may continue to be available.

and 24% for other losses. The average livestock loss yearly was \$781. Livestock losses have increased in recent years and between 1995-1998 average payments on livestock have been \$ 2,800 per year. Generally about \$17,000 are available annually in the Endangered Species Depredation Fund. The majority of this money has been spent recently on payment for depredation of dogs.

Once wolves are state delisted, this fund may no longer be available for damage caused by wolves. The costs of depredation on livestock and pets is pro-



Currently monitoring costs are: radio-telemetry \$40,000 to \$45,000 annually, snow track surveys at \$15,000 annually and howl surveys at about \$5,000 annually. These costs will probably increase as wolves expand across more of Wisconsin. Monitoring must keep up with wolf population as it increases so adequate information is available to make sound decisions about wolf management in Wisconsin.

jected to be about \$20,000 to \$40,000. The cost of USDA-Wildlife Services investigating, assessing and controlling depredation is \$15,000 to \$30,000. The total cost for depredation control is therefore likely to be \$35,000 to \$70,000 annually. New funds need to be provided for the WDNR is to continue reimbursing livestock and pet owners for losses.

Wolf depredation costs have averaged \$3,970 annually since 1984. Of that amount 76% was for dogs

The total cost for wolf management will be approximately \$165,000 to \$200,000 annually including all management activities and depredation controls.

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VIII. Glossary

Abatement - Techniques for reducing risk of depredation by creating exclusions, establishing barriers, or using scare methods. Abatement practices that may be used to reduce wolf depredation would include fences, guard dogs, scare devices and other techniques.

Access - Refers to the ability of humans to penetrate an area and is usually measured by roads per square mile.

Carrying Capacity – The population at which a population stabilizes (births=deaths) with its environment; This is generally referred to as biological carrying capacity. The maximum population level tolerated by people is called the sociological carrying capacity and is usually considered less than biologically carrying capacity. The estimated biologically carrying capacity of wolves in Wisconsin was estimated at 300-500 in areas of primary wolf habitat but could be 50% or more higher if wolves readily occupy secondary habitat.

Critical Habitat -Term used in the Federal Endangered Act whereby certain areas are defined as critical to the survival of a species. Such a classification may restrict land use activity within designated areas. No areas in Wisconsin have been classified as critical habitat for timber wolves by the Federal Government.

Delisting - Refers to the act of removing a species from both endangered and threatened species classification. The act of delisting does not mean a species is no longer protected. Delisting federally indicates that a species no longer has Federal Endangered Species protection, but would fall under state management and protection authority.

Depredation - Refers to predation on domestic animals or animals that a predator would not normally encounter or kill in natural habitat.

Endangered - Federal designation of the term "endangered species" means any species which is in danger of extinction throughout all or a significant portion of its range." [Federal Code 16USC SS 1532 (6)].

State designation of endangered species means "any species whose continued existence as a viable component of this state's wild animals or wild plants is determined by the Department to be in jeopardy on the basis of scientific evidence. [Wisconsin Statute 29.604].

Favorable Habitat – As used in GIS analysis of potential wolf habitat (Mladenoff et al. 1995), refers to areas that have a 50% or greater probability of being settled by wolf packs. Such areas may also be called suitable habitat or primary wolf habitat. Areas of favorable wolf habitat have less than 0.7 mile of road per square mile, less than 10 people per square mile, and consists of over 90% forest or wildlands.

GIS -Geographic Information System - This is computer mapping that allows for comparison of multiple landscape features and allows the comparison of landscapes with occurrence of animal or plant species.

GLIFWC - Great Lakes Indian Fish and Wildlife Commission; this agency conducts wildlife and fisheries management activity for the Chippewa tribes in the ceded territories of Minnesota, Wisconsin and Michigan.

International Wolf Center - A wolf educational organization located in Ely, Minnesota that promotes wolf education for worldwide wolf conservation activity.

Livestock - Any domesticated animal owned and raised as stock; or pen-raised animals raised on licensed game farm operations.

National Wildlife Health Lab - Facility formerly with the U.S. Fish and Wildlife Service and now in the National Geological Survey in the U.S. Department of the Interior. The Madison, WI., health lab conducts research on wildlife diseases affecting migratory birds, federally endangered and threatened species, and other wildlife species of national concern.

Necropsy – an examination of an animal body after death to determine cause of death or character and changes produced by disease.

Pets - Any domesticated animal not raised as stock.

Potential Habitat-Habitat that is likely to be occupied in the future and includes mainly those areas that have a 50% or greater probability to be occupied.

Predation - Refers to the act of killing by predators for food. Predation usually is used to refer to predators killing normal prey species, whereas killing of domestic animals is referred to as depredation.

Primary Habitat- (See Favorable Habitat)

Proactive Depredation Control - Control activity conducted on predators before verified depredation has occurred, or control activity used before verification has occurred in the current season. Such activity would occur in areas of unsuitable habitat with high probability of depredations or conflict. Control activity would refer to euthanizing or translocation of potential depredators.

Reclassification -Refers to the act of changing listing from endangered to threatened, the delisting of species as neither endangered or threatened, or the relisting of species as endangered or threatened.

Roads - Generally this includes any travelways used by motorized vehicles. In GIS habitat analysis, roads refers to travelways that are driveable by 2-wheel drive vehicles on a year-round basis. Low quality roads may also have some impact on wolf habitat, but are often more difficult to accurately measure and assess.

Secondary Habitat - Areas providing food and cover for wolves of a quality that would have a 10% to 50% probability of being settled by wolf packs as defined by Mladenoff, et. al. (1995)

Species - Organisms that are capable of interbreeding and is designated by a binomial term in Latin. The species designation of timber wolf or gray wolf is Canis lupus.

Subspecies -A grouping of organisms that differ from other members of their species by color, size or various morphological features; also referred to as race. Wolves in Wisconsin had been referred to as the Eastern timber wolf Canis lupus lycaon, but have recently been reclassified to the Great Plains wolf Canis lupus nubilus. The specific subspecies classification is not critical for determining wolf conservation needs.

Threatened - Wisconsin's designation of threatened species is "any species of wild animal or wild plant which appears likely within the foreseeable future on the basis of scientific evidence to become endangered" (Wisconsin Statutes Sec. 29.604 2)). Federal designation of threatened species is "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (Federal Code 16USCSS1532(20)).

TWA - Timber Wolf Alliance - Wolf education organization working out of the Sigurd Olson Environmental Institute, Northland College in Ashland Wisconsin.

TWIN -Timber Wolf Information Network - Wolf education organization that is independently operated by volunteers out of Waupaca, Wisconsin.

USDA-WS -U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Service - The Federal agency responsible for dealing with problems caused by wildlife species, especially in agricultural situations; formerly known as Animal Damage Control (ADC). The WDNR contracts USDA-WS to assist wildlife management controlling depredating wildlife in the state including problems caused by bear, beaver, geese, plus timber wolf and other endangered species.

USFWS - U.S. Fish and Wildlife Service - The Federal agency in charge of programs on federally endangered and threatened species, as well as managing migratory birds and species having national significance.

Wilderness -Land under federal and state statutes that are set aside to maintain these areas in primitive condition and are closed to any timber harvest or mechanized equipment.

Wildland - Land covered mainly by native vegetation and does not include agricultural, urban, or industrial areas.

WDNR -Wisconsin Department of Natural Resources - the state agency responsible for wildlife and fisheries conservation, including responsibility for managing state endangered and threatened species.

Wisconsin Wolf Advisory Committee - Wisconsin DNR sponsored committee responsible for proposing and evaluating policy and management programs for the state wolf population.

APPENDIX A

Wolf Depredation 1976-1998

By
**Robert C. Willging, Adrian P. Wydeven,
 Randy L. Jurewicz, and Kelly A. Thiel.**

Depredation by wolves on livestock or pets has been a rare event since the return of wolves to Wisconsin in the mid 1970's. These depredations will continue to be infrequent events, but will increase somewhat as the wolf population expands.

Wolf depredations have generally been handled by U. S. Fish and Wildlife Service (USFWS), Wisconsin DNR (WDNR), or USDA-Wildlife Service. Complaints were generally investigated by USFWS and WDNR in the 1970's and 1980's, and since 1990 have mostly been investigated by USDA-W.S. The WDNR has provided payments for losses caused by state endangered and threatened species since 1984, using moneys from the Endangered Resources Check-Off Funds. Live trapping of depredating wolves has been done by WDNR and USDA-W.S. Under federal endangered status, euthanizing of depredating wolves was not allowed in Wisconsin, and live-captured wolves were relocated from depredating sites.

Table A2 lists all known cases of wolf depredation on pets and livestock in Wisconsin from 1976 through 1998. Most of these cases represent confirmed depredations, but a few also represent probable depredation where strong circumstantial evidence existed of wolf depredation. Fifty-four cases of wolf depredation occurred in Wisconsin during the 23 year period including 45 calves, 11 sheep, 140 turkeys, and 27 dogs killed and 9 dogs injured. (See Table A1) Payments on wolf depredations totaled \$55,574.91 including \$13,269.75 payments on livestock and \$42,305.16 payments on dogs. Depredation on dogs represented 76% of reimbursement payments provided by the WDNR.

During the 23 year period at least 130 wolf complaints were investigated by agency personnel, but only 54 were confirmed as probable wolf depredation. Many depredations were caused by coyotes or other animals. Depredations occurred on livestock and poultry on 19 different farms in northern Wisconsin. Wolf depredation on livestock occurred on 7 farms in Douglas County, two in Burnett, one in Oneida, three in Price, two in Taylor, one in Washburn, one in Bayfield and one in Rusk counties. The 14 counties of northern Wisconsin that included wolf pack territories in the period 1990-1998, contained 4,900 farms with 167,200 cattle and 4,400

sheep. Therefore wolf depredation has affected only 0.4% of farms in the area. Live trapping was used on 7 occasions and 6 wolves were translocated from farms (4 long distance moves of 40+ miles and 2 local relocation of less than 10 miles).

Thirty-six cases of depredation on dogs were documented in Wisconsin including death of 27 dogs and injury on 9 dogs. Of these 36 dogs, 28 were attacked while being used for hunting or training on predators, 4 for hunting hares, 2 were non-hunting dogs roaming in wildland areas and 2 were attacked near homesteads.

Seventeen dog depredations occurred while hunting or training on bear. Most wolf attacks occurred on free-roaming dogs. Many wolf attacks occurred when dogs approached den, rendezvous sites, or kills (prey) being defended by wolves.

Some expansion of wolf depredation will likely occur in the future. Once wolves are reclassified to a federally threatened species, euthanization of depredating wolves will be permitted in Wisconsin. Generally only wolves that are habitual depredators on livestock would be euthanized. New funds will need to be located to provide reimbursement payments for wolf depredation on livestock and pets once wolves are delisted in Wisconsin.

Hunter education may be necessary to reduce wolf depredation on dogs. Hunters need to become familiarized with wolf sign, and avoid sending hounds into areas where wolf activity is concentrated. Careful documentation needs to be made of wolf depredations on dogs so that circumstances under which such depredations occur can be better understood and recommendations for reducing losses can be developed.

Table A1.			
Total Wolf Depredation on Pets and Livestock			
Time Period: 1976-1998			
Animals Lost	Number of Farms/Homesites		Payments
Calves Killed	45	14	\$11,600.00
Calves Injured	1	1	\$9.75
Sheep Killed	11	3	\$584.00
Turkeys Killed	140	1	\$1,076.00
Chickens Killed	2	1	\$0.00
Dogs Killed	27	1*	\$41,000.00
Dogs Injured	9	1*	\$1,305.16
Deer Killed	4+	1	Pending
Total:			\$55,574.91

APPENDIX B

Wolf Viability Analysis

By Robert E. Rolley, Adrian P. Wydeven,
Ronald N. Schultz, Richard T. Thiel and
Bruce E. Kohn.

Population Viability Analysis (PVA) is the estimation of extinction probabilities by analyses that incorporate identifiable threats to population survival into models of the extinction process (Lacy, R. C. 1993. VORTEX: a computer simulation model for population viability analysis. *Wildlife Research* 20:45-65). The extinction process involves both deterministic processes (eg. over-harvest, habitat destruction, competition or predation from introduced species) and stochastic processes (random variation of demographic and genetic events and the effect of environmental variation on demographic and genetic events).

Stochastic processes are especially important for small populations. Demographic variation is the normal variation in the population's birth and death rates, and sex ratio caused by random differences among individuals. For example, in extremely small populations, it is possible through random chance for all offspring born during one generation to be of one sex. Variation in environmental conditions (eg. periodic favorable or severe weather conditions) often cause variation in reproduction and survival rates. In addition, rare catastrophic events, such as disease epidemics, fires, or floods, can greatly affect small populations. Lastly, small populations can be affected by the loss of genetic variation through genetic drift and inbreeding.

Computer simulation modelling provides a tool for exploring the viability of populations subjected to many complex, interacting deterministic and stochastic processes. We used the VORTEX simulation model (Lacy, R. C., K. A. Hughes, and P. S. Miller. 1995. VORTEX: a stochastic simulation of the extinction process. Version 7 User's Manual. IUCN/SSC Conservation Breeding Specialist Group, Apple Valley, MN, USA.) to estimate the viability of the gray wolf population in Wisconsin. VORTEX is an individual-based model that simulates birth and death processes as discrete, sequential events, with probabilistic outcomes. The model generates random numbers to determine whether individual animals live or die and the number of progeny produced by each female each year. The model can simulate inbreeding depression as a decrease in viability of inbred animals.

Model Inputs and Assumptions

We modeled the Wisconsin wolf population as a single interbreeding population with no ingress from or egress to other populations. Based on observed

litter sizes in Wisconsin, as well as literature records, we assumed a mean litter size of 5.3 pups/litter and the sex ratio at birth of 50:50. We further assumed a Poisson distribution of litter sizes, with a maximum of 11 pups. We assumed that the proportion of females breeding was density dependent. However, due to uncertainty of the proportion of females breeding, we evaluated two possible reproductive scenarios. In the high reproduction scenario, we assumed the age of first breeding was 2 years, 90% of females bred when population size was low, and 60% of females bred when the population was at biological carrying capacity. In the low reproduction scenario, we assumed the age of first breeding was 3 years, 80% of females bred when population size was low, and 50% of females bred when the population was at biological carrying capacity. Based on the observed survival rates of radio-collared wolves in Wisconsin, we assumed mean annual pup mortality was 70%, mean annual mortality of yearling and adult females was 16%, and mean annual mortality of yearling and adult males was 30%.

Based on 17 annual estimates, we estimated the standard deviation (SD) of pup mortality was approximately 10%. However, data were not available to estimate the effect of environmental variability on adult mortality rates or the proportion of females producing pups. We believe it is likely that environmental variation has a greater effect on pup survival than on adult survival or the proportion of females breeding. Due to the uncertainty of the effects of environmental variation on survival and reproductive rates, we evaluated 3 scenarios. In the low environmental variation scenario, we assumed the SD in the percentage of females producing was 2%, the SD of pup survival was 5%, and the SD of adult survival was 3%. In the moderate environmental variation scenario, we assumed the SD in the percentage of females producing was 4%, the SD of pup survival was 10%, and the SD of adult survival was 6%. In the high environmental variation scenario, we assumed the SD in the percentage of females producing was 6%, the SD of pup survival was 15%, and the SD of adult survival was 12%. We assumed that variation in survival was concordant with variation in reproduction, i.e., years of poor reproduction were associated with years of poor survival and years of good reproduction were associated with years of good survival.

Few data are available to estimate the frequency of catastrophic events in wolf populations. The Wisconsin wolf population has experienced 2 epidemics during the past 17 years. To assess the effect of catastrophic events on the viability of wolf populations we evaluated 3 scenarios. We simulated population trends assuming a 0, 5, and 10% probability of a catastrophic event per year. We as-

sumed that a catastrophic event reduced both reproduction and survival by 50%.

We assessed the effect of initial population size on viability by simulating trends with initial populations of 100, 200, 300, 400, and 500 wolves. The age distribution of starting populations were set to reflect stable age distributions based on the reproduction and survival rates.

In the initial series of analyses we assumed a biological carrying capacity (BCC) of 500 wolves and that BCC was stable over time. Whenever simulated populations exceed the biological carrying capacity, additional mortality was imposed to reduce the population back to carrying capacity. For each of the 90 combinations of the 2 reproductive, 3 environmental variation, 3 catastrophic event, and 5 initial scenarios we calculated 100 iterations of simulated population change over 100 years. We estimated the probability of extinction (PE) as the proportion of the 100 iterations in which the number of individuals of one sex declined to 0. In addition, we estimated the probability of relisting (PR) wolves as endangered as the proportion of the 100 iterations that declined to less than 80 individuals at least once during the 100-year simulations. In all simulations, we assumed that the population was not harvested or augmented. We did not attempt to simulate the effect of inbreeding depression in these analyses.

We conducted a second series of simulations to assess the effect of managing the population at a level below that of the assumed BCC of 500. For these analyses, we assumed a cultural carrying capacity (CCC) of 300. Because the hypothetical CCC was lower than the BCC set by food availability, we assumed that the percentage of females breeding when the population was at CCC only declined to 80% in the high reproduction scenario and to 70% in the low reproduction scenario. In these analyses, we used initial population sizes of 100, 200, and 300 wolves; assumed a 5% probability of catastrophe; and evaluated the 2 reproduction and 3 environmental variability scenarios described above.

Results

Most simulated populations increased rapidly from the initial size to BCC and fluctuated around BCC, occasionally decreasing due to unfavorable environmental conditions or catastrophic events. Within the range evaluated, initial population size had little effect on the probability of extinction (Tables B1-B6). Averaging across reproductive levels, environmental variability, and the probability of catastrophic events, PE for initial populations of 100 was 0.086, compared to 0.061 for initial populations of 500. In contrast, initial population size did effect the probability that simulated populations would decline below 80 wolves and be relisted as endangered. Mean PR

decreased from 0.48 for initial populations of 100 to 0.31 for initial populations of 500.

The probability of catastrophic events greatly affected the probability of extinction. When the probability of catastrophic events was 0, PE was less than or equal to 0.02 for all initial population sizes in all reproduction and environmental variability scenarios evaluated. When the probability of catastrophes was 0.05, PE was less than 0.05 for all initial population sizes in the low and moderate environmental variability scenarios, regardless of reproduction. When environmental variability was high and the probability of catastrophe was 5%, PE was 0.05-0.09 in the high reproduction simulations and 0.09-0.20 in the low reproduction simulations. When the probability of catastrophe was 10%, PE increased markedly as environmental variability increased.

Probability of extinction differ among the 3 levels of environmental variability. Mean PE was 0.013 for low environmental variability, 0.036 for moderate environmental variability, and 0.153 for high environmental variability. The effect of environmental variability differed among levels of reproduction and probability of catastrophes. The increase in PE as environmental variability increased was 2 times greater for low levels of reproduction than for high levels of reproduction. Similarly, the increase in PE as environmental variability increased was markedly greater when the chance of catastrophic events was 10% than when the chance of catastrophes was lower. The proportion of females breeding affected the probability of extinction. Mean PE under the high reproduction scenario was 0.04, compared to 0.09 under the low reproduction scenario. The effect of reproduction differed depending on levels of environmental variation and the probability of catastrophe. The difference in PE between reproductive levels was substantially greater with the high environmental variation scenarios than with the low environmental variation scenarios. Likewise, increasing the probability of catastrophe increased the difference in PE between the two levels of reproduction.

With low to moderate environmental variability and probability of catastrophe less than or equal to 0.05, less than 5% of the simulated populations when extinct (Tables B1, B2, B4, and B5). However, with a 5% chance of catastrophe, the proportion of simulated populations that declined below 80 wolves varied from 0.02 to 0.38 (mean = 0.15) in the low to moderate environmental variation scenarios. The risk of extinction and relisting increased considerably under the high environmental variability and 10% chance of catastrophe scenarios.

Managing wolves at a hypothetical cultural carrying capacity of 300 instead of allowing the population reach a biological carrying capacity of 500 had little

effect on the risk of extinction (Tables B7 and B8). However, managing for a lower population approximately doubled the proportion of simulated populations that declining below 80 individuals under the low and moderate environmental variability scenarios. Virtually all simulated populations declined below 80 individuals in the high environmental variability scenarios.

Discussion

PVA is a process of assembling all available demographic information, explicitly incorporating what we do know into an overall model, and evaluating the impact of what we do not know on the predictions from the model. Computer simulation modeling is a tool that permits estimation of the approximate probability of population extinction, and facilitates testing of various hypotheses about the viability of small populations. The estimates and predictions are only as good as the data and assumptions input to the model. Because many population processes are stochastic, a PVA can never specify what will happen to a population. Instead, PVA forecasts the likely effects of those factors incorporated into the model.

An essential component of PVA is sensitivity testing, evaluating ranges of plausible values for uncertain parameters to determine the effects of uncertainty on model predictions. Our analyses suggest that estimates of the probability of extinction and relisting are very sensitive to uncertainty about environmental variation and the probability of catastrophes.

PVA is, by definition, an assessment of the probability of persistence of a population over some specified number of years. However, prevention of extinction is only the first step for effective conservation of a species. Management goals may need to be greater than simply preventing extinction if wolves are to be functional members of Wisconsin's biological communities.

In these analyses, we assumed no ingress to determine viable levels for a Wisconsin wolf population that would be independent of wolf populations in adjacent states. We had included ingress in some preliminary analyses,

but by definition, a population with constant ingress would never go extinct. Therefore, we believed that including ingress in the model provided little useful information on long-term viability.

The main objective of the management plan is to ensure that wolves will not have to be relisted or endangered. Our current (1999) population estimate is 197 to 203 wolves. This PVA suggests that a population of 300 to 500 wolves would have a high probability of persisting for 100 years under most of the scenarios evaluated. However, given the information currently available, we cannot exclude the possibility that a population of 300 to 500 wolves may decline to the point that relisting as endangered will be necessary in the future. In fact, with only moderate environmental variability and a 5 percent chance of catastrophic events 10 to 40 percent of simulated population declined below 80 wolves.

Given the effect of uncertainties on model predictions, this PVA should be viewed as a component of an adaptive management process. In adaptive management, the lack of knowledge adequate to predict with certainty the best course of action is acknowledged, management actions are designed in such a way that monitoring will generate new understanding and refinement of the model, and corrective adjustments to management plans are made whenever accumulated data suggest that the present course is inadequate to achieve the goals and a better strategy exists.

Our uncertainty about the magnitude of environmental variation and the frequency and severity of catastrophic events emphasizes the importance of continued monitoring of the Wisconsin gray wolf population to insure its long-term persistence. As additional information becomes available, the model can be revised, and if necessary corrective management can be implemented.

Table B1. Effect of initial population size and probability of catastrophic event on estimated probability of extinction and relisting for a hypothetical gray wolf population during 100 years assuming a biological carrying capacity of 500, low environmental variability and high reproduction.

Initial popul. size	Probability of catastrophic event					
	0		0.05		0.1	
	Extinct.	Relist.	Extinct.	Relist.	Extinct.	Relist.
100	0	0	0	0.24	0.01	0.53
200	0	0	0	0.07	0.02	0.3
300	0	0	0	0.03	0.01	0.35
400	0	0	0	0.02	0.03	0.29
500	0	0	0	0.04	0.03	0.28

Table B2. Effect of initial population size and probability of catastrophic event on estimated probability of extinction and relisting for a hypothetical gray wolf population during 100 years assuming a biological carrying capacity of 500, moderate environmental variability and high reproduction.

Initial popul. size	Probability of catastrophic event					
	0		0.05		0.1	
	Extinct.	Relist.	Extinct.	Relist.	Extinct.	Relist.
100	0	0.03	0.01	0.23	0.08	0.64
200	0	0	0	0.08	0.02	0.48
300	0	0	0	0.14	0.01	0.53
400	0	0	0	0.07	0.05	0.49
500	0	0	0	0.12	0.05	0.45

Table B3. Effect of initial population size and probability of catastrophic event on estimated probability of extinction and relisting for a hypothetical gray wolf population during 100 years assuming a biological carrying capacity of 500, high environmental variability and high reproduction.

Initial popul. size	Probability of catastrophic event					
	0		0.05		0.1	
	Extinct.	Relist.	Extinct.	Relist.	Extinct.	Relist.
100	0	0.44	0.09	0.74	0.28	0.92
200	0.02	0.23	0.05	0.64	0.26	0.85
300	0.01	0.18	0.05	0.47	0.24	0.87
400	0.01	0.14	0.05	0.44	0.23	0.89
500	0.01	0.11	0.06	0.49	0.2	0.8

Table B4. Effect of initial population size and probability of catastrophic event on estimated probability of extinction and relisting for a hypothetical gray wolf population during 100 years assuming a biological carrying capacity of 500, low environmental variability and low reproduction.

Initial popul. size	Probability of catastrophic event					
	0		0.05		0.1	
	Extinct.	Relist.	Extinct.	Relist.	Extinct.	Relist.
100	0	0	0.01	0.38	0.07	0.81
200	0	0	0	0.18	0.07	0.51
300	0	0	0	0.09	0.07	0.56
400	0	0	0	0.14	0.02	0.63
500	0	0	0	0.11	0.05	0.46

Table B5. Effect of initial population size and probability of catastrophic event on estimated probability of extinction and relisting for a hypothetical gray wolf population during 100 years assuming a biological carrying capacity of 500, moderate environmental variability and low reproduction.

Initial popul. size	Probability of catastrophic event					
	0		0.05		0.1	
	Extinct.	Relist.	Extinct.	Relist.	Extinct.	Relist.
100	0	0.04	0.04	0.36	0.19	0.91
200	0	0	0.01	0.21	0.17	0.75
300	0	0	0.01	0.21	0.15	0.71
400	0	0	0.01	0.15	0.13	0.6
500	0	0	0.01	0.2	0.15	0.69

Table B6. Effect of initial population size and probability of catastrophic event on estimated probability of extinction and relisting for a hypothetical gray wolf population during 100 years assuming a biological carrying capacity of 500, high environmental variability and low reproduction.

Initial popul. size	Probability of catastrophic event					
	0		0.05		0.1	
	Extinct.	Relist.	Extinct.	Relist.	Extinct.	Relist.
100	0.01	0.54	0.2	0.85	0.56	0.98
200	0.01	0.36	0.12	0.7	0.43	0.99
300	0	0.22	0.09	0.75	0.53	0.99
400	0.02	0.25	0.12	0.74	0.41	0.95
500	0	0.19	0.12	0.67	0.41	0.94

Table B7. Effect of initial population size and environmental variability on estimated probability of extinction and relisting for a hypothetical gray wolf population during 100 years assuming a cultural carrying capacity of 300, a 0.05 probability of catastrophic event, and high reproduction.

Initial popul. size	Environmental variability					
	Low		Moderate		High	
	Extinct.	Relist.	Extinct.	Relist.	Extinct.	Relist.
100	0	0.39	0	0.4	0.08	0.91
200	0	0.16	0.01	0.36	0.08	0.84
300	0	0.15	0.01	0.32	0.09	0.85

Table B8. Effect of initial population size and environmental variability on estimated probability of extinction and relisting for a hypothetical gray wolf population during 100 years assuming a cultural carrying capacity of 300, a 0.05 probability of catastrophic event, and low reproduction.

Initial popul. size	Environmental variability					
	Low		Moderate		High	
	Extinct.	Relist.	Extinct.	Relist.	Extinct.	Relist.
100	0.02	0.5	0	0.56	0.21	0.97
200	0	0.4	0.01	0.4	0.16	0.9
300	0.01	0.33	0.01	0.36	0.11	0.87

APPENDIX C

GIS Evaluation of Wolf Habitat and Potential Populations in the Great Lakes States

by **Adrian P. Wydeven, David J. Mladenoff, Theodore A. Sickley and Robert G. Haight**

A geographical information system or GIS is a computer mapping system that allows researchers or managers to examine various layers of landscape simultaneously. By examining various landscape features, biologists can determine why a species occurs in a specific location.

Gray wolves lend themselves well to examining of their habitat selection using GIS. Wolf packs occupy fairly discrete areas that are maintained as territories, and represents the breeding potential of a wolf population. In the Great Lakes region wolves normally occupy territories that cover 20 to 120 square miles. By discerning the characteristics of suitable pack habitat (breeding habitat), we can determine the extent of area that wolves can occupy, and the size of a wolf population that an area can support.

GIS was used recently to determine the type of landscape features that packs occupy in Wisconsin and the adjacent states of Michigan, and Minnesota (Mladenoff et al 1995, 1999). Additionally, work was done to determine how many wolves could occur in Wisconsin and Michigan (Mladenoff et al 1997).

Various landscape features were initially examined in 14 wolf territories that were monitored by the Wisconsin DNR using radio-collared wolves during 1980-1992. These known territories were compared to 14 random areas the size of wolf territories scattered across northern Wisconsin. Wolf territories were also compared to the overall landscape of northern Wisconsin. Landscape features that were examined included human population density, prey (deer) density, road density, land cover, land ownership, and several spatial indices. An additional 23 new packs were examined in an update of the analysis (Mladenoff et al. 1999).

Table C1 illustrates some of the important features of wolf habitat in Wisconsin. In general the aver-

Table C1. Average values for characteristics of wolf pack habitat versus overall Northern Wisconsin Study Area.

Landscape Features	Wolf Pack Habitat Mean Value	Wolf Pack Habitat 90% Cut-off Level	Northern Wisconsin Mean Value
Land Cover			
Urban area	0%	---	1%
Agricultural and open land	2%	<7.5%	21%
Total forest	93%	---	73%
<i>Upland forest</i>	68%	---	59%
<i>Lowland forest</i>	25%	---	14%
Marsh or bog	4%	---	2%
Water	1%	---	4%
Land Ownership			
Public lands	70%	---	27%
Private industrial forest	10%	---	5%
Other private lands	21%	<50%	66%
Density			
Roads Density	0.4 mi/mi ²	<1.0 mi/mi ²	1.1 mi/mi ²
Human Density	4.0 persons/mi ²	<10.8 persons/mi ²	11.3 persons/mi ²
Deer Density	22.2 deer/mi ²	---	21.3 deer/mi ²

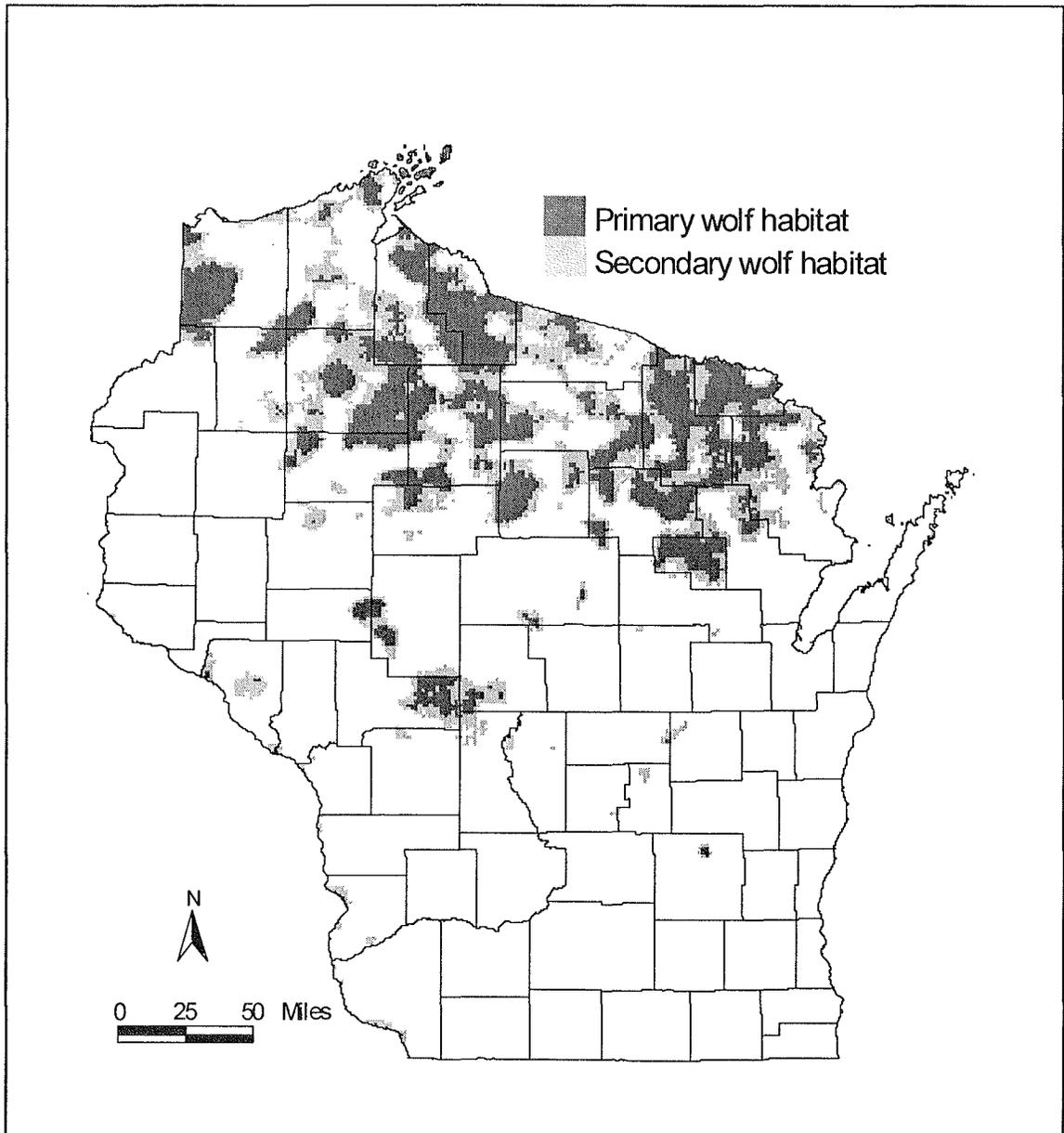


Figure C1.

Primary and secondary wolf habitat in Wisconsin. Primary habitat represents those areas with a 50% or greater chance of supporting a wolf pack. Secondary habitat represents those areas with between a 10% and 50% chance of supporting a wolf pack. The remainder of the state is designated as unsuitable, with a less than 10% chance of supporting a wolf pack. The map shows 5,812 square miles of primary wolf habitat and 5,015 miles of secondary habitat state-wide. There are 45,252 square miles which are considered unsuitable habitat. (Graphic by Ted Sickley, Department of Forest Ecology & Management and Land Information and Computer Graphics Facility, University of Wisconsin-Madison based on Mladenoff et al, 1995)

age wolf territory contained no urban land, very little farmland, and was 93% forest. Nearly 30% of an average territory was in wetlands, especially conifer swamps and bogs, compared to only 16% overall for northern Wisconsin.

Wolf territories consisted mainly of public and industrial forest land (80%), even though these areas cover only about 1/3 of northern Wisconsin. Wolf pack areas had about 1/3 the road density and human population density of northern Wisconsin in general.

Road density was the best predictor of suitable wolf habitat, as had been found by Thiel (1985) and others. Areas that contain less than 0.7 miles of road per square mile have a 50% chance or greater of being settled by wolf packs if adequate space and prey are available. Blocks of land with less or equal to 0.7 miles/mile² was considered suitable wolf habitat for management purposes. Land with more than 1 mile of road/mile² is least suitable and has less than 10% chance of being settled by wolf packs. An update of the GIS analysis confirms that road densities continue to be good predictors of suitable habitat in Wisconsin (Mladenoff et al. 1999).

Although road density is an important indicator of good wolf habitat, wolves do not have an aversion to roads. Wolves readily travel down roads for hunting and dispersing, especially dirt and gravel roads. The reason road density is important to wolf habitat, is because higher road densities equate to higher risks of vehicle collisions or illegal kills. In recent years vehicle collisions have become almost as high a mortality factor as illegal killing in Wisconsin. During an 8 month period in 1994-95, 5 wolves died in central Wisconsin due to vehicle collisions.

Area of potential wolf habitat in northern Wisconsin are illustrated in Table C2. A total of 5,739 square

miles have greater than 50% probability of being settled by wolf packs and are listed as primary wolf habitat in Table 2. The majority of the primary habitat (71%) occurs on public land or industrial forest land. Land that has a 10 to 50% probability of being settled by wolf packs is listed as secondary wolf habitat and covers 4,704 square miles; slightly over half the secondary habitat occurs on private land (Table C2). About 12,393 square miles of northern Wisconsin appears to be poorly suited as wolf habitat, and most unsuitable habitat occurs on private land. Some of the areas of less suitable habitat may be occupied by wolf packs if these areas occur close to areas of suitable habitat. Landscapes that are not likely to be settled by wolf packs, may still have potential for dispersing wolves, especially in forested habitats near existing packs.

The initial analysis we conducted on potential wolf habitat examined about 23,000 square miles of northern Wisconsin, but did not examine land in central Wisconsin (Mladenoff et al. 1995). In fall 1994 a wolf pack was verified in central Wisconsin, therefore GIS analysis was conducted for the remainder of Wisconsin in spring 1996. A small area of favorable wolf habitat was identified in central Wisconsin (207 square miles) and included the three wolf territories located in the region in 1996. No other sizeable areas of primary or secondary potential habitat occur in the state, but a few small scattered parcels of secondary habitat exist in central and western Wisconsin. The chance of wolves settling into these small parcels is remote, but these areas may be used by dispersing wolves.

The potential wolf population for Wisconsin and Michigan were determined by Mladenoff et al. (1997) using two methods. A habitat based estimate used the average territory size (69 mi²) average sized pack (4.1 wolves), average space between territories

WOLF HABITAT CLASSES	DENSITY OF ROADS	AREAS LISTED IN SQUARE MILES					
		<i>State</i>	<i>County</i>	<i>Federal</i>	<i>Tribal</i>	<i>Industrial Forest</i>	<i>Private</i>
Primary Wolf Habitat (>50% prob. class)	<0.7/mi ²	557(45%)	1623(51%)	1028(45%)	290(53%)	570(49%)	1661(12%)
Secondary Wolf Habitat (>10% to <50% prob. class)	<1.0/mi ²	286(23%)	784(25%)	821(36%)	172(31%)	220(19%)	2421(17%)
Unsuitable Wolf Habitat (<10% prob. class)	>1.0/mi ²	402(32%)	772(24%)	431(19%)	90(16%)	381(33%)	10,317(72%)
Total Land Area		1255	3179	2280	552	1171	14,399

(37%), and assumed 15% loners in the population within areas of primary wolf habitat. A wolf-prey based estimation developed by Fuller (1989) was also used to estimate the potential wolf population within primary wolf habitat, based on abundance of deer.

Table C3 illustrates estimated potential wolf population of 380 and 462 by the two methods. The habitat area based estimate is probably the more reliable projection of the potential population, because it has a more narrow confidence interval, and the prey based projection includes estimates of wolf densities that are higher than any mainland densities reported for wolves in the Great Lakes region. Therefore a reasonable estimation would be a potential wolf population of 300-500 wolves in northern Wisconsin, and 600-1000 wolves in Michigan.

The populations projections made by Mladenoff et al (1997) includes only potential habitat in northern Wisconsin. Based on the size of suitable habitat and wolf densities in other areas of Wisconsin, central Wisconsin could support an additional 20-40 wolves. More research is necessary to better assess habitat and wolf population potential in central Wisconsin.

Figure C1 shows the state-wide potential habitat as calculated following the study. It shows 5,812 square miles of primary habitat and 5,015 square miles of secondary habitat in Wisconsin. Our potential wolf population was based on full occupancy of primary habitat, but if secondary habitat were also fully occupied, the potential wolf population could be 50% higher or more. Behavioral adaptations by wolves and greater acceptance by humans could allow for a considerably higher population. Conversely, if wolves are less accepted by people, and are unable to fully occupy even primary habitat, then the potential wolf population could be lower.

These results suggest that Wisconsin and Michigan

could support far more than the goal of 100 for both states for federal delisting as neither endangered nor threatened. The current (1999) population for both states of about 370 wolves, already far exceeds the goal. The GIS results of delineating suitable habitat and potential populations will be very useful for future management planning for the Great Lakes States. The GIS data will provide an important bench mark for evaluating the success of wolf recovery in the Great Lakes region.

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Table C3. Potential Wolf Population for Wisconsin and Michigan as Determined by Two Methods.

	Wisconsin Estimate	90% Confident Interval	Michigan Estimate	90% Confident Interval
Habitat Area Model	380	324-461	751	641-911
Prey Based Model	462	262-662	969	581-1357

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**Appendix D
Citizen Involvement in Development of the Wolf
Management Plan.**

By David A. Weitz and Adrian P. Wydeven

The Wisconsin Department of Natural Resources (DNR) began work in 1996 to develop a new wolf management plan for the state. The initial effort by the Wisconsin Wolf Advisory Committee was directed at obtaining public opinion on ideas, issues, and concerns of wolf management in Wisconsin.

Initial Issue and Concern Identification

From October 15, 1996 to October 17, 1996 ten public forums were conducted across the state to obtain public opinions. (Sites were at Florence, Superior, Milwaukee, Park Falls, Madison, Stevens Point, Black River Falls, Rice Lake, Rhinelander and Green Bay). A total of 228 people attended the forums. Verbal comments were made by 122 of those in attendance. In addition 98 written and email comments were received during later weeks. Notifications of the forums along with information on the DNR Wolf Management Planning effort were sent to 1,200 media outlets and individuals throughout Wisconsin. Additionally copies of a "White Paper" on wolf management was sent to a list of about 800 individuals and groups who had expressed some interest in development of the original Wolf Recovery Plan in Wisconsin.

Both verbal material and written (including email) comments showed extremely strong concern for the welfare of the wolves in Wisconsin. A variety of comments centered around concern that 80 wolves is not enough to provide a stable population that justifies reclassification from endangered to threatened status. Several persons asked that any management plan incorporate a "trigger" mechanism that would automatically reclassify the timber wolf as endangered if wolf numbers dropped below a specific number.

Not all people agreed that reclassification should occur and some stated they'd be opposed to any change in the status of the wolf. Others favored reclassification but after population numbers are larger than 80 wolves. At least one person suggested simply getting out of wolf management entirely.

The strongest single recommendation was that education about wolves continue with strong funding. Those responding in the forums and in writing showed real concern for the possible lack of adequate funding for educational efforts and some sug-

gested methods of raising dollars for wolf monitoring, education and management.

In general people indicated support for some type of wolf population control at a future time but disagreed on the number of wolves that should exist in Wisconsin. While some thought hunters should be allowed to take wolves, and one person suggested using volunteers to control depredating wolves, in general most who discussed the issue felt that only Department of Natural Resources professionals should control wolf numbers.

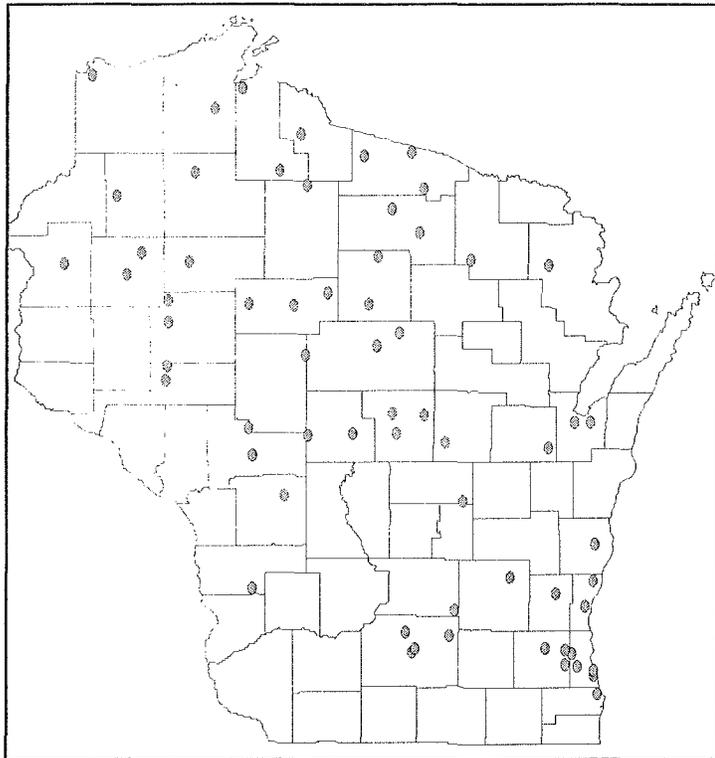


Figure D 1. The map shows the distribution of responses from within Wisconsin to Draft 1 of the Wolf Management Plan from zip-codes. Some responses were received via email and some from out-of-state.

Although there was some disagreement, there was general support for payment of damage to livestock and pet owners who lose animals to wolves. Some individuals suggested funding mechanisms including a call for private organizations to shoulder the cost.

While they represent a clear minority, some people did suggest that the state spend no further money on wolf management, and indicated they felt there was no reason to nurture wolf populations.

An issues report summarizing people's issues and concerns about wolf management was sent out in September, 1997. This report was sent to more than 1,000 persons and groups who have shown interest in the Wolf Management Plan for Wisconsin. It also was distributed in press release to about 1,200 outlets in Wisconsin.

Draft 1 Wolf Management Plan

The Wolf Advisory Committee began on a draft wolf management plan in fall, 1997. Draft 1 of the Wisconsin Wolf Management Plan was completed in spring, 1998 and sent out for public review in early May. More than 2,000 copies of the draft document were distributed. The draft plan was announced in a press release that went to more than 1,200 media outlets.

The 90-day review period allowed individuals or groups to comment on the Draft Wolf Management Plan. It helped the Department of Natural Resources Wolf Advisory Committee to clarify public attitudes and desires. In addition, it pointed the way toward the need to discuss issues not fully voiced in the first set of forums. A second set of forums was conducted from June 1 through 4, 1998, at Superior, Hayward, Rhinelander, Green Bay, Black River Falls, Stevens Point, Madison and Milwaukee. Staff from the Wolf Advisory Committee, especially Adrian Wydeven, explained the draft plan at meetings with interest groups including the Wisconsin Conservation Congress, Wisconsin Bear Hunters Association, at meetings with Chippewa Nation representatives, members of the HoChunk Nation, Menomonee Nation and Oneida Nation, the Sierra Club, University of Wisconsin Extension Livestock Specialist Richard Vathauer and a livestock association representative as well as many others. Numerous individuals received information over the phone, by mail, and by email. The concepts expressed in Draft 1 of the Wisconsin Wolf Management Plan were discussed by Wydeven and other Committee representatives on Wisconsin Public Radio, numerous commercial television and radio stations and in the print media.

During the second set of forums in, June 1998, an estimated 300 attended the sessions and 69 persons directly addressed the plan. During the review period 423 written comments were received including 173 individual comments, 40 individual letters from high school students at Kaukauna and 202 copies of form letters. Individuals letters were 46 percent supportive of the Draft 1 plan and 50 percent negative toward the Draft 1 plan. About 4 percent of respondents were neutral. Five of the organizations were supportive and three were negative. The committee received 193 copies of one form letter that expressed concern about wolf populations in Wisconsin. There were also 9 copies of another form

letter that indicated support for wolves.

Most of the 40 letters from Kaukauna High School were generally supportive but some expressed concern about wolf numbers.

Major issues that people brought to the attention of the Wolf Advisory Committee were:

Population level: The issue of greatest concern was the proposed wolf population goal of 300-500 wolves for the State of Wisconsin. Many people wanted to keep the wolf population at 100 or less. Often people had the misconception that the goal of 80 wolves established in the 1989 Wolf Recovery Plan was a maximum goal. That number was actually established as a minimum measure of success for the Wolf Recovery Plan. Others objected to any control on the wolf population, and recommended allowing wolves to stabilize with the prey populations. Although wolves can exist without any control in large wilderness parks in a highly developed state, such as Wisconsin, this isn't possible.

Based on these concerns in Draft 1 of the Management Plan the Wolf Committee recommended a reduction in Draft 2 of the state delisting goal from 300 animals for three years to 250 animals for one year. The committee also decided against a maximum goal of 500 wolves and, instead, proposed a minimum management goal of 350. Therefore at 350 wolves maximum efforts at population control could go into effect.

Livestock and Pet Depredation: Many people were concerned about protecting pets or livestock on their land. Therefore the Wolf Advisory Committee decided to recommend authority be provided to private citizens to kill wolves in the act of attacking pets on private land. The lowering of the delisting goals also would allow landowner control to begin somewhat sooner than envisioned in the Draft 1 plan. Additionally, the Wolf Committee has recommended continuing payments for pets lost to wolves once delisting has occurred.

Lethal Control of Wolves: A lot of concern was expressed that all public land (7,600 mi²) in the Northern Deer Management Units and in the Central Forest Deer Management Units were proposed to be closed to any lethal control activity under Draft 1 of the Wolf Management Plan. On the other hand, some people did not want any lethal control anywhere in Zone 1 of the original plan. (Northern and Central Wisconsin 23,000 mi²). The Wolf Advisory Committee decided that the Zone system needed to be modified to meet the concern of the public. In Draft 2 areas closed to all lethal control were reduced to large blocks of highly suitable wolf habitat (3,227 mi²). These Wolf

Core Areas consisted mostly of public land but also include some small isolated parcels of private land and industrial forest land. The Wolf Committee felt that the Wolf Core Areas would serve as a safety net against excessive control activities.

The Wolf Committee dropped the formal core areas from this final version of the Wolf Management Plan and, instead, included a flexible system whereby lethal control would rarely be conducted on large blocks of public land but avoided a total prohibition of lethal controls on such lands. As long as intense population monitoring is maintained more flexible controls can be allowed.

Central Forest Wolf Packs: A great deal of concern was expressed over wolves becoming established in the Central Forest. Many people were concerned about the potential impact of wolves on pets, livestock and deer. No livestock depredation has yet occurred and depredation on pets has been limited. The impact on deer is not significant. Still, because of the concerns expressed, the Wolf Advisory Committee decided to recommend treating the Central Forest as a zone separate from Zone 1. By special designation more attention could be focused on this zone, including focused education, research and more liberal control if necessary. The Central Forest Area would be treated as a more experimental population compared to the Northern Forest Zone (Zone 1), and would not have a coyote closure during the firearm gun season. Having different regulations in Zone 2 (Central Forest) would allow the Department of Natural Resources to evaluate the future needs of such regulations on Zone 1. Different regulations also allow for more flexible management of wolves in Central Wisconsin.

Wolf Monitoring: The Draft 1 Wolf Plan proposed significant reductions in wolf monitoring. Many people had concerns about the proposal to reduce wolf population monitoring once wolves were downlisted. People interested in keeping wolf numbers low were interested in maintaining intense monitoring to justify more intense control activities. Conversely, many people concerned about continued security for the wolf population want to be able to detect any declines in the population. Therefore the Wolf Advisory Committee is recommending continuing to maintain existing levels of intense population monitoring.

Native American Concerns: Members of the Menominee Nation wanted their reservation to be included in the Northern Forest Zone to promote wolf establishment in their area. The Wolf Advisory Committee therefore included the county in Zone 1. The Wolf Management Plan also expands the language referring to Native American reservations, ceded lands and tribal lands.

Coyote Hunting Closure: Some hunters were opposed to continued closure of coyote hunting during the firearm deer season in Wisconsin. Because the need for a coyote closed season has yet to be determined in Central Wisconsin, the final plan does not include expanding the coyote closed zone to Central Wisconsin. Also, the area closed to coyote hunting during the gun deer season would be reduced from 44 percent of the state to 33 percent of the state. Because the coyote closed zone had worked in the past to reduce illegal kill of wolves in Northern Wisconsin, Wolf Committee members did not feel complete removal of the closed area would be advisable, because it may introduce additional forms of mortality to wolves in the area.

Threats to Humans, Pets, Livestock: Many people were concerned that the wolf population would continue to grow to extremely high levels and pose threats to livestock, pets and humans. The Wolf Committee has increased the flexibility for Department of Natural Resources, USDA-Wildlife Services, and local law enforcement officers to control nuisance wolves, especially in areas of unsuitable habitat. This concern also points to the need for continued education about wolves to help alleviate people's fears.

Public Harvest of Wolves: Several hunters and trappers expressed interest in starting a public harvest of wolves as soon as possible. Some felt public harvest was needed to keep wolves at specific population goals. Others objected strongly to any public harvest of wolves, and only accepted lethal control by government agents. The Wolf Advisory Committee decided that it would be premature to recommend a hunting or trapping season structure at this time. Public acceptance of a wolf harvest appears low. At low population numbers a public harvest would not be scientifically sound. **Still, the time may come when a public harvest is wise. If the population exceeds 350 and if public tolerance of wolves is very low, then a public harvest will be considered. The committee did not feel it could adequately evaluate the attitudes of the people affected to determine "social carrying capacity" at this time.** Also, impacts from other mortalities would need to be carefully evaluated before a public harvest could be conducted.

Public Attitude Surveys: Several people expressed concern that scientific surveys of people's attitudes had not been conducted recently in Wisconsin. A recent survey of attitudes of people towards wolves and other endangered species is now listed in Appendix H of this document. Attitude surveys are listed as an important research priority.

Wolf Management Program Costs: The cost of wolf

management was of concern to some people. Although some felt no money should be spent on wolves many urged added funding. A large number of people urged that wolf monitoring be continued and that full payment for depredation of pets or livestock be continued. Adequate funding for education about wolves was a major emphasis of the responses to the initial set of forums which identified major issues. The respondents to the Draft 1 plan also emphasized the importance of education and adequate funding for educational activities, but to a lesser degree than experienced in the original forums. People also expressed concerns that dollars from hunting, fishing and trapping licenses not be used for non-game management purposes. The Wolf Advisory Committee has recommended, in this document, that the program be funded through general public revenues or alternate funding and not segregated dollars from hunting, fishing and trapping licenses sales.

Draft 2 Wolf Management Plan

Based on all the information that has been gathered, the Wisconsin Wolf Advisory Committee revised the plan. The Draft 2 plan incorporated some new ideas and was modified to meet the needs expressed by people at the public meetings and in other communications. It was to serve to guide cooperation with the Departments of Natural Resources in Minnesota and Michigan. The plan was developed with benefit of information from their wolf management experts.

A 45-day review period was conducted on the Second Draft of the Wolf Plan from March 19 to May 5, 1999 with an additional 10-day extension to May 15. There were 53 letters and 39 email messages received during the review period.

A discussion group with invited members representing a variety of viewpoints was conducted April 24 at Wausau to discuss the Draft 2 Wolf Management Plan. Those invited were from a variety of interest organizations but were asked to express their personal views and not state a specific formal interest group position statement. The people attending were members of the Sierra Club, Wisconsin Wildlife Federation, Wisconsin Bear Hunters Association, Wisconsin Conservation Congress, Timber Wolf Information Network, Great Lakes Fish & Wildlife Commission, Whittetails Unlimited, Wisconsin Bowhunters Association, Wisconsin Livestock Association, Wisconsin Chapter of The Wildlife Society, an industrial forester, Defenders of Wildlife, Timber Wolf Alliance and Wisconsin Commercial Deer and Elk Farmers Association. Others invited but not attending the wolf discussion group included members of the Menomonee Nation; Ho Chunk Nation; Bad River Band of Chippewa; Lac du Flambeau Band of Chippewa; Izaak Walton League and Indianhead Sheep Breeders Association.

Additionally wolf committee members met with individual groups including the Wisconsin Conservation Congress; Wisconsin Wildlife Federation; Wisconsin Bowhunters Association; Wisconsin Deer Farmers Association; Wisconsin Bear Hunters Association; Timber Wolf Alliance; Wisconsin Zoning Commissioners; County Forest Administrators; University of Wisconsin – Madison; University of Wisconsin – Marinette Center; St. Norbert College, DePere; Marathon County Farmers; Wisconsin Loggers Conference; and Madison Birdwatchers. Committee members also met with representatives of Polled Hereford associations and the Northern Wisconsin Beef Breeders Association.

In addition 1,200 media notices were sent out about the wolf plan and committee members were interviewed by many media people including Wisconsin Public Radio call-in programs; radio stations at LaCrosse, Eau Claire, Park Falls, Milwaukee, Madison, Sparta, Green Bay, Rhinelander and Duluth. Newspapers from Wausau, Minocqua, Eau Claire, Duluth, Madison, Abbotsford, LaCrosse, Marinette, Neillsville, Minneapolis, Grantsburg, and Ironwood, MI. carried information about the Draft 2 Wolf Management Plan. In addition, specialty publications such as Wisconsin Outdoor News, Wisconsin Outdoor Journal, Sports Afield, and Wolf Magazine sought and received information. Television stations from Eau Claire also aired news coverage about the Draft 2 Wolf Management Plan. In addition the Draft 2 plan was made available on the Department of Natural Resources' World Wide Web Site and also on the Timber Wolf Information Network World Wide Web Site.

Modifications made in Draft 3 of the wolf plan draft based on public input included the following:

1. Core Areas were dropped as a formal refuge system, but language was added to the text that lethal control activities would rarely be conducted on large blocks of public land in areas of suitable wolf habitat. A lot of concern was expressed that Core Areas would greatly restrict human activity although the intent of the Wolf Committee was only to create areas where no lethal control would occur. Wolf Committee members decided such decisions could be made on a more flexible case-by-case basis adding language that such control would rarely be recommended in areas of large blocks of public land.
2. The five-year moratorium on public harvest was dropped in favor delaying

consideration of public take until the wolf population reaches 350. At the population threshold of 350 a review of the need for public harvest and possible change in State Statutes to allow harvest would take place. Many people were concerned that the wolf population would grow very quickly without a chance for public harvest control. The Wolf Committee decided that the population level of 350 would not be likely to occur in less than four to five years. It will be necessary to review other control activities allowed under the Wolf Plan before a public harvest can be recommended. Before public harvest is possible, a citizen review process, including public hearings, Natural Resources Board approvals and Legislative approval would be necessary.

3. Further clarifications of Native American concerns were included in the Draft 2 Wolf Management Plan. Delisting (250 wolves) and management goals (350 wolves) are to be based on late winter counts outside of Indian Reservations in Wisconsin. The 1999 wolf count of 197-203 wolves included 6 wolves found on Indian reservations. Generally wolves on reservations are likely to represent less than 5 percent of the state wolf population.
4. Clarification was needed on wolf population goals and methods of counting wolves. The population statistics will be based on late winter count of the state wolf populations (outside Indian reservations) using the current system of population monitoring. The Wolf Committee agreed that a "Minnesota Type" survey should be conducted every few years to measure the possible extent of the wolf population, but that population goals would be based on the current survey system. The delisting goal of 250 wolves represented the level at which landowner controls could occur on wolves, and the management goal of 350 was the minimum level at which pro-active depredation control could occur, and when public harvest of wolves would be considered.

The Wolf Management Plan incorporates these concerns as well as updated information and includes minor editing changes. The Wolf Plan serves as an Environmental Analysis of Wolf Management in Wisconsin. A completed version of the Wolf Management Plan was prepared for approval by Department of Natural Resources Secretary George Meyer

and the Natural Resources Board.

Once approved, the Wolf Management Plan would guide wolf management in the State for the next 10 to 15 years. The Wolf Advisory Committee will review the wolf plan annually and conduct a public review of the plan every five years.

This plan also will serve as a document to Federal Recovery Efforts as assurance of wolf conservation in Wisconsin and set the stage for Federal reclassification and delisting. The plan will indicate how the State of Wisconsin will manage wolves once authority is completely returned to the State.

The March, 1999, revision of the Draft Wolf Management Plan served as an environmental Assessment.

If you are interested in the Environmental Analysis process you may contact:

James D. Pardee, WEPA Compliance Specialist, Environmental Analysis and Liaison Section, P.O. Box 7921, Madison, WI., 53703 Phone (608) 266-0426.

Draft 3 Wolf Management Plan

The third draft of the Wolf Management Plan was presented to the Wisconsin Natural Resources Board on August 25, 1999 in Hayward. Thirty-one persons spoke before the board about the plan. Seventeen of the people generally supported the plan although some recommended changes, and fourteen had major concerns about portions of the plan or objected to most of the plan. Major concerns included discussion that the management goal of 350 is too low to guarantee wolf population perpetuation in Wisconsin; that the management goal is too high and will cause increased depredation; that the Department of Natural Resources wolf counts are too low; and that depredation payments must be made promptly and at market rates when wolf damage occurs. Some individuals also disagreed with the plan because it did not contain a specific formula for wolf harvest. A distribution of responses by Zip Code is shown in Figure D2 and Figure D3.

Following the presentation of the wolf plan and public discussion, the Natural Resources Board deferred action until its October 27th meeting and instructed the Department staff to make four modifications to the plan:

- 1 Create a stakeholder group to advise the Department on wolf management.
- 2 Allow more citizen input on annual population surveys and census estimates.
- 3 Provide a more complete funding request within the plan that anticipates increasing costs of wolf management, and provide a prompt settlement

procedure for those who have lost pets or livestock to wolves.

- 4 Develop a detailed draft of procedures for a controlled public wolf harvest which will occur when the management goal of 350 is reached.

These additions were incorporated into the the fourth draft of the wolf plan and sent to the Natural Resources Board for its meeting on October 27, 1999 in Madison.

- 1 A new stakeholder group will be incorporated into the wolf management planning effort (ie program guidance and oversight (page 28 and Figure D-4)
- 2 With help from the stakeholder group greater efforts will be made to gather and incorporate citizen input into the wolf population surveys adding to the existing volunteer efforts (population monitoring page 19).
- 3 Funding requests for wolf management have been expanded to anticipate future increased costs (V Wolf Management Budget page 33). The depredation payment procedure (outlined on page 25) will assure claims are handled quickly. The ability of the Department to pay claims will be directly related to the adequacy of funding for that purpose. The Department will address this need in its 2001-2003 Budget Request.
- 4 Suggested Statutory changes and Administrative Rule additions to allow wolf hunting in Wisconsin were developed and were listed in Appendix J.

Draft 4 Wolf Management Plan

The fourth draft of the wolf plan was presented to the Natural Resources Board on October 27, 1999, in Madison. Although opportunity for additional public comment was not provided at this meeting, the Board received extensive written comment and much media coverage on the fourth draft of the wolf plan. Comments were mainly negative toward the concept of public hunting of wolves. At the October 27 meeting, the Wisconsin Natural Resources Board approved the fourth draft of the wolf management plan, with modification that Appendix J, the specifics of wolf hunting regulations, be removed from the plan. The Board also recommended that language be clarified in the depredation section of the plan, especially to clarify that landowners throughout the state would have the authority

to protect pets and livestock from wolves on their land. The material in Appendix J would be maintained as a separate document, that would be used to start the discussion of wolf hunting regulations once the need develops for such control.

SUMMARY

A series of strategies were used to seek public interest and opinion as the drafts of the Wisconsin Wolf Management Plan were prepared. The first set of forums was to identify major issues. Respondents largely indicated their concern that the wolf be adequately protected although some responses emphasized a fear that wolves pose problems and that wolf recovery in Wisconsin is not a good idea.

The second set of forums, conducted after publicity that outlined the major points of Draft 1, brought comments critical of the range of population management (300-500). Many respondents were concerned that wolves would affect their recreational opportunities such as use of snowmobiles and all terrain vehicles, deer hunting opportunities or threaten hounds used to hunt bear or coyotes.

A face-to-face discussion among individuals with varying opinions was used to obtain public input in Draft 2. The Draft 3 plan was the result of those discussions as well as written and verbal statements of others to the members of the wolf committee.

During the preparation of this document more than 300 public presentations, interviews, and speeches were made to groups and reporters throughout Wisconsin as well as in other states and to a Swedish conference on European wolf management. News releases and the Department Web page were used to provide information and seek public input for all drafts of the plan.

A stakeholder group was developed at the direction of the Board as a method of obtaining continuing public input at its August, 1999 meeting. Other citizen involvement techniques, such as mailings, news releases, assistance to teachers and citizen groups, also will be required as this plan is implemented. It will be essential for all persons who want to be involved with wolf management to be heard.

At its meeting on October 27, 1999 the Board approved the plan. It also directed staff to clarify landowner rights to protect stock and pets on their private property from wolf attack, and to remove the specifics of public harvest from the plan, but retain the information as a report for later study.

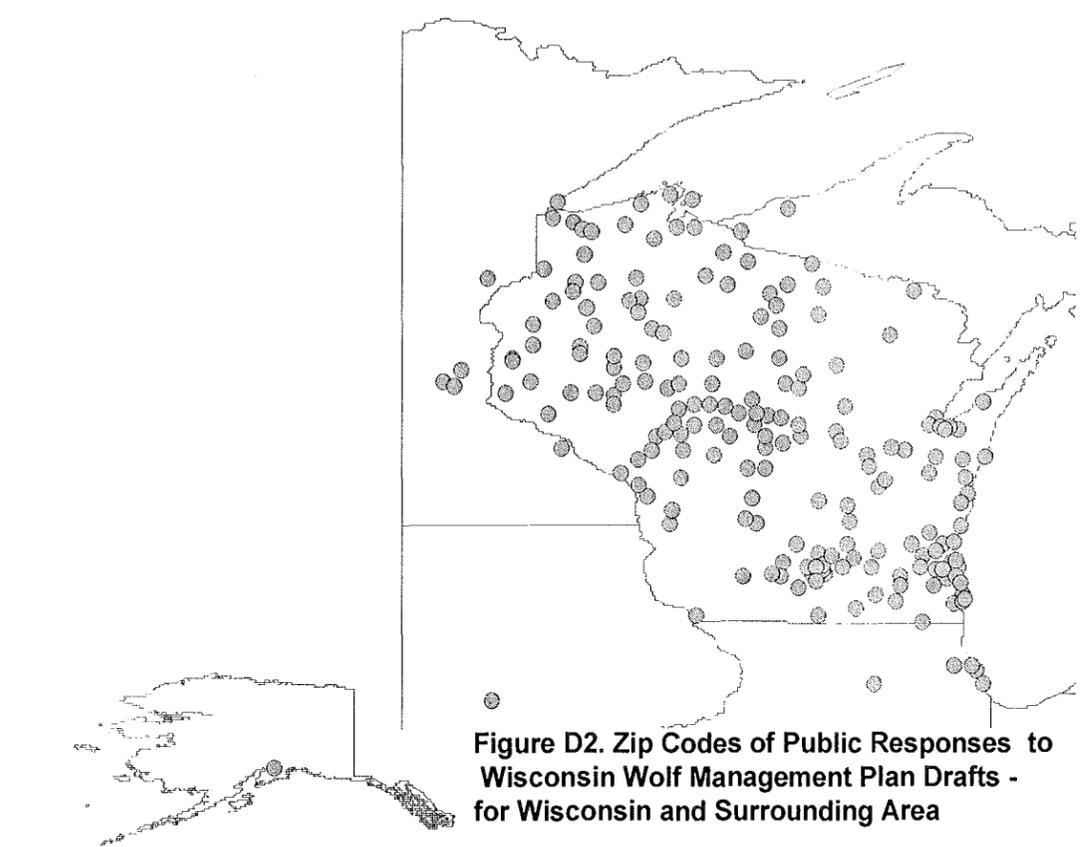


Figure D2. Zip Codes of Public Responses to Wisconsin Wolf Management Plan Drafts - for Wisconsin and Surrounding Area

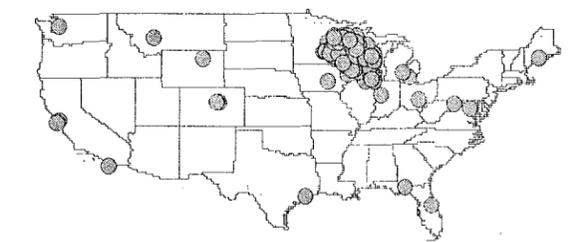


Figure D3. Zip Codes of Public Responses to Wolf Management Plan Drafts from Locations throughout the United States

Wisconsin Wolf Management Citizen Involvement Model

Wolf Advisory Committee
(resolves issues brought forward by Stakeholder Team and from other public input and makes recommendations to the WDNR Land Leadership Team.)

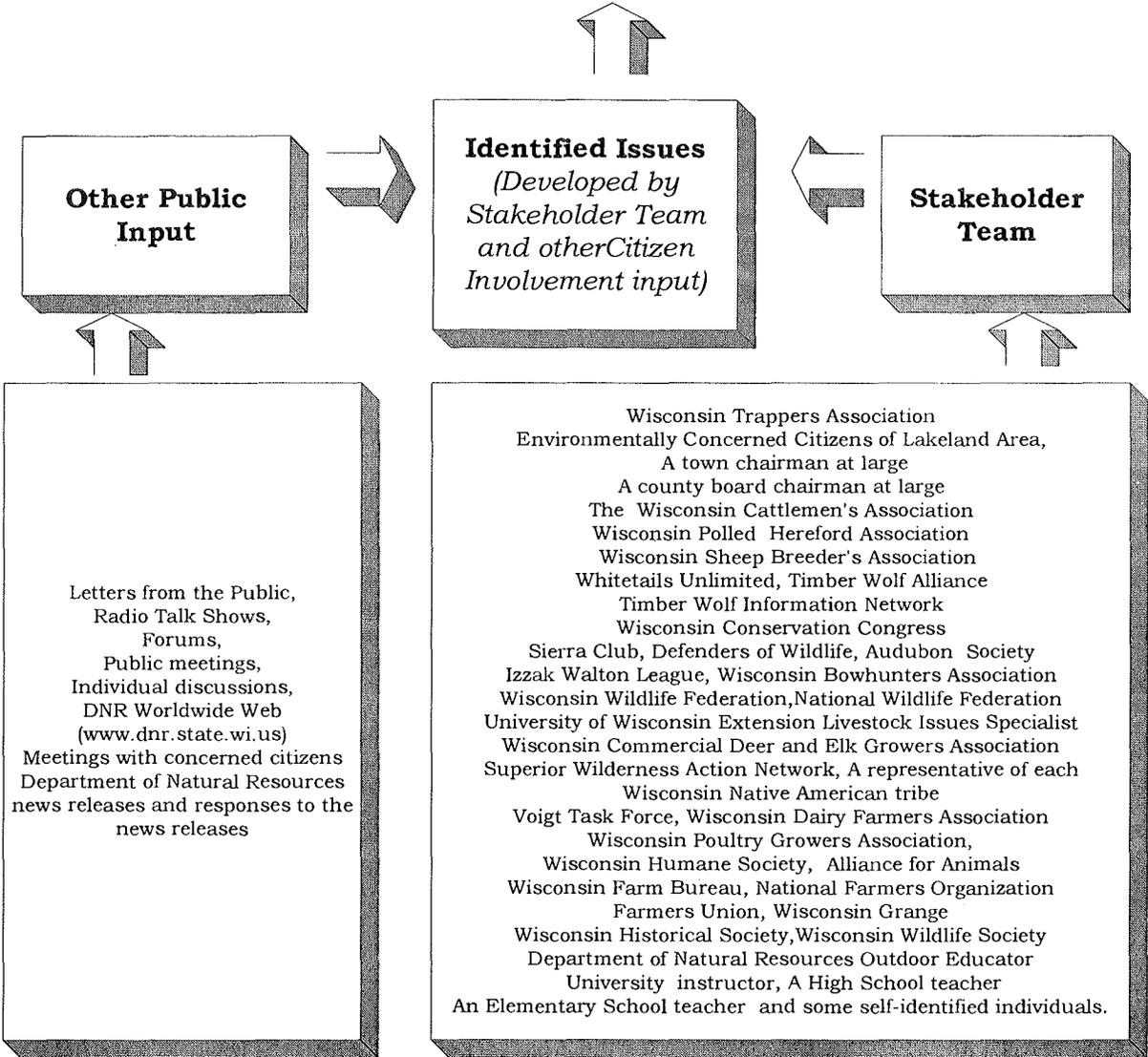


Figure D4. Citizen Involvement Model for Wolf Management in Wisconsin.

Appendix E
Impact of Wolves on Deer in Wisconsin.
by Ronald N. Schultz, Keith R. McCaffery,
and Adrian P. Wydeven

Many hunters continue to be concerned about the impact wolves may have on deer populations. During fall 1997, hunters became aware of the lower deer numbers across northern Wisconsin, and some blamed the deer decline on the increasing wolf population. The severe winters of 1995-1996 and 1996-1997 were the main factor that caused the deer decline across northern Wisconsin. Because such deer declines do create concerns over the impact of wolf predation, careful monitoring of wolf and deer populations will continue to be important aspects of management for both species.

Winter mortality is the main factor affecting deer numbers in northern Wisconsin (Figure E1). During winter 1995-96 as many as 170,000 deer died in northern Wisconsin due to harsh winter weather. In the 1996-97 winter, another 70,000 may have died. Winter Severity Indices correspond to severe winters and declines in the deer population.

There have been a few cases where wolves have limited ungulates (hooved mammals) to low population densities (Mech and Karns 1977; Gasaway et al. 1992). Generally such wolf impact would occur when ungulate populations are also stressed by severe winters, habitat deterioration, and/or overharvest. Fuller (1990) monitored a deer herd decline in Minnesota wolf range that went from 28 to 10 deer per square mile, but wolves accounted for only 10% of the deer mortality. Mech (1984) indicated that wolves rarely limit deer populations. Deer populations would normally need to be reduced to fewer than 3 deer/mi² for wolves to limit growth of the deer population (Mech 1984). Generally wolf predation is not a major mortality factor to deer populations until deer densities drop to fewer than 10 deer/mi² (Wydeven 1995). Deer densities of fewer than 10 deer/mi² occur infrequently in Wisconsin.

Wolves in the Great Lakes region normally consume 15-18 deer per wolf per year (Fuller 1995). At a rate of 18 deer per wolf pack per year an average Wisconsin wolf pack of four wolves on a 70-square mile territory would consume about 72 deer or about 1 deer per square mile. Wisconsin's wolf population in 1999 consisting of about 200 wolves probably consumed 3,000 -3,600 deer. The total 1998 harvest within the central and northern forest zones where wolves occur, was 112,936 by firearm hunters, 29,266 by bow hunters and another 10,000 by motor vehicles.

Mortality due to wolves occurs year round, which is

much different than hunting mortality that is compressed into one season and has less effect on herd dynamics and hunter opportunity, because some wolf predation is compensatory.

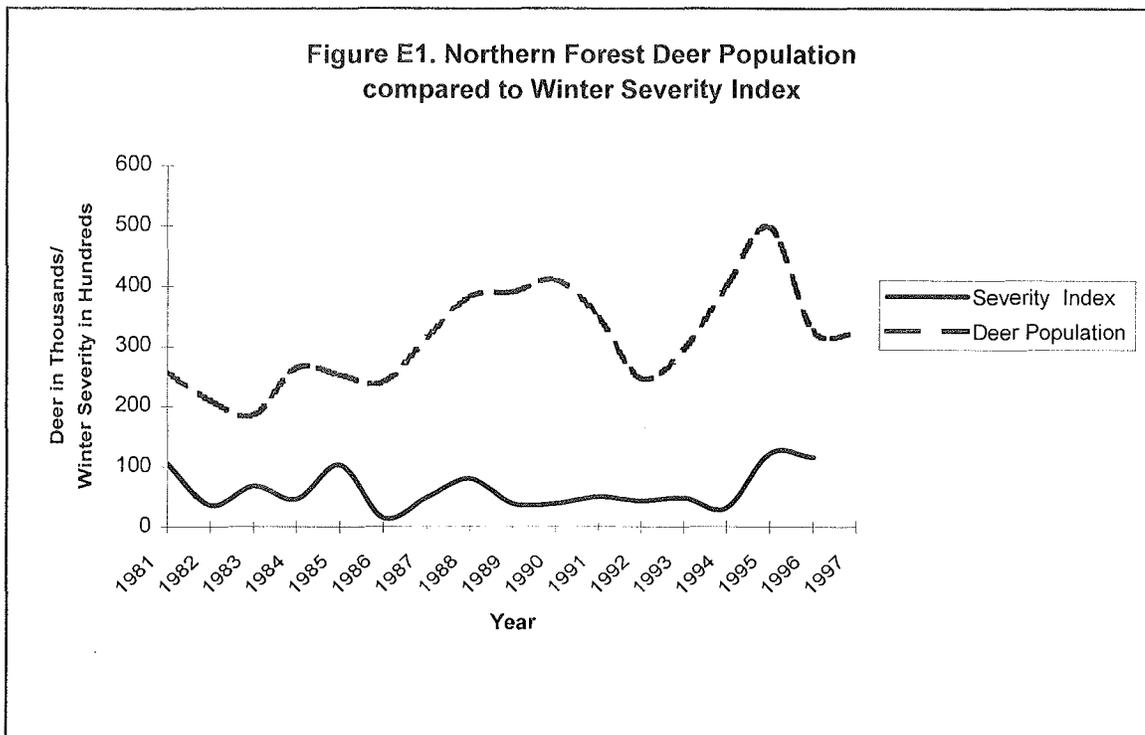
The projected potential wolf population in Wisconsin could be 300-500 wolves (Appendix C). At a rate of 18 deer per wolf year, wolves would annually remove 5,400-9,000 deer. This rate of wolf predation would occur across 6000+ square miles, therefore would consist of 0.9 to 1.5 deer per square mile. Deer population density over winter across this region would generally range from 10 to 25 deer per square mile

The overall deer population and deer density were compared for 4 deer management units with wolves, and 4 deer management units without wolves across northern Wisconsin (Table E2). Population fluctuations were relatively similar across deer management units with or without wolves. Deer density was slightly more in units without wolves than units with wolves, but the results were not statistically different (t-test $P > 0.10$). The over winter management goals for the units with wolves is 18.7 deer per square mile. The management goals for the units without wolves is 21.3 deer per square mile. These goal differences reflect habitat and climatic effects unrelated to wolves. It appears that habitat and climatic effects have greater impacts on deer population trends than wolf predation.

Furthermore, the average rate of herd increase from post-harvest to subsequent pre-harvest (1981-1997) was 1.33 for units without wolves and 1.31 for units with wolves. Thus recruitment (net increase in herd size) was similar in both sets of management units.

Overall it does not appear that wolves are likely to be a major mortality factor to deer in northern Wisconsin under current conditions, or in the near future. Even with a population of 500 wolves, annual predation of 9000 deer would represent only 2.6% of the overwinter population of 343,000 deer in the Northern Forest and Central Forest. The area has an average fall population of about 450,000. Much of the predation by wolves would probably compensate for other natural mortality because it occurs year-round. A large proportion of northern Wisconsin deer die from natural causes, which can vary drastically depending on severity of winter (Creed et al. 1984). Wolves would probably remove some of these animals that would die from other causes. A deer killed by wolves won't be killed by winter stress or other mortalities. Wolves may also displace other predators such as coyotes (Peterson 1995); under some circumstances coyote predation may have more of an impact on deer populations than wolves (Mech 1984). The current deer management system in Wisconsin adjusts antlerless deer harvest in individual deer manage-

Figure E1. Northern Forest Deer Population compared to Winter Severity Index



ment units by limiting the number of hunter choice permits per unit (VanderZouwen and Warnke 1995). This system should be able to adequately adjust for the impacts of wolf predation in deer management units. Generally, wolf predation would have very limited impact on the number of hunter-choice permits issued, or the overall deer harvest within specific management units.

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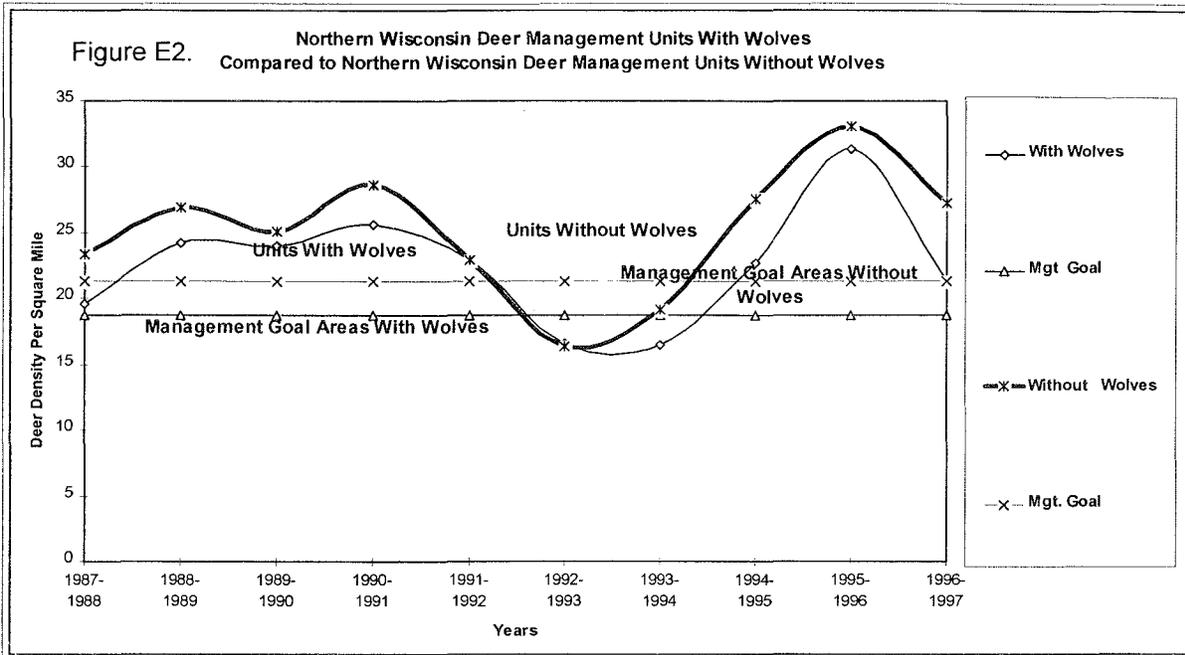


Table E1. Comparison of deer population densities in northern Wisconsin from 4 deer management units with wolves and 4 deer management units without wolves.

Deer Management Units with wolves (1473 sq. miles)			Deer Management Units without wolves (1536 sq. miles)			
Year	Wolf No.	Deer No.	Deer/mi ²	Wolf No.	Deer No.	Deer/mi ²
1987-1988	28	28,900	19.6	0	35,900	23.4
1988-1989	33	35,600	24.2	0	41,300	26.9
1989-1990	33	35,300	24.0	0	38,600	25.1
1990-1991	37	37,800	25.6	0	44,000	28.6
1991-1992	22	33,800	22.9	0	35,200	22.9
1992-1993	24	24,400	16.6	0	25,200	16.4
1993-1994	31	24,300	16.5	0	29,400	19.2
1994-1995	31	33,400	22.7	0	42,400	27.6
1995-1996	30	46,200	31.3	0	50,900	33.1
1996-1997	37	31,400	21.3	0	41,800	27.2
Average Density			22.5			25.0
Management Goal Population Density			18.7			21.3
Over Mgt. Goal			3.8			3.7

Appendix F Wolf Health Monitoring and Mortality Factors

by Kerry A. Beheler

Adrian P. Wydeven, and Richard P. Thiel

Disease testing and assessment of mortality factors has been a critical aspect of wolf monitoring in Wisconsin since 1981. Such examinations have been important for determining overall health of the wolf population and determining how various factors have affected wolf mortality.

Six diseases have been tested on wolf serum samples since 1981, and in the 1990's fecal samples were tested for parvovirus, and live capture wolves were assessed for probable mange (Table F1). Disease testing was conducted on 115 serum samples through 1996 for canine parvovirus (CPV), infectious canine hepatitis (ICH), canine distemper virus (CDV), heartworm (HTW), Lyme disease, and Blastomycosis. Most of the animals tested represented adults and yearlings, because few pups were captured during the spring-summer live trapping period. Test procedures changed during the monitoring period, therefore some difference in positive results may be due to varying test sensitivity. Positive results indicate that the animal was exposed to the disease, but not necessarily clinically infected. Rate of positive titer values indicate prevalence of various diseases in the wolf population, but not specifically the number of animals affected by the disease.

Canine parvovirus was tested on 94 wolf serum samples and 23 wolf scats. Overall results were near 50% positive for both tests. Positive test were more prevalent on samples in the 1980's than in the 1990's ($\chi^2 = 5.967$, $P < 0.025$ 1 d.f.). The high levels of positive testing corresponded with a period of population decline between 1982 to 1985 when the population declined 44% from 27 to 15 wolves. CPV was also considered a major factor in the decline of Isle Royale wolves between 1980 and 1982 (Peterson 1995). Mech and Goyal (1995) indicated that when 76% of adults tested positive, the wolf population would be expected to decline. Parvovirus probably mainly affect young pups by causing severe diarrhea leading to dehydration, but can also cause mortality in wolves 9 months old in the wild (Mech et al. 1997).

Lyme Disease tested positive in 48% of 69 wolf serum samples. The rate in Wisconsin is higher than most of Minnesota (Thiel et al. 1992). Lyme Disease has only been identified in wolves of the Great Lakes region. Although Lyme Disease has not been shown to cause specific mortality with wild wolves, it perhaps does have some subtle impacts on the wolf population. Annual pup survival has been estimated at only 30% in Wisconsin (WDNR files), and possibly Lyme Disease is a factor.

Sarcoptic mange was first identified in a Great Lakes wolf in 1991 (Wydeven et al. 1996). Although sarcoptic mites were difficult to retrieve from live-trapped wolves, several wolves showed external signs of mange including extensive hair loss (alopecia), darkened hairless skin, and flaky crusting skin. Since 1991 mange sign was detected on 27% of wolves, and was as high as 58% in 1992-1993. In 1993 a 11% decline was detected in the Wisconsin wolf population; Todd et al. (1981) indicate that population impact of mange is generally most severe during the second or third year of infestation. Although Wisconsin wolves continue to be infested with mange, it does not appear to have slowed population growth in recent years.

Only 1 of 33 wolves tested positive for Blastomycosis, although 2 others were "suspicious" (Thiel, unpublished data). One wolf was found to have died with Blastomycosis in Minnesota (Thiel et al. 1987).

Other positive disease test included 39% of 72 samples for infections canine hepatitis and 23% of 65 samples for canine distemper. These rates as with other disease test indicate exposure to antibodies, but not necessarily active disease status. Only one serum sample of positive heartworm infection was detected; this disease seems to be a rare disease among wild wolves in Wisconsin.

Table F2 illustrates mortality factors of 63 radio collared wolves found dead in the field from 1979 through 1998. Some of these wolves were no longer being actively monitored. Human's caused 61% of known wolf mortality, and more than half was caused by shooting. Disease caused half of natural mortality. During the early 1980's annual adult survival was only 61% and most mortality was caused by humans (Wydeven et al. 1995). In recent years annual adult survival has generally exceeded 80% and human-causes have been reduced to 50% of mortality. Shootings have declined in recent years, but vehicle collisions have increased and equal shooting mortality in the 1990's. Decrease in the illegal kill was probably due to educational efforts and increased law enforcement.

Although the Wisconsin wolf populations are affected by a variety of diseases and mortality factors, overall the wolf population seems relatively healthy and is showing good growth in recent years. Health monitoring will need to continue in the future to further assess impacts of disease on the wolf population, and to detect any new mortality factors that may affect wolves in the future.

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Table F1. Disease testing of live-captured wolves in Wisconsin 1981-1996 (Positive Test/ Total Tested)								
YEAR	CPV Serum	CPV Feces	ICH	CDV	HW	Lyme	Blasto	Mange-like Condition
1981	5/6	---	---	---	---	---	---	---
1982	6/7	---	3/3	6/6	---	---	1/3	---
1983	4/5	---	2/5	0/5	---	---	---	---
1984	1/4	---	---	0/1	---	---	0/2	---
1985	4/5	---	0/1	---	---	---	0/5	---
1986	4/4	---	---	---	---	---	---	---
1987	---	---	---	---	---	---	0/2	---
1988	1/4	---	2/4	0/4	---	3/4	---	---
1989	---	---	---	---	---	3/4	---	---
1990	---	---	---	---	---	2/3	---	---
1991	5/12	---	5/12	1/1	1/11	8/12	0/12	2/11
1992	2/10	---	4/9	1/10	0/8	4/9	0/9	5/10
1993	0/6	2/4	0/6	1/6	0/7	3/6	---	6/9
1994	3/9	2/6	3/10	2/10	0/10	4/9	---	3/11
1995	7/13	4/7	4/13	1/13	0/13	2/13	---	2/16
1996	4/9	3/6	5/9	3/9	0/9	4/9	---	1/14
Total	46/94	11/23	28/72	15/65	1/58	33/69	1/33	19/71
+81-89	71%	---	54%	38%	---	75%	8%	---
+90-96	36%	48%	36%	18%	2%	44%	0%	27%
<p>CPV = Canine Parvovirus HW = Heartworm ICH = Infectious Canine Hepatitis Lyme = Lyme Disease CDV = Canine Distemper Virus Blasto = Blastomycosis</p>								

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Table F2.		
Mortality summary of radio-collared wolves from Wisconsin and adjacent areas of Minnesota, Oct., 1979 to Dec., 1998		
Cause of Death	Number	Percent Known Mortality
Human Caused:		
Capture Related	2	4%
Shooting	18	32%
Trapping	3	6%
Vehicle Collision	8	14%
Unknown Human Causes	4	7%
Total Human Caused	35	61%
Natural Causes:		
Birthing Complications	1	2%
Disease	11	19%
Killed by Other Wolves	6	12%
Unknown Natural Causes	3	5%
Total Natural Caused	22	39%
Total Known Mortality	57	100%
Unknown Mortality	6	
Total All Mortality	63	

Table G1.

Free-roaming wolf-dog hybrid incidents/complaints in Wisconsin - July 1989 through December 1998

Date(s)	Year	Location	County	No.Sex/Age	Problems	Outcome
July-Aug	1989	Spoooner,	Washburn	2A/1Y/7P	Killed 10 sheep, mauled 5 sheep	AM, AF and PM shot by landowner
August	1991	Stone Lake,	Washburn	1AM+1AF	Attacked dogs spilled garbage	Killed by sheriff's deputy
June	1992	Cable,	Bayfield	AF+2P	scavanging garbage	pups in USDA-WS trap killed by local person
Sept.	1992	Phillips,	Price	AF	close approach to people and pets	live captured by USDA-WS held by DNR cooperater
Feb. 14	1994	Clam Lake,	Sawyer	AF	found shot started investigation	dog food in stomach shooter not found
Mar.	1994	Drummond,	Bayfield	1AM/2YM	frightened people; stole pet food, challenged dogs	live capture DNR & USDA-WS placed on game farm
Apr.	1995	Brantwood,	Price	YM	visiting farm area concerned farmer	live capture by DNR placed on game farm.
May 5	1995	Chippewa Falls,	Chippewa	AM	road kill, started DNR investigation	necropsied. carcass to UW-Madison
Aug-Nov	1995	Minong,	Washburn	Unk. A	approached vehicle on road ate scraps	Observed for 4 months then disappeared
Feb-Mar	1995	Grantsburg,	Burnett	3PF	attacked dogs challenged person	two live captured, taken to Wildlife Sci. Center, MN; 1 shot#256
June 7	1996	Rhinelande,	Oneida	AF+1P	bit child	AF shot, tested for rabies, negative; pup given to hybrid owner
May 3	1997	Webb Lake,	Burnett	2A/1P	threatened people attacked warden	All 3 shot by DNR warden
May	1997	Danbury,	Burnett	AM	21 calves lost on farm? wolves?	recaptured by owner
Aug	1997	Grantsburg,	Burnett	A?	Stole camper's food and approached people, bold.	live-captured by USDA-WS & NPS, taken to wildlife science center
Feb	1998	Winter,	Sawyer	AF	bred with dog, close approach to people	Shot by DNR biologist.
Apr 20	1998	Monico	Oneida	AM&AF	Attacked German Shepherd in back yard	Captured by owner after USDA-WS investigation
Aug. 13	1998	Tomahawk	Lincoln	3A	Attacked black labrador in back yard	Attempted capture by DNR / USDA-WS, but disappeared
Aug. 26	1998	Monico	Oneida	YF	Roadkill - started DNR investigation	necropsied, carcass to UW-Madison
Sept. 10- Nov. 3	1998	Beaver Dam	Dodge	AF	Roamed farm area after escape	Captured by owner
Oct. 8	1998	Tripoli	Lincoln	AM	Possible hybrid, roadkill, started DNR investigation	necropsied, carcass to UW-Madison
Oct. 25	1998	Big Falls	Waupaca	2A	Attacked black labrador	investigation ongoing DNR/USDA-WS investigated

**APPENDIX H.
Public Attitudes Towards Wolves in Wisconsin**

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In 1997, I conducted a study of public attitudes towards, knowledge of, and behavioral relations with wolves, rare and endangered wildlife, and natural resources in Wisconsin. A self-administered survey

The data for this analysis were obtained from the responses of randomly selected respondents drawn from Wisconsin Department of Transportation (DOT) license plate records last updated in January 1997. All responses were entered, coded, and statistically analyzed at the University of Wisconsin-Madison, Department of Rural Sociology using SPSS statistical software.

Sampling

The survey effort was divided into two separate populations: the first sample was drawn from all registered license plate owners who owned an Endangered Resources license plate (excluding all busi-

Table H 1: Sampling Plan

	Sampling Population Size	Study Sample Size
Endangered Resources Sample	21,075	700
North	843 (4%)	300
South	20,232 (96%)	400
Non-Endangered Resources Sample	5,000,000	700
North	350,000 (7%)	300
South	4,650,000 (93%)	400

questionnaire was mailed to a random sample of all registered license plate owners in Wisconsin, as well as a random sample of all license plate owners who purchased the new Endangered Resources (E-R) license plate provided by the Wisconsin Department of Natural Resources, Bureau of Endangered Resources. The overall response rate to the mail survey was 78.7 percent, with response rates of 87.2 percent for Endangered Species license plate owners, and 69.7 percent for all Wisconsin license plate owners.

Various results are included in this report regarding public support for endangered resources and environmental protection in Wisconsin. Information is reviewed as regards to public knowledge of, and attitudes towards, wolves, rare and endangered species and proposed statewide policies that might affect them. Basic attitudes towards environmental conservation and endangered species protection are also explored among various constituencies and demographic groups in the state.

ness and government vehicles). The second sample was drawn from all other registered license plate owners (excluding ER plate owners, businesses, and government vehicles) in the state of Wisconsin. Approximately 90 percent of Wisconsin residents reside in the southern counties of the state. Therefore it was necessary to oversample residents from northern Wisconsin *within* each sampling population in order to have a sufficient number of cases for analysis by place of residence (See Table H1). Based on this objective, a sample of 300 license plate owners from northern Wisconsin, and 400 license plate owners from southern Wisconsin for each sample population were drawn, resulting in a total of 1400 respondents.

PUBLIC BELIEFS AND ATTITUDES TOWARDS PROTECTING WOLVES, ENDANGERED SPECIES AND NATURAL RESOURCES IN WISCONSIN

Results about public beliefs and attitudes towards wolves, natural resources, the environment, and will-

ingness to support future funding efforts for their protection are examined in this report. This section presents data obtained from responses to a series of questions regarding rare and endangered species and wolves.

A majority of respondents in the survey expressed pro-wildlife and pro-environmental attitudes. What is perhaps most interesting, is the strength and direc-

a long and notoriously negative image in popular folklore. Approximately ninety percent of all ER license plate owners (89.8%) support efforts by the Wisconsin DNR to increase the number of wolves living in the state. An additional nine percent (9.0%) of these respondents are ambivalent about the issue of wolves in Wisconsin, while slightly over one percent (1.2%) are opposed to the idea. For all other Wisconsin license owners, the pattern is more mixed.

Table H2. Do you think that protecting rare plants and animals helps maintain the integrity of the natural environment?

		definitely no	probably no	not sure	probably yes	definitely yes
Plate Type	ENDANGERED	.6%	.3%	.6%	18.8%	79.7%
	ALL WISCONSIN	.8%	5.4%	5.4%	34.6%	53.8%

tion of pro-environmental responses. Table 2 shows, when asked whether they think protecting rare plants and animals helps to maintain the integrity of the environment 98.5 percent of those with ER plates and 88.4 percent of all Wisconsin plateholders sampled indicate a probably or definitely yes.

cent (14.8%) of all license holders actually oppose these efforts. In sum, among the driving population in Wisconsin, there seems to be widespread public support for efforts designed to increase the number of wolves now living in the State of Wisconsin.

Fifty percent of all Wisconsin license plate owners (50.2%) support efforts by the Wisconsin DNR to increase the number of wolves. Approximately fourteen per-

Table H3. For you, how important is the protection of rare predators like the wolf, the barn owl and the lynx in Wisconsin?

		not at all important	somewhat unimportant	mixed	somewhat important	extremely important
Plate Type	ENDANGERED	.0%	.6%	2.1%	18.1%	79.2%
	ALL WISCONSIN	4.6%	4.0%	11.6%	40.4%	39.4%

All respondents were presented with specific questions regarding predators in the state of Wisconsin: including attitudes (1) towards protection of predators in Wisconsin such as Timber Wolf, the Barn Owl and the Lynx and (2) support for Wisconsin DNR efforts to increase the number of wolves.

Over ninety seven percent of the ER group stated that the protection of rare predators was important (97.3%) and more than three-quarters of the group (79.2%) actually stated that it was *extremely* important (Table H3). Most other Wisconsin drivers (79.8%) stated that it was at least somewhat important to protect rare predators in Wisconsin, and less than 9 percent (8.6%) stated that it was unimportant.

Table H4 shows the results when respondents were asked about the wolf in Wisconsin—a predator with

Past Outdoor and Wildlife related Activities

Hunters, anglers, and non-consumptive wildlife users were identified from the survey data according to their responses to a

series of questions dealing with past participation in Wildlife related activities. Specifically, respondents were asked if they had hunted, fished, birdwatched or taken a trip away from home primarily to view, photograph or listen to wildlife in the last 12 months.

ER plate holders represent less people that have hunted in the last year than regular Wisconsin license holders (23.7% versus 37.1%). The percentages of people who were anglers was similar between groups. ER plate holders are more likely than the overall group to have participated in birdwatching (79.7%) or taken a trip at least one mile away from their place of residence to view, photograph or listen to wildlife in the previous 12 months (80.7%).

Table H4. Overall, how much do you support efforts by the Wisconsin Department of Natural Resources (DNR) to increase the number of wolves

Plate Type	strongly oppose	moderately oppose	neither support nor oppose	moderately support	strongly support
ENDANGERED	.9%	.3%	9.0%	29.0%	60.8%
ALL WISCONSIN	8.0%	6.8%	35.0%	30.6%	19.6%

respondents who have hunted at least once, seventy eight percent (78.3%) feel that it is either somewhat or extremely important to protect rare predators. For respondents who have never hunted, slightly over eighty percent (80.7%) feel that the protection

The trend towards non-consumptive use of wildlife is *not* limited to the ER subgroup. Most Wisconsin license plate holders also participated in birdwatching (72.2%) and nonconsumptive wildlife use (73.2%). In sum, all people who own a licensed vehicle (both ER and all other license plate holders) in Wisconsin are more than twice as likely to have participated in non-consumptive wildlife uses during the last year than they are to have hunted.

of rare predators is important. For those respondents who participated in nonconsumptive uses of wildlife over the last year, almost eighty five percent (84.5%) feel that the protection of rare predators is somewhat or extremely important, while less than sixty five percent (64.5%) of respondents who have not done so feel that their protection is important.

I examined attitudes toward predators based on wildlife-related activities (Table H7). There is considerable support for the protection of rare predators among "All Wisconsin" respondents who have hunted and who have participated in nonconsumptive uses of wildlife in the last year. For

Table H5. ER license Plate Holder's participation in Wildlife related activities

	no	yes	don't know
	%	%	%
Hunt last 12 months	76.3%	23.7%	
Hunt Ever	62.9%	37.1%	
Fish Last 12 months	52.3%	47.7%	
Birdwatch	20.3%	79.7%	
Nonconsumptive Wildlife Use	18.7%	80.7%	.6%

Differences between hunters and non-hunters in their attitudes toward increasing wolves was slight (Table H8). For respondents who have hunted at least once, nearly fifty percent (46.7%) stated that they support efforts to increase the number of wolves living in Wisconsin. Only 20% opposed increasing wolf numbers. For non-hunters, fifty four percent (54.2%) of respondents support these efforts. About fifty six percent (56.1%) of all respondents who have participated in the nonconsumptive use of wildlife, support efforts to increase wolf numbers, while only slightly more than thirty percent (33.2%) of respondents who have not participated in nonconsumptive activities support such efforts. There appears to be support by both hunters and nonconsumptive wildlife users for increasing wolf numbers.

Table H6. "All Wisconsin" plate holder's participation in Wildlife related activities.

	no	yes	don't know
	%	%	%
Hunt last 12 months	65.5%	34.5%	
Hunt Ever	50.5%	49.5%	
Fish Last 12 months	48.6%	51.4%	
Birdwatch	27.8%	72.2%	
Nonconsumptive Wildlife Use	24.8%	73.2%	2.0%

These results suggest that fairly strong pro-wildlife and pro-environmental attitudes exist among the Wisconsin population. Moreover, there is a considerable amount of popular support for the protection of

rare and endangered predators in Wisconsin, including the wolf. The data show that there is also widespread popular support for current efforts by the Wisconsin DNR to increase the number of wolves living in Wisconsin. While this is moderated somewhat by the extent to which people have participated in activities such as hunting and nonconsumptive uses of wildlife, a majority of all respondents to the survey expressed support for increasing the number of wolves living in Wisconsin.

Table H7. For you, how important is the protection of rare predators like the wolf, the barn owl and the lynx in Wisconsin?

		Rare Predator Protection				
		not at all important	somewhat unimportant	mixed	somewhat important	extremely important
Hunt Ever	no	4.7%	3.1%	11.5%	36.8%	43.9%
	yes	4.6%	5.0%	12.1%	43.2%	35.1%
Hunt last 12 months	no	3.6%	4.1%	11.9%	38.8%	41.5%
	yes	6.6%	3.9%	11.5%	42.1%	35.9%
Nonconsumptive Wildlife Use	no	7.5%	8.6%	19.4%	35.9%	28.6%
	yes	3.4%	2.8%	9.3%	41.5%	43.0%

Table H8: Overall, how much do you support efforts by the Wisconsin Department of Natural Resources (WDNR) to increase the number of wolves living in Wisconsin?

Support for DNR Increasing Number of Wolves in Wisconsin

		Strongly Oppose	Moderately Oppose	Neither- Support nor Oppose	Moderately Support	Strongly Support
Hunt Ever	no	3.3	6.4	36.1	33.5	20.7
	yes	13	7.5	32.8	28.4	18.3
Hunt Last 12 Mo.	no	5.5	6.9	35.2	33.3	19.1
	yes	13.1	7	33.1	26.5	20.3
Noncon- sumptive Wildlife Use	no	15.9	4.5	46.3	24.3	8.9
	yes	4.9	8.1	30.9	32.9	23.2

Appendix I
Alternative Wolf Management Considered.
by the Wolf Advisory Committee

Wolf management goal alternatives considered: the original draft wolf management plan for Wisconsin called for a long range population level from 300 to 500 wolves. This number was derived after study of the available habitat within the State of Wisconsin.

People comments on Draft 1 of the plan often addressed an upper limit on wolf numbers in Wisconsin. Some said 500 wolves would be too many to be socially acceptable. Others saw no reason for limiting the number of wolves in the state. After examining the public comments and biological data the Wolf Advisory Committee decided, in Draft 2, to recommend delisting wolves as numbers reach 250 and establishing a management goal of 350, the minimum level at which a full range of control activities could occur. After public review of Draft 2 the Wolf Committee agreed that the population threshold of 350 be used as the minimum level for proactive control and possible public harvest.

Discussion of alternatives and impacts of population goals: A population of 350 wolves would impact forest ecosystems in northern and central Wisconsin. Slight declines in deer populations might occur in interiors of wolf territories, but would have only a minor impact on deer harvest. Wolves could also impact populations of beaver, coyotes, and perhaps medium-sized predators such as raccoons and fisher. The higher wolf population would also increase probability of wolf depredation on pets and livestock. Delisting could provide increased flexibility in controlling problem wolves to minimize concerns about depredation. Such increased flexibility in controlling problem wolves when delisted, should help minimize concerns.

Several alternatives were considered for Wisconsin's wolf population goal. A goal of 100 wolves in Wisconsin, similar to federal delisting guidelines, was considered. Although the federal guidelines would provide minimum levels for a viable population if Wisconsin's population of 100 wolves remain connected to other wolf populations (Fritts and Carbyn 1995; U.S. Fish and Wildlife Service 1992); such a population may not be considered viable if it becomes isolated. Also, at a lower population goal, wolves might not be able to fully occupy areas of favorable habitat that exists in Wisconsin (Mladenoff et al. 1995, Mladenoff et al. 1997, Appendix C).

Another alternative considered was to classify wolves in Wisconsin as threatened throughout the next 10 years, and review the population performance after that time to determine criteria for delisting. This alternative was rejected because it may not allow ade-

quate flexibility in controlling problem wolves in the future. Under threatened classification, controls on nuisance wolves would continue to be restricted. Once delisting occurs more flexible control will be used on problem wolves. The WDNR is obligated to remove species from the threatened and endangered list when such a classification is no longer warranted.

Zone management alternatives considered: The wolf management team considered alternatives involving: no zones, two zones, or three zones. The "no zone" alternative was rejected because it provided no special protection to wolves in areas of suitable habitat. All nuisance wolves would need to be controlled on case-by-case basis.

The two zone alternatives did not seem to provide as high levels of wolf protection in areas of suitable habitat, while allowing flexible control in areas of conflict with nuisance wolves. The two zone alternatives did not tie as closely into habitat considerations as would a more complex system.

The wolf management team also considered a three zone concept that incorporated all the land within the Northern Forest Deer Management Units and Central Forest Deer Management units as Zone 1 (Figure I1). This Zone 1 was further divided for management purposes into management on public lands and management on private lands. Zone 1a included public lands and was proposed to be titled Wolf Conservation Area. That area was to have included 7,600 square miles of public and industrial forests in the Northern Forest and Central Forest. Estimates were that the area could support 210-350 wolves. Zone 1b was to include approximately 15,400 square miles of private lands within the Zone 1 area. Wolves in that area were to have been controlled on a case by case basis. Most private lands would not be highly suitable habitat and could support 80-150 wolves. Flexible management was proposed for this (Zone 1b) areas. Habitual depredators on livestock and pets could be euthanized and controlled on private land up to one-half mile from the depredation site. Wolf packs that do not cause depredation were to be protected, and habitat protection done on a case by case basis. Under State delisting, proactive trapping by government agents could be done in areas where chronic wolf problems exist to reduce or eliminate wolves from these areas.

In Draft 2 of the Management Plan, the original Zone 1 alternative was modified by the Wolf Advisory Committee in lieu of a plan to include six highly protected core areas for wolves in Zone 1 (Figure I2), but which provided more liberal depredation controls outside core areas of that zone. The Draft 2 proposal listed the Central Forest as a unique zone, Zone 2, that provides more flexible control in that

area. In addition, the option continued the coyote hunting closed period during the deer gun season within the Northern Forest management area, but not within the Central Forest.

The six wolf core areas in Draft 2, were designated in Northern Wisconsin to provide additional protection for wolves. (Fig. I2). The intent of these areas was that wolves be completely protected, except under extremely unusual circumstances, such as a wolf with a highly contagious disease such as rabies, a captive-raised wolf that has escaped into the wild, or a wolf that poses a threat to human health or safety.

In draft 1 of the Wolf Management Plan all public lands in northern and central Wisconsin were listed as wolf sanctuaries (7,600 mi²), but the need for such an area was questioned repeatedly at public forums and in individual public comments. The Wolf Advisory Committee believed creation of the Core Areas was a way to provide concentrated protection

on the most appropriate locations, reducing the overall acreage earlier proposed (3,337 mi²) as highly protected.

Protected wolf core areas or sanctuary areas have been recommended for small populations of wolves or wolves near agricultural and developed landscapes (Haight et al. 1998, Mech, 1995). Such protective cores help assure the long term viability of a small population (Haight et al. 1998).

Wolf Core Areas were proposed across northern Wisconsin in areas of favorable wolf habitat (Mladenoff et al. 1995), and large blocks of public land. Areas were selected based on suitability of wolf habitat and the lack of most livestock activity or concentrated human developments. Local wildlife managers were consulted as to reasonable areas and boundaries for Wolf Core Areas.

Although many people accepted the concept of Wolf

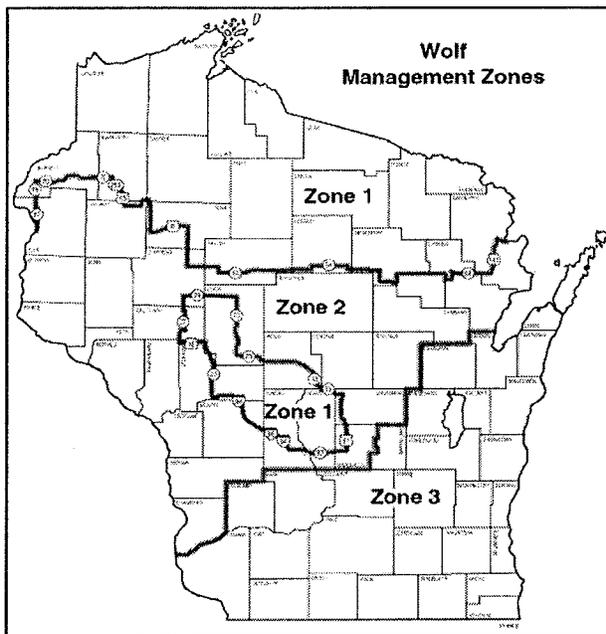


Fig. I1 Original Zone Management Proposal for Draft 1.

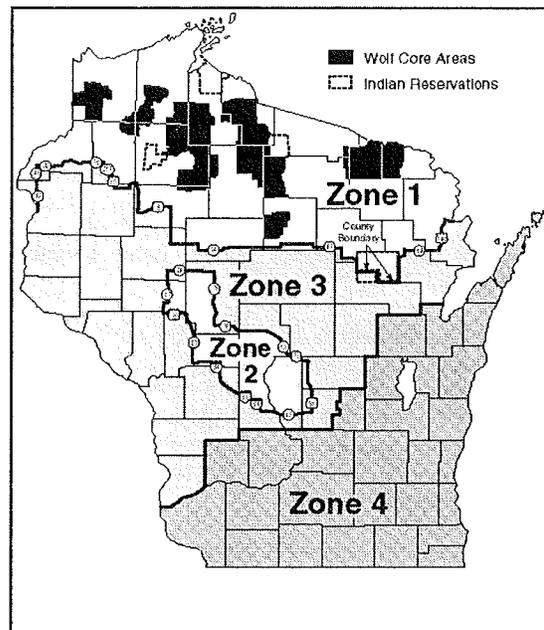


Fig. I2. Zone Map Proposed in Draft 2 (includes Core Areas)

Core Areas, others were very concerned that creation of these distinct zones would mean major restrictions on land use activities within the Cores. It was not the intent of the Wolf Advisory Committee to cause land use restrictions, but only to zone where lethal control on wolves was prohibited. Because the Core Area concept was widely misunderstood, the committee decided that lethal control within prime wolf habitat should be handled on a case-by-case basis. Lethal control would not generally be needed or utilized on or adjacent to large blocks of public land in areas of suitable wolf habitat. The Wolf Core maps created for the Draft 2 Wolf Management Plan could be utilized by WDNR wildlife managers and USDA-WS trappers seeking guidance about lethal control activities on wolves. By carefully considered lethal controls in Zone 1 on a case-by-case basis, a flexible system can exist for controlling wolves in problem areas, while still protecting most wolves in areas of suitable habitat.

Alternate habitat management considered: Other habitat management alternatives were considered by the Wolf Advisory Committee. The committee considered less emphasis on vegetative and access management once wolves are delisted. Because public land agencies manage for a variety of wildlife species, biodiversity protection, and sustainable resource use (forestry, wildlife, fisheries, etc.), it is assumed that such management should also provide habitat for wolves as long as wolves are protected. The committee felt that special considerations for wolves should continue into the future as wildland areas decline. Lack of aggressive access management may expose wolves to higher levels of mortality, and disturbance of den sites may displace wolves to less suitable areas where pups are vulnerable to higher risks of mortality.

We also considered more intense management of habitat for wolves. Such recommendations might include increasing wilderness and other roadless areas to provide additional wolf habitat. But large wilderness and roadless areas without natural disturbance or timber harvest may lack

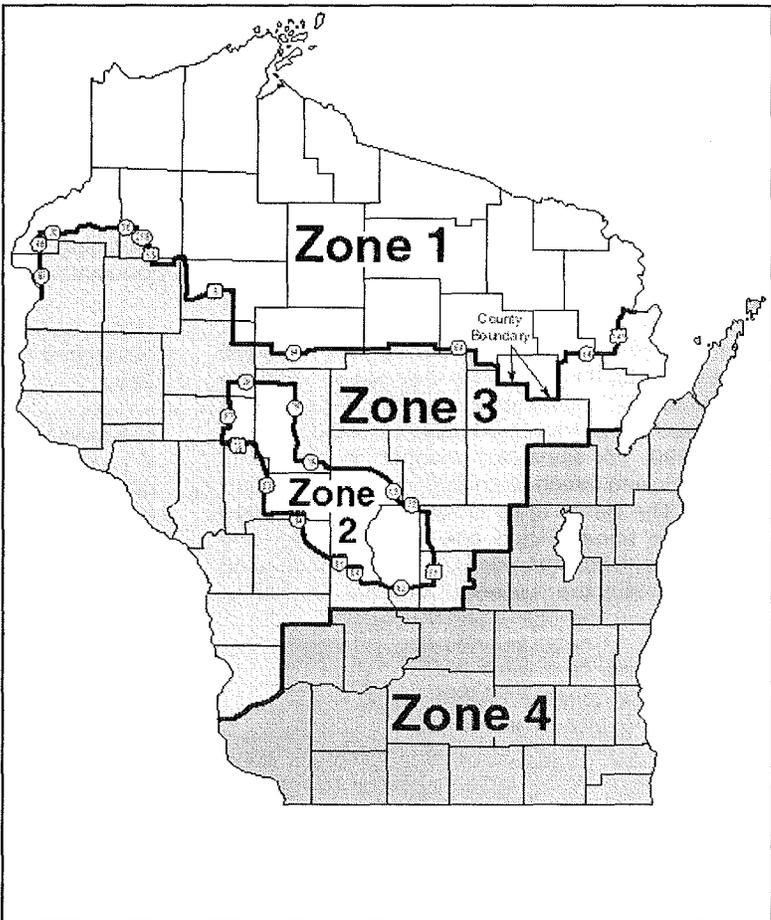


Fig 13. The Four-Zone Wolf Management Zone System for Wisconsin.

deer habitat, and would support only very low wolf densities. Creation of large wilderness areas may cause local economic distress and could create resentment toward wolves. Wolf monitoring in Wisconsin, Michigan and Minnesota have demonstrated that wolves can survive well in more intensely managed forest, and do not need to have large blocks of wilderness set aside for them. Therefore the Wolf Advisory Committee recommended against creation of wilderness areas or extensive road closures on wildlife areas specifically for wolves.

Use of volunteers, alternatives considered: The alternative to using volunteers would be to continue intense involvement by WDNR, and other agencies in all aspects of wolf recovery and conservation. If funding declines as the wolf population increases it will not be possible to maintain existing levels of wolf conservation efforts. Involvement of volunteers will be essential

for the long-term success of wolf conservation in Wisconsin. Also, volunteer programs provide opportunity for public input into determining the wolf population and other wolf conservation activities, in which public support is critical.

Public harvest, alternatives considered: The Natural Resource Board, at its meeting in August, 1999 at Hayward directed staff to determine regulatory language necessary for implementing a hunting season on wolves when the wolf population reaches 350.

The statutory and administrative rule changes necessary for hunting were developed and included in the Wolf Management Plan (Appendix J) submitted to the Natural Resources Board in October, 1999. A significant number of comments were received which were opposed to public harvest. The Board at its October meeting deleted the public harvest language from the plan and then approved the adoption of the plan. It directed staff to retain the appendix material for further study.

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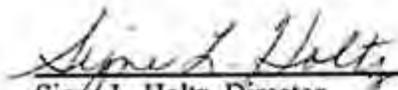
Wisconsin Wolf Management Plan Addendum 2006 and 2007

Compiled by the Wisconsin Wolf Science Advisory Committee in cooperation
with the Wisconsin Wolf Stakeholders Group

For The
Bureau of Endangered Resources, Division of Land for the Wisconsin
Department of Natural Resources

This addendum updates portions of the Wisconsin Wolf Management Plan, approved by the
Natural Resources Board on October, 27, 1999. The addendum to the wolf plan was
presented and approved by the Natural Resources Board at their meeting on June 28, 2006
and updated on August 15, 2007.

Approved:



Sigge L. Holtz, Director
Bureau of Endangered Resources
11/27/06
Date



Laurie J. Osterndorf, Administrator
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11/28/06
Date



Scott Hassett, Secretary
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11/28/06
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Gerald M. O'Brien, Chair
Natural Resource Board
11/28/06
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Wisconsin Department of Natural Resources. 2007. **Wisconsin Wolf Management Plan Addendum 2006 and 2007**. Wisconsin Department of Natural Resources, Madison, Wisconsin 58 pp.

August 15, 2007

Bureau of Endangered Resources

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**Wisconsin Wolf Management Plan,
Addendum 2006 & 2007
Executive Summary
By the Wisconsin Wolf Science Advisory Committee**

In 2004 and 2005, the Wisconsin Wolf Science Advisory Committee conducted a review of the 1999 Wisconsin Wolf Management Plan, in conjunction with the Wisconsin Wolf Stakeholders groups. Both groups advise and report to the Bureau of Endangered Resources on matters of wolf management and conservation in the Wisconsin. This report includes updates and modifications recommended to the 1999 Wisconsin Wolf Management Plan by the Wisconsin Wolf Science Committee.

The review of the wolf plan included several meetings with the Wolf Science Committee in 2004 and 2005, four meetings with the Wisconsin Wolf Stakeholders, and a public review of the 1999 Wolf Plan by interested citizens in between August 13 and September 13, 2004 through email, mail, and contacts at DNR offices (Appendix K). In the following discussion the Wolf Science Advisory Committee will be referred to as “the Committee”.

Wolf population management goals were reviewed and were generally agreed to continue to be reasonable by the Committee. Carrying capacity assessments continued to suggest a potential biological capacity for about 500 wolves. The committee agreed to continue to maintain a state delisting goal of 250 wolves outside of Indian reservations in a late winter count, and a state management goal of 350 wolves outside of Indian reservations in a late winter count. Social surveys indicate that there continues to be strong public support for wolf conservation in the state, although it varies considerably among various groups. In late winter 2007, 540 to 577 wolves were counted statewide, and 528 to 560 were counted outside of Indian reservations. Thus in recent surveys the wolf population seems to be above the state management goal. Federal delisting was completed on March 12, 2007, allowing the state to begin to apply controls on the wolf population.

Concerns and procedure of wolf health monitoring were updated and modified to reflect greater involvement by the Wisconsin DNR in examination and necropsies on dead wolves, which were initially conducted by the National Wildlife Health Center in Madison.

Information on habitat management was updated. New assessments of potential habitat were being conducted, but had not been completed at the time of the review. In general most wolves did continue to occur in heavily forested lands and in areas with low road

densities. The committee in general agreed that access management on public lands and protection of den sites continued to be important conservation practice for wolves. Special protection for wolf rendezvous sites no longer seemed necessary with the higher wolf population and ephemeral nature of these sites. The committee agreed that wilderness areas were not necessary for maintaining healthy wolf populations as long as scientifically sound management and access control were conducted on public and industrial forest lands.

The language for wolf depredation management was updated to include new depredation payments rules adopted in 2005, and clarification of procedures and practices. A solid professional program for providing timely and effective responses to wolf depredations management is outlined. The committee agreed to extend areas of depredation control trapping to 1.0 mile from depredation sites in zones 1 and 2, from 0.5 mile of the 1999 plan, when wolves are delisted or federal regulations allow greater flexibility. Authorizations for control of wolves attacking domestic animals on private land have been updated and will go into effect once federal delisting is completed.

List of potential wolf research projects was updated to reflect expanded knowledge of wolves in the state, new disease concerns such as ehrlichiosis and neosporosis, need for assessing potential changes in human attitudes, and continuing to examine wolf impacts on ecosystems in the state.

Wolf specimen handling information was updated as DNR and USDA-WS have started to handle larger numbers of dead wolves. Modifications are being made with necropsies no longer just conducted by the National Wildlife Health Center in Madison, as had been the case through the early 2000s. Changes in guidelines for wolf specimen handling was also necessary to reflect reorganization changes that have occurred in the WDNR personnel.

Budget information on the wolf plan was updated to reflect annual state wolf management costs of \$250,000 to \$310,000, and annual depredation payment costs of \$60,000 to \$80,000. More secure federal funding has been found to allow USDA-Wildlife Services to be more effective in dealing with wolf depredation management, but additional sources for funding state wolf management and state depredation payments may be needed in the future.

Two appendices to the wolf plan were supplemented and a new appendix was added by the committee. Appendix F on Wolf Health Monitoring and Mortality Factors was supplemented to add additional mortality data through summer 2005. Appendix H on Public Opinions on Wolf Management incorporated new data and surveys conducted between 2001 and 2005. Appendix K was added to include all the results from the DNR questionnaire on wolf management that was conducted in 2004.

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Wisconsin Wolf Science Advisory Committee

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Wisconsin Wolf Management Plan, Addendum 2006 & 2007.

Review of Management Goals

The Wisconsin DNR wolf management plan (1999) contains goals for management and goals for legal status (endangered, threatened, delisted) thereby linking population levels to discrete levels of protective management. In determining various population goals associated with management and legal classification the Wisconsin Wolf Advisory Committee evaluated the following 4 factors.

- The goal needed to meet or exceed federal recovery criteria.
- The goal must represent a population level that can be supported by the available habitat.
- The goal needed to be compatible with existing information on gray wolf population viability analysis.
- The population goal needed to be socially tolerated to avoid development of strong negative attitudes toward wolves.

The outcome of this process was a management goal of 350 wolves outside of Native American Reservations. At this level “proactive depredation control can be authorized”. A late winter count of 250 (outside of Native American Reservations) was the threshold for de-listing or removal from state “threatened” status. Eighty individuals was the threshold for classification as a state “endangered” species (Wisconsin DNR 1999, Wolf Management Plan).

Review of population goals will be made in light of the 4 factors considered above.

The goal needed to meet or exceed federal recovery criteria.

The U.S. Fish and Wildlife Service Recovery Plan for Wolves in the Eastern U.S. (1992) recommended maintaining a minimum of 100 wolves in Wisconsin and Michigan. This number apparently depends on an assumption that wolves will continue to emigrate from Minnesota. The assumption of emigration is reasonable given recent long-distance movement of wolves outside on the northern Great Lakes region. Since the federal goals have not changed the Wisconsin goal of 350 continues to exceed the federal goal of 100.

The goal must represent a population level that can be supported by the available habitat.

A detailed assessment of the available habitat and the number of wolves that could be supported by the available habitat was done by Mladenoff et al. (1995, 1997). This effort was based on an logistic regression modeling of the occupancy of a small number of pioneering wolf packs, with covariates reflecting their assumed tolerance for human disturbance and their assumed relationship to deer density. Later colonization and local growth in the wolf population provided additional data and an opportunity for validation of the earlier habitat modeling. This later analysis indicated that the habitat relationships developed by Mladenoff et al. (1995, 1997) were robust, correctly classifying the habitat used by 18 of 23 new wolf packs as favorable (Mladenoff et al. 1999). Mladenoff et al.

predicted that 300 to 500 wolves could occupy the most favorable habitat at saturation. With additional occupancy of marginal or secondary habitat Mladenoff et al (1995, 1997) predicted an equilibrium population size of 500 to 800 wolves. Further analysis suggested that the earlier projections were likely conservative – failing, for example, to identify the currently occupied wolf range of Wisconsin’s central forest region (Mladenoff 1999).

An independent analysis of the growth of Wisconsin’s wolf populations largely corroborated with the equilibrium Mladenoff et al. (1995, 1997, and 1999) predicted based on habitat. Van Deelen (unpublished) fit simple growth models to a XX year time series of wolf population estimates. Models fit were the discrete logistic model (CITATION) and the discrete Ricker model (1975) of the general form $N_{t+1} = f(N_t)$ where N = population size. Model fitting was based on a least squares algorithm and jackknife procedures were used to generate variance estimates because of the inherent temporal autocorrelation (Dennis and Taper 1994). The best fit logistic model estimated an equilibrium (or carrying capacity) of 505 (95% C.I. = 501 - 518, $P < 0.0001$, $R^2 = 0.99$) whereas the best fit Ricker model estimated an equilibrium of 522 (95% C.I. = 295 - 635, $P < 0.0001$, $R^2 = 0.99$). Model selection criteria (Burnham and Anderson 1998) suggested that these 2 models were nearly equivalent given the data. Nonetheless, a Ricker model is probably more useful because of less restrictive assumptions about the shape of the growth curve.

Despite wide use to characterize the growth in a time series of population growth estimates (Lotts et al. 2004) this model fitting approach has recently been criticized in favor of a risk analysis (Population Viability Analysis) that can be generated from the same data (Lotts et al. 2004). Still this exercise demonstrates that the original estimates of 300-800 wolves (depending on the extent to which marginal habitat was used) were reasonable and probably quite accurate.

The goal needs to be compatible with existing information on gray wolf population viability analysis

The wolf advisory committee assessed the viability of the Wisconsin wolf population by reviewing current literature on wolf population viability (Soule 1980, Fritts and Carbyn 1995, Haight et al. 1998) and by conducting an independent analysis tailored to the population biology of Wisconsin wolves (Appendix B, Wisconsin DNR 1999, Wolf Management Plan).

The independent analysis was based on computer simulation of wolf population dynamics using the program VORTEX. VORTEX is a mechanistic individual-based model incorporating stage-specific birth and death rates and stochasticity. Conclusions of this analysis were that a population of 300-500 wolves would have a high probability of persisting for 100 years under most scenarios but that population persistence was susceptible to environmental variation and demographic catastrophes (a severe mange outbreak for example). Simulations for a 300-500 wolf population suggested that under moderate environmental variability and a 5% probability of demographic catastrophe 10-

40% of simulations declined below 80 wolves (threshold for classification as endangered).

The independent analysis in Appendix B is an important and instructive piece of supporting analysis for the wolf management plan. However it was conducted in 1998 when the estimated population size was 178-184 wolves. Additional information on the actual growth of the Wisconsin wolf population (425 in 2005) and the telemetry monitoring since 1998 might be useful for refining or validating the input survival and reproductive parameters used.

That said, highly mechanistic population models like those simulated with the VORTEX suffer from imprecision in their projections and may in fact be biased because of their complexity (Lotts et al. 2004). For instance the description in Appendix M (1999 Wisconsin Wolf Management Plan) suggests that there were at least 14 discrete assumptions made about the values or statistical properties of the input parameters and model structure dictates an additional assumption about how the model inputs relate to one another. Appendix M correctly points out that its population viability analysis should be viewed as a component in an adaptive management process and that correction and updating of predictions should occur as population monitoring provides additional information on the population dynamics of Wisconsin wolves. This point warrants emphasis. Additionally, the lengthening time series of high quality wolf population estimates for Wisconsin will likely support additional modeling approaches (e.g. Lotts et al. 2004) that would serve to validate or identify weaknesses in population viability analysis using a mechanistic approach.

Previous discussion notwithstanding, the population viability analysis done for the Wisconsin Wolf Management Plan (1999) appears to remain valid in the light of the continued growth of the wolf population (see above). And survival analysis of radio collared wolves through 2003 indicated that the input parameters on stage-specific wolf mortality used in Appendix M are reasonable (Van Deelen unpublished).

The population goal needs to be socially tolerated to avoid the development of strong negative attitudes toward wolves.

Determining social carrying capacity is more difficult, because it is hard to put into exact numerical terms. Some recent research and surveys have provided some general suggestions of social carrying capacity or tolerance. In late summer 2004, the Wisconsin DNR, conducted a survey of the state wolf plan to which 1367 people responded (1322 residents of the state, and 45 non-residents). Table 1 lists attitudes toward the state delisting and management goals. Overall, 41 % of the respondents felt the delisting goal was too low, 19% that it was correct, and 40% felt it was too high. Similarly, 39% of respondents felt the management goals was too low, 16% that it was correct, and 45% that it was too high. Among hunters, 57% felt the delisting goals were too high, 64% felt the management goals were too high. On the other hand, among non-hunters, 78% felt the delisting goal was too low, and 74% felt the management goal was too low. When asked about specific numbers for a goal, state residents seemed to prefer 400 or more

wolves, but hunters preferred about 100, and farmers about 150. But among all groups there was a broad range from 0 to 5000 wolves that were considered desirable for the state.

Naughton-Treves et al. (2003) conducted surveys of livestock producers, bear hunters, and northern Wisconsin residents in 2002, when 327 wolves were counted in the state. Bear hunters were the most negative toward wolf numbers in the state and nearly 1/3 felt wolves should be eliminated from the state (Table 2). Livestock producers were more positive, and 55% felt the current population should be maintained or increased. Northern Wisconsin residents who were neither bear hunters nor livestock owners were most positive and 73 % indicated that the current population should be maintained or increased. Most bear hunters wanted the wolf population held to less than 100 wolves, but among farmers, 63% wanted more than 100 wolves. Among the other northern Wisconsin residents, 44% wanted over 250 wolves, and 28 % wanted no cap.

In some more recent research by Naughton-Treves et al. (unpublished report), a survey was done on attitudes of wolves by urban people outside range, rural people outside wolf range, urban people in wolf range, and rural people in wolf range. In general, rural people in wolf range wanted the lowest wolf numbers, while urban people outside wolf range wanted the highest numbers (Table 3). But the average value for rural people in wolf range indicated that most would still accept between 350 and 500 wolves. People outside of wolf range mostly wanted over 500 wolves in the state.

In 2003, Kevin Schanning, Sigurd Olson Environmental Institute of Northland College conducted a study to assess the attitudes, opinions, and concerns of Wisconsin residents regarding the state's wolf population. The study design utilized a random sampling methodology, which included some degree of over-sampling of residents who lived in counties known to be inhabited by wolves. Overall, 647 respondents returned the surveys, yielding a margin of error of plus or minus 4%.

One section of the survey asks respondents about their degree of participation in a wide variety of outdoor activities from berry picking, to ATV riding, to hunting; 16 activities in all. Respondents were asked the degree to which the presence of wolves would affect their participation in such activities. The vast majority of respondents indicated that the presence of wolves would not affect their level of participation in these activities. For example, 88% of the respondents who deer hunted indicated that their level of participation would not change with the presence of wolves. Overall, the percentage of respondents indicating that their activities would not change ranged from a high of 90% for canoeing to a low of 77% for running. Additionally, for each activity listed approximately 3 % of respondents reported that their level of participation in that activity would increase if they knew wolves were present in the area in which they were participating in that activity. These findings suggest that social tolerance of wolves in Wisconsin is high.

Respondents were also asked to respond to the question of whether they thought Wisconsin currently had too few wolves, too many wolves, or the correct amount of

wolves. Findings from this question are: 51% indicated that there are currently the right amount of wolves, 31% indicate that there are not enough wolves, and only 18% stated that there are too many wolves in the state. In 2003 the DNR estimated the wolf population to be between 335-353 animals. Consequently, it would seem that vast majority of respondents felt that the current population of wolves was acceptable.

No attitude surveys on wolves have been conducted with Native Americans in Wisconsin. Future surveys should attempt to determine attitudes toward wolf management by Ojibwa, Menominee, Pottawatomie, Ho-Chunk, Stockbridge, and Oneida people in Wisconsin.

The sampling for these surveys were done somewhat differently. The surveys by Naughton-Treves and Schanning were stratified random samplings, while the DNR survey was available for anyone interested in wolf management in the state. But the 4 surveys do yield some similar results. In general it does appear that goals set in the plan seem to fall about mid-way within the range of population goals expressed by people; although at least one member of the DNR Wolf Science committee felt social surveys did not provide justification to keep the wolf population below the potential biological carrying capacity. Hunters, farmers, and rural landowners in wolf range, were mostly interested in lower wolf numbers. Bear hunters were least tolerant of wolves, and will be a difficult group to satisfy as to wolf population management. For most other groups, the DNR wolf population goals seem fairly reasonable.

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Table 1. Population Goals from Wisconsin Wolf Management Questionnaire

<u>Question/group</u>	<u>Much too low</u>	<u>Somewhat low</u>	<u>About right</u>	<u>Somewhat high</u>	<u>Too high</u>
Delisting at 250					
Hunters	8%	13%	22%	18%	39%
Non-hunters	43%	35%	12%	4%	6%
All	20%	21%	19%	13%	27%
Manage at 350					
Hunters	7%	13%	16%	17%	47%
Non-hunters	39%	35%	16%	3%	7%
All	18%	21%	16%	12%	33%
<u>Recommended Goal</u>	<u>Mean</u>	<u>Median</u>	<u>Range</u>		
State Resident	483 wolves	400 wolves	0 -5000 wolves		
Non Resident	455 wolves	400 wolves	300-1000 wolves		
Hunter (Resident)	185 wolves	100 wolves	0 -3500 wolves		
Farmer (Resident)	252 wolves	150 wolves	0 -3500 wolves		

Table 2 . Wolf Population Goals from Naughton-Treves et al. 2003.

Question	Bear Hunter	Livestock Producer	N. Wis. Gen. Resident	All
Wolf population Should be.....?				
Eliminated	32%	12%	6%	16%
Reduced	48%	31%	20%	32%
Maintained at current level	16%	43%	50%	37%
Increased	4%	14%	23%	14%
Wolf population should be under				
<100	72%	37%	28%	45%
<250	16%	36%	28%	25%
<350	4%	6%	9%	6%
<500	3%	7%	7%	6%
no cap	6%	14%	28%	10%

Table 3. Wolf Population Goals, Naughton-Treves and Treves (unpubl. Data)

Groups\ Wolf Number	1 <250 wolves	2 <350 wolves	3 <500 wolves	4 <1000 wolves	5 No cap
Urban, No Wolf (n=431)			3.47		
Rural, No Wolf (n=216)			3.27		
Urban, Wolf Area (n=206)		2.87			
Rural, Wolf Area (n=493)		2.27			

C. Wolf Health Monitoring

Health monitoring is necessary to assess impact of diseases and parasites on the wolf population. Additionally, comparisons of the health and diseases of culled depredators and investigation of the role of wolves in the ecology of diseases of zoonotic or livestock importance will assist in management of the growing wolf population. Health monitoring includes collection and analysis of biological samples from live-captured wolves, analysis of wolf scats, and necropsies of dead wolves found in the field. While federally listed as endangered/threatened, biological samples of live captured wolves and analysis of scats will be conducted by WDNR, and wolf necropsies will be conducted by the USGS-National Wildlife Health Center and the WDNR. When federal delisting occurs, all health monitoring will be the responsibility of WDNR.

Intensive health monitoring will continue while wolves are listed as a state endangered or threatened species. Live-captured wolves will be tested for diseases, physiological condition and parasites. Ideally about 10% of a population of 100 wolves should be examined, but as the population continues to increase, the percentage of the population live-captured will decline. In recent years 20 to 40 wolves were captured annually. Wolf scats will be collected to monitor for infectious diseases and parasites. Dead wolves will be necropsied to determine cause of death, physical condition and disease status. Additionally, tissues will be archived for future disease and genetic investigations.

Following state delisting, live-trapping will continue, but the percentage of the population captured each year will decline. WDNR will continue to examine dead wolves. Special research studies may occasionally be conducted on wolves and these should include health monitoring. Wolf health monitoring should continue to be part of the capture protocol of studies of wild wolves in Wisconsin, and should be coordinated with WDNR Wildlife Health Team.

D. Habitat Management

1. Potential and Suitable Habitat.

In the 1999 Wisconsin Wolf Plan, it was estimated that about 5812 mi.² of favorable wolf habitat existed in Wisconsin based on research by Mladenoff et al. 1995 and 1997. Favorable habitat was considered areas with road densities of 0.7 mi./ mi.² or less, and also were mostly forest, had low density of humans, lacked urban areas, and included little or no farm land. Areas with road densities of 0.7 -1.0 mi./ mi.² were considered secondary wolf habitat and covered 5015 mi./mi.². Mladenoff et al. (1999), and Wydeven et al. (2001), indicated that road density continued to be a useful indicator of preferred wolf habitat. Mladenoff et al. (2005) examined distribution of Wisconsin wolf packs through 2003, and found that in recent years packs have begun to occupy areas in higher road densities than seemed unsuitable during earlier portions of the colonization.

In 2005, areas occupied by territorial wolves covered 6373 mi.², or about 10% higher than the original predicted favorable habitat. Occupied areas included 5557 mi² in Zone 1, 346 mi² in Zone 2, and 250 mi² in Zone 3. Wolves in northwest and north-central Wisconsin in 2005 appeared to occupy all the areas of primary (favorable) and secondary habitat, and appeared to be spreading into areas previously considered unsuitable habitat. Wolf packs did continue to occur mainly in areas of extensive forest cover or other wildlands (barrens, marsh, bog, forest openings, wild grasslands and brushlands). In northeast Wisconsin wolves had not completely occupied primary and secondary habitat, packs continued to be rather scattered, and only one pack (Dunbar in Marinette and Florence Counties) had any substantial pup survival. Wolf packs in the Central Forest (Zone 2) seemed to occupy all the areas of primary and secondary habitat. A few area of Zone 3 were also occupied by territorial wolves and included Fort McCoy, Burnett/Polk/Barron Counties, south-central Rusk County, Mead Wildlife Area, Dewey Marsh Wildlife Area, west Shawano County, west Oconto County, and southeast Marinette County. Zone 3 contained 6 packs but they consisted only of 2 to 4 wolves. In Zone 3, half the packs were involved in depredation on livestock, compared to <10% annually of packs from the rest of the state (Wydeven et al . 2004). As wolves move into areas considered more marginal habitat, level of depredation on livestock is likely to increase (Treves et al. 2002, Treves et al.2004).

2. Access Management

With recent growth and expansion of the wolf population, access management seems to be less of an issue in wolf management. Although there probably is little justification to reduce road densities on public forest lands for wolves, it would be prudent to maintain areas of low road density for wolves and other wildlife sensitive to human disturbance. These areas of low road density were the first places settled by wolves and probably serve as core habitat for source populations. With future fluctuations in wolf population these core area may be important for maintaining viable populations, and population persistence. Development, especially rural housing continue to increase and expand

across northern Wisconsin, causing further fragmentation and reduction of forest habitat (Radeloff et al. 2005). Also with eventual federal delisting, greater pressure will be placed on wolves in marginal areas, causing these core areas of low road densities to become that much more important in maintaining viable wolf numbers.

In recent years use of All Terrain Vehicles (ATVs) has drastically expanded across much of Wisconsin. This increase has occurred at the same time the wolf population has also expanded, suggesting that current levels of ATV use have had little impact on wolf populations. But changes in attitudes toward wolves, reduction of large blocks of forests, increase human populations and recreational activities, may change these dynamics. Impact of ATV use on forest wildlife, especially low density, sensitive species such as wolves and bobcats, as well as impact on forest ecosystems, should continue to be an important aspect of forest management. Access management and off-road management should occur on all major areas of public forest lands.

3. Vegetation Management

In recent years wolves have had little problem finding adequate prey of deer and beaver across northern and central Wisconsin. It appears that current composition of early succession, mature, and older forest seem to adequately provide prey for wolves. In the future, early succession types such as aspen and jack pine will continue to decline. Although minor declines in these habitats are not likely to greatly affect wolves, major declines would reduce abundance of wolves and may reduce or eliminate some areas as wolf habitat. The new plan for the Chequamegon-Nicolet National Forest (2004) seems to maintain reasonable areas of early succession forest to maintain wolf numbers. The national forest provide some of the best potential for maintaining large blocks of mature forests, and it should serve this role, but adequate areas of young forest also need to be maintained. County Forests are developing 10 - 15 years comprehensive management plans in 2005, and maintaining areas of early succession will be part of most county forest plans. Through state forest master plans it is expected early successional forests will be a continued important component of these properties.

4. Habitat Linkage and Corridors.

It continues to be unclear how wolves disperse across large landscape areas. It is generally assumed wolves use forested parcels, forested riverways, and areas of low road densities, but detailed assessment of habitat used by dispersing wolves have not been made. Research on Highway 53 in northwest Wisconsin did not indicate any major impact of highway development on wolf population expansion or mortality (Kohn et al.2000). Impact of highway development was minimized because highway alignments mostly followed existing roadways, and mitigation measures were used along the highway (Kohn et al.2000). Although some dispersing wolves have done extensive crossings of roads and highways (Merrill and Mech 2000), vehicle collisions continue to be a major mortality factor for wolves in central and southern Wisconsin. Wolves have been killed on many of the major interstate and four-lane highways in the state including I39/U.S. 51, I94, U.S. 53, and State 29.

In Wisconsin wolves have been killed on roadways in Zone 4 counties including Brown, Columbia, Dane, Jefferson, Outagamie, Sauk, and Waukesha Counties. Additionally a yearling male from Jackson County, Wisconsin was found dead in eastern Indiana, 420 miles away, and a 2-year old male from Gogebic County, Michigan/ Iron County, Wisconsin was killed in north-central Missouri about 460 miles away. These extensive movements suggest that some form of dispersal habitat exist along the way. Unfortunately, most were killed by vehicles, suggesting that roadways may still limit movements of dispersers. Several were found near riverways as well, suggesting that these may be important components of dispersal habitat. Maintaining forest cover throughout the state, especially along riverways, seems to still be of value to enable wolves and other long-distant dispersing mammals to travel between habitat patches in Wisconsin and the Midwest.

Kerry Martin with University of Wisconsin- Madison, is researching habitat of dispersing wolves in Wisconsin, and hopefully will be able to give updated guidelines for conservation of wolf corridor or dispersal habitat.

5. Den and Rendezvous Site Management

Within areas of suitable wolf habitat in Zones 1 and 2, protection of den sites continues to be a useful strategy for conserving wolf habitat. Den sites generally occur in the most remote portions of wolf territories (Unger et al. 2005). Although at times wolves can tolerate some disturbance at den sites (Thiel et al 1998), but it may just be in very special circumstances where disturbance will be tolerated at dens. It is not clear as to how such disturbance will affect long term viability of packs. Plus the long-term affects of additional developments in forest areas may reduce potential areas of suitable den site. Therefore protections listed in the 1999 wolf plan should be continued.

It is less clear whether protection of rendezvous sites are still necessary across much of northern Wisconsin. In northwest, north-central, and Central Forest portions of Wisconsin protection of rendezvous sites are probably not necessary. In northeast Wisconsin where few packs are able to successfully raise pups, protection of rendezvous sites may continue to have benefits. Once wolf packs are well established within an area, as long as road densities are maintained at low levels, and sound ecological management is conducted on the forests, rendezvous site protection may not be necessary. In suitable areas where colonization is just beginning or wolf pup survival is extremely poor, protection of rendezvous sites may be appropriate.

6. The Role of Wilderness

As with the 1999 wolf management plan, wilderness areas are not necessary to manage for wolves in Wisconsin. Wilderness area are used by wolves, but as long as sound ecological management is used on forests, wilderness areas are not necessary to maintain a viable population of wolves in the state.

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E. Wolf Depredation Management

{ Details of impact of wolf depredation in Wisconsin are discussed in the “Final Environmental Assessment for management of wolf conflict and depredation of wolves in Wisconsin” (USDA-APHIS 2006). Information on effects of wolves and other predators on farms, beyond verified depredations, are found in the review by Lehmkuhler et al. (2007). }

[\http://www.fws.gov/midwest/wolf/depredation/WiPermitEA.htm\](http://www.fws.gov/midwest/wolf/depredation/WiPermitEA.htm)

Wolf depredation management is one of the most sensitive segments of this Wolf Management Plan. WDNR is charged with protecting and maintaining a viable population of wolves in the state, but also must protect the interests of people who suffer losses due to wolf depredation.

Wolves occasionally kill livestock, poultry, and pets. Although wolf depredation is not anticipated to impact a significant portion of the livestock growers, poultry producers, and pet owners, it can bring hardship to individuals. Minnesota currently has about 3,000 wolves but fewer than 1% of the farms in wolf range experience wolf depredation problems.

WDNR paid \$469,430.88 in wolf damage compensation claims for 270 calves, 13 cows killed and 4 cows injured, 74 sheep, 6 horses, 44 deer (Game Farm), 148 turkeys, 114 chickens and 95 dogs killed and 32 dogs injured between 1985 through 2005. (See [Appendix A1.](#)) Depredation on dogs represented 39 % of reimbursement payments and deer represented 18% of reimbursements provided by WDNR. In the 1990s an average of 2.8 farms suffered wolf depredation annually (range 0 -8), but from 2000 -2005 an average of 14.0 farms annually suffered depredations, and grew to 25 farms with depredations in 2005.

Reclassifying wolves from federally and state endangered to threatened status will provide an option to euthanizing depredating wolves. Under threatened status only government agents would euthanize wolves. Once wolves are delisted, permits may be issued by WDNR to enable private landowners to take depredating wolves. Public comments in autumn 1996 revealed concerns about killing wolves, particularly through public harvests. Other comments strongly supported public harvest. Most who supported euthanizing depredating wolves felt this should only be done by government professionals. Many urged educational programs and preventive efforts by livestock producers to minimize depredation losses. There was strong support for continued damage compensation programs.

1. Depredation Management Plan.

The objectives of the wolf depredation management program are to address wolf depredation problems by investigating reported wolf complaints, accurately verifying wolf depredations, providing damage compensation in accordance with administrative code, and conducting depredation management actions to abate or prevent damage. Depending on circumstances management actions may include providing non-lethal

abatement measures and recommendations, and lethal removal of wolves by WDNR or its agents.

2. Verification Procedures

Verification of reported wolf depredations is a critical step in the process of managing depredation problems. A reported wolf complaint must be verified as a confirmed or a probable wolf depredation before any damage abatement or compensation can be provided. Previous experience has shown that many reported wolf complaints turn out to be non-wolf problems upon investigation. Also, many reported complaints cannot be verified due to lack of evidence. Prompt response by government personnel trained in depredation investigation techniques is important in order to determine the validity of a reported complaint.

Wolf depredation investigations will be conducted by USDA-APHIS-Wildlife Services (WS) personnel under a cooperative agreement between WDNR and WS. Wildlife Services will maintain toll-free telephone lines to facilitate the reporting of wolf complaints. The public will be encouraged to report complaints directly to WS by use of the toll-free line. Upon receipt by WDNR of a reported wolf depredation complaint, WDNR personnel will refer the complainant to WS and provide the appropriate WS toll-free telephone number.

Upon receiving a wolf complaint, WS will contact the complainant by phone within 24 hours. If after a telephone consultation WS determines that a field investigation is warranted, WS will make an onsite inspection within 48 hours of the telephone consultation. An investigation into a reported wolf complaint may include the onsite inspection, as well other components such as interviews with complainant and adjacent landowners, veterinarians, and wolf pack location data.

After the investigation is completed, USDA-WS will classify the complaint under one of the following categories:

2.1. **Confirmed Depredation.** Clear evidence that wolves were responsible for the depredation, which may include, but is not limited to, evidence from a carcass, such as tooth punctures and associated hemorrhaging, broken bones, wolf-like feeding patterns, as well as wolf tracks in the immediate vicinity or other wolf sign.

2.2. **Probable Depredation.** Carcass missing or inconclusive but presence of good evidence which may include, but is not limited to; a characteristic kill site, blood trails, wolf tracks and scat in the immediate vicinity, as well as known presence of wolves, and/or a history of wolf depredations in the area.

2.3. **Confirmed Non-Wolf Depredation.** Clear evidence that the depredation was caused by another species, such as coyotes, black bear, bobcat, domestic dogs or wolf-dog hybrids. Wolf-dog hybrids and wolves that appear to have been raised in captivity will be treated as domestic animals.

2.4. Unconfirmed Loss. Any depredation or livestock loss that does not meet the above criteria.

The first two categories, "Confirmed" and "Probable" are the only ones that will warrant further action under this plan. If a reported complaint is determined by USDA-WS to be "Confirmed Non-Wolf Depredation" or "Unconfirmed Depredation", no further action will be taken except that the incident will be recorded and, if the depredation is determined to be caused by wild animals other than wolves, USDA-WS will provide the appropriate assistance. Appropriate assistance depends on the species involved and may include providing technical or operational assistance, or referral of the complaint to WDNR.

3. Control Response Options

Five control response options are available to resolve confirmed or probable depredations. (Table 3a and 3b) The depredation management program will use a combination of these options in an integrated approach to wolf depredation management as appropriate depending upon the individual situation. These include:

1. Technical assistance to help prevent/minimize problems.
2. Compensation for losses by wolves in accordance with administrative rules.
3. Live-trapping and translocation of wolves causing problems.
4. Trapping and euthanizing, or shooting of problem wolves by government agents.
5. Landowners /occupants will not be allowed to kill depredating wolves in accordance with ESA 4(d) rules while Federally threatened or endangered, but may do so by WDNR permit after Federal delisting has occurred. They would also be allowed to shoot wolves attacking pets or livestock on their land.

Possible Depredation Control Activity	Zone 1	Zone 2	Zone 3	Zone 4
Technical Assistance and Compensation	allowed	allowed	allowed	allowed
Translocation of Wolves	allowed	allowed	allowed	not allowed
Euthanize Wolves (Government Agents Only)	Allowed within 1 mi.			
Private Landowner Control ¹	Not allowed	Not allowed	Not allowed	Not allowed

Possible Depredation Control Activity	Zone 1	Zone 2	Zone 3	Zone 4
Technical Assistance and Compensation	allowed	allowed	allowed	allowed
Translocation of Wolves	allowed	allowed	allowed	not allowed
Euthanize Wolves (Government Agents Only)	Allowed within 1 mi.	Allowed within 1 mi.	Allowed within 5 mi.	Allowed no distance limit
Private Landowner Control	allowed	allowed	allowed	allowed
Intensive Control Management Zones	To be determined	To be determined	To be determined	To be determined
Public Harvest	To be determined	To be determined	To be determined	To be determined

4. Implementation of Options

TECHNICAL ASSISTANCE: Technical assistance will be provided in all Wolf Zones. This may include advice and recommendations on methods or activities that may reduce the likelihood of conflicts with wolves, such as removing carcass dumps. Technical assistance may also include the loaning or sale to a landowner abatement materials such as flashing lights, sirens, temporary fencing, and fladry. These methods are generally short term measures, and their effectiveness varies widely. The use of aversive conditioning or other experimental non-lethal methods will be in accordance with “Guidelines for Conducting Depredation Control” (Appendix L).

COMPENSATION: Compensation will be provided in all Wolf Zones for verified and probable losses of domestic animals to wolves (Wisconsin Administrative Code, subchapter III). Additionally, farmers can be eligible for compensation of missing calves according to the criteria established in NR 12.54, depredation reimbursement procedures (2)(c). The present compensation program is funded through Endangered Resources revenues, and will continue to fund wolf depredations until wolves are designated as game or furbearer species. The WDNR is seeking additional sources for funding the compensation program after delisting. USDA-WS will provide a reimbursement form and instructions to complainants who have suffered a confirmed or probable losses caused by wolves. The Mammalian Ecologist will verify the validity and accuracy of the reimbursement claim based on the USDA-WS investigation, and forward to the Madison Office of the WDNR for approval. The Madison Office will respond to a claimant within

14 days either affirming the claim, and initiating processing or seeking additional justification for the claim. Farmers must follow any technical assistance recommendations to remain eligible for compensation payments.

TRANSLOCATION: Depredating wolves may be translocated from Zones 1, 2 and 3. The trapping and translocation of wolves as a depredation management tool will generally be limited as few suitable release sites exist. Local relocations may be used when wolves are captured next to Indian reservations or large blocks of public forest land, if affective aversions can be used to keep wolves off sites where depredations have occurred. Translocation may be effective in some limited situations, but success will vary depending on the trapping history of a problem wolf, and long-distant translocations would generally not be used if the wolf population is above its goal (> 350 wolves outside of Indian reservations). Translocations will be conducted in accordance with “Guidelines for Conducting Depredation Control”.

LETHAL REMOVAL: When appropriate wolves may be lethally removed in order to manage depredation incidents. Wolves may be trapped by USDA-WS and euthanized, or shot. While wolves are listed as federally endangered or threatened, lethal controls would be restricted to ½ mile or 1 mile from depredation sites, depending on 4d rule designation or authority issued through special permits from the US Fish and Wildlife Service. Once wolves are delisted by the federal government, lethal controls by USDA-WS or DNR will be authorized up to 1 mile from depredation sites in Zones 1 and 2, to 5 miles in Zone 3, and no distance restrictions in Zone 4. Any lethal removal of wolves will be in accordance with the latest version of the “Guidelines for Conducting Depredation Control”.

PRIVATE LANDOWNER CONTROL: Will not be allowed while wolves are federally listed as threatened or endangered. Once wolves are delisted by the federal government, landowners and lessees of land would be allowed to kill a wolf, “in the act of killing, wounding, or biting a domestic animal” with requirements that a conservation warden be contacted within 24 hours (Wisconsin Administrative Rule, NR 10.02 (1) (b)). Landowners/lessees would also be allowed to obtain permits from DNR to control a limited number of wolves during specific time periods on land they owned or leased if they had suffered from wolf depredation.

INTENSIVE CONTROL MANAGEMENT SUB-ZONES: To be determined.

PUBLIC HARVEST: To be determined.

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K. Wolf Research Needs:

Additional research needs that have been identified since the 1999 plan include the following:

- Continued health monitoring to document significant disease events that may impact the wolf population and to identify new diseases in the population (Modify from, "Continued health monitoring to identify factors causing low pup mortality.....").
- Investigation of the role of sarcoptic mange in wolf population dynamics, including spatial and temporal differences and trends in this disease.
- Comparison of health parameters between wolves involved in livestock depredation and other wolf packs to determine whether disease plays a role in depredation behaviors.
- Investigation of the role wolves play in the ecology of important zoonotic and livestock diseases, such as human ehrlichiosis and bovine neosporosis.
- Conduct social survey of in northeast Wisconsin to determine attitudes and possible factors hindering public acceptance and poor establishment of wolves.
- Conduct a survey similar to Nelson & Franson 1988 on attitudes of landowners and farmers in northern Wisconsin toward wolves.
- Examine impact of ATVs and other recreation activities on wolves.
- Conduct economical analysis of the costs and benefits of a wolf population in northern and central Wisconsin.
- Update habitat analysis of wolf habitat in Wisconsin (Mladenoff et al. 1995, 1997, 1999), and project future declines in wolf habitat due to housing and road development across north and central Wisconsin.
- Examine canid spacing in relationship to depredation management by wolves, bears, coyotes, and domestic dogs.
- Examine the degree and impact of dog gene introgression into the Wisconsin wolf population.
- Continue to examine impact of wolves on elk, and on elk movements and dispersion on the landscape.
- Examine ecosystem impacts of wolves on the landscape by effects on abundance, distribution on habitat use of deer, beaver, and mesocarnivores.
- Update examination of wolf population viability with updated population information.
- Assess changes in mortality and survival of adult wolves with changes in status and application of new control programs.
- Determine productivity, mortality factors, and survival rates of pups, and examine factors that contribute to greater productivity and survival.

- Examine non-predation impacts of wolves and other predators on farms including negative and potential positive impact, economical and social. (Lehmkuhler et al. 2007).

Literature cited:

Lehmkuhler, J., G. Palmquist, D. Ruid, B. Willging, and A. Wydeven. 2007. Effects of wolves and other predators on farms in Wisconsin: beyond verified losses. Wisconsin Wolf Science Committee, Wisconsin Department of Natural Resources, Madison, Wisconsin 15 pp.
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M. Wolf Specimen Management

To date wolf carcasses found in the wild have had necropsy evaluations to determine cause of death and health status. While wolves were listed as endangered, the DNR policy was to have all wolf carcasses studied by the National Wildlife Health Center in Madison, Wisconsin. Eventually they became specimens at research institutions, with most wolf specimens deposited at the University of Wisconsin - Zoology Museum in Madison. With reclassification and eventual delisting, the management of wolf specimens will be modified. The Wisconsin Wolf Advisory Committee developed guidelines for managing wolf specimens under threatened and delisted classification.

1. Wolf Specimen Management – Threatened

With reclassification to threatened, research, population monitoring and health evaluations of dead wolves found in the wild will remain the top priority. Additional wolf carcasses will be made available as euthanasia of depredating wolves become possible, and accidental mortality caused by vehicle collisions increases. Carcasses of collared wolves from the DNR Wolf Monitoring Program will be necropsied by the National Wildlife Health Center, and specimens will be turned over to interested researchers, when there is an identified need for such specimens. If specimens remain available after research needs have been met, the second priority for use of wolf carcasses would be for education purposes and Native American cultural and religious purposes. Such carcasses can be made available to tribal governments, nature centers, state parks, wolf education organizations, WDNR and other agency offices. Carcasses would not be available for private ownership.

Wolves found dead in the field should be collected by wildlife biologists, wildlife technicians or conservation wardens and placed in WDNR freezers until arrangements can be made to ship the carcasses to Madison. Any wolves euthanized by USDA-Wildlife Service will also be turned over to WDNR. All carcasses should be tagged, and labeled with all pertinent information kept with each carcass. The WDNR wolf program manager should be notified of all wolf carcasses found. The wolf program manager will coordinate shipment, necropsies, and eventual designation of specimens. The wolf program manager will keep lists of organizations interested in receiving carcasses, and

will coordinate distribution of carcasses. Any wolf suspected of being killed illegally will be held for conservation wardens until legal investigation and prosecution are completed.

2. Wolf Specimen Management - Delisted

When wolves are no longer listed as threatened or endangered in Wisconsin, management of wolf carcasses can be broadened. Wolf carcasses would be available from depredation control activities, natural mortality, illegal kills, and accidents.

Research will continue to be an important priority, but will require a research proposal identifying needs and anticipated results, and such proposals would need WDNR and/or tribal approval. A portion of carcasses collected each year may be requested by WDNR-Wildlife Health Team to evaluate health status. Following research and health monitoring, wolf education and Native American cultural use would be the next priority for ownership of wolf carcasses. Skins and skulls would be made available for Native American tribal governments, schools, nature centers, state parks, WDNR and other agency offices, tribal centers, and wolf education organizations. Wolf specimens could be turned over to private individuals if specimens are not needed for above purposes. No carcasses should be provided to landowners conducting control on their land, or to persons involved in accidental killing of wolves. Dead canids suspected of being wolf-dog hybrids, but which appear to be mostly wolf, should be treated as wolves for the purpose of wolf specimen management.

Eventually regional wildlife supervisors will coordinate wolf specimen management in each WDNR region. The wildlife supervisors will maintain lists of organizations and individuals interested in receiving specimens, and will determine disposition of carcasses. Annual reports will be submitted to WDNR Endangered Resources or Wildlife Management on carcasses collected and handled in each region, including biological information and final disposition of carcasses. Currently while wolves continue to be listed as federally endangered or threatened, wolf specimen designations will be coordinated through Endangered Resources central office, in Madison.

VI. WOLF MANAGEMENT BUDGET

The budget costs of the wolf program have grown extensively since the start of the recovery/management program in 1979-1980, and grew at higher rates than anticipated in

the 1999 wolf plan (Table 4). In the period 2000-2005, annual costs for wolf management ranged between \$218,000 to \$309,000. The 1999 plan had expected management cost to grow from \$130,000 in FY 99-00 to \$209,000 in FY 04-05. The actual costs were about 50% higher. Some of the cost increase reflect major increase in airplane flights raising costs to fly and locate all collared wolves across the state from about \$300 to about \$1000. Additional costs were also incurred by more DNR personnel spending time on wolf related issues, and the growth and spread of wolf population.

The source of funds for the wolf management program had been from 77% federal funds and 23% state funds in the 1990s, but in recent years the proportions of state funds have increased. Federal funds had included grants from U.S. Endangered Species Act, Pittman-Robertson Wildlife Restoration Act, and U.S Forest Service funds. State funds were mainly from the Endangered Resources Tax Check-Off, and Endangered Resources License Plate. Private funding came from Timber Wolf Alliance, Defenders of Wildlife, National Wildlife Federation, Milwaukee Zoo, Timber Wolf Information Network, and donations from private citizens. U.S. Endangered Species grant money declined in the 2000s. Recently additional Pittman-Robertson funds were found to cover more of wolf management costs. The wolf program was not successful in obtaining any funding through the new State Wildlife Grants program. It is expect that wolf management costs in the near future will continue to be in the range of \$250,000 to \$300,000, and efforts will continue to try to find additional funding for the program and depredation payments.

Cost of depredation reimbursement was higher than anticipated. The 1999 plan had assumed annual depredation reimbursements cost of \$20,000 to \$40,000, but in recent years costs have ranged from \$23,000 to \$77,000. Higher costs have occurred in part due to higher rates of depredation due to lack controls because federal delisting had not occurred as had been expected. Also DNR had started paying for some missing livestock, that were previously not considered for reimbursement payments. Cattle prices also improved in recent years which in turn increased reimbursements provided for wolf losses. Funding for depredation reimbursement when 3 % of Endangered Resources License plates funds were added to the 3 % of Endangered Resources Tax Check-Off, which doubled the wolf/endangered resources depredation payments account to about \$34,000 annually. During years when this amount had been exceeded, other portions of the Endangered Resources funds (Check-Off & License plate) were made available for wolf payments at the cost of other Endangered Resources programs. Donations to these funds have declined in recent years, thus the impact on other Endangered Resources has been magnified. Availability of the new federal State Wildlife Grants program have offset some of these losses to other Endangered Resources. One area where WDNR cost have declined was the funding for USDA-Wildlife Service, which at the time of the plan was funded mainly by WDNR at cost of up to \$30,000 annually. Since the early 2000s, USDA-WS has been able to secure separate federal appropriations from the Department of Agriculture, so that DNR no longer needed to fund out of state money

Table 4. Wisconsin Gray Wolf Program Expenditures by WDNR Fiscal Year (FY)

Year	State or Donated	Federal	Total Management Expenditures	Depredation Payment
1979-80	5,000	15,000	20,000.00	—
1980-81	5,425	16,275	21,700.00	—
1981-82	7,734	35,000	42,734.00	—
1982-83	13,013.44	35,200	48,213.44	—
1983-84	27,905.18	51,440	79,345.18	—
1984-85	11,804.38	28,125	39,929.38	200.00
1985-86	23,625.24	60,600	84,225.24	0.00
1986-87	44,128.80	56,305	100,433.80	2,500.00
1987-88	14,864.00	62,592	77,456.00	0.00
1988-89	23,887.60	18,069	41,956.60	400.00
1989-90	20,410.94	48,319.47	68,730.41	2,500.00
1990-91	15,508.40	95,198.40	110,706.80	187.55
1991-92	25,768.83	67,442.88	93,211.71	1,535.00
1992-93	38,650.75	58,893.00	97,543.75	1,600.00
1993-94	19,005.61	68,893.00	87,898.61	6,125.00
1994-95	19,404.31	91,264.75	110,669.06	1,800.00
1995-96	30,818.99	112,118.50	142,937.49	4,163.12
1996-97	29,908.92	120,450.21	150,359.13	7,465.45
1997-98	31,283.68	98,038.62	129,322.30	16,081.97
1998-99	40,358.72	160,506.58	200,865.30	19,787.19
1999-00	48,423.15	210,251.08	258,674.23	71,450.47
2000-01	43,059.61	209,117.83	252,177.44	22,808.20
2001-02	54,637.44	219,124.67	273,762.11	60,940.20
2002-03	46,888.69	170,997.18	217,885.87	54,585.37
2003-04	172,861.62	136,213.19	309,074.81	67,715.43
2004-05	195,746.86	153,224.97	348,971.83	76,867.32

APPENDIX A-2

Wolf Depredation in Wisconsin through 2005.

By Adrian P. Wydeven, Robert C. Willging, David Ruid and Randle L. Jurewicz

Although wolf depredations on domestic animals were relatively rare events in Wisconsin prior to the mid 1990s, by the late 1990s depredations had become a fairly regular activity (Treves et al. 2002). Rates of depredation on livestock in Wisconsin by the early 2000s were similar to the rates in Minnesota in the early 1980s (Fritts et al. 1992).

Between 1985 and 2005, the Wisconsin DNR paid \$469,430.88 for 270 calves, 13 cows, 74 sheep, 44 deer (deer farm), 6 horses (5 foals), 114 chickens, 148 turkeys, 83 hunting hounds, 12 pet dogs, 4 injured cows and 32 injured dogs. These reimbursements included \$184,226.42 for dogs, \$197,181.56 for livestock, \$82,850.00 for deer, and \$5172.90 for poultry. Most of these payments were for verified depredations (confirmed or probable), but some payments were also made for missing livestock when wolves were believed responsible for some of the losses.

Table A-3 summarizes wolf depredations losses and wolf controls in Wisconsin between 1976 through 2005. Total verified wolf depredations included 5 horses killed, 1 horse injured, 50 sheep killed, 184 cattle killed, 7 cattle injured, 38 deer killed, 264 poultry killed, 99 dogs killed and 30 dogs injured. A fairly strong relationship was found between wolf population level and number of cattle killed ($r^2 = 0.66$, $P < 0.01$), dog kills ($r^2 = 59$, $P < 0.01$), and farms with depredation ($r^2 = 0.75$, $P < 0.01$) between 1989 and 2003 (Wydeven et al. 2004a). Numbers of farms with depredations on domestic animals averaged 2.8 farms annually in the 1990s, but increased to mean of 14.0 farms annually between 2000 and 2005. By 2005, the number of farms with depredation had grown to 25, and between 2001 and 2005, 54 farms had at least 1 verified livestock depredation

Prior to 2005, all depredations on livestock and poultry occurred in northern Wisconsin (Zone 1 and northern portions of Zone 3). In 2005 a farm in the Central Forest (Zone 2) lost two calves, the first livestock depredation for that region. Total farms for 16 counties with wolf packs (2002) in northern Wisconsin was 6445 farms (USDA, NASS, 2002 Census of Agriculture Profile), thus the 53 farms with wolf depredation represent about 0.8 % of farms in the region. Although this would suggest that total farms with wolf depredation are relatively low, not all the farms had livestock available, and most farms were outside of wolf range. Thus a small number of farms received most of the wolf depredation losses.

Between 1991 through 2005, 118 wolves were trapped or shot at depredation sites by USDA Wildlife Services or WDNR, and 74 were euthanized. Prior to 2003 only one wolf was euthanized by special permit. From 1991-2002 a total of 32 wolves were translocated long distances (52 to 277 km) away, 3 were released locally (<10 km), 2 died in captivity and 1 was euthanized. Since 2003 federal authority has allowed taking of depredating wolves (threatened status 4d rule in 2003 & 2004, and special permit in 2005), and most captured wolves were euthanized (70 wolves, 90% of captures). Pups

captured prior to August 1 were released near capture sites. At least 3 of the wolves translocated at long distances, depredated on livestock in new locations, and a female wolf that had attacked farm deer, attacked dogs at a new location.

Generally only a few packs were found to depredate on domestic animals. Through 2000, 68% of packs detected in the state caused no depredation to domestic animal (Treves et al. 2002). Between 1995 and 2002, annually 7% of packs depredated on livestock, 10% depredated on dogs, and only about 2 % of packs attacked both dogs and livestock (Wydeven et al. 2004). Generally packs attacking livestock occurred near the edge of the northern forest near agricultural land. Packs in the core of wolf range in large blocks of public forest land, rarely were involved in livestock depredation. Thus control actions of trapping and euthanizing depredating wolves is not likely to affect most of the wolf population. If wolves in the future were able to colonize areas outside the large forest blocks in northern and central Wisconsin, wolf depredation levels would likely increase (Treves et al. 2004). Control trapping will need to continue to address depredation problems and reduce colonization of wolves into agricultural areas.

Packs depredating on dogs are more difficult to predict. Dog depredations are generally scattered across wolf range. Generally packs that attack dogs are the larger packs on the landscape, and there apparently is learning involved because 2/3 of packs killing dogs will likely do so again the following year (Wydeven et al. 2004b). Control trapping has not been used on packs killing hunting dogs on public land, and will not likely be used in the future unless such packs also attack livestock on farms or pets near residential areas.

Factors that caused increases in wolf depredation in Minnesota were recently examined (Harper et al. 2005). Major factors included range expansion, colonization of new areas in wolf range, and learning behavior. Range expansion by the Minnesota wolf populations apparently stopped in 1998, and depredation levels have declined since that time (W. J. Paul unpublished reports). Range expansion by Wisconsin wolves, especially recent colonization of more agricultural areas has probably increased numbers of farms with depredation in the state. Future management will need to address stabilization of range expansion to minimize depredations to livestock.

Work has also been done and will continue to explore better methods of nonlethal wolf control in the state. Testing was done with fladry (special flagging material) and movement activated guard devices (use strobe light and loud sounds) to deter predators (Shivik et al. 2003). Both systems have potentials in certain situations to reduce depredation by wolves, but wolves can probably learn to adapt to them, and such systems are generally less successful when actual killing of livestock by wolves has begun. Testing was also conducted on the use of dog shock collars on wolves to deter them from specific areas (Hawley 2005, Schultz et al. 2005). Shock collars may have use in specialized situation where it is desirable to keep wolves in the general area, but keep them off pastures with livestock or other focal points.

Future wolf depredation management is likely to be most successful if an integrated approach is used (USDA-APHIS-Wildlife Services 2006). Such an approach will use a

combination of technical advice, animal husbandry, nonlethal and lethal controls. The approach will also be an adaptive management procedure that builds on new knowledge and adjusts management as new things are learned. Attempts will be made to also document non-predatory effects of wolves to farms (Lehmkuhler et al. 2007). Careful monitoring and research will be an essential part of future depredation management.

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Table A3. Summary of verified wolf depredations on domestic animals in Wisconsin from 1976 -2005, and total number of wolves removed in control actions.

Resources/ years	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	Total
Farms Affected	2	0	2	2	3	0	4	1	2	8	6	8	5	10	14	22	25	--
Total Losses*	6	2	116	11	28	2	11	8	16	40	74	19	104	66	55	56	64	678
Horses killed	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	5
Horses injured	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Sheep killed	2	0	1	8	0	0	0	0	0	0	0	0	0	7	24	5	3	50
Sheep injured	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cattle killed	2	0	0	1	0	0	11	1	10	20	7	6	11	37	20	27	31	184
Cattle Injured	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	4	7
Farm Deer	0	0	0	0	0	0	0	0	0	4	19	3	0	5	1	6	0	38
Poultry Losses	0	0	115	0	27	0	0	0	0	0	44	4	74	0	0	0	0	264
Dogs killed	2	0	0	2	0	2	0	5	5	11	2	5	17	10	6	15	17	99
Dogs injured	0	2	0	0	0	0	0	2	1	5	2	0	1	4	4	3	6	30
Wolves captured	0	0	1	0	0	0	0	0	2	4	2	2	8	18	17	27	37	118
Wolves euthanized	0	0	0	0	0	0	0	0	0	0	1	0	0	0	17	24	32	74

* total of animals killed & injured

APPENDIX F2**Wolf Health Monitoring and Mortality Factors****by USGS-National Wildlife Health Center (NWHC) and WDNR-Wildlife Health Team**

The Wisconsin wolf health monitoring program has included necropsy evaluation of all free-ranging wolves found dead or euthanized in Wisconsin, including monitored radio-collared wolves. Table F2 presents a summary of mortality factors identified from necropsies of 269 Wisconsin wolves between 1979-2005. A high percentage of wolf mortality was associated with human causes (70.6%), with vehicle collisions (31.2%) and shooting (18.2%) being particularly important. Since 2003, euthanasia of wolves to control livestock depredation has also added significantly to human-associated wolf mortality (14.9%). Natural mortality factors contribute 23.4% of total mortality, with Sarcoptic mange-related deaths a majority of the 14.5% mortality from disease. Wolves listed in Table F3 included both collared and noncollared wolves, but only those subjected to necropsies by the USGS-National Wildlife Health Center and Wisconsin DNR Wildlife Health Team.

Table F3 lists only radio collared wolves found dead in the field from October 1979 through June 2005, but does include some animals that were not necropsied because carcasses were too decomposed. Human caused mortality accounted for 55% of known mortalities, and 51% of all mortalities. The most important human mortalities were shooting (29%), and vehicle collisions (14% of known mortalities), but unlike total necropsy sample in Table F2, only 1% included wolves euthanized at depredations. Natural mortality included 45% of known mortality and 41% of all mortalities. The most common natural mortalities were disease (27%) and other wolves (13%).

The overall necropsy samples had lower percentages than the collared sample of wolves dying from illegal shooting, other wolves, and disease, in part because these mortalities were rarely detected unless wolves were collared. The overall necropsy sample had higher percentages of wolves killed by vehicle collisions and euthanized depredators, because these represent dead wolves that most likely will be reported to or collected by WDNR without the help of radio telemetry. Although the collared sample probably more closely matches the overall mortality rates within the population, it is important that all forms of wolf mortality are carefully examined. Collared wolves may not be as representative of wolves living in marginal habitat, where it appears that vehicle collisions and depredation controls, may be important limiting factors on the wolf population.

Table F2		
Mortality Summary of wolves from Wisconsin and adjacent areas of Minnesota necropsied Oct. 1979-Sept. 2005 by NWHC and WDNR		
Cause of Death:	Number	Percent Total Mortality
Human Causes:		
Euthanasia/Accident	1	0.4
Euthanasia/Depredation	40	14.9
Capture-Related	9	3.3
Shooting	49	18.2
Accidental Trapping	6	2.2
Vehicle Collision	84	31.2
Poisoning	1	0.4
Unknown Human Cause	0	0
Total Human Caused:	190	70.6
Natural Causes:		
Birthing Complications	1	0.4
Disease ^a	39	14.5
Killed by Other Wolves	16	5.9
Other Natural Cause ^b	8	3.0
Unknown Natural Cause	0	0
Total Natural Caused:	63	23.4
Unknown Causes^c:	16	5.9
Total Known Mortality:	253	94.1
Total Unknown Mortality:	16	5.9
Total All Mortality:	269	100

^aincludes mange-related deaths

^bincludes blunt trauma of unknown cause (could be prey or vehicle) and debilitated, heavily parasitized animals

^canimals with no lesions and all tests negative, as well as badly decomposed carcasses with no recognizable cause of death

Table F3. *Mortality summary of radio-collared wolves in Wisconsin and adjacent areas of Minnesota from October 1979 – June 2005.*

	Cause of Death	Number	% Known Mortality
Human Causes	Capture Related	6	4%
	Shot Wound*	41	29%
	Trapped	4	3%
	Vehicle Collision	19	14%
	Euthanized (depredation)	2	1%
	<u>Unknown Human Causes</u>	<u>5</u>	<u>4%</u>
	<i>Total Human Causes</i>	<i>77</i>	<i>55%</i>
Natural Causes	Accident	1	1%
	Birthing Complications	1	1%
	Disease	37	27%
	Killed by Other Wolves	18	13%
	Malnutrition/Starvation	2	1%
	<u>Unknown Natural Causes</u>	<u>3</u>	<u>2%</u>
	<i>Total Natural Causes</i>	<i>62</i>	<i>45%</i>
Totals	<i>Known Mortality</i>	<i>139</i>	<i>100%</i>
	<u>Unknown Mortality</u>	<u>13</u>	
	Total Mortality	152	

* 2 wolves were shot by bow and arrow, and 39 by firearms

APPENDIX H2

Public Opinion of Wolf Management in Wisconsin, 2001-2005

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INTRODUCTION

Wolves stir people's emotions and attract public attention far out of proportion to their numbers. Although many U.S. citizens support carnivore conservation and enjoy the environmental, aesthetic, and economic benefits of restoring wolves, the direct costs of conserving these animals fall on a minority of individuals in rural areas who lose livestock or pets to carnivores. Wildlife managers must therefore steward recovering wolf populations in a way acceptable both to the general public and rural communities living with wolves.

In the past, voters and special interest groups have removed authority and flexibility from carnivore managers when unpopular interventions were undertaken or when managers catered to one interest group in particular (Harbo & Dean 1983, Torres et al. 1996). This potential threat to adaptive management suggests a need for rigorous assessment of public opinion about wolf management. Public opinion surveys enable managers to float alternative scenarios for management actions and judge the popularity of options across stakeholder groups. This approach also supports democratic, transparent decision-making about management and policy.

Because management of large carnivores triggers widespread interest in many groups, managers need diverse methods and added resources for sampling the opinions of the varied stakeholders. Partnerships with university and non-profit groups can extend the outreach and sampling effort of state wildlife agencies. The Wisconsin Department of Natural Resources (WDNR) has been proactive and energetic in surveying public opinions and supporting partners' efforts to understand public opinion of wolf management in Wisconsin.

Here we describe the results of three surveys of public opinion regarding wolf control, compensation, harvest and monitoring. We focus on these components of management because they are in use or being considered in Wisconsin. We devote special attention to the opinions of key stakeholder groups, including livestock producers,

hunters and voluntary contributors to the Endangered Resources Fund of the WDNR (ER fund hereafter), which is the major source of revenue for wolf management in the state at present. This appendix updates information from Appendix H, in the 1999 wolf management plan (pp. 66-70), and addresses K2 under research strategies “Re-measurement of public attitudes toward wolves and recovery in the state to define reasonable population goals and acceptable wolf habitat.”

METHODS

In 2001 and again in 2004, L. Naughton, A. Treves and R. Grossberg, conducted surveys of state residents using stratified random sampling. The 2001 survey (Naughton-Treves et al. 2003). was aimed at residents of townships in which verified wolf depredations had occurred. The survey was sent to all people who had complained to the WDNR of wolf depredation on domestic animals and residents of the same townships selected randomly from commercially available lists of taxpayers. Overall, the response rate was 81.6% (n=535 respondents).

The 2004-2005 survey¹ was aimed at residents of six zip codes chosen to span the range of support for wildlife, judged by their relative contributions to the ER fund. Within zip codes, respondents were selected randomly as above. Overall, the response rate was 61.7% (n=1364 respondents), with relatively even response rates across the six zip codes (range 202-272, n=6). A more complete description of findings, sampling bias, and sample population can be found at www.geography.wisc.edu/livingwithwolves/public_reports.htm.

In 2003, K. Schanning randomly selected 5000 Wisconsin residents to mail a questionnaire, using all public telephone listings with name and address as the sampling frame. Of these 5000 surveys, 644 were returned, yielding a response rate of 13%. The length of the survey may help account for this low response rate.

In late summer 2004, the Wisconsin DNR, conducted a survey to which 1367 people responded (1322 residents of the state, and 45 non-residents). Notice of the survey was listed in news papers and other media sources throughout the state. The DNR sent copies of the questionnaire-based survey to all people who requested it, and made the survey available on the web. We believe this approach sampled a group of people very interested in wolves, both from a negative and positive standpoint. The sample was composed of 66% hunters (compared with 57% in the Naughton/Treves 2003-2004 survey), 16% farmers (compared to 34% who had some experience raising livestock or 15% who raised livestock for commercial purposes in the Naughton/Treves survey), and 66% who identified themselves as environmentalists, 83% who identified themselves as conservationists, and 36% who identified themselves as animal preservationists.

¹ for details see www.geography.wisc.edu/livingwithwolves/public_reports.htm

Analyses for all three studies are presented without weighting for under-represented respondents (e.g., women). As a result, the findings should be considered preliminary pending such weighting and peer review of findings. Across the following results and figures and analyses, sample sizes vary as not all respondents answered all of our questions.

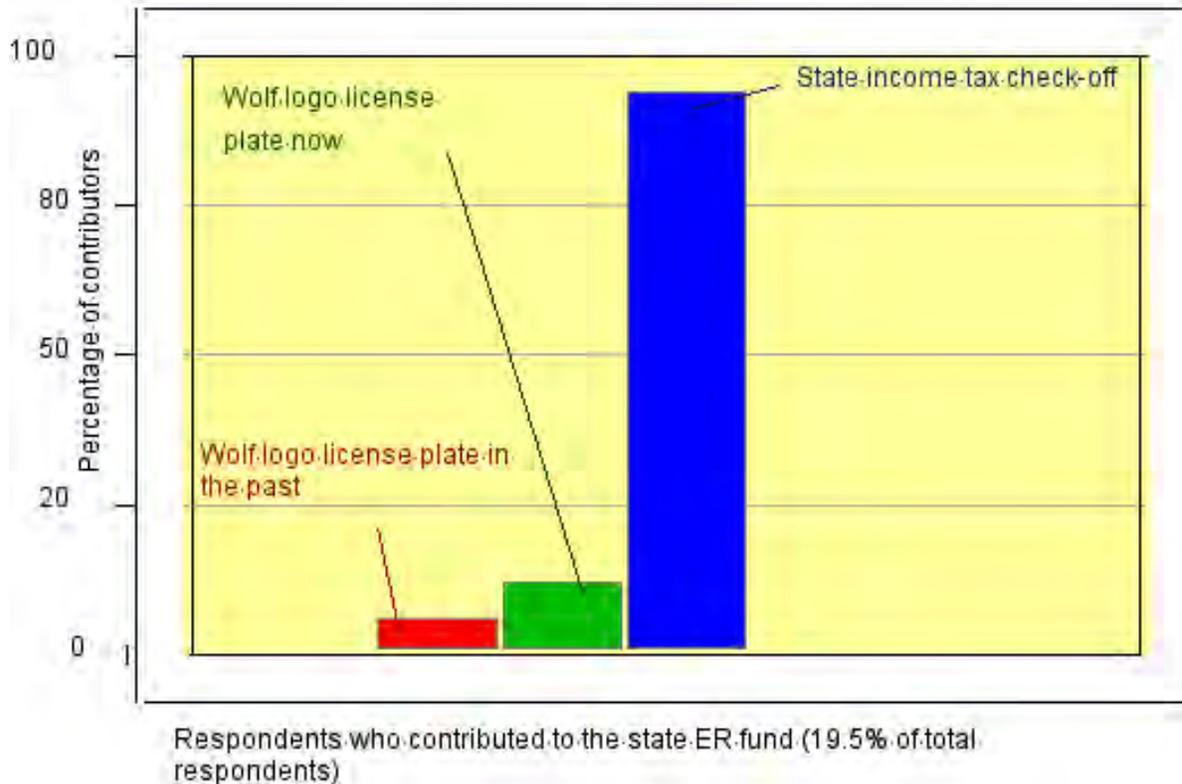
RESULTS

The 2001 survey of wolf county residents by Naughton/Treves offered three conclusions: 1) most respondents favored the presence of wolves in the state provided the population was limited; 2) the existing compensation program for wolf depredations was very popular, but individuals who received compensation payments for reported depredations were no more tolerant of wolves than were individuals claiming losses but who were not paid, and 3) lethal control of wolves was the preferred management response to wolf predation on livestock and pets. The survey also revealed, on average, bear hunters had the most negative attitudes toward wolves and were most critical of current management strategies, while livestock producers were less negative, and other rural residents were the most positive toward wolves and current management practices.

In the second survey (2004/2005), Naughton and Treves found again that the majority of respondents supported wolf recovery in the state, but there were significant differences among citizens regarding preferred management strategies. Here we highlight results for two groups selected randomly from the population: voluntary contributors to the ER fund for wolf management and non-contributors. Such a comparison is significant because the WDNR depends heavily on voluntary contributions for wolf management.

Respondents who had contributed to the ER fund (contributors) represented 19.5% of the sample; most often gave via the state income tax check-off (Figure 1).

Figure 1.
Method of contribution to the ER Fund



To assess individual tolerance for wolves, respondents were asked a series of questions about values and attitudes toward wolves. We present one because all were highly intercorrelated. Respondents were asked if they agreed or disagreed with the following statement: "If I were out hunting and saw a wolf, I might shoot it"; 90% of respondents disagreed strongly or were neutral. In this survey (2004-2005) and the previous one (2001), respondents agreeing or strongly agreeing with this statement were just under 11% of the entire sample.

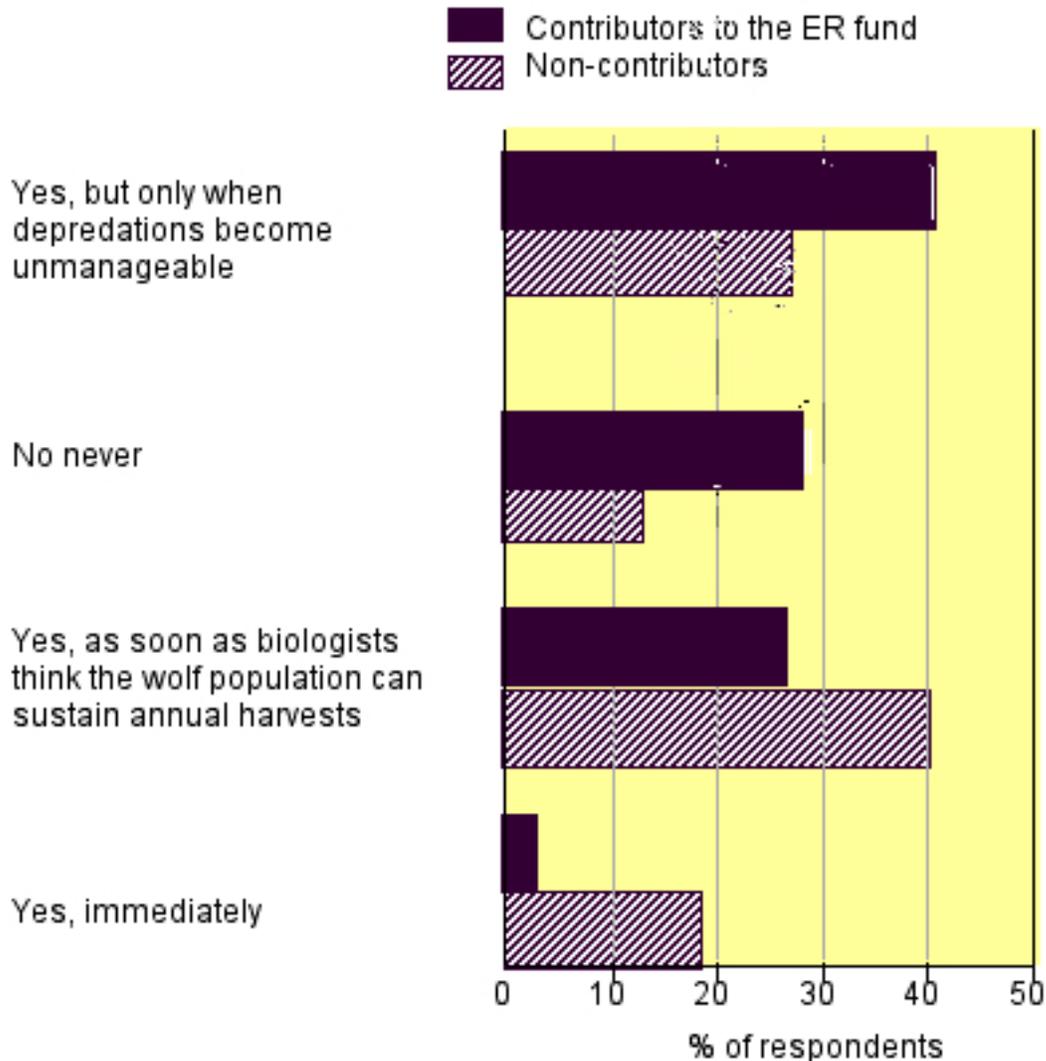
When asked "If a wolf kills livestock..." or "If a wolf kills a family pet...", a majority of respondents preferred "capture and relocate the wolf to a wilderness area" (43-57% of all respondents) followed by "kill the wolf" (35-39% of non-contributors) or "take no immediate action toward the wolf but monitor the situation" (21-23% of contributors). By contrast, when asked "if a wolf kills a hunting dog on public land...", the most popular response was "take no immediate action toward the wolf but monitor the situation" (35% and 64% among non-contributors and contributors respectively) followed by "capture and relocate the wolf to a wilderness area" (31% for either group). Note that wilderness areas in Wisconsin are too small to support whole wolf packs and most were already occupied by wolves, thus the term was subject to respondents' interpretations. The action "Try to frighten away the wolf or deter it from approaching..."

was least popular in all situations. Hence the general population of Wisconsin is less likely to favor lethal control than Northwoods residents (Naughton et al. 2003).

When asked, “If there must be lethal control of wolves, who should be allowed to kill wolves?”, most respondents (76% of contributors and 55% of non-contributors) approved of “government agents”. Non-contributors also approved of “private landowners who provide evidence of wolf predation on livestock” (56%); this choice received support from almost half the contributors (48%). No other personnel achieved >49% approval for conducting wolf control.

Wolf harvest (not initiated in Wisconsin at the time of writing) received more positive than negative responses among both contributors and non-contributors (Figure 2). However among those respondents approving of a wolf harvest (68% of our sample), few wanted the immediate initiation of a wolf season (2% of contributors and 18% of non-contributors). The preferred timing was “only when depredations become unmanageable” (41% of contributors) or “as soon as biologists think the wolf population can sustain annual harvests” (41% of non-contributors).

Figure 2.
Do you believe there should be a public hunting/trapping season on wolves?



Contributors vs. Non-contributors, Pearson $\chi^2=71.1$, $df=3$, $n=1131$, $p<0.0001$

To assess if support for lethal control depended on the accuracy of removing the individual wolves implicated in depredations, we asked if errors in lethal control affected approval. Seventy-seven percent of contributors and 54% of non-contributors wanted either “no lethal control” or error rates $<10\%$. By contrast 23% of contributors and 48% of non-contributors accepted error rates $\geq 10\%$. There are currently no data on Wisconsin wolf removal accuracy nor effective techniques for assessing past or future likelihood of causing depredations.

Far and away, the most popular source of funding for compensation was the existing state ER fund (70% and 78% approval among non-contributors and contributors respectively) although “hunting fees” also appealed to a majority of contributors.

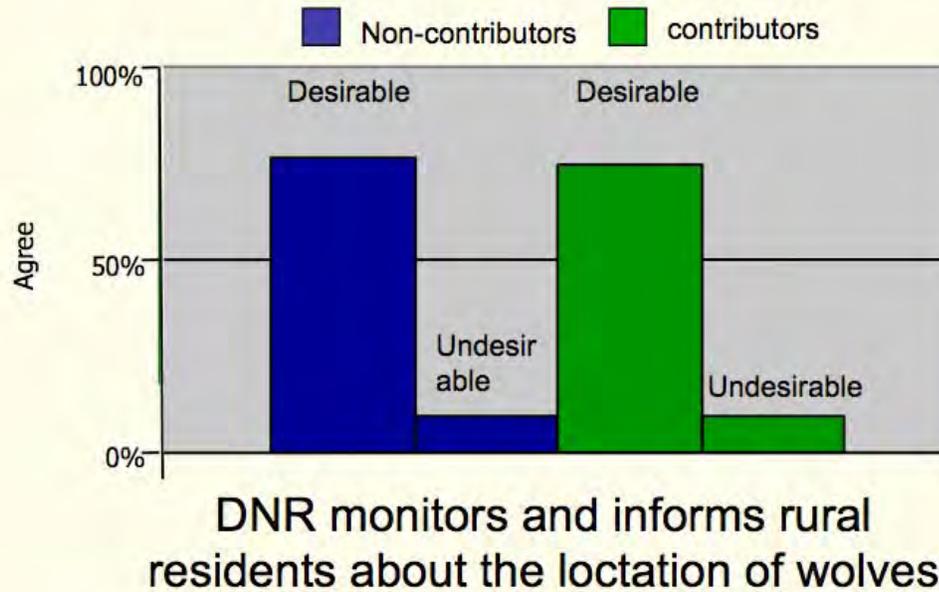
There was overwhelming approval among both contributors (80%) and non-contributors (69%) for farmer compensation contingent upon “best livestock management practices”. Similar majorities favored compensation “only if government agents find evidence of wolf involvement” (88% and 79% respectively). Compensation for hunters who lose a hunting dog on public land was far less popular, with 51% of contributors favoring no compensation and 52% of non-contributors favoring the following recipe: “He/she should be compensated for loss only if government agents find evidence of a wolf”.

We described an incentive scheme as follows: “Some managers propose that landowners living near wolf packs be given a monetary incentive to protect the wolves. The incentive would help offset the risks they face, and compensate for any domestic animal losses. This incentive might also prevent people from illegally killing wolves.” and asked “Assuming you live on or near land suitable for wolves, would you consider participating in such an incentive program?”. This was far more popular among contributors (81% would participate) than among non-contributors (34% would participate).

Monitoring and informing rural residents about the locations of wolves was highly popular among both contributors and non-contributors (Figure 3).

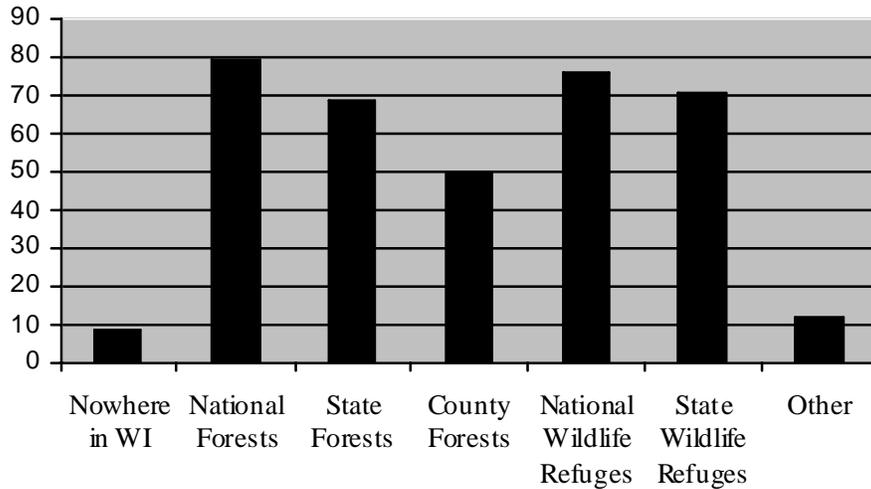
Figure 3.

How should the DNR manage problem wolves?



Results from the Northland College Survey

Respondents showed an acceptance of wolves on the landscape, and favored wolves living in National Forests and Wildlife Refuges, while also showing strong support for wolves inhabiting State Forests (Figure 4).

Figure 4. Public wolf acceptance on various landscapes in Wisconsin.

When asked if a public harvest should be used to manage the wolf population, respondents were split about hunting, but, opposed to a public trapping season. However, no other methods of management were found to be more popular than a public harvest. Having the DNR trap wolves was the next most preferred technique, even though only 33% of all respondents supported this method.

Relating to methods of managing problem wolves that have caused damage, support was shown for the relocation of problem wolves. Respondents were equally supportive of allowing both the landowner and the DNR to shoot a wolf that had caused harm. However, much more support was shown for allowing farmers to shoot problem wolves in general. Respondents overwhelmingly opposed the hypothetical poisoning of problem wolves by farmers or the DNR.

Respondents showed more support for the compensation of livestock loss to wolves than for losses of farmed deer or bear dogs. When given the dollar figure of how much was paid out in compensation to livestock farmers in one fiscal year, 81% of respondents wanted to continue compensation for livestock, while 10% wanted it reduced. Asked the same question about deer farmers, 42% of respondents wanted to continue compensation for deer at current levels, and 25% wanted it reduced. Even less support was shown for the compensation of bear dogs killed by wolves, with 52% of respondents indicating compensation for bear dogs should stop, and 25% wanting it reduced. Most respondents wanted to compensate livestock owners only if they had taken some protective measures against wolves or were using Best Management Practices. However, 40% wanted to continue compensating all livestock owners for depredations, and only 5% wanted to stop compensation altogether.

Results from the Wisconsin DNR survey

After being told “Currently an intense system of population monitoring is being used including radio tracking, winter track surveys by DNR and volunteers, summer howl surveys, and collection of reports of public observations of wolves.”, respondents were asked “What is your impression of the current level of wolf monitoring?” 43% thought it was about right, 28% thought it was too intense, and 29% thought it was not adequate. Of the wolf population survey methods listed below, respondents were asked whether efforts should increase, decrease or remain about the same:

- Live-trapping and radio-tracking: increase 32%, remain the same 38%, decrease 31%
- Snow track surveys by DNR: increase 35%, remain the same 46%, decrease 19%
- Snow track surveys by volunteers: increase 47%, remain the same 40%, decrease 13%
- Computer models estimations: increase 20%, remain the same 49%, decrease 31%
- Collect reports from the public: increase 52%, remain the same 37%, decrease 11%

The results again supported the conclusion that current monitoring should remain the same, except for the participation of volunteers, which most respondents wanted to increase. Overall, increases in effort outnumbered decreases in effort:

The DNR asked about the wolf management zones and provided a map of these zones with definitions of appropriate management in each. When respondents were asked “Do you support the concept of zone management for wolves?”, 33% opposed it, 51% supported it, and the remainder were neutral. When asked “Do you feel the current zone system provides appropriate protection for wolves?”, 44% thought it was too protective, while 29% thought it not protective enough, with many (27%) neutral on the subject.

The DNR asked how desirable the following control action would be: “Public harvest if the population goal for the state is exceeded”. 55.5% found it desirable, while 38% found it undesirable. This result is higher than that found by Naughton/Treves (above) who found fewer respondents (40% for contributors, 26% for non-contributors) wanted a wolf harvest “as soon as biologists think the wolf population can sustain annual harvests”. The difference may reflect that Naughton/Treves offered an alternative “only when depredations become unmanageable” that was attractive to many respondents (see above).

- The DNR asked respondents how desirable the following control activities were:
- “USDA-Wildlife Services should continue to provide technical assistance including non-lethal methods to persons who have problems with wolf depredations” 66% desirable, 25% undesirable.
 - “USDA-Wildlife Services should trap and euthanize wolves that cause depredation on domestic animals on private land.” 60% desirable, 30% undesirable.
 - “Control trapping should be avoided on public lands (currently trapping is only allowed on private land or public lands immediately adjacent to private lands where depredations have occurred).” 45% desirable, 43% undesirable.

These findings match the Naughton/Treves results but there is higher support for lethal control, perhaps because translocation was not offered as an alternative control strategy or because the DNR sampled more hunters and more people with an interest in wolves (see methods).

When respondents were asked whether the state should allow trapping of wolves up to 1.0 mile from depredation sites in Zones 1 and 2 to be consistent with 2003 federal regulations, a majority of respondents agreed (58%) with only 27% disagreeing.

“Once delisted by both the state and federal government, permits can be issued to landowners or occupants to control a limited number of wolves on land they own or lease, if they have had recent wolf depredations.” Respondents agreed with this procedure in 60% of cases and disagreed in 36% of cases.

CONCLUSIONS

Examining public opinion broadly, one finds three surveys with similar general findings, namely that a majority of the public approves of current wolf management strategies and policies as implemented by the Wisconsin DNR. This conclusion is robust judging from the very different sampling approaches used by the three surveys that yielded this same general conclusion. However, the details of our results suggest some changes may be needed.

A majority of the public approves of changes to the ongoing policies of compensation and control, and wishes to guide any potential future harvest in various ways. Briefly, the compensation program in place with requirements of evidence before compensation is popular, but recently enacted programs to pay for missing livestock with less evidence do not seem to be strongly supported. Although livestock specialists disagree on best management practices for reducing depredations in all situations, if reasonable practices can be found, most of the public seems to support requiring implementation of such practices as part of determining payments. Payments for hunting dogs killed on public land received limited support and many want to see such payments eliminated. The current practice of lethal control of depredating wolves is popular but approval will decline if lethal control is implemented on public lands, or if other than government agents conduct controls. Non-lethal control remains popular and can in some scenarios exceed the popularity of lethal control, but the public is often unaware of limitations of non-lethal methods. Finally, pertaining to a potential, future wolf harvest, there is support among a majority of state residents, contingent upon either biologists' assessments of the sustainability of a hunt or contingent upon excessive depredations by wolves. It appears that broad acceptance of a public harvest would not likely occur unless such harvest is strongly tied to reduction or elimination of wolf depredation on livestock and pets.

A somewhat surprising result, was that almost 11% of hunters would consider shooting wolves while hunting for deer (results from two surveys of different populations). With over 650,000 deer hunters in the state, 72,000 might consider shooting a wolf, although

other research in the Great Lakes generally shows support for wolf conservation among about 70% of hunters. Thus, there remains a sizeable subset of hunters that could severely negatively impact the wolf population. Illegal killing of wolves may be one of the factors that will restrict wolves from colonizing open, developed landscapes. Habitat management will need to continue to provide adequate refuge habitat by maintaining forested areas of low road density. While legal restrictions will provide some protection for wolves, we also see the need for additional policies and management supported by a vast majority of the public, including those who might consider killing wolves.

These results and others pertaining to public opinion may help the Wisconsin DNR to refine its policies and fine-tune its management actions on the ground. Such alterations of current practices should not be done in pursuit of popularity as an end in itself, but rather because sound management designed with public opinion in mind can help to avoid illicit actions, grassroots political resistance, and high-level political interference in science-based management.

Surveys of public opinion should be conducted every few years to gauge continued acceptance of management programs, or determine shifts in public attitudes toward wolves. Additional surveys should also be conducted if there are plans for major changes in wolf management, such as public harvests or changes in population goals.

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APPENDIX K.**Wisconsin Wolf Management Questionnaire 2004**

By Wisconsin Wolf Science Committee.

The questionnaire was available by mail, email or at DNR offices from August 13 through September 13, 2004. A Wisconsin DNR news release went out to media sources throughout the state to let people know about the questionnaire. A total of 1367 completed questionnaires were received, with over 90% being from state residents. The questionnaire and total responses to each question are listed below.

The Wisconsin DNR would like your opinion on the 1999 Wisconsin Wolf Management Plan. We wish to assess how well the plan is working and to determine if portions of the plan need to be modified or new items need to be included. Along with asking questions on specific portions of the plan, there will be opportunity at the end of this questionnaire, to include additional items you feel are needed in the plan.

Detailed information on each question are found in the 1999 Wolf Management Plan (<http://www.dnr.state.wi.us/org/land/er/publications/wolfplan/toc.htm>)

We value you input, and to assure that all are legitimate citizen comments, we will only consider comments when you include your name and address at the end of the questionnaire.

A. Population Goals.

1. Delisting / Re-listing Goal. The state delisting goal (the level at which wolves could be removed from the state endangered and threatened species list) was a population of 250 wolves outside of Indian reservations for one year. . The goal was achieved in 2002 and state delisting was completed in 2004. Wolves would be state re-listed as threatened if the population dropped below 250 for 3 years, and re-listed as endangered if it dropped below 80 for one year.

In your opinion, the delisting/re-listing goal of 250 wolves is:

- Much too low **273**
- Somewhat low **284**
- About right **256**
- Somewhat high **177**
- Much too high **361**

Recommended alternate goal? (**Avg. = 160, stdev =331**).

2. Management Goal. The state management goal is to maintain a population of 350 wolves outside of Indian reservations. If the wolf population exceeds this level, proactive control by government trappers or public harvest may be used to reduce the population back to this level.

In your opinion, the management goal of 350 wolves is:

- Much too low **240**
- Somewhat low **283**
- About right **219**
- Somewhat high **167**
- Much too high **440**

B. Wolf Management Zones.

The state wolf management plan identified four wolf management zones to provide different levels of wolf protection and management.

Zone 1 (northern Wisconsin) and Zone 2 (central Wisconsin forest):

Zones where wolf presence is most acceptable and given the highest level of protection. Habitat management for wolves would focus mainly on these zones. Control efforts would be allowed on private land to reduce wolf depredation on domestic animals. In 2003-2004, there was a minimum of 306 wolves that occurred in at least 88 packs in Zone 1, and 49 wolves in at least 15 packs in Zone 2.

Zone 3 (central and southwest Wisconsin):

A buffer area and important dispersing habitat for wolves between Zones 1 and 2, but contains only limited habitat for wolf packs and has high potential conflict with agriculture. Habitat management would focus mainly on maintaining dispersal habitat and corridors. Agriculture is fairly extensive and control on depredating wolves would be fairly aggressive. In 2003-2004, at least 17 wolves occurred within this zone.

Zone 4 (eastern and southern Wisconsin):

Zone of intense agriculture and large urban areas that is considered unsuitable as wolf habitat. Control on problem wolves would be aggressive. A small number of dispersing loners probably exist in the zone. Three wolves were killed in the zone in winter 2003-2004 from vehicle collisions (2) and illegal kill (1).

Do you support the concept of zone management for wolves?

- Very Opposed **252**
- Moderately Opposed **193**
- Neutral **212**
- Moderately Supportive **354**
- Very Supportive **334**

Do you feel the current zone system provides appropriate protection for wolves.

- It is far too protective **421**
- It is moderately too protective **166**
- Protection is about right **364**
- It is not protective enough **289**
- It is not nearly protective enough **104**

C. Population Monitoring and Management.

1. The level of monitoring necessary to assess the wolf population varies with population status and intensity of management. At low population levels, monitoring needs to be intense to prevent disappearance of wolves from the state. At higher population levels monitoring can be less intense. Currently an intense system of population monitoring is being used including radio tracking, winter track surveys by DNR and volunteers, summer howl surveys, and collection of reports of public observations of wolves. Intense monitoring will also need to continue for 5 years after federal delisting (which could occur in 2005). Intense monitoring will also be necessary if regular harvests are begun, to make sure that over-harvest does not occur.

a. What is your impression of the current level of wolf monitoring?

- Far too intense **217**
- Somewhat too intense **162**
- About right **573**
- Somewhat inadequate **250**
- Very inadequate **138**

b. Of the survey methods listed below, please indicate whether you feel the efforts should increase, decrease or remain about the same.

	Increase	Remain the same	Decrease
Livetrapping and radio-tracking	420	500	410
Snow track surveys by DNR	460	615	250
Snow track surveys by volunteers	618	534	178
Computer models estimations	259	640	410
Collect reports from the public	694	496	144

2. The Wisconsin Wolf Management Plan recommends different control measures based on wolf population status. When wolves were listed as a State Threatened Species (80 to 250 wolves outside Indian reservations), lethal controls were restricted to government trappers on verified depredators, or government agents on wolves that posed threats to human safety. As a delisted, state protected wild animal, below the population goal (250 –350 wolves outside Indian reservations), landowners would have authority to kill wolves attacking domestic animals on private land, and could also be issued permits to kill problem wolves (as long as federal de-listing had also occurred). Above the population goal (> 350 wolves outside of Indian reservations), proactive control by government trappers could be used to reduce the population by

eliminating wolves from unsuitable area. Public harvest could also be considered (as long as federal de-listing had occurred).

Please circle the response that best describes how you feel about the desirability of each of the following wolf management strategies:

	Highly Desirable	Desirable	Neutral	Undesirable	Highly Undesirable
Control by government trappers on wolves verified as depredators on domestic animals	480	332	191	154	185
Control by government agents on wolves that pose threats on human safety	551	347	188	117	135
Landowner authority to kill wolves in the act of attacking domestic animals on private land	669	183	120	170	210
Landowner permits to kill a limited number of wolves during specific time period on private land with history of wolf depredation	562	142	93	177	375
Proactive control by government trappers on wolves in areas considered unsuitable because of high risk of human conflict if the state population goal is exceeded	424	326	205	189	199
Public harvest if the population goal for the state is exceeded	635	114	90	89	421

D. Habitat Management.

The Wolf Management Plan recognized about 5812 square miles of favorable wolf habitat. By 2003 most areas of favorable wolf habitat in northwest, north central, and central forest were occupied by wolf packs. In portions of northwest and central Wisconsin, wolves have started to occupy less suitable habitat, but in northeast Wisconsin areas of favorable habitat are still not fully occupied. The Wolf Management Plan recommends various levels of habitat management that would be emphasized in Zones 1 and 2. The Wisconsin DNR is interested in your thoughts on these various management tools.

What is your opinion on the following aspects of the Wolf Management Plan?

Please circle the response that best describes your level of agreement with each of the following statements.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The plan encourages maintaining low road densities in Zones 1 and 2 on public lands where wolves occurred, and encourages keeping road densities at or below current levels.	520	229	201	106	268
The plan encourages managing public forest land in Zones 1 and 2 in diverse forest cover including some areas of early successional forest that maintain reasonable levels of prey populations.	483	333	246	88	171

E. Wolf Depredation Management.

The Wolf Management Plan discusses five control responses to reduce the impact of wolf depredation on domestic animals. These include: 1. technical assistance including non-lethal methods, 2. compensation for losses, 3. livetrapping and translocating wolves by government trappers, 4. trapping and euthanizing wolves by government trappers, and 5. landowner controls on problem wolves. Wildlife specialists from Wisconsin DNR and USDA-Wildlife Service conduct investigations of possible wolf depredations. These specialists also provide technical assistance, help producers apply nonlethal controls, and if necessary attempt to trap problem wolves. Reimbursements for losses due to wolves come from the state Endangered Resources Fund (from individual voluntary contributions on tax returns) and the sale of special wolf license plates.

Please indicate the extent to which you agree with each of the following policies related to wolf depredation management.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
USDA-Wildlife Services should continue to provide technical assistance including non-lethal methods to persons who have problems with wolf depredations.	625	266	110	125	216
USDA-Wildlife Services should trap and euthanize wolves that cause depredation on domestic animals on private land.	543	263	133	186	218
Control trapping should be avoided on public lands (currently trapping is only allowed on private land or public lands immediately adjacent to private lands where depredations have occurred).	383	220	156	184	399

1. In your opinion, should the Wisconsin DNR continue to reimburse owners for depredation on the following groups of animals if killed or injured by wolves?

Please indicate the extent to which you agree with each of the following policies related to wolf depredation management.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
livestock and poultry on private land	780	398	73	44	58
pets on private land	686	347	132	85	101
pets on public land	510	164	148	222	304
pets on industrial forest	493	146	155	233	318
Hunting dogs legally used on public or industrial forest land	539	163	102	183	364

2. The 1999 Wolf Management Plan allows control trapping to occur up to 0.5 miles from depredation sites in Zones 1 and 2, up to 5 miles away in Zone 3, and any distance from depredation sites in Zone 4. Do you agree with these restrictions?

- strongly agree **178**
- somewhat agree **383**
- no opinion **253**
- somewhat disagree **273**
- strongly disagree **258**

The 2003 federal reclassification of wolves includes regulations that allow the state of Wisconsin to trap problem wolves up to 1 mile from depredation sites while listed as federal threatened. Should the plan allow trapping up to 1.0 mile from depredation sites in Zones 1 and 2 to be consistent with federal regulations?

- strongly agree **378**
- somewhat agree **394**
- no opinion **207**
- somewhat disagree **175**
- strongly disagree **187**

3. Wolves have been delisted by the State of Wisconsin, and may be removed from the federal threatened species list in 2005. Once the federal action is completed, the Wisconsin plan may allow private landowners to shoot wolves in some situations.

- a. Private landowners or occupants on private land would be able to shoot wolves in the act of attacking pets or livestock on private land. The owner or occupant would be required to contact a conservation warden within 48 hours. Do you agree with this procedure?

- strongly agree **634**
- somewhat agree **274**
- no opinion **33**
- somewhat disagree **184**
- strongly disagree **226**

b. On public land, owners of domestic animals being attacked by wolves would be allowed to harass and scare wolves, but would not be allowed to use lethal force. Do you agree?

- strongly agree **365**
- somewhat agree **245**
- no opinion **32**
- somewhat disagree **142**
- strongly disagree **561**

c. Once delisted by both the state and federal government, permits can be issued to landowners or occupants to control a limited number of wolves on land they own or lease, if they have had recent wolf depredations. Do you agree with this procedure?

- strongly agree **547**
- somewhat agree **263**
- no opinion **51**
- somewhat disagree **193**
- strongly disagree **287**

F. Wolf Education Programs.

Wolf Education Programs continue to be an important part of wolf management in Wisconsin. These include annual wolf awareness week, a pamphlet on wolves in farm country, updated wolf information on the DNR web site, a pamphlet on wolves and dogs, periodic news releases, working with wolf education organizations, and providing wolf talks.

1. In your opinion, the amount of effort DNR spends to educate the public about wolves is:

- Far too much effort **240**
- Somewhat too much effort **111**
- About right **387**
- Somewhat too little effort **368**
- Much too little effort **236**

G. Interagency Cooperation.

Interagency cooperation has been critical to successful wolf management in Wisconsin, especially with federal agencies, tribes, and state DNRs in Michigan and Minnesota. When wolves are delisted by the federal government, the role of federal agencies will decline. However, some level of involvement will continue by the U.S. Fish and Wildlife Service for 5 years after delisting, and Forest Service involvement in wolf conservation will continue indefinitely on National Forest lands containing wolves.

1. Do the efforts of interagency management of wolves in Wisconsin seem adequate?

<input type="radio"/> strongly agree	144
<input type="radio"/> somewhat agree	412
<input type="radio"/> no opinion	454
<input type="radio"/> somewhat disagree	192
<input type="radio"/> strongly disagree	141

H. Volunteer Efforts.

The DNR makes extensive use of volunteers in education and survey work on wolves. Each year about 100 people are trained to assist in track surveys. Volunteers from Timber Wolf Alliance, Timber Wolf Information Network, and other organizations provide talks and training to thousands of people each year on wolves.

1. Should DNR continue to support these volunteer efforts in wolf management in Wisconsin?

<input type="radio"/> strongly agree	726
<input type="radio"/> somewhat agree	236
<input type="radio"/> no opinion	134
<input type="radio"/> somewhat disagree	80
<input type="radio"/> strongly disagree	170

Of the following wolf management issues, please indicate three that are most important to you (rank 1=most important, 2=2nd most important, 3=3rd most important).

	1	2	3
___ Population monitoring	152	147	123
___ Population management and control.....	287	196	164
___ Education.....	143	164	153
___ Habitat protection and management.....	338	156	111
___ Controlling depredation on domestic animals.....	195	181	169
___ Depredation compensation.....	85	171	156
___ Training of volunteers.....	27	38	62
___ Wolf research.....	56	105	115
___ Public Involvement and agency cooperation.....	46	53	126
___ Law enforcement and legal protection.....	70	97	114
___ Diseases Monitoring and Management.....	32	48	62
___ Public Harvest.....	233	96	189

Thank you for your comments, The Wisconsin Wolf Science Committee. Please fill out the following:

Name:

Address:

Phone:

Email Address if available

Additional Background Information (Optional):

Have you read the 1999 Wisconsin Wolf Management Plan? Yes (**673**) No (**298**).

Are you a male (**915**) or female (**72**)?

Do you hunt? Yes (**848**) No (**444**)

If yes, which animals do you hunt?

<input type="checkbox"/> Deer (798)	<input type="checkbox"/> Upland Game Birds (662)
<input type="checkbox"/> Bear (375)	<input type="checkbox"/> Rabbits & Squirrels (492)
<input type="checkbox"/> Waterfowl (375)	<input type="checkbox"/> Predators & Furbearers (326)

Do you trap furbearers? Yes (**165**) No (**1094**).

Do you hunt with dogs? Yes (**516**) No (**737**).

If yes, which kind of dogs and hunting?

<input type="checkbox"/> Hounds for bears and other predators.	224
<input type="checkbox"/> Beagles & other dogs for small game.	177
<input type="checkbox"/> Dogs for upland gamebirds.	367
<input type="checkbox"/> Dogs for waterfowl	230

Do you farm? Yes (**205**) No (**1069**).

If yes, what kind of farming?

<input type="checkbox"/> Row crop	75
<input type="checkbox"/> Orchard or Fruit	26
<input type="checkbox"/> Vegetable	45
<input type="checkbox"/> Beef Cattle	62
<input type="checkbox"/> Dairy Cattle	23
<input type="checkbox"/> Sheep	13
<input type="checkbox"/> Hogs	19
<input type="checkbox"/> Poultry	38
<input type="checkbox"/> Deer or Elk	5
<input type="checkbox"/> Other	67

Do you consider yourself an environmentalist? Yes (**855**) No (**389**).

List any environmental organizations to which you belong.

Do you consider yourself a conservationist? Yes (**1066**) No (**172**).

List any conservation organizations to which you belong.

Do you consider yourself an animal protectionist ? Yes (**471**) No (**745**).

List any animal protection or animal welfare organizations to which you belong.

DECISION (This decision is not final until certified by the appropriate authority)

In accordance with s. 1.11, Stats., and Ch. NR 150, Adm. Code, the Department is authorized and required to determine whether it has complied with s. 1.11, Stats., and Ch. NR 150, Wis. Adm. Code.

Complete either A or B below:

A. EIS Process Not Required

The attached analysis of the expected impacts of this proposal is of sufficient scope and detail to conclude that this is not a major action which would significantly affect the quality of the human environment. In my opinion, therefore, an environmental impact statement is not required prior to final action by the Department on this project.

B. Major Action Requiring the Full EIS Process

The proposal is of such magnitude and complexity with such considerable and important impacts on the quality of the human environment that it constitutes a major action significantly affecting the quality of the human environment.

Signature of Evaluator	Date Signed
Noted: Regional or Bureau Supervisor	Date Signed

Number of responses to news release or other notice: More than 800

Comments were received in written and verbal form during public comment periods and public forums on three plan drafts. Changes were made to the plan in response to public input.

Certified to be in compliance with WEPA	
Regional Director or Director of Bureau of Integrated Science Services (or designee)	Date Signed

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to section 227.42, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30-day period for filing a petition for judicial review.

Note: Not all Department decisions respecting environmental impact, such as those involving solid waste or hazardous waste facilities under sections 144.43 to 144.47 and 144.60 to 144.74, Stats., are subject to the contested case hearing provisions of section 227.42, Stats.

This notice is provided pursuant to section 227.48(2), Stats.

Wolf Responses by Date

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
48104	NEIL S. KAGAN	KAGAN@nwf.org	NEIL S. KAGAN	Gt Lks Res. Ctr , 530 E. Liberty St.	Ann Arbor,	MI		National Wildlife Federation

The National Wildlife Federation (*NWF*) has long played a role in wolf restoration efforts nationwide, both in helping to tailor common sense management plans to secure wolf recovery and in educating the public concerning facts and myths surrounding the animals. In keeping with NWF A2s past involvement in the issue of wolf conservation, and on behalf of NWF A2s 4 million members and supporters, including some 93,000 members and supporters in Wisconsin, NWF submits the comments that follow on the second draft of the proposed Wolf Management Plan for Wisconsin (*the Plan*), prepared by the Wisconsin Wolf Advisory Committee of the Wisconsin Department of Natural Resources (*WDNR*).

INTRODUCTION Although the Plan has many praiseworthy elements, it also suffers from some serious shortcomings. NWF presents its comments below, arranged to correspond with the major sections of the Plan. MANAGEMENT GOAL (Section IV)

NWF has several concerns with the Plan, but its overriding concern is that the Plan fails to set a population goal at a level which reasonably assures that the wolf will not have to be re-listed as threatened or endangered. The WDNR itself appropriately identifies *[t]he main objective of the management plan . . . [to be] to ensure that wolves will not have to be relisted [sic] or endangered.* Plan, Appendix B, page 41. Elsewhere, the WDNR cites the *long-term conservation of wolf populations in Wisconsin* as the primary goal of the Plan. Plan at A7 I, page 7. Despite the WDNR A2s stated goal of avoiding re-listing and endangerment, however, the results of the Population Viability Analysis (*PVA*) indicate a significant probability, between 36% and 40%, that the population will drop below 80 animals within the next 100 years. Plan, Appendix B, Table B8, page 43. Under the state A2s listing criteria, *Wolves would be reclassified as endangered if the population falls below 80 wolves in any year.* Plan at A7 IV, page 14. The prediction of a 36% to 40% probability of re-listing is based on managing an initial population of 200-300 wolves to a cultural carrying capacity of 300, assuming low reproduction, a 5% chance of a catastrophic event, and moderate environmental variability. This value set seems to reflect the most realistic scenario for the reasons that follow.

The Plan sets no explicit maximum population goal, but a *minimum* goal of 350 wolves to address social concerns. Plan at A7 IV, page 14; Letter from Steven W. Miller, Administrator, Division of Land, WDNR, to Concerned Citizens (Mar. 15, 1999), at page 1. Yet, *More intense control will occur when the population exceeds 350.* Plan at A7 IV, page 14. In effect, then, the population will be managed to maintain the population at or near a maximum of 350 wolves. Since the WDNR did not run a PVA for this specific number, the analysis assuming a cultural carrying capacity of 300 seems most realistic. Although the reproductive value is characterized as *low,* that term may be misleading. *Low* reproduction actually translates to an age of first breeding of three years, 80% of females breeding when the population is low, and 50% breeding when the population is at biological carrying capacity. Plan, Appendix B, page 39. These estimates may be conservative, but they seem to be more realistic than estimates for the *high* reproduction value. An age of first breeding of two years, 90% of females breeding when the population is low, and 60% breeding when the population is at biological carrying capacity. Id. Even using the high reproductive value, the PVA still indicates a significant probability, between 32% and 36%, that the population will drop below 80 animals within the next 100 years. Plan, Appendix B, Table B7, page 43. The values for a catastrophic event and environmental variability are the middle values of three that were modeled. As the Plan acknowledges, there is little data and much uncertainty concerning these two variables. Plan, Appendix B, page 39. Therefore, using the middle levels seems the most appropriate.

Even the middle value for a catastrophic event is an arbitrary and independent value, however. This means that neither the population density of wolves nor the occurrence of a catastrophic event has any effect on the probability of catastrophic events in successive years. This seems unrealistic because the Plan implies that disease has been a cause of wolf population declines in Wisconsin in the past. Plan, Appendix F, page 55. The proposition that diseases are more easily transmitted through a population with higher densities is generally accepted. Also, diseases do not always run their course in a year, meaning that a catastrophic event, e.g., an outbreak of canine parvovirus, might last more than a year, and therefore influence the chance of a catastrophic event in the successive year or years. This question is worth considering since the effect of catastrophic events in two or three consecutive years would be considerable. 20 Although societal attitudes toward the wolf are very important, it is imperative that population viability be given paramount importance in setting any maximum population goal. Reading the Plan as a whole, the WDNR appears to be contemplating the eventual setting of a maximum population goal of between 350 and 500 wolves. Based upon the PVA, even managing for a biological carrying capacity of 500 will result in a 21% probability of re-listing in the next 100 years. Plan, Appendix B, Table B5 (initial population of 200-300, low reproduction, a 5% chance of a catastrophic event, and moderate environmental variability), page 42. Thus, a maximum population goal should be set toward the higher end of this range, to ensure that wolves will not have to be re-listed as threatened or endangered, in accordance with the

stated goal of the Plan. WOLF MANAGEMENT STRATEGIES (Section V) Wolf Management Zones (Section V, Subsection A) The Plan A2s four zone system should provide a good framework for successful management, primarily because it includes provisions for protected core areas to act as reserves or sanctuaries. Nevertheless, specific elements of the management strategies for the four zones are troubling. For instance, after de-listing in Zone 1, the Plan provides, "If the minimum population goal is exceeded, proactive trapping by government trappers

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Mail First Last Organizatio Address City State Code Comment

may occur in areas with historical wolf depredations [sic] problems.* Plan at A7 V, page 15. The phrase "areas with historical wolf depredation problems" is not particularly informative. In a historical sense, nearly the entire state has had "depredation problems" at some point since European colonization. In addition, the need to trap wolves in an area because of past depredation problems is not apparent. If the management goal is truly a minimum of 350 wolves, as opposed to a maximum of 350, why might trapping take place if the population exceeds 350? The Plan already provides for trapping or other depredation controls in the event of an ongoing or current depredation problem. Plan at A7 V, page 15. In the absence of a depredation problem, what is the need for trapping or any other form of control? Again, this indicates that the WDNR is actually proposing a maximum population of 350, despite the Plan A2s assertion that this number is a minimum population goal. Another objectionable point is the proposal to eliminate a closed coyote season during the gun deer season in Zone 2. From a strictly biological perspective, maintaining a closed season would be appropriate, because it would reduce additional wolf mortality. Population Monitoring and Management (Section V, Subsection B) Five years after the approval of a management plan, if the wolf population has surpassed a maximum population goal that has yet to be set, the WDNR will consider a managed public take. Plan at A7 V, page 18. Within the foreseeable future, the wolf population in the state will exceed the minimum population goal of 350. Both the Plan and the mathematics of population ecology suggest that the rate of increase should begin to slow as the population continues to increase. Considering this, and projecting even an 11% annual increase through the next six years, the wolf population may be approximately 374 in Spring 2005. This number suggests that a managed public take may be proposed in the relatively near future. Accordingly, the WDNR should begin examining potential harvest methods, rules, and their acceptability to the public. Habitat Management (Section V, Subsection D) In the subsection on habitat management, the Plan makes several statements relating to factors such as vegetation management, access restriction, etc. Plan at A7 V, pages 19-20. Although NWF agrees with the policy behind encouraging appropriate habitat management, the bottom line is that the WDNR has relatively little direct control over these issues in the majority of primary wolf range in the state. From the figures given in the Plan, only 10% of primary wolf range is managed by the state. Plan at A7 V, page 19. An additional 85% is controlled by industrial forest concerns, governmental agencies, and private landowners. Id. To varying degrees all of these entities are interested in timber harvest of various types. Though timber harvest on these lands does not necessarily conflict directly with wolf management as proposed in the Plan, the WDNR A2s influence on such timber harvesting is negligible. This may not have a significant impact on the suitability of the proposed Plan, but it puts in perspective the very positive sounding statements about the WDNR A2s recommendations for habitat management.

Paragraph 5 of the Habitat Management subsection dealing with the protection of den and rendezvous sites also sounds more impressive than it actually is. First, the Plan gives no citation or biologically significant reason to support the radius of the areas to be protected around den sites. Second, and this point mitigates the first to some extent, the only way anyone, including a wildlife biologist, is going to have an idea where a den is located would be through intensive radio-telemetry. Even with a visual sighting from pilots conducting aerial telemetry, a day or two of searching on the ground is necessary to find a den. Given the planned reduction in the intensity of radio-telemetry monitoring within the next five years, the ability to designate protected areas around dens will be very limited.

Wolf-Dog Hybrids and Captive Wolves (Section V, Subsection L) The subsection dealing with Wolf-Dog Hybrids and Captive Wolves does a fair job of describing the various problems posed by the practice of keeping wolf-dog hybrids as pets. NWF A2s concern is that the Plan does not go far enough. It merely states, "The WDNR should seek statutory authority to regulate the ownership of these animals in the state." Plan at A7 V, page 29. The possession of wolf-dog hybrids should be prohibited in the state. In addition to the very real concerns that feral wolf-dog hybrids can pose a danger to humans and negatively influence the public A2s attitudes towards wild wolves, problems with the dilution of wild wolf gene pools may already be occurring. Banning the possession of wolf-dog hybrids could potentially meet vigorous resistance from some segments of the public, but the benefits to wolves in the state outweigh this concern. CONCLUSION With the exceptions noted in the foregoing comments, the WDNR A2s plan seems sound. NWF looks forward to a continuing dialogue with the WDNR and the Natural Resources Board and the adoption of a management plan that is both biologically sound and socially acceptable. Toward that end, please include NWF on your mailing list.

Yours truly,

Neil S. Kagan

Upper Midwest

Wolf Coordinatorcc:

Adrian Wydeven, WDNR

Ronald L. Refsnider, U.S. Fish & Wildlife Service

Mail First	Last	Organizatio	Address	City	State	Code	Comment
53219	2065 So. 57th St.		West Allis			WI	Gilbert Murawski

I am a hunter and a fisherman mostly. I just love timber wolves also. Those hunting preserves which are called can hunts are outrageous how can we permit this to happen.

Bill Meier

Do not allow control by landowners; unreliable to allow poulation monitoring by DNR field personnel & bow hunters; if harvesst allowed no take during breeding season if hunting is allowed;

01-May-99 Su Neuhauser
intelife@uinet.campuswix.net

Having spent long periods every summer for the last 20 years, both in Northern Mich and Northern Wis., and being a private property owner, I have the following comments: 1. The originally proposed population goal of 300 animals for three years should be reinstated....I believe that you will find that at the higher population goal, you will have more population drift. IF and WHEN individual wolves cannot find territory they may drift into the U.P. which I believe has a fairly large capacity to absorb excess animals. 2. What will be the burden of proof on landowners who shoot wolves allegedly to protect their property or pets?? 3. Is the coyote population being purposefully curbed in order to allow the wolves to flourish??? This was not clear to me. 4. regarding the PUBLIC 'HARVESTING' of the Wolf population - IF over 350 wolves manage to survive the landowners "defending" their livestock, the game wardens who have the authority to kill "nuisance wolves", the hunter who will mistake a wolf for a coyote, hunger, starvation, interstate highways and other motorized barriers ,THEN how and when will this "harvest be considered and by whom. Also I did not see any alternatives to slaughter being mentioned.....Has the state considered the perhaps more costly but certainly more acceptable alternative of using birth control on a give percentage of the femal wolves?????? I have no doubt that for such a operation numerous volunteers from environmental groups, universities , etc. could be easily found...It is tragic that we are almost in the year 2000 and that population control techniques that are being proposed are that have been used since the year 200..5. If the interests of the deer hunters are pitted against the interests of the wolf and of those humans who defend wildlife - the wolf will lose.6.Has this plan been discuss as a multi-state issue or has it been dealt with in a vaccum within the state of Wisconsin only. How will the plan impact neighboring states?? What is the position of the State of Michigan, Minnesota, etc. on the proposed plan?????

08-May-98 B Colbern
54659 Taylor

80 to 100 wolves are more than enough for WI. Get the wolf off endangered list before get out of control. If get 300 to 500 wolves will have a lot of claims for damage to livestock and hunting dogs. Keep under control before get out of hand.

Mail First	Last	Organizatio	Address	City	State	Code	Comment
08-May-98	Terry	Mittlbauer				WI	
53941	E3360 Jessop Rd.		LaValle				

The wolf population shoud be managed for 80-100 wolves in the entire state...wolves killing hunting dogs are a real concerned...there should be no effort to promote a wolf population south of Hwy 64...I am not totally opposed to having some wolves in Wisc...I do believe your goals are way too many...if you allow this population to double or triple you will see the problems and nuisance wolf problems increase by 10 to 15 times

08-May-98 NO NAME

If the habitat can support more wolves, let's encourage them. I would rather see a wolf than shoot a buck.

08-May-98 Steven Margitan
54531 5230 Cedar Falls Rd. Hazelhurst WI

(Language identical to Prebis letter) urges following fed. recovery plan, favors 200 wolves but not 500, resents competition of wolves for game especially on land the owner improved for hunting

08-May-98 Bill Herrmann
54729 930 Pumphouse Rd. #3 Chippewa Falls WI

Because the wolf program is promoting a predator that is in direct competition with sportsmen it is totally unfair to ask the sportsmen of Wisconsin to fund the project in any way. All costs for the program, including the salaries of all the people working on the program, should come from general revenues.

08-May-98 NO NAME

I am very concerned about the increasing number of wolves with no end in sight. We haven't heard anything about control...If we hunt fox and coyote why not some limited wolf control at 200.

12-May-98 John Tyler
94018 P.O. Box 533 El Granada CA

Congratulations to you (A. Wydeven) and all the other participants for a very comprehensive piece of work...I'm a native Badger...intensely interested in your progress...until the end of my graduate school years (63) I spent much time visiting my maternal grandparents in Mellen...often fished the streams of Ashland and Iron counties...occasionally I would hear some howling, which I presumed to be coyotes...one morning on timber road toward a stream near Morse, while selecting a fly from my box, I looked up and caught a glimpse of a lobo crossing the trail about 75 yards ahead...I thought to myself that it must be the biggest coyote in the country...thankfully now they're back and in good numbers...I am hopeful that members of the human population will become increasingly tolerant towards the wolves. But I don't doubt that there will continue to be a few trigger-happy shovel-shoot-shutup morons out there in the woods.

Mail	First	Last	Organizatio	Address	City	State Code	Comment
13-May-98	Elizabeth	Cowie					
55127	#4 Hawk Land	North Oaks	St. Paul			MN	

You are to be commended for an excellent and extremely comprehensive report...I have a second home in Washburn Co...the draft plan makes sense although I hate to see the wolf downlisted to threatened...strongly support the coyote hunting ban during deer season...TWA & TWIN are excellent...if a local trapper, hunter, logger could be convinced to help track & survey their particular area it might lead to better understanding...I hike...with a setter & want to know where rendezvous sites & dens are located...so I don't put my dog at risk. If I had a local person (volunteer) to call who would be able to inform me it would be greatly appreciated...how about involving dog sled competitors...

15-May-98 John Glowa
4358 RR2, Box 533 South China ME

Wisconsin is setting the standard for the rest of the country to follow. The management plan has been well thought through and it has taken into account the public's opinions every step of the way. I believe the management plan will achieve the goal of maintaining a healthy wolf population while minimizing conflicts with humans. The 300-500 population range for wolves seems reasonable...the Wisconsin wolves (and perhaps the Wisconsin people) don't know how lucky they are to have folks like you to look out for them.

15-May-98 John Maier
54703 1807 Silvermine Dr. Eau Claire WI

no public harvesting, farmers should be encouraged to obtain herding guard dogs, nuisance wolves should be

livetrapped and transported even to other states, arbitrary population and range sizes should not be set, all hybrids should be made illegal with substantial fines for breeders, owners of hybrids must have them neutered.

22-May-98 Angela Olson
94112 82 Havelock St. San Francisco CA

I hope the Wisconsin Wolf Management Plan will support the wolf so he can persevere in the lands...the wolf is a splendid creature...I also know that many people have an innate 'hate' toward this animal that they will not abandon...support the wolf, he deserves his niche in our ecology and I hope that future generations of American children will be able to hear him howl in the wilderness and know that wolves live.

26-May-98 Wayne Johnson Project Wolf USA
98109 1500 Westland N. #202 Seattle WA

There are many good items under consideration...unfortunately the move to make the transition from endangered to threatened ill means some wolves and wolf hybrids will be...killed...we, at Project Wolf USA do not think one more wolf should be killed. If you population is up to 180 or so does that mean that you think it can take a few hits? After what we did to the wolf in Wisconsin, Washington State and nationwide, what possible justification is there for more killing? Livestock depredation? So let's reimburse the farmers, not make the wolf into a victim. This century is ending with the wolf still viewed as a scapegoat for our failure, our encroachment and our short sightedness. Give these 180 creatures the chances wolves never had -- to live.

01-Jun-98 Robert Lutz
53017 50 E. Main St.P.O. Box 146 Chilton WI

I don't believe 180 -- or even 500 -- is enough animals to remove this species as an endangered resource...they require the constant overview of the DNR or the nuts in the north woods are going to be back shooting them again...object strenuously to any manner allowing trapping of wolves

Mail	First	Last	Organizatio	Address	City	State Code	Comment
05-Jun-98	Tom	Feck				WI	
54501	7286 Woodcrest		Rhineland			WI	

I generally support the plan, population goals, zones, disagree with methods of control...don't think there should be any control in prime wolf habitat...limited control in Zone 2 and liberal ccontrol in zone 3 is acceptable...against public harvest...the best management is to leave (wolves) alone...(and) to educate people

05-Jun-98 Gary Sutherland
53520 1206 W. 2nd Ave. Brodhead WI

Way too much money is being spent to spread the wolf population. I think it is foolish that they are even listed as endangered. Please send me a copy of the management plan.

05-Jun-98 Beverly A. Linke
54940 8682 River Trail Drive Fremont WI

I like your plan but I do not see it working...there are too many people out there that have a real hate on for wolves. I have heard them called vermin, wanton killers and killers of livestock. They have already started horror stories in newspapers and magazines. The biggest of these is Lawrence Krak of Gilman, WI., he hates wolves so much he scares the heck out of me...He neither understands the first thing about wolves no does he want to...When some dogs were killed by wolves my heart really hurt for those people. I love dogs; but dogs should not run loose, especially in the Northern and Central parts of WI...the wolf's problem is that he is a meat eater. He hunts...to see them bring down an animal and kill and eat it, is not a pretty site... You speak of controlling wolves, and nuisance wolves, and buffer zones. The first two seems rather hard to do. If the leader is killed the whole family pack suffers, sometimes they never recover...you are trying to control a wild and very intelligent animal, I don't really think this can be done...In the back of my mind the thought came to me, that maybe you want them back so they can be hunted again. I hope not. As I said in the beginning your plan is rather good, but I just do not believe it will work.....

06-Jun-98 Mrs. Floyd Hatfield
54304 1007 Cleveland St. Green Bay WI

I am writing to ask that you not kill my pups & friends...the wolves you are trying to make a decision about...relocate them to areas of the United States where they have become small in number...they are overgrown hungry pups...they hunt for food...

Mail	First	Last	Organizatio	Address	City	State Code	Comment
07-Jun-98	Rep. Marty	Reynold					
53708	P.O. Box 8953		Madison			WI	

I'd like to begin by thanking you for the creation of a very informative and comprehensive proposal dealing with the wolf management issue for Wisconsin. Unfortunately, through either reality or perception, it would appear that your proposal lacks an acceptable solution to the issue of population growth in Zone 1 that is going to satisfy the residents of this area of the state. To contend with the reality of this perceived oversight, there will be residents who will feel the need to deal with this issue on their own and apart from the Department. There will be those who will justifiably feel that the Department will not be willing to or able to protect their livestock, poultry and pets, and will take that matter into their own hands. I'd suggest that even if it should run counter productive to your objectives to managing the wolf population in Zone 1, that it might be in your best interest to propose a trapping or hunting schedule at this time rather than waiting until the problem is apparent or out of control. Public acceptance is going to play a major role in the success of this program. If the public consensus is that the department is ignoring their concerns regarding the proliferation of wolves in Zone 1, and the Department's ability to control and protect their livestock is seen to be lacking, then the same public will be forced to deal with the issue in their own way. While I support the concept of a wolf reintroduction plan for Wisconsin, I'd ask that you give additional consideration to the concerns raised in forums in the northern part of this state. Zone 1 contains not only the largest land mass of the three zones, but it also contains the most favorable habitat for our wolf packs. The other two zones would appear to be inconsequential regarding the wolf management plan. Therefore, I'd suggest that the residents most impacted are those who need to be dealt with. In bringing up the issue of forums, I'd also ask that you take a look at the locations of your proposed hearings. Depending on the location of the Black River Falls forum, half of your hearings are being held outside Zone 1. I'd assume that this will tend to skew your findings in favor of the packs and your management proposal, since the residents of Zone 2 and 3 will undoubtedly see the romantic vision of wolf packs in Wisconsin, and not have to deal with the reality of these packs influencing their pets and property. I'd suggest a couple more hearings in Zone 1 would provide a more balanced image. You've made a comment in your draft that 'a disadvantage to fewer zones is that less fine-tuning of management is possible' So, your proposal to create three zones would appear to make sense, if the wolf packs were equally distributed in those three zones. Unfortunately, all the wolves will be in one zone and your concern regarding 'fine-tuning' becomes not only obvious but also valid. It would appear that the entire pack population of 500 wolves would inhabit Zone 1, so in reality Wisconsin has only one zone, the fewest number possible. As stated earlier, I'd ask that you consider the concerns of the residents of Zone 1 and prepare a schedule or system of control that goes beyond relocation and trapping by government agents. I'd suggest a proposal providing public hunting and trapping to be put in place. If it turns out that there is no need for this to occur, then that's great. However, by incorporating such a proposal, you not only have a back-up plan if needed but it also shows that you're listening to the people of this area. If your plan is going to work, it can only work with the cooperation of the people who own the land that the wolf packs will inhabit...

10-Jun-98 Gary Babington
53159 10415 2nd St. Pleasant Prairie WI

I am not pleased with the decision to reintroduce the wolf...can see no legitimate reason to proceed with this program, the reasons to stop the program and eradicate the wolf from the state are as numerous as the people that frequently use the natural resources of the state and the dollars they bring to the economy...documentation in the State of Minnesota shows wolf to be non-selective and wasteful predators...problems that the wolf will cause for agriculture in the state will add to the cost...who will pay for the damage...is the reintroduction of this uncontrollable and highly efficient predator outweigh the pleasure of enjoying the biological diversity of this state...

Comment

11-Jun-98 Tom

Herschelman

Sierra Club, John Muir Chapter

Madison

WI

In November, '97 the Sierra Club John Muir Chapter stated our vision of Canus Lupis is a population based solely on the genetics and population dynamics of this species, and of the capabilities of the land and habitat to support them. We continue to believe this and the following. We stated the wolf was needed to help in the ecological restoration of native biodiversity. we stated all the citizens and governments of Wisconsin should do what they can to welcome the wolf back to its rightful territory and place in the awesome ecological web of life we call biodiversity. We stated if it becomes a reality that we were opposed to the hunting, trapping and killing of any wolves by anyone other than state or federal Government employees. We stated the state should fund damage from wolves as it does from damage to deer. Compared to deer damage the wolf damage to livestock and pets is miniscule but should be compensated when proven. We stated that we humans have the opportunity to nurture the wolf and share space-water-game resources, and a small amount of resources will be required, with the wolf. We stated the opportunity for righting the historical injustice done the wolf should be taken advantage of. We stated we expected up to 700 wolves. The number is not critical but the concept of allowing wolves to determine their own numbers is important. The chapter feels wolf-dog hybrids should be strictly regulated to prevent injury to children, livestock, and the genetic pool of wolves and to preserve the well-known low incidence of predation among wolves. We strongly support the education of hunters, children and the public of the contributions, behavior, natural history of wolves, and of the need to respect all of nature other than what it can provide on our table or for consumption. We strongly support the education of farmers to take proactive options to reduce the risk to their livestock and the literature is abundant with these options. We stated our relationship with the earth must be based on intelligent, careful, nurturing, scientific, humble and bio-centric perspectives, and that we must deal with the earth and all its systems and species with mutuality, respect and appreciation, not dominance and extinction. If we love life and our planet, we must love all its creatures and respect the intricate relationships within it. We stated the Wolf Plan is an example of our maturing and willingness to begin the long road of healing the earth. If we are to express our love of the earth, we must nurture the wolf and welcome it back. We stated this Plan is different than the consumption-extractive role we many times fill, but that our support of this plan will produce spiritual dividends other than money and goods. This plan is an opportunity for wolves and humans to both win in non-material norms. Under the Plan just released, we understand some citizens are concerned with loss of deer hunting oppoortunities. This does not fit the facts as wolves consume maybe 1 deer per square mile and with 20 or so deer per sqaire mile, this is miniscule. Also, many of the der would die from winter mortality and car collisions, etc. In addition, wolves kill coyotes, which will save fawn predation. Again, the Chapter calls for the dynamics of predator-prey relationships to play the role in wolf numbers. The chapter is concerned that deer are causing the reductions in viabilit of orchards and other plant species requiring extensive interior forest conditions and wolves may be able to reestablish a more traditional balance in this respect. The DNR should not attempt to raise deer densities by, for instance, clearcuts to compensate for the minor der losses due to predations. Regarding the relationship of humans to wolves, the Chapter first wishes to examine the relationship of humans to all public resources. The state and National Forests, and wolves and deer, "belong" to all the citizens and not to northern or southern citizens. Southern citizens have a legitimate right to have a say in the destiny of wolves in this regard. In fact, the concept of ownership is what gets us into trouble. In this regard I, as chair of the Saron Eco-justice Task Force (NOT SIERRA CLUB POSITION) submit the Bill of Biotic Rights enclosed. As respects the wolf this includes 1- the right to participate in the natural competition for existence. This means we humans must allow natural conditions for species to act out their natural role in their entirety overall, without unwarranted human interventions. We submit Right 2- The right to satisfaction of the wolf (and other species) basic needs and the opportunity to perform their individual and species functions 3- The Right to reproduce their own kind 4- The right to fulfill their evolutionary potential with freedom from human induced extinctions. In addition the Sierra Club goes on record opposed to any citizen killing (harvest) of wolves even if numbers exceed 500 wolves. We applaud protection in Zone 1. We oppose private killing of wolves in Zone 1 on private lands as compensation is provided and with education and transporting, this is not necessary. The chapter is opposed to a determined number of wolves, as it is presumptuous to assume we have such a right. It is not the intention of the SC to provide a complete list of recommendations today on the Draft Wolf Plan. This will follow later. Some key points, however, are: 1- No landowners with permits should be alloed to kill wolves 2- The Chapter strongly approves of access management in Zone 1 to reduce encounters between humans and wolves, with non-development of roads and motorized vehicle roads to prevent wolf-human conflicts 3- Due to anticipated reductions in wildness levels in northern WI the Chapter recommends aggressive management for suitable wolf habitat especially low road densities on public lands. 4-We recommend automatic listing as threatened and endangered if wolf numbers reach a pre-established downward threshold. As the wolf viability analysis demonstrates that even 500 wolf numbers may suffer severe diminishment due to catastrophes , disease, habitat destruction, etc., we again call for no upward limit on wolf numbers.

Thursday, June 24, 1999

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Mail

First

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Address

City

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Comment

12-Jun-98 Robert Nugent
53406 1203 N. Sunnyslope Dr. Racine WI

My wife and I are retired and I am a deer hunter...we strongly agree that there must be a viable plan to preserve our wolves...I applaud efforts to date...keep up the good work!

15-Jun-98 Jenny Emerson
53177 1919 Willard Rd. Sturtevant, WI

First you write the wolf is endangered, then after only three years, you're going to allow trapping and public hunting end euthanizing. First all traps should be outlawed totally...all trappers should be trapped themselves...why do you feel wolfs and people can't co-exist...you're supposed to protect animals not kill them because they are bothersome...I bought a wolf plate three years ago and kept it lup but will now cancel it...gone to Boulder Junction...since I was nine...there aren't any animals left up there...this is a people problem not an animal one...

Thursday, June 24, 1999

Mail First Last Organizatio Address City State Code

Comment

15-Jun-98 Stephanie Porter
80262 U-Colo. Health Sci. Ctr, 4200 Denver CO
E. 9th Ave

I was dismayed when I read the sections about wolf hybrids...I hope that I can be of help...I have a PhD in molecular genetics and have been following the wolf hybrid controversy for many years...I recently spent half a year on the State of Colorado Canine and Feline Hybrid Advisory Committee (encloses copy of report) This statement (wolf-dog hybrid is the offspring of the mating of a wolf with domestic dog... does not represent the most recent view on the relationship between wolves and dogs. The American Society of Mammalogists have reclassified dogs as a subspecies of Canis Lupus...there is no way to legally distinguish a wolfdog from any other dog. Statement: normally these are bred in captivity because wild wolves rarely breed with dogs...although there is only a little evidence that wild wolves have bred with dogs in the United States this statement is inaccurate. Wild wolves have bred with dogs in this country and it is possible that the paucity of observed crossbreeding is due to the long-standing diminished wolf population...Wolf Dogs unpredictable -- This accusation ...is a scare tactic used by the media...I have spoken with a number of professional dog behaviorists that work with wolfdogs. They have seen no clear differences in behavior of wolfdogs from that of other dogs...ignorance by owners should not be translated into known 'fact'...predatory behaviors of wild predators lost in domestic dogs...it is absolutely Not True that dogs have lost predatory behaviors...dogs are especially dangerous when they form packs...Attacks, maulings, dismemberments and deaths caused by wolf/dog hybrids have received national media attention...this statement is misleading. It implies that wolfdog attacks on children are unusual. There are over 4.5 million dog bites per year alone in this county...there are an average of 20 deaths due to dog attack per year in the US and that many other breeds are above wolfdogs on this list...Unfortunately...many hybrid owners resort to "setting their wolf free" when they cannot find a suitable home for them...can you prove wolfdog owners are especially prone to this irresponsible behavior? There have been 11 cases of free-roaming wolf/dog hybrids in WI between 89-96...it seems that with over 400,000 wolfdogs in this country 11 running free in WI over the course of 7 years is amazingly small...Wildlife biologists also worry about hybrids interbreeding with wild wolves...in the few cases where crossbreeding might occur any traits that are detrimental to survival will be selected against. Twenty-Five other states presently regulate the possession of these animals..Colo assist. state vet did an informal phone survey of several states that regulate wolfdogs...in virtually every state, the administrations of these regulations was problematic...the critical issue in regulating something is being able to unambiguously identify it. Since there is no genetic test for wolfdog and since every identification case brought against wolfdog owners has been won by the owner, one is left with the question of how to practically regulate these animals.. The reality is that if regulations are imposed on the public the wolfdog owners will go underground...

16-Jun-98 Matthew Miller
54751 386 Red Cedar St., Apt. 120 Menomonie WI

I strongly support all (timber wolf, elk, and Trumpeter Swan) management programs...A zero tolerance position

regarding nuisance wildlife is a simplistic and archaic view which contradicts all concepts of modern wildlife management. I think the Wisconsin DNR is doing a great job regarding timber wolf management. My position would allow the wolves to keep expanding their numbers until they reach a desired goal set by wildlife biologists and available habitat not angry farmers or ranchers. In return, a harvest plan could be implemented to keep the wolf population in control and the state would continue to reimburse farmers and ranchers who suffer losses from verified wolf predation...I believe that the prevailing view today is that both wolves and humans can and should co-exist, a view held by both biologists and the majority of Wisconsin residents.

Mail	First	Last	Organizatio	Address	City	State Code	Comment
17-Jun-98	Bob	Kronsted				WI	
54410	7375 Co. Trunk	HH	Arpin				

I raise beefers and am concerned about the damage I hear about being done by the estimated 180 wolves in the state currently. The draft plan calls for wolf numbers up to 500 animals. With the damage being done by the 180 wolves, I feel you are asking for trouble when you talk about 500 wolves...the people that will be affected most...are ...in the country...people that live in cities...will not be affected...I am also guessing that those same people coming up with these proposals do not live in the country or farm. They figure it won't affect me, besides, what damage can wolves do to pet dogs, cats or farmers calves...how do you place a value on a family pet? How would you like it if your son or daughter's puppy was killed by a wolf?

17-Jun-98	William	Southern				WI	
54875	W4147 Co. Hwy F		Springbrook				

I am pleased we now have wolves...consider it premature...to change the status from endangered to threatened...oppose a regulation that easily allows government agents to euthanize wolves...support the plan and goal of a wolf population of 500 animals...

18-Jun-98	Elwyn & Beverly	Mining				WI	
53946	N3065 E. Little Green Rd.		Markesan				

Wolves and deer don't mix. I as a hunter would sooner see a few more deer than a wolf track in Sawyer Co! There are enough predators in the woods...DNR ought to be spending my money on fish restoration instead of listening and watching their collared wolf program.

Mail	First	Last	Organizatio	Address	City	State Code	Comment
22-Jun-98	Richard	Vatthauer			UWEX Dept. Animal Sciences		
54706	284 Animal Sci Building,	1675	Madison			WI	
	Observatory Drive	UW					

Thank you for the call relative to the development of the DNR wolf policy discussions. I appreciate the opportunity to share with the group some information that I hope will be useful and some sources of information which can be used for development of strategies for indemnification..As I indicated in a letter to Randy Jurewicz, the beef industry recognizes traditional markets identifiable by types of cattle, market weights and times of the year. Fall is recognized as the market time for weaning calves, animals grazed during the summer grazing season and cull beef cows. In Wisconsin this is September through late November. Beef producers organize their beef production system around the combination of available resources, weather, growing season, markets and labor. In Wisconsin, our most economical combination of the above production resources drives early spring calving from late March through early June to capture economical sources of feed, grass, normal effective reproductive cycles, labor supply and strong markets in the fall. Thus, Wisconsin beef producers do not fall or winter calve in large numbers because our combination of economics and resource availability do not favor calving at those times. The main function of the beef cow is to produce a calf, nurse it until it can biologically and economically exist on its own. This is the key objective of the beef cow business. The production, mothering, and nursing of the calf to acceptable weaning weight and age is what pays the yearly cost of keeping the cow. The weaned calf is the product for the year. The beef cow is kept solely to produce the weaned calf. Interruptions in this objective of a weaned calf from each cow annually are losses to the beef producer. While purchased calves can be grafted onto beef cows who have lost their calves, the added cost of the purchased calf and the added labor of grafting the calf onto the cow are redundant costs and losses to the producer. The cost of hand raising dairy calves to similar weights of beef calves at weaning usually results in the dairy steer costing as much or more per pound than the weaned beef calf market price. The limited number of dairy calves reared to weaning weights for meat production is testimony to the challenging economics. The beef producer keys his production system to marketing his resources of land, labor and capital through weaned calves in the fall. Predator

losses can not be replaced by substitution of purchased calves or indemnification at weights and prices other than traditional fall weaning weights and weaned calf markets. I suggest fall weaning weights and prices be used for predator loss indemnification for calves from birth to weaning. This is a very difficult situation on which to develop an acceptable policy position. However, evidence exists that wolves appear to remove young calves from where they have been killed with the loss of any evidence of the kill. I suggest the group consider qualification of reported unconfirmed predation losses on farms where wolves have been trapped. This qualification of having a predator trapped on or near the pasture should remove losses that in fact did not happen or happened due to other causes. There exists national survey data on typical calf death losses the first day, day three through three weeks and three weeks to weaning. Such data could provide normal expected death losses producers should expect and accept. Losses beyond the national averages and on farms on which wolves have been trapped and/or seen in calving pastures by producers and officials could be indemnified even if evidence of predation were not found. The United States Department of Agriculture Animal Plant Health Inspection Service, Veterinary Service, annually surveys selected producers...the National Animal Health Monitoring System uses a survey... audit...indemnification should be considered above these national averages with exceptions accepted for abnormal weather events. The address for the Animal and Plant Health Inspection Service National Animal Health Monitoring System is: Centers for Epidemiology and Animal Health; USDA-APHIS-VS, attn. NAHMS, 555 S. Howes, Ft. Collins, CO., 80521. www.aphis.usda.gov/vs/ceah/cahm

24-Jun-98 AI Lobner
54454 11321 Blueberry Rd. Milladore WI

When the original plan was first introduced I was not that involved with the process nor were a lot of other people...my opinion is that we the citizens of Wisconsin should not allow the Timber Wolf population to increase any larger at this time. In fact I feel the population should be reduced to the size that was first proposed by the Federal Government. The notion that the wolf is endangered is not valid when there are plenty of wolves in Canada and the northern tier of states.

Mail First Last Organization Address City State Code Comment

25-Jun-98 Bruce Bacon
54547 3291 State House Circle Mercer WI

Agree with a 300 minimum wolf population...WI & MI populations should be treated as one population for viability purposes; management zones look good...there needs to be lots of flexibility to use a wide variety of options to solve problems...by the time we reach 500 the public may be experiencing problems -- 500 is too high -- allow the flexibility to start a management program that includes a regulated harvest if necessary when the population passes 300 wolves...agree with a strong wolf-hybrid captive wolf policy; funding could get quite complicated...the plan looks good. What I got out of the viability analysis is that a population goal of 300 wolves would likely never run out of wolves, short of some catastrophic event.

26-Jun-98 Walter Kaufman
53017 587 Highland Colgate WI

What good are they? (wolves). Instead of spending money on wolves ...figure how to get rid of the geese in cities...I vote for not spending any more money on wolves.

26-Jun-98 Joe Komanec
54433 Gilman WI

Wolves are getting pretty troublesome...do you want wild game or timber wolf?

26-Jun-98 Dale Kuiler

53812

Kieler

WI

I do not believe in the draft wolf plan if we have ten wolves in the state that is too many. Wolves kill too many deer, they will run down & kill good healthy deer...maybe you would like to do away with hunters, like PETA, and the antigunners would like. If wolves kill all our deer, we will not need hunters.

29-Jun-98 Robert P.

Rusch

54451

111 E. Division St.

Medford

WI

I write in support of the proposal to allow the wolf population of WI to increase to at least 500...I have for the past 25 years resided in Town of Rib Lake, Taylor Co., ...I am pleased to see sign of the presence of wolves and I am thrilled to hear their howling. I can think of no good reason to oppose a significant wolf population in north Wisconsin. The most repeated argument against is the claim of a decimation of the deer herd...the deer population growth occurred at the same time of the increase in wolf numbers. I hope that the wolf population would reduce the deer population...The other oft repeated argument against wolves are predation on farm animals. This is a legitimate concern. It should be dealt with by prompt and complete payment of damages...a significant wolf population is a worthy component to Wisconsin's north woods.

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
30-Jun-98	Mike		Lentz			Wisconsin		Bear Hunters Association

The Wisconsin Bear Hunters Association board of directors, on June 26, 1998, adopted the following position. Due to the number of domestic animals that have been injured or killed in Wisconsin by wolves; there is no provision for unding damage reimbursement after wolves are removed from endangered list. hisstory shows Wisconsin has not been successful in managing wildlife at goal, 50% over goal is common. The original goal was 80 to 100 and is already at over 150 wolves. A goal of 150 wolves with a 50% over goal is 225 wolves. A proven system of controlled harvest of the surplus wolves by sport trappers and hunters and not by federal or state employes needs to be in place. Therefore; the board of directors of the Wisconsin Bear Hunters Association opposes an increase in the goal of 300 to 500 wolves in Wisconsin at this time. Mike Lentz, Committee Chair.

03-Jul-98 R.T.

Haas

54724

222 Freeway Dr.

Bloomer

WI

First you wanted 80 wolves for Wisconsin and that was too many as far as I was concerned but now you want 300. Sounds like a little kid at a candy counter!...Farmers are getting angry and nowadays they can and will post land...you cry short of funds but go off on this wolf idea -- something does not add up...maybe you should pay attention to this bunch of dumb red-necks or whatever you consider us or do we have to go to the governor to get your attention?

03-Jul-98 Gary

Reinke

Gari-Alan Farm

53038

N6060 Hilltop Lane

Johnson Creek

WI

I sincerely hope and pray that you keep your wolves far away from our area. We have been raising breeding cattle for 38 years and we don't need to have our cattle preyed upon by wolves...farmers have enough problems to contend with and we really don't need wolves added to the list....Your indemnity payments are not going to do much good for a purebred breeder who loses a bull calf that would have been worth \$1,000, \$2,000 or \$5,000....I cannot see why anyone in their right mind would introduce these predators on livestock to our state.

03-Jul-98 Pauline

Jarozewski

54727

2442 220th St.

Cadott

WI

I think the wolf management plan is good. Especially controlling hybrid wolf-dogs and captive wolves. Also education of the public. our family adopted two packs through the Timber Wolf Alliance. We are also a hunting family. I'm glad they are back, I agree with the plan, Keep up the good work.

04-Jul-98 Karen English
 32765 1046 Hornbeam St. Oviedo FL

Please send me an original copy (of the draft report) I would like to request current population statistics of the wolves and an explanation as to how these numbers were/are determined and by what team/group of experts...

05-Jul-98 Jim Kowalski
 54412 D2390 Ct. Hwy C Auburndale WI

Please send me a copy of the wolf management plan

Thursday	Mail	First	Last	Organizatio	Address	City	State	Code	Comment
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06-Jul-98	Mary	Palmer						FL	
	32303	5810-400 #122 North Monroe St.	Tallahassee						

The delistment of the wolf in Wisconsin is inevitable...in a state whose wolf population was once estimated to be between 3,000 to 5,000 wolves to need a population control plan for 148 wolves is almost unbelievable to me. ...the plan ...appears to be thrown together haphazardly with no planning what-so-ever if there happens to be a decline in the wolf population...the plan is vague in areas and lacks organization and fails to address the obvious need of educational and planning committees...blatant use of manipulation of statistics and one-sided representation of statistics present in the wolf-dog hybrid portion of the draft that makes one seriously doubt the scientific validity of the entire document...no emergency review wolf team...does not appear to be adequate wolf protection in the zone corridors between zones 1,2,3...no educational teams or agencies in place to educate the clearly intolerant and uneducated public about wolf behavior and hunting habits...there should be penalties for harassment of den and rendezvous sites, and your state, instead, reimburses for an loss incurred while in the act of harassing wolves...(\$2,000 for hunting dogs)...the wolf-dog hybrid portion of this draft is so inaccurate and misleading in its assumptions and lack of scientific data that the entire scientific validity of this draft becomes questionable to anyone with knowledge of wolf-like dogs...there is no scientific information to suggest that wolf-like dogs are unpredictable or display any sort of predatory behavior that is not presently found in the domestic dog.

06-Jul-98 Dan Karbon
 54311 2392 Manitowoc Rd. Green Bay WI

I agree with your plan to delist the wolf when the population reaches 300 for 3 years. Letting the population reach 500 may be a bit too high. I feel sorry for the rabbit hunters who lost their beagles...I have no sympathy whatsoever for the bear hound hunters who let their hounds run attended...they should not get reimbursed when one of their hounds is killed by a wolf...don't let them try to control your wolf plan.

07-Jul-98 Paul Malourh
 54451 W7978 Perkinstown Ave. Medford WI

I consider the wolf program to be in utter chaos at this time and that the personnel and the program needs to be scrapped and started over...Sawyer Co. conservationist hasn't gotten cooperation about a wolf harassing cattle from DNR...lets put a bounty on wolves again and get rid of them...farmers look upon wolves as a curse shoved down their throats by the tree huggers in the DNR...I would like to see the wolf population remain at less than 150 and every wolf that preys on livestock or other domestic animals trapped and destroyed.

08-Jul-98 David Klum
 54627 N20882 Bakken Rd. Ettrick WI

I feel ...stick with the original plan of 80-100 wolves.

10-Jul-98 Julie Scheidler
 54732 29826 CTH S Cornell WI

I am writing...because I'm concerned about the (WDNR)...plan to allow the wolf population to grow to 300 to 500 wolves...that would nearly triple the current population of 180. The prime wolf habitat is small and to allow the numbers to grow that high seem to be asking for nothing but trouble...the numbers show the wolf is no longer endangered in Wisconsin and should soon be removed from the endangered species list...with the current wolf population farmers and ranchers in the northern one-third of the state are having problems...it will only get worse with a larger wolf population...I am not against the wolf recovery plan however I do think the numbers are too high...

Mail	First	Last	Organizatio	Address	City	State Code	Comment
10-Jul-98	Dave	Carlson			WEAU-TV		
54702	P.O. Box 47		Eau Claire			WI	

After listening to testimony and following the story as I have over 20 years I would like to pass along these suggestions: Allow the wolf population to seek its own level. People will try to dictate what they can accept, and that usually will be less than what the wolf can achieve; be prepared to deal with livestock and other predation complaints...let's speedily pay fair market damages and if necessary destroy the troublesome wolf...public education, a never-ending task. It must be intensified in every corner of the state. Wolf education must be a priority in Milwaukee, Madison, Green Bay and their suburbs and the smaller outlying cities and towns closer to wolf territory. Why not have wolf study and research stations at the new Crex Meadows visitors center, somewhere in north-central Wisconsin, perhaps Treehaven and central Wisconsin near Black River Falls? people have to understand that if Wisconsin cannot deal with timber wolves this time around there might not be another.

11-Jul-98	George W.	Taylor					
54241	12395 Sandy Bay Rd.		Two Rivers			WI	

Don't want or need wolves in Wisconsin! bird killers, deer killers, dog killers, livestock killers, pet killers

13-Jul-98	Raymond	Karpen					
54768	E28375 Co. Rd. MM		Stanley			WI	

I didn't get to the meeting on wolves at Black River Falls...I am in favor of more wolves in Wisconsin...to eat up the wounded and dead deer the bow and arrow hunters leave in the woods...There are a lot of dogs that run and kill deer in Wisconsin. I seen dogs & hounds running deer in Rusk County where I used to live.

17-Jul-98	Larry	Wagner Sr.					
54494	1720 45th St. So.		Wisconsin Rapids			WI	

I am not in favor of bring wolves back to Wisconsin. Wisconsin has no wilderness left...people who live where there are wolves do not want them...complaints from people with livestock...I also read that wolves are killing peoples hunting dogs...deer hunters are concerned...businesses are concerned about the loss of revenue because of wolves...how much have these wolves cost us...the majorit of the people where the wolves live do not want them there...

18-Jul-98	Glen	Ogle					
54451	W11104 CTH - M		Medford			WI	

The wolf program is a joke...if you want to study wolves go to the game managers from Canada...as far as money...it should not come from the Pittman-Robertson fund or hunting and fishing license money...it should come from donations from the wolf-loving public. The wolves have already killed 3 dogs close to my cabin & if they kill my good black lab there will be war! No amount of money could replace him! P.S. If you want any 'no wolves' bumper stickers, I

Mail	First	Last	Organizatio	Address	City	State Code	Comment
18-Jul-98	Alice	Droske					
54739	3510 25th St.,		Elk Mound			WI	

I support the draft wolf management plan..many of the anti-wolf feelings and expressions against wolves are based on ignorance...modifying the goal from 300-500 downward would be an injustice to wolves...you are the leaders we look

to...I would like to see the public hunting go into effect only if the population exceeded 650 wolves...I would like to see Zone 1 extended further down into Polk, Barron, Dunn, Chippewa, Clark and Marathon Counties...any shootings should be prosecuted as a state and federal violation...WDNR should seek authority to regulate ownership of wolf/dog hybrids...ecotourism -- be careful, you can 'love wolves to death'

19-Jul-98 Lawrence Krankkala
54536 P.O. Box 5 Iron Belt WI

I believe the plan is pretty thorough, from a layman's view. I find it very disturbing to hear comments of some deer hunters in this area. If they were have their way every wolf would be shot. These people use public lands and paper mill land to hunt on and feel they have more rights to the deer on those lands than does the wolf...the large problems will be education and law enforcement.

20-Jul-98 Nancy Warren
49938 P.O. Box 353 Ironwood MI

I fully support the draft wolf management plan...it can serve as a model for other states...I am in full agreement of the zone management system...strongly support abatement measures...believe more could/should be done...farmers should be notified (when wolves are near)...they could be given a hot line number to call and if wolves visit the farm...even if no depredation has taken place...dnr should increase abatement...I do not support compensation for depredation which occurs on public lands...allowing cattle or dogs to roam free on public lands carries an inherent risk...technical assistance, in the form of education, should be provided...WDNR should take a stronger position on the ownership of wolf-dog hybrids...seek authority to regulate the ownership of these animals...carcasses of depredating wolves should be used for educational purposes...support donation of pelts to non-profit organizations such as TWA and TWIN...

20-Jul-98 Susan Riederer
54977 645 N. Main St., Scandinavia WI

I found the wolf plan both thorough and strongly based on scientific research...a plan should be implemented to help control further fragmentation...I strongly support continued maintenance of linkages and corridors to and from Michigan and Minnesota...protect wolf habitats and dens by working with land agencies, industrial forest and private land owners...off-road recreational vehicles should be severely restricted...there should be no public hunting of problem wolves...removal of proven problem wolves should be made by the DNR...coyote hunting should continue to be closed...priority on funding should be placed on public education regarding wolf ecology and behavior...alternative tracking devices should be made...I support the trigger mechanism to reclassify the timber wolf...I support the control of wolf hybrids...there should not be tourism-based howling or wolf interference...howling should only be for research - education by trained persons, TIN/TWA or DNR...I support the 3-zone management plan.

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Mail	First	Last	Organizatio	Address	City	Stato	Code	Comment
20-Jul-98	Holly		Kuusinen					
53005	120 Bishops Way, Suite 134	Brookfield				WI		

I don't want to see a population of 300 wolves in Wisconsin...I don't want to see a large enough wolf population to ever justify establishing a hunting season...by encouraging greater population expansion...those people are inviting a public relations disaster in 6-10 years...who will that public be in 6-10 years...children taught for 18 years an environmental ethic totally incompatible with your statement (on controlled take)...they go ballistic down here at the thought of shooting (geese)...you wouldn't believe the people demanding deer birth control pills vs. sharpshooting...don't create a social science/public relations nightmare...if the species carrying capacity stabilized at 155-200 animals great...it's still double our wildest dreams.(original member of wolf recovery team)

21-Jul-98 Paul Pettis
54456 W7349 Arndt Rd. Neillsville WI

Wolves can be enjoyed if they are legally hunted. I have seen wolves and I would like to have the right to kill them.

22-Jul-98 William Murphy
53207 313 E. Oklahoma Ave. Milwaukee WI

I hunt deer in the northeast section of the state, and as you are probably aware, that section of the state does not need to have the deer population controlled...keep the wolves out of my deer woods!!

22-Jul-98 D. Borcharding
McFarland WI

This..is to express support for the continued existence of the wolf in Wisconsin...I sympathize with those who have lost dogs...things like that will occur if we are to share the wilderness, woods...habitat with the wolves...they (wolves) deserve a place...let them be.

23-Jul-98 Lois Engelman
60202 715 Monroe St. Evanston IL

I am a summer resident of Wisconsin and am very interested in the return of the wolf to the area around Tomahawk. I feel it is too soon (to remove the wolf from End. List) already mange and lyme disease have afflicted the Lake Superior wolves and may claim lives.

23-Jul-98 Rollis Weister
54479 N8699 Hi-Line Ave. Spencer WI

We have a cabin north of Tripoli in the Willow Flowage area. Except for deer all the hunting we do is with dogs, bear, coyote-cat-fox & bird hunting...I am nearing retirement age & intended to do a lot of hunting...last winter while coyote hunting many days we saw more wolf tracks than we did coyotes. I see they're in the process, up by us, of gating off more roads but regardless I don't think there's enough wilderness left in Wisconsin to keep wolves from conflict with man

27-Jul-98 Paula Rose
54467 3050 Wilson Ave. #4 Plover WI

I am writing in support of the proposed WI Wolf Management Plan...I believe a self-sustaining wolf population is an important part of a diverse natural resource base in Wisconsin...I urge you to delist the wolf...

Mail First	Last	Organizatio	Address	City	State	Code	Comment
27-Jul-98	Susan	Hess	107 1/2 S. Main	Viroqua	WI		

I am writing to show my support for the wolf management plan...delisting the timber wolf would represent a firm step toward that goal (of reducing human intervention necessary to ensure survival of a species)...delisting wolves is the right action to take at this time...

27-Jul-98 David Hochtritt
54964 482 Co. Road F Pickett WI

I do support the plan (but)...have concerns: the past tells us that hunting these animals would be a serious mistake...wolves should not be trapped at any time, especially before they have done any damage to a landowner...

27-Jul-98 Karen E. Purves The Animal Protection Institute - Midwest Office
3540 N. Southport Ave., Suite Chicago IL
254

We support most of the elements of the plan...especially support the emphasis on preventative and mitigative responses to wolf depredation management. We do, however have the following concerns in the areas of the draft plan related to once the wolf is delisted: The plan states the wolf would be listed as a 'protected nongame species; we would oppose any consumptive use of the wolf during this phase; there may be a time when the status of the wolf could be changed to 'game animal' ...we are opposed to such status at any time...allowing open hunting could significantly affect the population status...proactive trapping may take place by private landowners in Zone 3. We strongly oppose the killing of wolves before they have done any harm to a landowner. email address: samneph@earthlink.net (733) 975-7840 or fax (773) 975-7924.

28-Jul-98 Jane Steffenhagen Steffen-Haus Kennels
53925 N.4259 Hickory Dr. Columbus WI

I am very concerned about the future of the timber wolf. it is unconscionable not to encourage the survival of the timber wolf.

28-Jul-98 Robert R. Marti
54613 1721 Cottonville Ave. Arkdale WI

I am a hunter and trapper from Adams County...the wolf's time is still today but its place is not in Wisconsin...in fall of 1997 wolves (4 beagles) were killed...which are seldom further from their masters than 150 yards...The wolf is not an endangered species in North America...who is the DNR going to reimburse when a young child is walking the family dog down the logging road leaving a campground behind the old hunting shack, at a forested wayside, or just for a squirrel hunt in the back 40 and the pack decides that is their domain and the dog and the child are intruders and both are killed?...You guys (the DNR) got your 50 wolves, then 100, then 200, now you want 400...the absolute biggest line I have heard is that wolves will create tourism...

29-Jul-98 Laura Dulski
53508 594 Kelly Dr. Belleville WI

I see the reintroduction of a healthy wolf population as a very desirable goal...however...it seems more than ironic to recommend wolf killing if the population should increase to a mere 500 individuals for the entire state. ...I think the truth is that the great majority of people do not share this blood lust and we are realizing through education that wolves are an extremely interesting species whose social behaviour and organization is well worth studying...killing or harvesting will push the species back to the endangered level...please delete the provision for a public kill...the 500 number...may be too low a number...

29-Jul-98 Roger Wiere
53705 105 Merlham Dr. Madison WI

Please keep the wolves in Wisconsin...some compromise can be reached between no wolves and absolute protection for all wolves. I'm willing to contribute financially toward managing a Wisconsin wolf population.

29-Jul-98 Chipper Mosser Call of the Wild Guide Service
54452 N3267 Highway 17 Merrill WI

When this wolf recovery plan started there were not many people in favor of it. You were going to do it anyhow so you had to cover your ass somehow...this came in the form of brain washing people (excuse me you's call it education) thru public seminars, school movies, etc.) we pay taxes to use national forests. You's have severely restricted that use by gates, berms, wilderness areas, wolf habitat areas, denning areas, etc.; Pittman Robertson money was used for many different areas of the wolf recovery. This money was meant to benefit wildlife, not hinder it by supporting a wolf program. when snow is deep and deer are arded up it is no problem for them to kill deer. if they only killed what they ate it would not be so bad but they are wonton killers and do it just for the sake of killing...it is just as bad they kill coyotes...there are many coyote hunters in WI and wolves are drastically reducing coyote populations. Also wolves are killing hounds...we have more than enough wolves with 180 much less 300 to 500.

30-Jul-98 Lloyd Lind
54732 P.O. Box 296 Cornell WI

I don't believe wolves should have been reintroduced into Wisconsin. I would urge that plans be made now to control them with hunting, trapping or whatever...any wolf caught killing domestic livestock, dogs, etc., should be considered legal game for killing...a close tab should be kept on the number of deer, elk, etc., killed...if you want deer hunters and the money they spend for licenses, gas, lodging, etc., I suggest you take a good look at the whole program

30-Jul-98 Andrew Tuszynski
53546 846 Sussex Dr. Janesville WI

I like the idea of the zone management...I would also like to see Zone 2 protected areas for the wolves...we need less roads and more habitat for the animals...I would like to see more volunteer opportunities...in health monitoring...educational programs...people need to learn more about the wolf...I would like to see heavier penalties for killing wolves. we need more forests. we need less roads, buildings, etc., I give so much credit to Wisconsin for finally doing something worthwhile in the conservation department

30-Jul-98 Ed Ward
53959 S-3341 Loganville Rd. Reedsburg WI

My opinion of your wolf plan is that it is a total waste of money...we have no need for wolfs in Wisconsin...they will wipe out other useful game species as well as dogs, cats and other farm livestock...someday they will kill a child...I have hunted deer in Bayfield Co since 1951, last year, 1997, was the poorest year in 47 years. We saw very few deer or tracks. All we saw were wolf tracks.

Mail First	Last	Organizatio	Address	City	State	Code	Comment
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30-Jul-98	Jeanne	Klemme					
53711	2465 Tawhee Dr.		Madison,			WI	

I can only hope people like myself who want to see the timber wolf survive as a beautiful, intelligent animal native to our State, will read your letter in the Wisconsin State Journal and respond as I am doing. Problem wolves can be relocated just as other animals in parks are and when towns and cities expand into the animal's natural habitat the animals can be chased, trained, or relocated into safe areas...now it's possible Wisconsin will make a decision that will cost us the timber wolf...keep up the good work and try not to be discouraged by what appears to be a lack of interest on the part of the people of Wisconsin. ...We've learned to control our animal populations in many areas, and the timber wolf is certainly worth making the same effort for its survival here. My four adult children and their families agree with me and also send their moral support, even the three who live in California now.

30-Jul-98	James	Cooley					
53508	Route 2, Box 33		Belleville			WI	

Your draft wolf management plan is an enlightened approach to reintroduction of wolves to Wisconsin...I think the number of wolves necessary to sustain a healthy functioning gene pool has yet to be absolutely determined..I see the provision (about hunting) as caving in to the sport killing lobby. Please rethink this idea. It is contrary to the fundamental intent of your plan...

31-Jul-98	Lorraine & Ken	Roedger					
54870	L.L. W. 3315 Morningside Park Rd.	Sarona				WI	

Recently my wife and I attended at Hunt Hill nature Center & Audubon Sanctuary, Sarona, Wi., a meeting explaining the proposed Wolf Management Plan conducted by mr. Ken Jonas, DNR Spooner. We feel the 500 wolf management as proposed by the DNR should be enacted into law to protect the wolf population for future generations.

31-Jul-98	Loren	Soter, Jr.					
53925	W12366 Hwy 16 & 60	Columbus				WI	

As far as I am concerned timber wolves should never been reintroduced to Wisconsin. Our grandfathers and Great Grandfathers got rid of them for many reasons. They were not all ignorant!

31-Jul-98	Jon	Peterson					
54888	W5610 River St.	Trego				WI	

I have enclosed articles and highlighted what I believe WI sportsmen truly believe about the DNR Wolf Recovery Plan (NOTE; articles from WI Outdoor News by Dean Bortz, "The DNR must also admit that wolves are showing a tendency to seek out and kill hunting dogs", WI Outdoor News, by Terrell Boettcher..."most speakers at a recent DNR hearing said the goal of 300 to 500 wolves is too high...several WI Conservation Congress delegates from northwestern counties spoke against the goal of 300 to 500 wolves...another clip, untitled state and federal wildlife officials have confirmed that the deaths of two hunting dogs in northern Taylor county earlier this month were caused by wolves...) letter author continues: "I don't believe the DNR Wolf Recovery Staff are being totally truthful...it is obvious wolves are adapting to civilization...North America has a stable population in remote areas...explain the ecological benefits of having higher wolf numbers...the recovery plan that was excepted (sic) by WI citizens 80-100 wolves would be the goal...Now I understand that the management plan calls for 300-500...please consider the hunters who use the wilderness the most equally when the final plan is approved...hunters lose again after committing \$\$ for wildlife/habitat management

Mail First	Last	Organizatio	Address	City	State	Code	Comment
31-Jul-98	Clifford	Mosser					
54452	W3206 Co. C		Merrill			WI	

It took a long time to convince the DNR that the elk could survive in northern Wisconsin...maybe there'll be profits from hunting licenses...that's more than can be expected from the costly wolf program...besides all the side effects by running the coyotes out of northern WI and letting the mice population grow as carriers of lyme disease...killing deer herds and letting it waste...killing of sheep, cattle and hunting dogs are getting quite common...if the wolf herd is allowed to increase from the present 180 to 300 or 500 we can expect man more problems...better take heed before it is too late and have to go through a costly extinction program again...another cost for bounties and no return...give this great north country back to the people who live up here...I am now 76 and can remember those days when the wolves had to be reduced...I applied for a permit to use a 4-wheeler ATV but due to the fact the wolves were protected the trails were closed and I was refused a permit...real nice for our older generation that would like to hunt yet...to me there is no justification for increasing the wolf population...I deer hunted for over 60 years now that is pretty well gone because of all these restrictions...

01-Aug-98	Douglas	Olson					
54548	Box 360		Minocqua			WI	

Enough is enough with all these wolves. There is no need or place for wolves in Wisconsin. There are no tracts of land large enough for wolves to inhabit without coming into conflict with humans...the wolves have completely wiped out the coyotes in my area...the DNR decides to deny access to many areas solely because they are occupied by wolves...this is another lie the DNR tells, many more dogs have been killed than they admit too...the DNR is definitely lying about how many wolves there are. I hunt in Oneida, Iron and Bayfield counties and from what I have seen (riding a 50-mile snowmobile route everyday during coyote season) and from talking to other hunters there are many more wolves than the 150 the DNR claims...wolves should be given unprotected status to be killed when the opportunity arises.

01-Aug-98	Rose	Karbowski					
54646	W5479 CTH G		Necedah			WI	

I can't believe wolves are still an issue...we need wolves and it's beside the point if a public opinion says 'no we don't like them; we don't want them around'...maybe these panels (judges) need to ...say...we need wolves. we shall protect them. I'm sorry you don't agree with this decision but that's the way it should be; then work out the details. ...to even question if they should be allowed to exist here or there is folly and it angers me. I am in favor and support any help the wolves (or other creature) may need.

01-Aug-98	LaVern	Schultz					
			Tigerton			WI	

We now have wolves as far south as Sauk Co., and also in Big Falls, Waupaca Co...our forefathers got rid of this problem for a lot of good reasons but I guess the DNR wasn't smart enough to learn.....

02-Aug-98	Norm	Poultan					
54487	3287 N. County Rd. L		Tomahawk			WI	

Although I agree with the plan there are several strategies I disagree with. Target number of 80 set in 1989 is much too low. Wisconsin can support 400-500 wolves. Very much against allowing permits to individuals for killing 'nuisance' wolves; Hunting after population hits 500 should be avoided...didn't we learn anything from our past mistakes...I would like to personally thank the people involved in the wolf recovery program for their efforts...particularly in the field of public awareness...

Mail First	Last	Organizatio	Address	City	State	Code	Comment
03-Aug-98	D. W.		Detroit				
	(none)		Wausau			WI	

Include wolf control measures and less stringent management of our natural resources solely for the benefit of wolves. Management of the northern third of Wisconsin solely for wolves must stop...protection of wolf den sites and rendezvous sites will limit areas available for hunters, hikers, snowmobilers and other outdoor activities....restricting outdoor activities can cause undue financial hardship for this area...include guidelines to control the population...I would like to see limited hunting and trapping in all wolf management zones.

Mail First	Last	Organizatio	Address	City	State	Code	Comment
03-Aug-98	Jim	Olson			Sierra Club		
54701	550 Graham St.		Eau Claire			WI	

Putting the wolf back into its natural role in the state is an important step in the state's recognition of the values of biodiversity and protection of all species with a broadly based eco-system management plan based on a sound understanding of the historic ecological record. I urge that to the fullest extent possible the management of the wolf and other species within the state be done in as natural a manner as possible with the least possible intervention by man with an attempt to restore some of the historic values lost by the many ecological disruptions to the natural dynamics of the eco-systems caused by man. This is obviously a long range goal and one that cannot be achieved fully. The plan might move more in this direction by integration of the Wolf management plan with other DNR habitat management and species control activities both for game and non-game species. This should be done on a landscape level in cooperation with federal and county land management agencies. Wolf habitat areas should be managed for the consideration of the eco-system as a whole with all of its parts functioning naturally, and not with the major focus on the game species involved. To achieve this requires a major effort to protect and expand the Zone 1 habitat areas with public ownership and control of larger tracts. ...The DNR will probably continue to manage the two populations to keep both populations beyond the level sustained by natural habitat succession and the natural predator-prey relationships. This could as the plan hints increase the wolf population to the point where the grey wolf comes under consideration as a game species, and instead of having a natural balance in that area we would have both populations depending on hunting as the major control agent. Concentrating on deer will continue to discourage and inhibit the return to the state of the other ungulate prey species that a more natural and complete restoration of the wolf would involve. Hunting as we have seen is actually counter-productive to maintaining a desirable ecologically balanced deer population for as soon as natural climatic forces limit the herd hunter group pressure for expanding it again grows and hunters refuse to support hunting regulations designed to lower the herd level to a point where more natural means would control it. In the long run this pressure will subside as in spite of DNR efforts to sustain it as the public based deer hunting tradition in the state will fade out as long range projections indicate it will. It may be replaced based on current trends with privately managed 'quality hunt' herds functioning in relation to the wolves as other "livestock" operations now do. ... If the wolf cannot occupy its natural niche in at least some areas within the larger Zone 1 habitats shown in the plan, then the plan it is not restoring biodiversity to the state, but only acting as a place-holder for the Gray Wolf in case it should become endangered within its larger North American range. ... having this 'place-holder' population in an area with an abnormally high deer density and no population of other ungulates that have historically occupied the region may also be of dubious value in terms of the wolf genetics involved...the goal of an independent viable population presumes the failure of the larger goal of recognizing the landscape management goals that cut across state and national political boundaries...it is an admirable goal to have a viable independent Wisconsin population but may not be a particularly practical or sustainable one...perhaps the Wisconsin role at this time might be to serve as a place-holder and an educational 'species showcase'...some of the educational pictorial material in the recent past has stressed poses of the animal in a noble and romantic setting and failed to recognize the equally important but less public acceptable role of the Gray Wolf as a predator, feeding on beaver and deer...it seems at present there are only two views -- the twisted and distorted folk lore view of the villain rapacious beast and the Wolf Poster view of the noble endangered beast... fuller integration of habitat and species management would allow the prey populations large and small the benefit of the wolf as a predator...I would much rather see a smaller Gray Wolf population classified as state endangered occupying its prime habitat, functioning as naturally as possible, than to have a larger, hunting managed, wider ranging, conflict prone population. Having wolf packs established or even dispersers temporarily enter into trouble in areas where they would prey on livestock (however limited) would not be good for the wolves or the communities they moved into...I recommend 1) reduce wolf/human conflicts (larger roadless tracts in Zone 1 for example); 2) integrate the wolf plan with other habitat/species management efforts as naturally as possible at this time; 3) educate the public not just about the wolf and its nature, but about the values of biodiversity generally and the role a wolf plays and has played historically in that larger picture; 4) protect the current population (continuation of endangered status within the Zone 1 areas); 5) discourage wolf migration into the most fragmented habitats; 6) expand and integrate the prime habitat to

make it as little fragmented as possible.

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Mail	First	Last	Organizatio	Address	City	State	Code	Comment
03-Aug-98	Wally		Martin		Pittsville		WI	

Take your wolves somewhere else. Put ;them in your area and hunt with dogs see what happens. our wolves are dangerous.

03-Aug-98	John		Clark				WI	
	54486	N4281 Johnson Rd.			Tigerton			

I hunted beagles in northern Wisconsin for 50 years on snowshoe hare. In 1995 I had a 5 year old top beagle killed by wolfs....the loss of the dog still hurts today...who benefits from this wolf plan?...you sure don't need them to keep the deer herd in check you can deer hunt in Forest Co. for a week and may never see a deer...at first they wanted 80 wolves, now there are 180 and the goal is to have 500...now they want to take them off the endangered list so they don't have to pay for all the dead animals they are going to kill...northern WI is settled. This is not Yellowstone...this wolf plan sure spoiled my retirement plans to run beagles on hare...the last few years I have left. Having 1 dog killed is more than enough.

03-Aug-98	Ross		Gilbert				WI	
	54508	437 W. Main St.			Belleville			

I think it's a good idea to bring wolves back to Wisconsin. I think you should have more than 500 wolves. I also think it's horrible idea to get 500 wolves and then kill some.

03-Aug-98	David		Jensen				WI	
	54650	W8039 N.Shore Dr.			Onalaska			

Big Bluff Beagle Club: 13 signatures: members are much opposed to the wolf being in the State of Wisconsin but we are concerned with a larger population than is present at this time.. From newspaper accounts I read last year at least three beagles were attacked and killed by wolves...From the accounts I read these beagles were in the woods with their handlers hunting showshoe hare at the time of the attacks. It soes not sound as if the wolves were protecting their range or den site.....the wolves learned how to get an easy meal. I feel any person who runs hounds that bark on track is sure to lose some dogs to wolves coming to the barking dogs looking for an easy dog meal...lots of money is spent in northern and central Wisconsin by hare and bear hunters. I , as most hound people I have talked to, will stop hunting regions inhabited by wolves. This will result in considerable loss of revenue to the business people of these regions.

Mail First Last Organizatio Address City State Code Comment

03-Aug-98 Mark Martin
 53703 P.O. Box 7921 ER/4 Madison WI

Includes comments from martin, Randy Hoffman, Thomas Meyer, Eric Epstein: We would like to see in the final plan that there would be no encouragement for additional young forests to maintain habitat for prey species since the prey base does not appear to be a limiting factor to maintain and increase Wisconsin's timber wolf population; where is the data to back up the need for habitat management for a low density species like the wolf when prey densities are so high; we believe there is an imbalance now, where there is a huge bias in favor of younger forest which currently impacts virtually every acre of forest in northern Wisconsin; mention of this (that deer densities and wolf densities are lowest in large wilderness-roadless areas) can only hurt attempts to address vast under representation of older forests and larger patches of forests; committee may want to refer to section on Northern Forest Communities in Wisconsin's Biodiversity; Department is moving ahead with ecosystem management and away from single species management - this plan advocates just the opposite; public land is probably our only opportunity - and then in a very few places - to preserve large stands of old growth since the majority of the private land is in commercial use or small ownerships; we find it hard to believe given the fragmentation of Wisconsin's northern forest and other conditions that deer numbers will decline significantly in Wisconsin resulting in greatly lower wolf numbers; large wilderness areas are important and can provide wolf habitat. We do not agree that they 'lack deer habitat' Even if wilderness areas provide for 'low wolf densities' there are no plans that we are aware of that would establish large blocks of wilderness that would significantly reduce current or future wolf numbers.

03-Aug-98 John Stuchlik
 53598 4476 Windsor Rd. Windsor WI

It seems to me the wolf is going to be a bigger problem than anticipated...there will be many acres of public land off limits to a person who hunts with a dog whether it is a bear hunter or bird hunter...DNR is putting the wolf recovery plan ahead of the taxpayer and hunting license buyer...the wolf problem is eventually going to negatively impact private property rights, pets, your use of your ...property, livestock etc. I believe 200 wolves is plenty...You cannot, arbitrarily, put a price on a hunting dog that is a family pet!

03-Aug-98 Mrs. Elizabeth Wish
 54601 4002 Starlite Dr. LaCrosse WI

We are dead-set against delisting from endangered to threatened. The recent sad plight of this animal - virtually decimated only a few decades ago - should alert us to the importance of keeping this creature alive...when men are allowed to shoot wolves we fear a repeat performance from the past.

03-Aug-98 Sally Southern
 54875 Rt. 1, Box 1636 Springbrook WI

The voice of a handful of opponents should not be considered the majority view particularly when some of them are puppets for an organization (eg bear hunters and their wantables...anyone who farms, gardens, reforests or landscapes in Wisconsin is forced to tolerate deer damage...pet owners may have to change their ways and cease allowing their pets to range free...we support road closings on some federal, state and county lands if deemed necessary...we are also aware that too many sound wildlife management decisions are tempered to satisfy a public that 'always knows more' than the professionals. We hope that in this case the views of the often silent majority will be heard and we will move forward to a goal of about 500 wolves in Wisconsin...

Mail First Last Organizatio Address City State Code Comment

03-Aug-98 Reginald Robillard
 54204 2760 Bay Road Brussels WI

About 8 years ago I managed to become a delegate to the Conservation Congress...eventually chairman from Door Co...what a waste of time...Dnr listened to the Congress only if the Congress was agreeing with them...Deer management 2000 is just another example, what a joke...wolf situation was no different...DNR supervisor (about 1990) said there'll only be 70 or 80 wolves...talk about a snow job...now...dnr says control lmight come when the number raises to 500...you...dnr...said 80 wolves...now let's get at it and bring the number down to what you said you wanted.

04-Aug-98 Robert Rolley
 53703 P.O. Box 7921 Madison WI

we may be moving too quickly toward delisting...some have suggested we can manage for a low number of wolves (100) because WI wolves are not isolated from wolves in MN and MI...no formal interstate agreements have been developed...380-462 wolves could exist in just the primary habitat...if secondary is included carrying capacity could be higher...est. of habitat based on GIS analysis & may underestimate biological carrying capacity...may be a biological capacity to support a wolf population higher than the 500 indicated...since public attitude is the most important limiting factor we should plan to regularly, (5-10 yrs) conduct surveys to assess changes in tolerance...no, 1 research need is for reliable, economical census techniques to monitor wolf abundance...we will be managing a very small population...volunteers may be important...we do not know how many wolves will be removed by agency control efforts...additional modeling would help in evaluating the effect of different levels of removals...full advisory committee did not have input on assumptions in the analysis or benefit of the results of the analysis while preparing the draft PVA should have been an intergral part of the dev. of the plan...not an afterthought.

04-Aug-98 Todd Scheel
 53118 546 W35817 Meadows Dr. Dousman WI

I support endangered species and want to see stable population of all wildlife but I am concerned about the projected 200-500 wolves in Wisconsin...deer numbers could be threatened by additional wolves...I think 47 packs and approximately 200 wolves is plenty...their numbers should not be allowed to increase.

Mail First Last Organizatio Address City State Code Comment

05-Aug-98 Penny Pribis
 54548 P.O. Box 386 Minocqua WI

I urge you to follow the federal recovery plan for wolves as proposed by the USFWS ..in 1992...with the proposed increase in wolf populations the draft predicts an increase in wolf predation...my contention is that sources to reimburse livestock and pet owners for depredation have not been secured...I am not in favor of using any license fees for compensation, especially with a population of 500 wolves...some areas will not be managed for multiple use as DNR is required...examples include limiting or controlling public access of public lands by gating and locking areas...closing rec. trails for ATVs, snowmobiles or other rec. activities such as walking, biking or camping...there is no in-depth research on the effects of increased wolf populations ...on coyotes, deer herds, esp. in relationship to deer yards and severe winters...I own land ...(and) have cut timber, improved wildlife habitat by planting seedlings for cover and developed wildlife openings and erected nest boxes...I have extended this effort to improve habitat for game species I shose to hunt...I will mind competing with many wolves...it is bothersome to me as a private landowners when the DNR attempts (and probably will succeed) to shove this plan down my throat and expects me and other landowners to support high wolf populations while wolves set up shop, eat game and compete directly with me for game on land that I have bought, paid taxes on and improved wildlife habitat with my sweat and finances...Many sports people and landowners have supportd the initial wolf recovery program of between 80-100 wolves. I hope my compromise of 200 wolves shows my support for the wolf program. I am, however, in strong opposition to having a population of 300-500 wolves.

05-Aug-98 Ben Scherb
 53705 6326 Landfall Dr., Madison WI

The (wolf) plan is thorough and well produced. I would like to see the wolf population managed for the maximum sustainable harvest; DNR employees should be the only people allowed to shoot or trap wolves; maintain a low density of roads in good wolf habitat.

05-Aug-98 Sonja L. Margitan
 54531 5230 Cedar Falls Rd. Hazelhurst WI

(Language identical to Prebis letter) urges following fed. recovery plan, favors 200 wolves but not 500, resents competition of wolves for game on land improved for hunting by the owner

05-Aug-98 Art Kunstmann Conservation Cong.
 54751 29271 117th New Auburn WI

In N. Chippewa & S. Rusk Counties we are seeing and hearing more about wolf sightings every week...I've been hunting Unit 4 for 20+ years and have seen wolves & wolf sign most of those years, but in the past 5 years there's been an explosion of wolf activity and a marked decrease in deer populations. I think wolves are neat but you guys had better get them under control now! Make them a trophy animal on a limited...hunters & trappers will support the program if wolves are made harvestable but if you drag your feet you'll be stonewalled for sure.

Mail First	Last	Organizatio	Address	City	State	Code	Comment
05-Aug-98	Wade	Gauger					
54568	8651 Denise Drive		Woodruff			WI	

I am writing to encourage the wolf management committee to lower its population goals for wolves in Northern Wisconsin. The wolves that we have in th area now are causing more than enough problems. They have killed pets and hunting dogs....their predation on domestic animals will increase and endanger the people lliving ...here. I don't feel the wolfs presence should interfere with the activities of people who use the area for work and recreation...the funds needed for this program could most certainly go to better use....perhaps the people in Milwaukee and Madison, who support this project, would be willing to fund it...promoting a population of wolves in the same vicinity where a population of elk is being promoted is counter productive and an irresponsible waste of the taxpayer's money...the plan should, at least, include hunting and trapping to control the population.

05-Aug-98	Mary	Nortman					
54904	2980 Sandpit Road		Oshkosh			WI	

Is it not too soon to develop a public harvest plan...the rapid increase of the wolf population in the past ten years has exceeded expectation. This increase will not likely continue...Why is it necessary to reimburse hunters for their hunting dogs...when any hunter goes into the wilderness they do so at their own risk...as a dogowner it would be my responsibility to keep the animal close to home...I heartly agree with the need for interagency support and continued education...I am a hunter, pet owner and land owner.

05-Aug-98	Steve	Pribis					
54548	P.O. Box 143		Minocqua			WI	

At issue is the free use of OUR public use lands for recreational purposes, and I do believe all recreational activities may be impacted if wolf lmanagement is left to those who care about nothing and no one else. We must start with the lies and deception of the late 70s and early 80s. The DNR vehemently denied the introduction of wolves to Northern Wisconsin. When reported sightings became too many, and DNR biologists were confronted in the field while tracking the animals, the cat was out of the bag. The DNR now had to admit it lied to and deceived the sportsman and taxpayers who monetarily support it. And for what gain? Was this to get a foothold before anyone could object to the funds spent and to the project itself? Now the DNR could claim a successful reintroduction and now the program HAD to continue. More money now had to be spent to vaccinate, track, and sometimes feed the animals. Is this natural proliferation? More lies. Now there are those who feel the wolves must be protected at all costs. Keep hunting and trapping activities out of certain PUBLIC areas because there are wolves present. Close and gate public access to thousands of acres of remote public lands that WE paid for, again because wolves are present. Tell hunters who use dogs of all types, too bad if your beloved pet is killed by wolves, we must protect them at all costs. Demand that snowmobile and ATV trails be restricted or closed, because wolves are present. Does Governor Thompson know tourism may suffer because of wolves...I can only hope that those who have been charged with preparation of the Wolf Management Plan can keep an open mind and have vision enough to see the fears we have as sportsmen are not baseless.

05-Aug-98	Gus	Feind					
54487	1515 Wheeler Rd.		Tomahawk			WI	

I would like to voice a bit NO to increasing the number of wolves in Wisconsin...more wolves will only mean a lot more problems...if you guys would put this money and effort into taking care of whats left here as far as game & habitat then we would have something...

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
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05-Aug-98	Aneva		Peterson					
	54466	8912 Co. Trunk B		Pittsville			WI	

I am opposed to your plan to increase the wolf population...a very limited population may have a place in WI but you are going too far.

05-Aug-98	Harvey		Peterson					
	54466	8912 Co. Trunk B		Pittsville			WI	

Our forefathers worked to eliminate wolves. As a landowners and a farmer I am strongly opposed to increasing the wolf population.

05-Aug-98	Jim		Wurster					
	54487	W6324 Hwy O		Tomahawk			WI	

No more wolves. Theres too many already...same goes for the elk program...this is not the 1800s...things change and cannot be as they once were. quit wasting money on such programs...

05-Aug-98	Randy		Albert					
	54650	935 10th Ave., N #E		Onalaska			WI	

The wolf management budget needs to be carefully thought out...I recognize the expense of radio collaring but the benefits are sol valuable that it should continue even though federal monies will cease five years after dellisting...No wolf hunting season...the perception by many in the public is that the DNR exists for the sole purpose to provide animals to the hunting community. if it should ever come to pass that a wolf hunting season should come into existence, the DNR will have a public relations nightmare like has never seen before...land development will need to be controlled although I don't know exactly how...I don't believe hunters who use dogs for hunting purposes should be compensated...I feel compensation should be awarded those farmers (who suffer from depredations)...for the species to exist as a member of a functional ecosystem the public will need to become more educated...wolf-dog hybrids, I don't believe this issue has been adequately addressed...I would like to hear more from the caretakers of these animals...wolf pelts should only be made available for educational purposes and not to the general public...I think it is too early to consider delisting the wolf...I would like to thank the wildlife biologists who helped me achieve a greater understanding of this noble animal.

06-Aug-98	Don		Freudenwald					
	54568	8844 Lakeshore Drive		Woodruff			WI	

I am writing in opposition to the wolf management plan...please include wolf control measures and less stringent management of our natural resources solely for the benefit of wolves...the plan calls for complete protection of wolf den sites and rendezvous sites. This will limit areas available for hunters, hikers, snowmobilers and other outdoor activities...if the wolf plan is to govern the management of the wolf populationfor the next 10 years it should include control measures for the wolf population...please include guidelines to control the population when it becomes excessive. The DNR can control the number of permits issued to limit the harvest.

06-Aug-98	Jackie		Hamlin					
	54568	11050 Woodland Dr.		Arbor Vitae			WI	

I want to take a stand as a resident of this great state on the preservation of the timber wolf. When we moved here 18 years ago, we had many times heard coyotes in the fields and forests nearby. With the population growth here, the coyotes have moved out of the area. It is so important to preserve the wildlife for future generations to enjoy and admire. Please register my request for respecting the timber wolf and helping in any way to save their habitat.

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
06-Aug-98	Peter		Clay					
60091		229 6th St.		Wilmette			IL	

My family has been a non-resident landowner since about 1959, and all of us are very interested in the issues raised by the reappearance of the wolf in Wisconsin...are there ways that private landowners, particularly in zones one and two, could be more explicitly drawn into the co-management of habitat for wolves with the DNR and the other agencies involved. I am not really familiar with the legislation which allows landowners to reduce their taxes by putting forested lands into a timber management program, but am wondering if some economic incentives could be proposed relevant to wolf management...my experience with central Africans has strongly reinforced my understanding of the need to integrate human needs and perspectives into management of protected areas...I ...want to emphasize how important it seems to me to protect linkages between blocks of habitat...again the role of private landowners is clearly critical...as for more volunteer assistance in wolf conservation, I strongly support that approach...I commend you for your efforts to allow wolves to return to and remain in Wisconsin..

06-Aug-98	Sharon		Clark Gaskill					
53515		10405 Bell Road		Black Earth			WI	

I generally support the switch to threatened status and eventually non-listed non-game status...I think a longer time frame and higher consistent population numbers should be obtained before nonlisted status is assumed...let's wait for consistent numbers near 1,000 over a dozen years before we feel successful...do not rush to institute the killing of wolves for pleasure; the opportunity to see a wolf or to hear a howl is important to many more thousands; thorough monitoring needs to continue through threatened status; management and resource plans should undergo peer review by acknowledged wolf experts here and around the country; public education must be continued at significant funding levels, not just at the general public but targeted at farmers and rural people to teach how depredation of stock, pets and other animals can be avoided...reimbursement for proven losses should be adequately funded...at no point should landowners in any zones have the right to kill wolves. It should be in the hands of enforcement officers; strong regulations should be maintained and further developed to protect our fragile wolf population...punishment should be painful and swift; I encourage the DNR to limit road densities in prime wolf habitat and to pressure the National Forest Service to do the same...

06-Aug-98	Mitchell		Marieque					
54305		P.O Box 115		Green Bay			WI	

I am writing to enter my very strong support for increasing the population of Eastern timber wolves in the State of Wisconsin. The current numbers (180) are nowhere near what the forest ecosystem in Wisconsin used to sustainably support in their natural habitat without human intervention. I strongly support increasing the existing population level up from 180 wolves to the stated management goal of 300-500. I would be very much opposed to any form of public harvest...I do not believe wolves threaten human coexistence...wolves killing dogs is to be expected...this is an assumed risk the dog owner takes when the dog is allowed to roam free in the forests...wolves thin the white-tailed deer population...almost all wolves will never kill and eat the animals of a farmer or rancher...confirmed incidents...can justify human intervention on a case by case basis...people need to be educated that wolves do not threaten human life...if the carrying capacity for the wolf population...becomes excessive...then the emphasis of human intervention for wildlife management purposes ought to be on relocating the wolves, not in exterminating them.

Mail First	Last	Organizatio	Address	City	State	Code	Comment
06-Aug-98	James	Schlender			GLIFWC		
54861	P.O. Box 9		Odanha			WI	

The tribes strongly support the primary population goal of 300-500 wolves, and believe the discussion of potential public harvest in response to public tolerance is premature and inappropriate...this language was developed without input from the tribes or public; estimates of minimum sustainable population levels are admitted to be preliminary; state has recently displayed inadequate harvest management of several furbearing species, esp. fisher. significant improvements in harvest control need to be demonstrated before any harvest could be considered; the harvest discussion is based on the principal of using general public harvest in an effort to keep the population in line with 'social tolerance' it is doubtful this is an effective method of addressing social intolerance; depredation control and public education provide better approaches; it is not clear at this time that most people will not tolerate or support a population of 300-500 wolves; the plan needs to make clear that it does not apply to the management of wolf packs either wholly or partially within reservation boundaries. In addition, management of wolves that live or may live partially on tribal lands must be coordinated with tribal representatives. Individual sovereign tribal governments may have wolf management objectives which differ from those of the state, and from each other; the tribes should be entitled to half of the wolf specimens collected from the ceded territory regardless of wolf status; the appropriateness of necropsing these specimens before they are distributed should be discussed on a case-by-case basis with the individual bands; tribal access to treaty resources should be added to the list of variables that need to be taken into account when deciding upon an access management program....government to government consultations should be pursued; traditional tribal cultural perspectives should be a part of wolf education programs; the level of population monitoring that will be necessary will be dependent upon the level of the population and the management objectives. it should not be assumed at this population will stabilize in five years. The tribes have strong support for a population goal of 300-500 wolves in Wisconsin. government to Government consultations should be actively pursued if necessary to develop a population goal which both the state and the tribes can support.

06-Aug-98	Mark	Liebaert					
54874	7925 E. Munnings Rd.		South Range			WI	

I feel you have failed to answer the concerns and fears of Northern WI residents. Maybe this is because 21 out of 23 of your committee members work for WDNR or US Fish & Game. Where are the farmers and hunters from Northern WI? I raise registered Black Angus Cattle and derive half my income from these cow/calves. Farming in general, but esp. in Northern WI is increasingly difficult. We feel that you are unfairly adding to our concerns and financial burdens by increasing the wolf numbers. My fellow farmers in Minnesota are struggling to get the state to address their livestock losses...What makes you so sure you can handle our problems...You will have more wolves per square mile of suitable habitat than MN now has!...You want to increase numbers to 300 for 3 years before delisting. How are you going to handle the dozens of livestock killing wolves before then?...are you prepared to handle at least 30-50 livestock killers yearly? There are extremists on both ends of this issue. Some that considers any wolf in the state one too many, and you consider this person an extremist. The other considers it unacceptable to kill or control wolves and that if we cannot live with them to move. They are thought of by you not as extremist but enlightened. The middle road on this issue is closer to reality. A stable population of numbers near what we have now could be sold to most residents and farmers under the following conditions. 1, residents of Northern WI be given a louder voice 2, Farmers and hunters from Northern WI be given standing on your committee 3, Delist now so problem wolves can be killed, 4, Address farmers concerns about compensation for losses, 5, Put in writing what you will do to control increasing populations (hunting, trapping, etc.), 6, Come up with a more politically correct poster boy for the environmental movement, 7, Tell the truth about wolves (they do kill baby calves and deer and do pose a risk to Fido and Fiffi. I would gladly come to your committee in person if I could be of any help.

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06-Aug-98	Patty	Freudenwald					
54568	8844 Lakeshore Drive		Woodruff			WI	

identical letter to one from Don Freudenwald, opposes plan, seeks wolf control measures, less management of north for wolves, harvest

06-Aug-98	Don	Engel					
54548	11240 Wolfs Rd.		Minoqua			WI	

If Wisconsin choses to ignore history and the knowledge of our forefathers and allow this wolf situation to get out of hand, it will do so for the sake of job security of a few who pump propaganda to the majority of state residents who have nothing else to use in evaluating fact from fiction. such as the closing of federal roads and state access roads from the taxpayers while claiming the areas for wolf habitat.

06-Aug-98	William G.	Siegler					
54494	3061 Eagle Road		WI Rapids			WI	

I am a coyote, fox and deer hunter in zone 1b and a bear hunter in zone 1. The only recourse for me and my son, grandsons and two hunting partners is to sell our dogs and equipment, and quit buying licenses. Newspaper Club enclosed: Lion reportedly seen in WI Dells Area

06-Aug-98	Bob and Patti	Pollock					
			South Range			WI	

We understand wolves have killed 9 hunting dogs since Aug. 1997. Knowing that we strongly oppose any effort to increase the wolf population. Reasons...cost...current est. of \$120,000...are outrageous...no doubt this amount would increase...Deer...deer numbers are not that high in the north woods. More wolves will send deer numbers in the wrong direction...Loss of Public Land, in the past DNR made suggestion to set aside a large block of land...I don't see any guarantee this won't happen again...DNR placed wolf traps along a township road we frequent while biking without dogs. We lost that road for recreation until the traps were removed..Wolf numbers...due to the politics...it may become impossible to control the population...more bureaucracy...DNR doesn't need another program...The plan gets a big push and lots of support from people who live downstate...the people who live up here are the ones who pay the price...more wolves mean more problems...Here's what we would support: wolves migrating in from other states and taking up residents; hunting and trapping so wolves develop and maintain a fear of man; locating one half of the wolves in the southern half of Wisconsin so residents there can enjoy them; an wolf recovery program that uses more than one cent of hunting, trapping or fishing license fees we vehemently oppose

06-Aug-98	Don & Shirley	Gauger					
54568	8651 Denise Drive		Woodruff			WI	

I am writing to encourage the committee to lower its population goals for wolves in Northern Wisconsin. The wolves that we have in the area now are causing more than enough problems. They have killed pets and hunting dogs with a growing population their predation on domestic animals will increase and endanger the people...Our lives and the lives of our children and grandchildren have not been made better in any way by the introduction of wolves to this area...wolves should not interferew with the activities of people...funds for this program could go to better use...promoting wolves in the same vicinity where a populationof elk is being promoted is counterproductive...predators are not desirable...give me one concrete advantage that this program has to anyone not being paid to implement it. The plan should, at least, include hunting and trappign to control the population...

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06-Aug-98 Darlene Nowak
53572 106 South Fifth St. Mt. Horeb WI

In general I think the plan is a good one...education is a key element...I strongly support a program of fair compensation for losses...there must be regulation of wolf-dog hybrids...I don't think hunting should be allowed...I also don't think we should allow any type of ecotourism of wolf habitats...preserving their habitat is of utmost importance.

06-Aug-98 Glenn Schmidt
54981 N2694 Park Lane Dr. Waupaca WI

I'm hapapy to see the wolves re-establish themselves so well in Wisconsin and I'm very glad that hunting and trapping are two of the methods being considered for proper wolf management. One problem I read about recently is the possible reduction of funding for wolf study and monitoring. I think a small fee taken from hunting and trapping licenses could go a long way in providing assistance...I've been a member of Timber Wolf Alliance since its beginning

06-Aug-98 Sharyn Frudenwald
54568 8844 Lakeshore Drive Woodruff WI

identical letter to one from Don Freudenwald, opposes plan, seeks wolf control measures, less management of north for wolves, harvest.

06-Aug-98 Paul Brown Amnicon Farmers Union
54874 946 Ct. Rd. E South Range WI

We understand that the draft of your May 6th 98 wolf plan is not written in stone. We...represent..35 families directly or indirectly involved in farming...we feel the public not being listened to isthe residents, hunters and farmers of northern Wisconsin. We feel people who will have to live with tis wolf plan...in your zone 1...should have the most and final say...more non-DNR employees on your committee, residents of Zone 1 with some farm representation; delist wolfs immediately upon plan approval. This is essential so those problem wolves will be eliminated. Show us a written-in-stone compensation plan for domestic livestock and pet losses. Plan must show dollar fugures and appeal processes. Rethink your goal of 300-500 wolves. We feel these numbers are too great and will result in a huge problem...we can best live with the number of wolves we now have...freeze any actions on your plan until these and other important issues are addressed.

06-Aug-98 Liz Korrer
54548 P.O. Box 560 Minoqua WI

identical letter to one from Don Freudenwald, opposes plan, seeks wolf control measures, less management of north for wolves, harvest

06-Aug-98 Gary Dunsmoor
54801 N4961 Beaverbrook Ave Spooner WI

Since the grey wolf is a native species of Wisconsin it should be part of the ecosystem in those parts of the state with adequate habitat that can support wolves...a population of 300 to 500 wolves is not "to many" as many people are crying. Overall the draft wolf plan is a good one. I do, however, disagree that we should pay dog owners for their losses...continuing education regarding the wolf and their management will be a key to the future of wolves in Wisconsin.

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06-Aug-98	Allen	Opall					
54401	3208 Thunderbird Lane		Wausau,			WI	

I have studied the proposed wolf management plan...and have come to the conclusion that it is flawed...it has no definitive means of controlling wolf numbers when you reach goal, and just what is goal? The plan is also very vague in how depredating wolves will be handled. Whu, up until very recently, were sportsmen kept out of the planning process...will sportsmen continue to lose access to public lands as they are set aside as protected areas for wolves? Will the sportsmen get the coyote season ack? if we reach 300-500 wolves just how much of northern Wisconsin would be safe for hounds...80-100 wolves as proposed in Rhinelander in 1986 is just fine. Let's keep the numbers at that level!

07-Aug-98	Charles	Huelsbeck					
54190	N321 Hwy 187		Shiocton			WI	

Modern day Wisconsin is too settled and populated...to any longer harbor large predators like the wolf...our forefathers worked hard to reduce their numbers through a bounty system...should we reintroduce this problem?...we have already lost many fine hunting dogs...a wolf will also reduce our deer herd...the monies spent on this project could be better spent if donated to Alaska for wolf research in that state.

07-Aug-98	Dale	Stoflet					
54457	5129 Butterman Rd.		Nekoosa			WI	

I am against any further expansion of wolf numbers or territory occupied by them. I've spent a lot of time in areas of Jackson County which is now occupied by wolves. I no longer spend much time there as I've had them approach my coon hounds at night...the areas open to me for hunting are shrinking because of trespass laws and the changing landowner attitudes. I've always been able to utilize public land but that is shrinking because of the spread of wolves...the areas of this state that are public are meant for multiple use. This is public land. I am being pushed out of it here and in the north...I have no grudge against any creature but see the wolf in Wisconsin as a problem that will grow as their numbers increase...

07-Aug-98	Dale	Paulson					
54844	Hwy 62, Box 52		Herbster			WI	

I am opposed to any increase in wolf population statewide. This country is no longer 'wild' enough or remote enough to maintain a higher population of wolves without extensive and expensive human controls at public cost.

07-Aug-98	Doug	Frank					
532			Milwaukee			WI	

overall I do think the wolf has a place in Wisconsin...depredation costs, if allowed, should come from funds collected from all taxpayers...I feel the area of zone 1 surrounded by zone 2 should be treated as a separate zone...landowners should not be able to keep carcasses...I don't believe we should restrict access in areas wolves frequent...any state purchased land should not have any restriction on recreational land use...I don't understand why Native Americans will be given special treatment by being allowed to use a portion of the carcasses...I can't see having grouse hunting with dogs eliminated in a major portion of the northern third of the state because you don't know if wolves are in the area.

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07-Aug-98 Lawrence Ebeling
54568 P.O. Box 283 Woodruff WI

I'm 49 years old and have hunted with hounds and trapped in Wisconsin for a number of years...there have been confirmed cases of hunting dogs and farm farm animals being killed by wolves in Wisconsin. I feel it is ridiculous for the people of Wisconsin to have to change their ways of hunting land living for the sole purpose of saying we have wolves in Wisconsin

07-Aug-98 Diane Wolf
54830 16258 So. St. Rd. 35 Dairyland WI

The wolf population is large enough that the offending animals should have been destroyed instead of being monitored...when wild animals find easy prey they will continue to feed in the area where hunting is easy...supplying the predator with road kills doesn't solve the problem...I feel that farming is the backbone of America and wolves are just another predatorI am not a hunter but do own 25 acres of land. And I enjoy observing wildlife but this year I have not seen a fawn or any cottontails. Is there a wolf connection here?

07-Aug-98 Bill Devine
54451 N3318 River Dr. Medford WI

When they are delisted no more money from hunting and fishing licenses should be spent on them. Monitoring programs should be stopped because of lack of funds....the problem wolves shold be eliminated...they would learn to stay away from humans if they were hunted and trapped.

07-Aug-98 Bernard & Marcia Belisle
54867 P.O. Box 111 Radisson WI

I do not want to see the promotion of wolf...we may have to use poison to control them which I do not want to see happen

07-Aug-98 Peter Huber
54494 710 Two Mile Ave. Wisconsin Rapids WI

If you want my vote I vote no wolves. I've seen what they can do to a good hound...all they are is a natural born killer

07-Aug-98 Joanne Merrifield
54830 16704 S. Montgomery St. Danbury WI

We feed deer year around...I've seen wolves in my backyard and front yard with my dog barking at them. We no longer see wild rabbits. We have only seen 2 deer fawns. Friends...in northern MN...are coming to WI to hunt...they say there are no deer there (in MN) because of the wolves...the girls that are tracking the wolves race up and down the dead end road we live on so it sounds like a freeway...I don't like being forced to have wolves in my yard killing my neighbors calves and our wildlife.

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08-Aug-98	L.D.		Gilson					
	54986	7081 Wisnac Ln		Winneconne			WI	

Do wolves really belong back in Wisconsin? Maybe; and only if they stayed within the range in which they were planted; I deer hunt and I run a dog. Wolves have been spotted as far south as Sauk County and have even been photographed in Waupaca County. Wolves are beautiful creatures and hunters but I'm really sorry to say they've had their time.

08-Aug-98	Rose		Martin					
				Pittsville			WI	

I don't think you should bring any more wolves here. You have enough. I seen the damage to animals. I know of people whose animals were killed from wolves. Take them somewhere else. I feel they can probably even hurt kids. Hasn't happened yet but makes you wonder.

08-Aug-98	Donald		Gilson					
	54494	8930 52nd St., S.		Wisconsin Rapids			WI	

I do not want to have any wolves in Wisconsin

09-Aug-98	Brian R.		Gauger					
	54568	8651 Denise Drive		Woodruff			WI	

identical letter to one by Don Gauger. Gauger letter protests that wolves interfere with people, kill dogs and pets, endanger people and elk.

10-Aug-98	Mark		Stittsburg					
	54456	N181 River Ave.		Neillsville			WI	

Hunting dogs cannot be trained to leave an area ...when they encounter wolf scent...Also you need to spell out in no uncertain terms when a trapping or hunting season on wolves will be initiated. Who will be in charge of the population counts? It appears to me that if the wolf recovery team is in charge there will never be enough wolves to warrant a season...I think some wolves are find. My concern is that by over-protecting the wolves, you are going to make large areas of northern Wisconsin off-limits to many sportsmen.

10-Aug-98	Janet		Hoover					
	54446	501 N. Main St.		Loyal			WI	

I consider the plan, as a whole, to be very good. Consider: translocations should be included as an option for Zone3; execution of depredation control should not be allowed by private landowners or other citizens or contracted out to private enterprises; possession or ownership of wolf carcasses by private citizens should not be allowed; no hunt or 'public take' of wolves should ever be established; compensation for losses of livestock should be continued; ecotourism should only be allowed at existing legitimate wolf education centers which already have captive or enclosed populations under protective care

Mail First	Last	Organizatio	Address	City	State	Code	Comment
10-Aug-98	Karen Etter	Hale			Madison	Audubon Society Inc.	
53703	222 S. Hamilton St., Suite 1		Madison,			WI	

The most important key to this management will be education..combined with the highly fragmented landscape and the varied use of that landscape across most of Wisconsin, conflicts will be inevitable. Education to increase general understanding has to be a high priority..public in general..hunters...homeowners...livestock owners The bottom line is that the state is charged with protecting and maintaining a viable population of wolves in the state and we must be sure that what we do will accomplish this...there is a chance that the population could decline and we may not be able to recognize this immediately...we recommend that the Wolf Advisory Committee set a trigger to automatically reclassify the wolf as threatened and/or endangered if its numbers fall below certain levels. Wisconsin should have its own management goals and objectives in Wisconsin while working toward strong cooperative agreement among all parties if the western Great Lakes population is to be treated as one population. Besides using the biological carrying capacity to determine how many wolves the land is capable of sustaining, the cultural carrying capacity may be a more important measure. How tolerant will people be when wolf packs begin to use their land? ...The proposal to divide the state into three primary management zones, which is based on an analysis of land as suitable wolf habitat and has some merit but to split zone 1 into a) a public wolf conservation area and b) a private wolf conservation area is problematic. Wolves range over wide territories and do not recognize boundaries, which are pervasive, as the landscape is so fragmented. Even within the national, state and county forests there are many inholdings. We recommend that Zone a be treated as one unit giving the wolf regionwide protection and humans a simple model for management. Also, Menomonie County should be included in Zone 1, because of the county's high percentage of primary wolf habitat. The plan should make it clear that the carrying capacity of about 500 wolves that is being discussed is the number that could potentially exist in the most suitable habitat (in northern Wisconsin only) and is not the number that could exist in both primary and secondary habitat throughout the state. The state should not institute a hunt of such a small number of animals...our understanding is that WDNR is implementing ecosystem management and rarely managing for single species any longer. Therefore, we do not agree that 'wolf habitat maintenance' should be 'encouraged on suitable portions of public lands by management for younger forests to support prey populations...there is and will be enough prey 'deer' to maintain wolf numbers without such management...we believe that wolf research, monitoring, health checks, depredation payments and especially education all are important...our recommendation would be to limit the total amount of funding spent on the entire wolf program per year to no more than 25% funding coming from state coffers. If there is no limit...more of the endangered resources budget would be spent on wolf work while other, more critical, endangered resources work would suffer from a lack of funds...no money should be used to compensate pet owners for loss of pets, which should not be running at large. Nor should there be compensation for livestock losses, unless there is a control plan in place that is in use. Other considerations include not allowing anyone in the State of Wisconsin, as is the case in several other states, to own wolf-dog hybrids. Only DNR or other trained professionals should be allowed to control problem wolves. Landowners should not be allowed to kill wolves on their own land...no wolf specimens should go to any individual without a specific purpose...the fine for killing a wolf, even after delisting, should be \$1800 or at least twice the amount for killing a deer. We agree with the Wolf Advisory Committee that 'excessive development of low quality roads or trails for motorized vehicles should be avoided and recreational tools should be placed with care when in suitable wolf habitat...and that it's important to provide forested habitat linkages and corridors for wolf dispersal to and from Minnesota and Michigan as well as within Wisconsin.

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10-Aug-98	Mittsy		Voiles					
53703		116 E. Gilman St. #3E		Madison			WI	

I am concerned that the WDNR will be unable to monitor the populations closely enough to determine if wolf populations have declined to a point of reclassification; having to rely on volunteer help for most survey data will most certainly decrease the accuracy of the monitoring effort; The grant application process is very time-consuming - how will busy WDNR Wildlife Management staff find time to seek funding for a large-scale survey once every 5 years as proposed; Would deer hunter harvest be adjusted to wolf needs if necessary; if so this should be stated, if not, why not?; I am not in support of landowners, farmers, or other citizens having permission to kill wolves for any reason; I do not support wolf hunts of any kind (due to complexities of relationships within packs); are WDNR wildlife staff planning to seek alternate funding to continue health monitoring at a reasonable level; the plan talks about the low rates of wolf depredation in Wisconsin however recent newspaper articles show landowners and farmers believe the rate to be higher and accuse DNR of lying to them; how is it possible to prosecute offenders; technical assistance to farmers is good, but what means will be used to educate the farmer; the plan calls for additional regulations to make it illegal to possess wolves or wolf-dog hybrids in captivity without a wdnr permit; this is a fantastic idea.

10-Aug-98	Quan		Bahn					
53190		10619 Co. Line Rd. 66		Whitewater			WI	

When wolf specimens are available to the public they should be sold at fair-market value & funds used to benefit the program...nuisance animals should be available to be used in educational programming...wolf-dog hybrids should be controlled...landowners should not be granted permission to shoot or otherwise control the numbers of wolves or wolf-like animals without first attending a state-approved wolf education or seminar...controlof depredating wolves should be left...in the hands of wolf biologists...social tolerance will be a major factor in the true carrying capacity of the available primar wolf habitat...trails allowing motorized recreation should be closed or detoured if the are in sensitive wolf habitat...new roads should be seriously curtailed within prime habitat...composition of the wolf committee should include a representative from WDOT, county land use planning authorities, non-profit educational organizations, and an individual representing the interests of farmers.

10-Aug-98	Steve		Lipsey					
54456		N.4349 Snyder Lake Rd.		Neillsville			WI	

I'm against your wolf plan. There are more wolves than the 180 your personnel say there is. There are wolves in every block between Loretta to Clam Lake, WI., There should be a trapping or hunting season.

10-Aug-98	Joseph & Mary		Stutzman					
54422		W8216 CTH A		Curtiss			WI	

No room for Wolves in WI...a wolf in Wisconsin is like a rat in a corn crib, there is no good that can come out it...last year there was a story in the Star News about years ago when a wolf attacked our neighbor, Iluckilly he had a club handy...I'd rather have a bunch of deer on my farm than 1 wolf...no wolves please.

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10-Aug-98	Tom	Herschelman			Sierra Club		
53703	222 S. Hamilton St.,		Madison			WI	

The following are the comments of the John Muir chapter on the Draft Wolf Plan. The chapter (JMC) appreciates the efforts of the Bureau of Endangered Resources and Adrian Wydeven, in your efforts to aid in the recovery of the gray wolf, through field study and education. Minimum Viable Population: As the minimum viable population is unknown and conjectural and as under the precautionary principle the management decision of wolf viability expressed in population numbers must be balanced on the side of utmost caution due to the lack of knowledge and unknown consequences of management actions, the JMC concludes there should be no artificial or maximum cap on wolf numbers. We simply do not know what number of wolves will produce stability of the wolf population and the DNR recommended maximum number of wolves (500) may be below the threshold of stability. In addition, the JMC is more interested in the maximum number of wolves that the land can sustain with the assurance of continuing support of the public good will. We do not yet have knowledge based on science or data as to what the population level that can be supported by the public and the land is. For these reasons we also conclude that the state (and federal) delisting process should not continue. Delisting is premature at this time. Scientists cannot agree on the minimum viable population level of wolves needed to sustain a population, and in fact the JMC looks for the return of the wolf to its full place in the native biodiversity matrix to the maximum population level that habitat, prey and wolf biology allow, especially in zone 1 and less so in zone 2, with minimally appropriate adjustments for livestock-wolf conflicts as outlined below. This will mean a considerably higher population level of wolves than at present or what the DNR proposes. Until it is proven conclusively that conflicts will reduce the support of wolves, a maximum number should not be set in the wolf plan. As wolves are self-regulating when food is reduced, there is no need to influence the wolf population level for lack of prey considerations. Although 'the Recovery Plan for the Eastern Timber Wolf' of the USFWS (revised 1992) considers 100 wolves outside Minnesota and Isle Royale located within 100 miles of the Minnesota population, or 200 wolves is located beyond that distance, as reason for recovery, the JMC believes this conclusion is without merit due to current Wolf Viability Analysis (see appendix B of the Draft Wolf Management Plan) and the precautionary principle. Science does not presently know what number of wolves will assure a stable, viable, population in the long run due to the chances of environmental catastrophes, low reproduction, and possible high environmental variability and therefore there is a great need to go slow in the delisting question. As there is no assurance that the cap goal of 500 wolves will produce variability, the JMC believes the 500-wolf goal is arbitrary and capricious. This conclusion agrees with the Wolf Viability Analysis and statement, 'our analyses suggest that estimates of the probability of extinction and relisting (of wolves) is very sensitive to uncertainty about environmental variation and the probability of catastrophes.' Further, the study states 'Population Viability Analysis is, by definition, an assessment of the probability of persistence of a population... However, prevention of extinction is only the first step for effective conservation of a species. Management goals may need to be greater than simply preventing extinction if wolves are to be functional members of Wisconsin's biological communities.' The JMC agrees with these conclusions, and calls for no cap on wolf numbers or delisting at this time, with the understanding that science and the fact of many unknown variables such as future catastrophes, population isolation and inbreeding and environmental variables do not assure us that the WI wolf population is guaranteed full recovery at the present or proposed levels of population in the wolf plan. In addition, to support the conclusion that it is unknown what wolf population level will ensure viability and a 'healthy' level of population, the following statement is submitted from the Draft Wolf Plan: 'given the information currently available we cannot exclude the possibility that a population of 300 to 500 wolves may decline to the point that relisting as endangered will be necessary in the future.' This further supports the contention that wolf numbers are not yet sufficient to allow delisting, even with a population of up to 500 animals. Inter-government Considerations: MN-WI-MI-Ont: In addition, with anticipated human population increases and the results from fragmentation effects in Minnesota in the present corridor to Wisconsin, there is no certainty the Minnesota wolf populations will be connected to the Wisconsin population in the future. For this reason, the JMC requests intergovernmental management negotiations to ensure the continuing availability of the MN-WI corridor. In fact, if the WI wolves become separated from the Ontario-MI and MN wolves in the future, the Charter requests this be included as a criteria for relisting if it should occur. We also propose that an agreement be concluded with the people of Michigan and the Province of Ontario, via their respective DNR's to better ensure the continuing availability of the MN-WI corridor. In fact, if the WI wolves become separated from the Ontario-MI and Mn wolves in the future, the chapter requests this be included as a criteria for relisting if it should occur. We also propose that an agreement be concluded with the people of Michigan and the Province of Ontario, via their respective DNRs, to better ensure the viability of Wisconsin wolves from a political-management standpoint, including the continuing presence of connective corridors. Due to the need for continuing emigration of wolves from these political jurisdictions, we also support in the Wolf Plan efforts by WI DNR to urge these governments to educate their citizens about wolves and their values to the ecosystems. Wisconsin needs Ontario, MN and MI wolves for a metapopulation and genetic viability, and one way to accomplish this is by inter-governmental agreements. Public Education About Wolves: The JMC stresses the need for continuing education of citizens on wolf behavior and value to the ecosystem

so that wolves may expand their numbers into areas more densely roaded than one mile of roads per square mile. We agree with Robert Roiley that wolves may be perfectly capable of colonizing more densely roaded areas and should be given that opportunity. Survey of Public Attitudes: We agree with Rpoiley that the frequent survey of public attitudes toward wolves is needed but no more often than every five years and perhaps sooner. Ecosystem Management Perspective: Given that most of the citizens of Wisconsin throughout the State support the return of the wolf to WI the chapter requests the Plan include what specific actions will be taken in the 2,300,000 acres of county forests by each county to assist in the viability of the wolf. This would include wild areas set aside for low road

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densities and minimal human accessibility and without logging. There needs to be uniform and concerted action in favor of wolf habitat restoration from each County Forest in wolf territory, not just some. Under ecosystem management, the DNR Wolf Plan should coordinate the various ownerships of public lands and have a section in the Wolf Management Plan showing the planst hat each public and large private landowner can specifically take to help in the continuing recovery of the wolf. Population Monitoring: The JMC recommends the continuation of detailed, statistically verifiable surveys and monitoring of wolf populations. This is needed to measure the quantitative success of wolf recovery if delisting should occur. The DNR cannot begin to know the extent of wolf populations without accurate statistics. Again, these costs whould be born out of the same funds used to study deer, bear, turkeys, grouse, etc....State Re-Listing Criteria: In light of this uncertainty on MVP, assuming that for some reason the delisting process continues, the JMC calls for automatic state re-listing of wolves to threatened when the numbers fall below (perhaps) 450 for 2 years. If the WI numbers should fall below (perhaps) 350 for 2 years the wolf would be reclassified as endangered. There is absolutely no certainty that wolves will be viable at population levels of 500 or 600 in number....the chapter feels with this real uncertainty the threshold for relisting must be significantly raised, and request a thorough restudy of the question of viability. We also request estimates of wolf population numbers in the study that will assure viability...so that the possibility of extinction approaches zero for 200 years. Biological Carrying Capacity: The JMC does not see an analysis of what the wolf numbers could reach based on the fecundity of deer and the current carrying capacity of the land to support very high deer-wolf numbers. Indeed, the Wolf Plan implies that logging is needed to ensure wolf viability. If wolf viability is directly dependent on deer numbers this may imply that more logging is needed to ensure higher deer numbers. Logging is directly damaging to other elements of biodiversity from the standpoint of road construction and road density increases, which adversely affect wolves. The Chapter wishes to see a realistic estimate of what the land can support in wolf numbers, and a greater emphasis on road obliterations on all public lands and road density reductions as many roads are not even tallied in the formal road counts. This may better ensure wolf viability (low road density areas) more so than high deer densities, as low road densities are proven to be a key factor in wolf viability....the chapter believes more remote habitat and low road density should be created...Wolf Management Zones: Zone 1a: Agree with total protection on these public lands and industrial forests, except in cases of wolves with contagious diseases or wolf-dog hybrids. However, the diseases must be detrimental to the overall wolf population and not the individual; Zone 1b, Privately owned lands. As the state funded program to reimburse deer, bear and goose damage is \$2,317,677 (1997) the JMC assumes this fund could be increased with funds to be determined from an adequate and additional source to pay for wolf depredations. The program is the Wildlife Damage Abatement and Claims Program and wolves should be invluded as wildlife under the strict meaning of the term and not as potential 'game' animals per se. In addition the program recently funded \$379,650 for abatement measures and this should be similarly funded for wolf abatement measures. Finally, state expenditures for administration of claims and abatement for counties totalled \$629,400 in 1997 so the wolf damage and abatement administration costs should be a small portion of deer control costs, and should be amended to include wolf costs. Such funds would be used to pay for depredation on pets and livestock. As such depredations are very infrequent and miniscule compared to deer-bear-goose damage (about \$3,000,000 from the above and \$88,427,000 from car-deer collisions) public compensation for market value and lost profits should make the owner whole. In addition, administrative costs of the wolf program after delisting should be included in the same budget as the program to administer deer studies. Due to high natural mortality of wolves, under no circumstances should public trappign or sport hunting be allowe by law in any zone. With these large sums of funds expended for deer damages and administrative costs, with wolves included in this program there should be no need for wolf killing in Zone 1b. Zone 2, Wolf Buffer Area; wolves that depredate in this area should not be killed and full reimbursement of market value and lost profits should occur (such reimbursement should apply in Zones 1, 1a and 3 also)...we take the position that payment should be based ont he fair market value of the animal at the time of the loss for mature animals and fall market value for calves and lambs. Unless extraordinary circumstances requirie it this very fair reimbursement will eliminate the need to kill such wolves. Translocation to northern areas without wolves that can support wolves should also be done. Live trapping for translocation only should be conducted by government officials only. In order to better ensure wolf viability we oppose pack elimination. pack elimination is adamentntly opposed by the JMC under all

circumstances whether proactive or after depredation. With relatively smaller population levels in Wisconsin compared to MN where pack destruction is allowed, we take the position that all packs are needed for recovery and whole pack elimination could lead to a precipitous decline in wolf population for a region. We take the position that the citizens of Wisconsin would not support this killing of wolf-family packs. This zone should have a connective corridor(s) connecting the northern zone 1 and midstate zone 1 areas under zone 1a protections. This is conspicuously lacking. Zone 3: Due to the fact damage control and compensation programs are critical to the recovery of wolves and the ongoing public support of wolves, it is reasonable for wolves to be killed where conflicts occur as expressed by depredations, or where the wolves menace pets or livestock in this zone only. Only where there is strict evidence of this should 'control' be allowed. The JMC believes it is reasonable for farmers to exert wolf control where livestock depredation has occurred but a permit must be obtained beforehand whenever possible in this regard farmer controls must fit the following conditions: the wolf killed by the farmer must be in the act of attacking the animal; the farmer must report the wolf kill and wolf-livestock conflict within 24 hours; the DNR investigating agent will, confiscate the carcass; document the kill; evaluate what best management practices and non-lethal deterrents the farmer is using; recommend additional bmps / non-lethal deterrents for future use. The farmer must implement these deterrents within a reasonable amount of time or future eligibility for compensation will be at risk; if evidence

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indicates abuse of the system the farmer faces penalties/fines; Officers of the DNR can kill wolves where depredation has occurred in Zone 3 however if the wolf is not clearly conflicting with livestock or killing pets the wolf should be given a chance to live...no killing of wolves ...either when wolves are classified as endangered or threatened, or after delisting from threatened....protections of wolves should continue beyond delisting...JMC requests consideration of any wolf kills be done by DNR officials and not APHIS which is a division of the Federal Government and very active in predator killing our West...the Vchapter has a concern with their methods and requests the opportunity of public participation and involvement and providing input regarding their methods and means; The Chapter further requests automatic killing of wolf-dog hybrids by DNR personnel...Habitat Management: The JMC applauds the recommendation for cooperative habitat management efforts with land agencies and industrial and private landowners, especially access management, corridor protection and dens ite protection...the reduction of road densities in federal state and county public lands is highly encouraged, as is access management...development of low quality roads or trails for motorized vehicles...should be avoided...Habitat Linkages and Corridors: the JMC agrees the maintenance of forested blocks of land that connect wolf habitats in WI, MN andn MN (sic) are necessary and that protection of existing corridor habitat should be a factor in considering acquisition of public lands, federal state or county...Management of Den and Rendezvous Sites: Assuming delisting, can protection of these sites from logging and disturbances be mandated by law?...Wolf Depredation Management: Agree that quick, uniform and accurate verification of wolf depredation is critical. however APHIS should not be included for the reasons indicated...WI DNR personnel shold do the investigation; Control Response Options: a, technical assistance to help prevent or minimize future occurrences of predation is recommended; b, compensation, we agree in compensation for wolf fdamages to private property but se comments on deer compensation fund above; c. translocation must be mandated in zones 1 or 2 (no euthanization); Wolf Education: Exellent and totally necessary. Hunting ov coyotes must be closed during the deer season...the Wolf Advosoty Committee is conspicuously lacking an environmental organization representative, and a state or national environmental organization or equivalent should be added to the list of members: The JMC also wishes to mention agreement with the comments made by the Madison Audubon Socitey; the comebakc of the wolf is greatly dependent on education and education must be of the highest priority...Menomonie County with its excellent wolf habitat should be included in Zone 1a...clearcuts are not needed for deer production

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10-Aug-98	Miles		Narveson			Pecatonica River Valley	Coon Hunters	
53533	2474	Lease Dr.		Dodgeville			WI	

after extensive debate by our membership we feel we should contribute our views: we are in overall agreement with the basic premise that there should be wolves in Wisconsin ...the goal of 300-500 would be unacceptably high...current population levels are adequate. Further increase in wolf numbers will result in unacceptable levels of predation...maintain the current population level, continue to manage problem wolves and continue to educate the public about wolves.

10-Aug-98	Don L.		Gipp					
54564	4925	Talbot Dr.		Tripoli			WI	

I am opposed to any more additional wolves in northern Wisconsin. As a hunter, I feel that the wolves are a big hardship in areas where there's deer. The DNR stance that the wolves do not affect the herd is totally wrong. If they take one deer they have influenced the herd. I oppose wolves due to the deer & rabbit decline in pack areas. As a Wisconsin citizen I resent being told to keep my pets and kids out of the woods in wolf trapping areas. Three hundred animals is far too many wolves in Wisconsin...

11-Aug-98	Harvey		Klein					
54744	556	14 1/2 St.		Hillsdale			WI	

I think we have enough wolfs already. Please no more.

11-Aug-98	Terry		Vergin					
54733	315	13 1/2 St.		Dallas			WI	

I do not believe you should introduce more wolves...make it so we can hunt or trap the wolf then we can control the population. Stop using taxpayer & my license money to support this program.

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12-Aug-98	Joelle	and Tom	Gehring			Purdue, Univ. Dept. Forestry & Natural Resources		
				tgehring@fnr.purdue.edu				

10 August 1998 Dear Wolf Advisory Committee,

Thank you for the opportunity to comment on the draft Wolf Management plan for Wisconsin. Overall we were pleased with many parts of the plan. Compared to the original estimates for the Wisconsin wolf populations, we support the higher numbers of wolves recommended as a management goal. We were also pleased to see the emphasis placed on public education, the monitoring of ecotourism effects on wolves, the use of volunteer organizations to fund wolf depredation claims in the future, and the regulations pertaining to wolf-hybrids. The list of "future wolf research needs" suggests some very exciting and worthwhile research. We have made several comments and suggestions on this draft plan, which we'll address here. We would like to encourage the Wisconsin Wolf Advisory Committee to consider trying innovative, creative techniques to manage this part of our natural heritage. We have the benefit of learning from Minnesota's experiences and improving our techniques of integrating wolves and humans for the long-term benefit of both. **NEED FOR MORE PREVENTION** In general, we would like to see more of an emphasis, including specifics, on the prevention of depredations. We're concerned that prevention methods might get neglected in favor of killing or translocating wolves. Prevention is applicable in all zones, at all times, but especially in zones 1 and 2 after delisting. Why plan proactive trapping in areas with a history of problems? Why not try some prevention efforts FIRST? We believe that proactive trapping in "problem areas" without depredation prevention will simply kill a lot of wolves, waste a lot of money and provide a few individuals with a regular income (ADC-WS). We believe that lethal control should be a last resort. The evidence for its effectiveness in preventing and/or reducing depredations just isn't there even with 20+ years of Minnesota data. Fritts et al. (1992) reported data on 124 successful trapping efforts (108 farms) and 108 unsuccessful trapping efforts (99 farms). For farms where wolves were removed, 34% had another depredation that same year and 31% had a subsequent depredation the next year. For farms where wolves were not removed, 23% had a depredation the same year and 23% had another depredation the following year. These data indicate that lethal control did nothing to prevent/reduce depredations. Wisconsin has an excellent opportunity to attempt truly integrated management of depredations. If a depredation occurs on a farm, investigators should immediately look for correlative 'red flags' on that farm (e.g., Are there any carcass dumps?, Are cattle in poor health?, etc...). The key will be to identify these 'red flags' and then take corrective measures to fix the problems on-site. The alternative is to remove wolves annually (or more often). This alternative is extremely costly in terms of dollars and wolves. Furthermore, it never truly fixes the problem, just perpetuates it. We believe that emphasis on lethal control without prevention could give farmers a false sense of security. However, when he/she has depredations again the next year and the year after that, etc., farmers might begin to doubt the competency of the agencies involved. We would like to see a survey conducted of Wisconsin residents specifically on the topic of wolf depredation and its prevention. It could include questions regarding what methods of prevention are acceptable, the frequency of carcass dumps, etc. **TERMS & DEFINITIONS** 1. We have some concerns regarding the determination of captive-raised or hybrid wolves. We agree that captive-raised wolves and hybrids can be detrimental to natural populations and should be controlled. However, careful consideration should take place before killing these wolf-like animals. 2. We feel that when referring to depredations, the term "a chronic problem area" should only include farms that regularly experience depredation problems. We don't believe that 2-3 calves per year is worth the time and money to translocate or kill wolves. We believe that it would be cheaper to pay the farmer and use prevention methods on the farm.

3. We believe that bear dogs could present a difficult problem for wolf management in Wisconsin. If bear dogs are left in the woods for extended periods of time on private land, and are killed by wolves, does that warrant wolf euthanization? We think it's important to remember the bear dogs killed in the Crotte Creek pack in 1992? 4. After delisting, landowners will be allowed to acquire permits to kill "nuisance wolves" We hope that the definition of "nuisance wolves" will still protect the wolves that rarely prey upon cattle. **MANAGEMENT ZONES** We feel that wolves should be maintained in all zones especially 1 and 2. We believe that wolves should be allowed to adapt to a more fragmented, agricultural habitat. Wisconsin might not always have large uninhabited areas for wolves to live. Proactive trapping in these areas will not allow the natural adaptation of this species. Teaching farmers to prevent depredations and allowing wolves to live in agricultural landscapes will foster the adaptation of both species. We believe that the "Wolf Conservation Zone" (1b) should not have proactive wolf trapping after delisting. According to the draft plan, after delisting landowners in zone 2 may be given permits to kill depredating wolves with no limiting radius. This fails to provide any more protection than zone 3. Zone 2 is supposed to protect wolves dispersing to the southern zone 1 but, dispersers may not be protected with this plan. **TRAPPING RADIUS** We believe that the depredation trapping radius of 5 mi. is far too large. We don't understand the biological significance of eliminating the trapping radius limitation after delisting. It appears to be more of a hunting season than a scientific method of

reducing livestock depredations. TECHNICAL ASSISTANCE/COMPENSATION PROGRAMS We were pleased to read the 'Technical Assistance' section outlining technology and programs for farmers. We were glad to see that farmers will be required to practice good livestock management in order to receive compensation after delisting. We were also pleased to read that volunteers might be incorporated into this program. Volunteers might be able to help with the construction of predator fencing, calving pens etc. EDUCATION We appreciated the plan for an information pamphlet on the prevention of wolf depredations. We hope they will be given to all farmers, the extension offices and county fairs might be good pre-depredation distribution sites. We feel that farmers should also receive information on proper carcass disposal and related phone numbers for rendering companies. TRANSLOCATION Although slightly

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better than lethal control, wolf translocation has little data to support it's success. The USFWS tried translocation from depredation sites in Minnesota from 1975-1978. Fritts (1982) reported that 108 wolves were translocated. He found that wolves left their release sites and generally moved through or into livestock growing areas. Fritts (1982) suggested that "relocation of livestock-depredating wolves was not an adequate solution to the depredation problem". In addition, the cost of translocating wolves 1 to perhaps 3 times over the course of a year could be large. It appears more prudent to fix the problem locally and digging to the root(s) of the depredation problem. We are aware that Montana has used translocation in the recent past and claimed apparent success. However, we do believe that the majority of these wolves were dispersers. There is the case of the female wolf from the Marion, MT area that was translocated. She quickly moved from that site and settled with another wolf near Missoula, MT. Within 1 year she was killed by poachers, the male was hit by a vehicle and the pups were being aerielly fed by the USFWS (sounds like one hugely expensive, apparent success doesn't it). Furthermore, the literature actually shows that removing wolves from a pack can be detrimental concerning future livestock losses (Bjorge and Gunson 1985). We will be sending the Wolf Advisory Committee a copy of this paper with some of our general comments in the near future. Translocation may occasionally work with a disperser but it should be managed as the social animal it is. Recently, Craven et al. (1998) recommended several courses of action relative to translocation of wildlife (the paper focused on urban wildlife). Their first recommendation was to ..."Encourage solutions to wildlife-damage problems based on habitat modification, exclusion, tolerance, repellents, or other techniques to minimize the need for translocation, but with sensitivity to clients' underlying concern for a viable solution to problems". Craven et al. (1998) also cited potential negative impacts of translocation including: higher mortality rates among translocated individuals, extensive roaming behavior, increased risk of disease transmission, and increased competition with resident conspecifics. All of these factors would need to be carefully considered before translocation was implemented as a management tool for wolves in Wisconsin. PUBLIC HUNTING SEASON We are adamantly opposed to a public hunting season on wolves. There is no research to support that it will prevent livestock depredations or wolf-human conflicts. Research by Bjorge and Gunson (1985) actually suggests the opposite effect. The draft plan states that "Such a change is consistent with the management of other recovered populations." However, no literature is cited. We would like to know what wolf population this is referring to. RELEVANT TYPOS (to us anyway) Throughout the literature cited section, T. M. Gehring is not spelled correctly. Specifically, in Frair et al. 1996 (page 36), and Kohn et al. 1996 (page 37). LITERATURE CITED Bjorge, R., and J. Gunson. 1985. Evaluation of wolf control to reduce cattle predation in Alberta. Journal of Range Management. 38:483-487. Craven, S., T. Barnes, and G. Kania. 1998. Toward a professional position on the translocation of problem wildlife. Wildlife Society Bulletin. 26:171-177. Fritts, S. 1982. Wolf depredation on livestock in Minnesota. USFWS, Resource Publication 145. 11pp Fritts, S., W. Paul, L. Mech, and D. Scott. 1992. Trends and management of wolf-livestock conflicts in Minnesota. USFWS, Resource Publication 181. 27pp. Thank you once again for the chance to comment on the draft Wolf

Management plan for Wisconsin. We believe that the Wisconsin Wolf Advisory Committee has the ability to use innovative, creative, and

scientifically-sound techniques to manage our wolf population. We hope you seize this opportunity. Sincerely,
Joelle Gehring

Tom Gehring Department of Forestry & Natural Resources Department

of Forestry &
Natural Resources Purdue University
West Lafayette, IN
47906 Phone: (765) 494-3831
E-mail:
tgehring@fnr.purdue.edu

Purdue University West Lafayette, IN 47906

Phone: (765) 494-3831 E-mail: joelle@fnr.purdue.edu

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13-Aug-98 Roger Schlickeisen Defenders of Wildlife
 20005 1101 Fourteenth St., NW, Suite Washington DC
 1400

Defenders...has 250,000 members with 10,000 in Wisconsin; we find the draft Wisconsin Wolf Management Plan to be very comprehensive, and commend the WI Wolf Advisory Committee for identifying and discussing a myriad of wolf management issues. We appreciate your desire to educate the public about wolves, work with other agencies at the county state and federal level to ensure a high level of cooperation, promote ecotourism and continue monitoring the wolf population and conducting research to help address management concerns once wolves are delisted. We also applaud the Wolf Advisory Committee for setting the wolf population goal higher than the US Fish & Wildlife Service's suggested goal of 200 wolves. As the plan stated, there is a lack of consensus as to the number of wolves needed in an isolated population to maintain viability. In the absence of knowledge, it is essential to take the more conservative approach. After a quarter of a century of needing federal protection to ensure wolf recovery it would be foolish to jeopardize recovered status because of a lack of information...we advocate a precautionary approach to delisting and management decisions...we question why the plan identifies 500 as a maximum population goal. The GIS evaluation estimates...a reasonable estimation would be a potential wolf population of 300-500 wolves in northern Wisconsin...yet the plan acknowledges that more research is necessary to better assess habitat and wolf population potential in central Wisconsin, indicating the state could hold more than 500 wolves;...the concern about increased livestock depredation resulting from rising wolf populations is valid, though it is certainly not clear at this point whether loss of livestock would be enough of a problem to warrant curbing population growth or justify a sport hunting season. Defenders recognizes the need for flexible management in controlling wolves that have a repeat history of preying on livestock...experience in Minnesota and elsewhere demonstrates that large numbers of wolves can co-exist with humans with minimum conflict...we believe it is premature for the state to contemplate a sport hunting season before wolves are even delisted for after the wolf population reaches 500 animals...we therefore recommend that this consideration be removed from the plan...we believe that decision should await significant experience with implementation of the plan and monitoring of wolf populations...regarding creation of zones, Defenders has no basic objection to this system of wolf management. However we would like clarification of the circumstances in which landowners would be permitted to control wolves on their land under Zone 3...control should be done by wildlife agency professionals...The Wisconsin draft Wolf Management Plan is clearly a very serious and well-thought out effort that, with minor revisions would be a good exemplar for state management plans for this species...

15-Aug-98 Jack Dickerson
 JACDIC@aol.com

Dear Sirs, I have been made aware of the outstanding progress in bringing back the wolf population from a good friend whom is also concerned about the environment and wildlife habitat. I have also been told that a hunting season is intended to be introduced once the wolf population reaches 500. Is this number anywhere near the number once supported and how has this number been arrived upon. It seems that the number of road kills of game that are hunted by wolves indicate that a much larger wolf population could be supported. Please reconsider not introducing a hunting season for these needed natural predators. Jack Dickerson

17-Aug-98 Scott Pultz
 54487 2231 River Rd. Tomahawk WI

Don't increase the wolf population, decrease it. There are too many problems already with dog and livestock kills

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
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17-Aug-98	Stephanie		Shoemaker					
	92019	152 Landale Lane		El Cajon			CA	

I'm a 19-year-old freshman at San Diego State University in southern California. I have been reading about all types of wolves for the last two years. I'm interested in getting involved in the preservation of the wolves in the US and Canada. Unfortunately I do not have the funds to make donations but if there was any other way I could help I wouldn't hesitate. I would greatly appreciate any information you could offer.

09-Sep-98	Richard		Spotts					
	54806	Route 1, Box 66B		Ashland			WI	

I generally support this draft plan and appreciate all of the excellent work that went into preparing it. I also concur that recovery of the wolf in Wisconsin has been a tremendous conservation success. However this success should not be taken for granted. As you know, continued public education, compensation for documented livestock losses, monitoring, law enforcement and research remain necessary...I strongly recommend that the two areas shown as Zone 1 be connected...this is necessary to reflect the importance of landscape ecology and conservation biology ...in terms of ...landscape linkages.(attached map recommends county line border linking zone 1 along Rusk, Chippewa, Dunn, Eau Claire county lines with Central Forest on west and similar county line connections in southern Taylor and Clark counties on the west to the Central Forest boundary.)

17-Feb-99	Ottelia		Kohn					
	54727	21500 Co. Hwy X		Cadott			WI	

We don't need your damn wolf's in Wisconsin. Not one dollar should be spent on them when we need new schools and so many other good things.(accompanied April 1 clipping from Star News by David Soper describing killing of two beagles that contained the statement "there was a reason why the wolves were eliminated when people came to Wisconsin. There is no place for the wolf here.")

26-Feb-99	Sharon		Schindler					
	54661	11885 Bank St.		Trempealeau			WI	

In order to obtain more money for a good wolf program (to save them) have you thought about an adoption program. I belong to one for only \$31. Enclosed is a brochure you may look at. Mr. Scott Lee, at Trempealeau Middle School in Trempealeau had his class adopt a wolf pack. Children need to get involved with our wildlife and entire environment. I belong to Defenders of Wildlife, the Nature conservancy and World Wildlife Fund. My favorite president, Abraham Lincoln, said 'I am in favor of animal rights as well as human rights. That is the way of a whole human being.' Wolf Education & Research Center material attached with Friends of the Forest div. of KT Holdings, Inc., copyright

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28-Feb-99	Michael		Harris					
	53172	807 Nicholson Rd.		South Milwaukee			WI	

I find after due consideration of the proposed wolf management plan for the State of Wisconsin that I am in complete opposition to the killing/culling of any wolves residing within our state borders at anytime in the future. Who has, and guided by what agenda, decided that 250 wolves are beyond the carrying capacity of the State of Wisconsin as a whole? What part has the ultra conservative Wisconsin Conservation Congress played in this decision? The only bodies of Wisconsin citizens that they speak for are hunters. A minority of Wisconsin citizens! ...growth of a species population is measured in terms of natality or birth rate...expressed as the number of new individuals produced per unit of time or the number of individuals produced per unit of time per breeding individual in the particular population. Is the State (WDNR) implying that they will be counting pups toward the total of allowed wolves in Wisconsin? ...it's no secret to anyone with an interest in Wisconsin ecology that the primary concerns of state wildlife managers is determining the carrying capacity for game species only. In promoting the interest of the hunter in having abundant game to shoot at there is a strong incentive to manipulate the environment in order to maximize the carrying capacity for the desirable game wildlife at the expense of other non-game species such as wolves...there will never exist anything scientifically or ethically denoted as surplus population, which would require hunting....

08-Mar-99	Alan		Harrison					
	54566	P.O. Box 279		Wabeno,			WI	

would like to go on record as saying the wolf recovery is great. I hope some day to see one myself. However, I believe that we need to = limit the amount of wolf free roaming in the state. I think the goal of 300 wolf is too many and would like to see that goal down in the 150 to = 175 range maximum. Then I would like to see any amount over that goal be available to harvest by hunting and trapping under careful regulatory methods. The wolf will eventually become a nuisance if left unchecked in Wisconsin. The north is supporting the maximum number now which is why they are roaming over the central part of the state. People and wolf = are not going to mix well in the more populated areas I am afraid. The loggers in northern areas are seeing the results of wolf depredation in winter logging jobs as we speak. This is not setting well with the residents of northern areas who deeply value their deer herds and populations.

So lets set a goal between the 80 wolf in the original recovery plan and the 300 in the proposed plan and allow the excess to be harvested by the people who pay for the wildlife programs, the hunters and trappers of the state of Wisconsin.

Thank you for allowing our input to this very important plan!

13-Mar-99	Tom		McMillen					
	55945	Route 2, Box21		Kellogg			MN	

Could I be sent a copy of the current wolf management plan. We are interested in the changes that have been made.

Mail First	Last	Organizatio	Address	City	State	Code	Comment
23-Mar-99	Bret	Amundson					
0	waqe@chibardun.net		Rice Lake			WI	

First of all, let me commend everyone involved in re-establishing a healthy population of an animal native to this area. The efforts have been extraordinary, here in Wisconsin and the surrounding states, especially in Minnesota, where the wolf population has soared, and an educational, international wolf center has flourished. Please, keep up the good work. My concern is that all this work has been put in for years, and now when it is starting to really pay off, the projected goals have been lowered, and the talk of public harvest has surfaced. What a tragedy a hunting season would be. I am a dedicated outdoorsman, I enjoy hunting and fishing, and regard licensed hunting seasons as a integral part of conservation and game management. But, allowing people to hunt, and legally kill wolves, could potentially bring back the negative feelings some of the public have towards wolves, as opposed to legal game such as deer. This could in turn increase the number of illegal wolf kills, by people thinking they are helping control the "nuisance population". I do realize that management is a primary concern, and that wolves need a large territory for each individual pack, and wolves and people cannot always coexist in the same area. But I think a legal hunting season would be a major step backwards. The idea of protecting a certain animal is to dispell the notion of killing that animal. Even though wolf numbers are on the rise, this is still an animal that should be protected, at least from the general public. You can't (or at least wouldn't want to eat one), and the fur is not something that a hunting/trapping season should be implemented for. I am in favor of the DNR or federally/state assigned authorities to step in to control problem wolves, and allowing farmers or pet owners to defend their livestock or pets-BUT, there should be severe consequences for those found killing a wolf that was not found to be attacking livestock or a pet. Allowing farmers and pet owners to "legally" kill a wolf for this reason could be open to interpretation for farmers who are prejudice against wolves and would want to open fire anytime one is spotted. Remember, wolves are predatory creatures, and the easiest food to get a hold of is always the most popular. Investigate every kill, and impose large fines for those found killing wolves without proper reason. These enormous fines, would a) discourage people from trying to get away with a killing a wolf without legal consent, and b)would help fund wolf conservation efforts (offsetting the need for license fees for a hunting season). Places I'm sure that current fines go towards, but I feel the need to increase the fine is necessary. With the population growing, some people might feel that its "okay" to kill one because there are so many of them. The population is growing, but we are talking about a population of less than 300 hundred animals (as of this point) compared to say the thousands and thousands of white tail deer, that do require a public harvest, and taste very good, I might add I didn't mean for this to get this long, but I did want to stress the fact that the public harvest of wolves, whether it be in Wisconsin, or anywhere, is a mistake. I feel as though it would be sending a mixed message about protected animals in this country, and the world for that matter. Management is necessary, of course, but it should be handled by the trained, authorized personnel of the DNR or other state or federal equivalents. Again, keep up the good work, with the Wisconsin Wolf Recovery Plan, the reintroduction of the Elk, and the management of the White-tail herd. Overall, this state is a great place to enjoy the outdoors, for whatever reason, and should set an example with this wolf plan, that wildlife and the outdoors are something that need to be taken care of, or else they won't be around much longer. And I don't want to be around if that ever were to happen.

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25-Mar-99 David

0 nrthcar@win.bright.net

Responding to the "Wolf Management Plan" mailed out this week. Although it includes much of the same, there is still no clear indications of what the DNR plans to do if several scenarios happen such as wolf dogs, the possible spread of disease by wolves, and the remaining loss that could well happen to pet owners and livestock. There remains a lot of maybes with no clear indications to what the DNR plans to do. It is not that clear if the wolf will reach the management goals of 300-500 wolves in what is becoming less and less land with all of the building that Northern Wisconsin is going through at this time. Also why spend so much money on an "if" situation when those funds could be funneled into social programs that could help out the elderly in Wisconsin for example. If it is not the bear hounders defending their hunt it is the opposite side of the coin trying to turn the coin over. Although the study skirts the social and political agenda for the most part, it is designed also to do so. So why don't we get a clear plan? I went to several meetings only to see the same old play acted out by the same players....hunters and hounders....with the environmental camp shaking their head about the wrongs put on the wolf,,,,,when in affect spending this kind of money on wolves could be used elsewhere. It is the same with the \$250,000.00 proposed for the elk in Clam Lake. Sadly disappointed in this plan and by the action of the DNR and its offices.

26-Mar-99 Jerome

McCullom

3128 W. Pierce

54481

Milwaukee

WI

am writing to state that state protection shouldn't be removed from timberwolves until they achieve at least 300 in number. To do so would unduly risk them being endangered.

26-Mar-99 William E.

Southern, Ph. D.

0 SoLakes1@aol.com

I approve of the 4 management zones that have been recommended in the revised plan as well as many of the other changes. However, I am opposed to the following: 1. The population goal should be left at 500, not reduced to 350. 2. Control of wolves should be limited to USDA-Wildlife Services and DNR personnel. "Other law enforcement agencies" should be involved as this increases the risk of abuse as too many mindsets exist across non-natural resource agencies. 3. Pet owners should not be reimbursed for losses. They should keep their animals under control. Having a larger wolf population will assist in controlling the deer herd which is too large and apparently cannot be controlled by hunting alone.

31-Mar-99

0 Stevesklan@aol.com

Please except my opinion on your proposed wolf legislation. I am not a resident of WI. but have much experience with wolves from my time in AK. A well thought out, common sense approach to wolf management has to include some harvesting of animals. It will greatly reduce human conflicts and is necessary to keep the wolves truly wild. Please don't fall victim to the emotional onslaught the anti hunting and trapping people will bombard you with. Manage the resource with science not emotion. Thank you

01-Apr-99 Bill

McAfee

0 bmcafee@jvl.net.com

What do we need wolves for we got to many coyote's. Call me any time will discuss it with you. Bill McAfee 608-868-6514 or email me bmcafee@jvl.net.com

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
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02-Apr-99	John		Welhoefer					
	0	welfer@ixperts.com		Waterloo			WI	

Here in wisc. we seem to be very protective of our natural resorces. We seem to want it all. 15-20 years ago i can rember going up north to hunt coyotes in the eagleriver area with my uncle. Now there seems to be no coyotes in that area. Is it because we have introduced wolves?? I don't know. I live in the southern part of the state and we now have coyotes in this area, 15-20 years ago we had never seen coyotes in the MADISON area. We hunted fox. Now we have very few fox in this area. Is this because we now have coyotes. It is hard to say. We have went way beyond the 80-100 wolves the Wisc. wolf plan origanally had proposed. We have not reached the year 2000 yet. I hope we do not let the population get outof control. John Welhoefer Waterloo = Wi.

04-Apr-99	Nick		Skidgell					
	0	ns_89@hotmail.com						

my best reccomendation would be to take the wolf off the protection list. Many of you do not understand the signifigance of wolf predation on many animals. Some of these animals include livestock, deer, and a lot of small game. For the future of livestock and outdoor recreation in Wisconsin, woulfes should be removed from the protected list. I see the tight situation you may be in, but it would be for the best. Hopefully people will see what is right, and and things will go well, whatever the choice.

05-Apr-99	SK		Heidel					
	54650	SKHeidel@aol.com		Onalaska			WI	

Please send a copy of the second draft and any pertinent press releases to: Sandy Heidel Onalaska Community LifeBox 367 Onalaska, WI 54650 I would also appreciate the name of a contact person and phone number. Thanks, Sandy

05-Apr-99	Steve		Fritts			U.S. Fish & Wildlife Service		
	80225	P. O. Box 25486		Denver			CO	
		steve_fritts@mail.fws.gov						

I would like very much to contact Matthew Wilson the author of this section (Public attitudes towards wolves in Wisconsin). Could you please let me know how to do so. An e-mail address would be preferable. Specifically, I need to cite his work in a book chapter I am writing, and would like to know whether the information in Appendix H has been published elsewhere or will be.

05-Apr-99	Ben		Lenz					
	0	belenz@students.wisc.edu						

Hello, I'm curious to know if there are or were any restrictions on furbearer trapping in any wolf management zones in an effort to protect wolves? Thanks for your help, Ben Lenz

05-Apr-99	Pete & Kathy		Newman					
	0	kpn@chibardun.net						

I'm really concerned about the impact of allowing citizens to destroy Wolves on the basis of what they determine to be "problem" animals. I think these reports need to be investigated by professionals and resolved by professionals. Coyotes and wolves are not easily distinguishable and I believe coyote season should remain closed during the deer harvest.

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
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07-Apr-99	Ken		Anderson					
	54521		PO Box 294		Eagle River		WI	
			milc@newnorth.net					

Hi;I reviewed the proposal and must ask that serious consideration be givento one aspect of the Plan: identifying as a core area that area of

northern Forest County and Florence County in northeastern Wisconsin.

This area has, from the start, been identifye as a potential wolfhabitat, simply because if one goes strictly "by the book" it has theappearance of being wolf habitat. However, there have been a minimum of four attempts by DNR to relocate wolves within this area and four timesthe wolves ended up DEAD!! Hasen't this told you yet that some barrier

exists within that area? What is that barrier to survival? Why hasn't wolves from the UP migrated into that area and established territories?

Please, please, for the sake of this magnificent animal don't relocateany more into this so-called "core area". Please, please remove thisarea from your plans until the barrier, or barriers, that exist can beidentified and, if possible, modified.One last thing to mention is that the Nicolet Forest Plan is currentlybeing re-done. Please push for more aspen areas to provide at least areasonable food base of deer and beaver for wolves. Aspen in the LakeStates is more than a regional ressource, it's a global resource.Thanks for letting me vent.

07-Apr-99	Caroline		Rusch					
	54470		carolinerusch@hotmail.com		Rib Lake,		WI	

PLEASE! PLEASE! PLEASE! Do not reduce number or habitat for the beautiful Timber Wolf any further. I was raised in Minnesota and lived in Washington State for 18 years before retiring here in 1995. I have enjoyed the wildlife in all the places I have Lived. I also have lost household pets to the area wildlife, but I've lost more to domestic dogs and Humans than to the wildlife. My life is greatly enhanced by seeing or hearing all the different wildlife in this area. Thank you for letting me express my voice for the WOLF. Caroline Rusch Phone# 715-427-5596 Rib Lake, Wi 54470

09-Apr-99	Judy		Bethke					
	0		rcedc@mwt.net					

I would comment on the following: Restore the number of 300 wolves prior to removal of the wolf from the Wisconsin Endangered Species List instead of 250. Put the population goal back to a minimum of 500 wolves statewide. No public harvest of wolves until the population reaches 500 and is sustained. I am in favor of the reimbursement for pet losses by wolves. Thank you. Judy Bethke

09-Apr-99	Larry		Gohlke					
	0		gohlke@wirural.net					

To Adrian and all those who worked so hard and long on this plan, I would like to personally thank you for finding a way to work with allthe different interests groups in developing this fine plan. I feel thatyou have found ways to compromise the plan while still insuring that the

wolves will continue to be able to live with us. I will convey my feelingsto the groups that I belong to including the Conservation Congress and theWildlife Federation.

Larry Gohlke

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
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10-Apr-99	M.			Oyervides				
	0			mrturtle@asapnet.net				

Looking it over briefly, it seemed rather long. I didn't have time to read through the whole thing. I am sure it needed to be that long, but maybe some compacting still could be done. Also, maybe it was hidden in the document someplace, but what about the benefits? Still in high school I remember a few things about these types of documents. Maybe you could flat out say them in the end, so the people who read it have a reason to consider your ideas. Just a few thoughts :)

12-Apr-99	Jim			Ruwaldt		U.S F&WS	W9560 Aldercate Dr.	
	53555	james_ruwaldt@mail.fws.gov		Lodi				WI

I commend the Department of Natural Resources for an excellent job in preparing the second draft Wolf Management Plan. I believe it combines a realistic population goal as well as recognizes the concerns some citizens have with wolves in our state.

I commend the Department of Natural Resources for an excellent job in preparing the second draft Wolf Management Plan. I believe it combines a realistic population goal as well as recognizes the concerns some citizens have with wolves in our state. Jim Ruwaldt W9560 Aldercate Dr. Lodi, WI 53555

13-Apr-99	Richard A.			Stoelb				
	53083	rstoelb@matrixpm.com		N7292 Sheboygan Clover Lane				WI

I am very happy that the wolf repopulation in Wisconsin is so successful. I just have some questions / concerns. Why a population of 250 for 1 year and not 250 for 3 years? 1 year seems rather short to verify population stabilization. I also have no problem with removal of verified nuisance wolves; however, how will you know if a land owner shot a wolf "in the act of attacking" or if he/she "just plain shot it"? I do not dismiss the concerns of livestock owners; however, I do say verified nuisance wolves because I know that wolves have been blamed for some attacks done by wolf-dog hybrids. The owners can't handle the animals, or just tire of them, and they just release them to fend for themselves. They prey on livestock and the wolf gets the blame. Wolves are not always innocent, but at the same time they are not always guilty. They are just the most expediant to blame. Many positive steps have been taken with a lot of hard work by many people to get the wolf back in Wisconsin. Now I hope we have a plan to keep them here in viable numbers. Education, understanding and cooperation are the keys for that hope. Education about the wolf, understanding the concerns of all parties and cooperation among all for a plan we all can live with including the wolf. Thank you, Richard A. Stoelb N7292 Clover Lane Sheboygan WI 53083

13-Apr-99	Fern			Thompson		U.S. Fish & Wildlife Service		
	59601	fern_thompson@mail.fws.gov		Helena				MT
		100 N. Park Suite 320						

Please send the Wisconsin wolf management plan to Ed Bangs US Fish and Wildlife Service 100 N Park Suite 320 Helena, MT 59601

13-Apr-99	george			waltershausen				
	0	waltersh@mwt.net						

I wish to express my full support of the proposed plan for wolf management in Wisconsin

Mail First Last Organizatio Address City State Code Comment

18-Apr-99 Dave Olson
54806 davjen@ncis.net

I live in Ashland WI. near the Chequamegon national forest. I consider myself pro-wildlife. Although, I admit I do not know enough about the affect of wolves on the states natural resources, I feel I can offer the very best advice on this matter. Whatever is decided, please do not make any decisions base on anything but FACTS. Remember that the welfare of our states natural resources are what we need to take care of. I'm sure you've heard about the spring bear hunting ban in Ontario, that decision was not based on FACTS. And I'm sure you know of the reaction by outdoorspeople. I hope that we are never faced with somthing like that in our country. I ask you to help me make sure we never have to. Sincerely, 20 TNUSA member, 20 Dave

22-Apr-99 Bob Ellingson
0 belling@ez-net.com

Comments regarding the Draft Wolf Mgmt Plan CORRIDORS: What is it that you are proposing to do in these areas? Where are these areas? I would have thought that the appearance of the central forest packs would call this concept into question. It looks like they must have come down Hwy. 51 or maybe swam down the Wisconsin River, if they need a line on a map to go to where they want to be. I respect your desire to keep every management available, I want to be sure managers have a "full tool box" to meet any kind of problem that may come up in the future. But this one puzzles me, and I must express mistrust! I fear it can only be used for mischief! It would be very useful if your hidden plan were to expand wilderness or otherwise manipulate land management. THIS CONCEPT SHOULD BE DROPPED! IT IS NOT CONSISTANT WITH THE PROFESSIONAL TONE OF THE DOCUMENT. While there is a ponderous body of reserch in support of the concept of corridors and travelways, there is a growing body that indicates that some claims are unfounded. CLEARLY, THE INTERSTATE PACKS ARE A WAKE UP CALL! The wolves will not need additional lines on the map, restricting whoever happens to be the bad guy that day, to do their thing. Admitt that this is the case, and use the best science available. If the concept is not going to be a useful tool, get rid of it. IT IS UNNECESSARILY DEVISIVE. Just mention the word, and the flakes and wako's eyes light up as they salivate, while anyone who pays attention has to cringe and squirm wondering where this is going. At the very least, develop CLEAR LIMITING DEFINATIONS. State how a travel limitation problem will be defined. What are the measureable observations that will bring it into focus? And what are the graduated steps to permit or restore movement? I hope that's not too much to ask. CORE AREAS: Something about this just doesn't make sence. If the wolf population has risen in number to the point that the measures proscribed by the ESA are no longer merited by their desperate situation, why we you going to keep them in force anyways? But only in these areas, I don't think anyone will mind. It seems arbitrary and capricious. I am sure it is not. I am unable to determine a stated goal/purpose/reason/justification for such a measure. I can only speculate that it is a political bone, symbolic, nearly meaningless in reality, thrown to those who would oppose delisting whatever facts are, whatever the population has risen to, and see life only as the absence of death. Sad thing. After that blistering flame, I gota give kudos for the plan as a whole. Good job on a very tough project! Ellingson Family belling@ez-net.com
<http://users.ez-net.com/~belling/index.html>

23-Apr-99 Sandy Heidel
54650 SKHeidel@aol.com W 8043 Onalaska WI
Highway ZN

Please send a hard copy of the most recent draft of the wolf plan. Thanks, Sandy Heidel W 8043 Highway ZN Onalaska, WI 54650

24-Apr-99 David C. Joslin
53209 5658 North 61st St. Milwaukee WI

Good day to you all. Would love the wolf plan and any other information regarding wolves or eagles...

Mail First	Last	Organizatio	Address	City	State	Code	Comment
25-Apr-99	Claudia		Kassel			IL	
66246			jseguin@students.uiuc.edu				

My name is Claudia Kessel, and I reside in LaGrange, Illinois. I read an article in the Wildlife Rehabilitator's Association newsletter about the final draft of the wolf management program which will remove the animal from both federal and state protection if the number exceeds 250. I am strongly, strongly opposed to this decision. Please hear my complaint and know that I myself, as well as many others are very disturbed by this decision. Wolves should be given as much protection by the state and federal government as possible, especially considering the sad and inhumane history they have had in the United States as a result of people killing them so unmercifully, so near to extinction. Please please do not let this plan go through.

Claudia Kessel

26-Apr-99	Elroy		Marquardt			WI	
53209			5526 North 35th St.	Milwaukee			

Very much appreciate the wolf plan...we are very deeply interested in wolves...

28-Apr-99	Nicholas		Kaufmann				
0			kaufmann@mail.tds.net				

I'm following up on an article that appeared in the "LaCrosse Tribune" on April 1, 1999..."Living with Wolves." Can you tell me the approval path for the Wolf Management Plan? What is it's status now? What happens next? Who approves of it? Does any of this go t to the legislature or is it entirely up the Natural Resources Board --or other. Assuming it is approved, when would it be implemented?Thanks,Nick Kaufmann

29-Apr-99	John F.		Wilson				
0			jwilson@mail.wiscnet.net				

To whom it may concern: Over-all, the current plan seems well thought-out and responsive to legitimate concerns. We are entirely in favor of reimbursement for livestock and pet losses even after down-listing or delisting. However,we have reservations about some specific points. We do not believe that coyote hunting should be allowed during the deer hunting season, even in the central areas. We are concerned that total numbers (500 to 350) may be too much of a reduction. We believe that "private control" of nuisance or dangerous wolves must be carefully monitored. It will be too easy not to keep track of it, unless resources (dollars and personnel) are committed to follow-ups to see that it is working as conceived, and not as a way to simply reduce wolves.The idea of a wolf hunting season is ("public harvest" is a terrible term) repugnant altogether. The public information effort must continue full force. Better to keep up the good work of teaching humans to respect wolves and their place in the ecosystem, than to let slide what has been achieved. Sincerely, Karen and John Wilson PO Box 347 Egg Harbor WI 54209 920-868-3366

29-Apr-99	Jerry		Buss				
0			JWBuss@Compuserve.com				
			jbuss@itis.com				

mangement actions

30-Apr-99	Bert A.		Roate				
0			bertbjammin@webtv.net				

After being absent from Wisconsin for the past two decades, it is encouraging to read that a population is again residing here. There is no justification at this time to formulate a plan to hunt wolves in Wisconsin. The wolves will help to curb an over-population of deer. Keep protecting the wolf in Wisconsin. Let the planting begin!
PEACE,Bert

Mail First	Last	Organizatio	Address	City	State	Code	Comment
03-May-99	Ann	Demorest					
53211	3217 N. Marietta Ave.		Milwaukee			WI	

Regarding the plans to remove some of the legal protections currently in effect for the Wisconsin wolf opulation with discussion of resuming legal wolf hunting to follow: What has come over you? Sadly, it appears that somebody may have lost their mind. You put out publicity & brochures, even a section on the instructions for the state tax forms, asking people to voluntarily donate to support what ought to be a state-funded service, protection of endangered species. You put wolves on a (popular) alternative automobile license plate, presumably because it is so recognizable & such an effective symbol for the cause. Now you want to say that your campaign to save the wolves in Wisconsin was such a success that we should go out & shoot a bunch of them? (Obviously you know that some of them already get shot by various sorts of low-lies, others get hit by cars while still others die from disease and accidents. It's not as if anybody was trying to clame any danger of wolf over-population; apparently that is not any sort of realistic possibility.) I believe it is highly likely that mostly all of the people who show some interest in protection of endangered species -- who have responded to your past efforts to drum up support -- show that interest because they believe that for whatever reason it is important to protect these creatures (or even plants) -- not so that somebody else can go out & destroy the very things on which a great deal of time, money, care & effort have just been spent in order to save. This is a totally outrageous idea! ... please reconsider!

04-May-99	Linda	Alexander			Northland College		
54806	al3814@mail.northland.edu		Ashland			WI	

To Whom It May Concern, I am very concerned about the Draft II Wolf Management Plan because it offers less protection for the hardy wolves who have made their new home in Wisconsin. I believe we need to be thankful for their return. This area still has enough wilderness for their survival if we allow it. Their presence here regains the balance in the ecosystem. Wolves, as the apex predator, are an essential part of a healthy ecosystem. Their presence in the woods helps to control the deer population. Their hunting practices take out mostly the weak and sick deer. This keeps the deer gene pool strong. It is obvious with the large number of road kill deer that wolves arevery needed in Wisconsin woods.I believe removal of the wolves from the Endangered Species List should not occur until the population of 300 animals remains constant for at least 3 years. One year is not enough time to evaluate whether the population could withstand a bad year because of disease or poor hunting due to unfavorable weather conditions. The wolves need 3 years to confirm that they can withstand hardships. If landowners are allowed to kill a wolf attacking pets or livestock, I think they should have to provide proof of the attack or this will become an easy way to kill wolves.I believe all public land in northern and central Wisconsin should be a wolf refuge area. I do not think central forested areas should be treated separately. I believe it would be difficult for people to see the imaginary line between the northern and the central forests. Central areas still need to be closed for coyote hunting during gun season. This is another way it would be easy for a hunter to kill a wolf claiming he thought it was a coyote. Why take the chance on their judgement?I believe a public harvest of wolves in Wisconsin should never be considered an option since this area can only maintain about 350-400 wolves. This is not a large enough number to allow a public harvest A public harvest would be abused and the survival of wolves in Wisconsin would be severely threatened.The wolf has chosen to return to Wisconsin woods of his own volition. Myself and many friends are glad to hear their howls and see their tracks again in the woods. So few places in the United States are blessed with their voluntary return. Let us support them and be tolerant of their presence on the land we can learn to share. They are restoring the balance in the woods, let us learn from their lesson.

Mail First	Last	Organizatio	Address	City	State	Code	Comment
05-May-99	Peace	Action					Peace Action-Milwaukee
	0	pamilw@execpc.com					

The Peace Action-Milwaukee Environmental Committee urges you to implement the Wisconsin draft plan to save the wolves and their habitat. Please do not open hunting season on the wolves of Wisconsin. Have they struggled back from the brink of extinction for the sake of sport hunters? Was that their fate all along? Please do not allow Wisconsin wolves to be hunted. Also, protect their habitat so that they may thrive. The wolves and their habitat are good in and of themselves and deserve protection, not for the sake of hunters or anyone else. The Environmental Committee Peace Action-Milwaukee

05-May-99	Todd	Zeuske					
	0	tzeuske@midplains.net					

just received the second draft of the wolf plan. Change 12 caught my interest because when a DNR expert (I think it was Mr. Wydeven, but I can not find my notes) gave the WiBowhunters Assoc Board of Directors information on wolves, he stated there were at least 200 wolves and the population is growing 20% per year. When I do the math that tells me there will be about 476 wolves in 5 years. Can someone explain the discrepancy to me. Thanks

05-May-99	Pam	Troxell					Timber Wolf Alliance
	54806	ptroxell@mail.northland.edu	Ashland,				WI

Dear Wisconsin Wolf Management Plan Committee, On behalf of the Timber Wolf Alliance (TWA), I am writing in support of the second draft of the wolf management plan for the state of Wisconsin. We would, however, like to emphasize a few points. 1). TWA's charge is to educate the general public about wolves and wolf recovery/management in the Upper Great Lakes region. As stated in the draft plan, "Public education about wolves was a major factor in the success of wolf recovery in Wisconsin. Education about wolves will continue to be important in future wolf management..." TWA urges that funds be found to assist with maintaining quality education efforts as the wolf is down-listed and/or de-listed. Although we have seen significant changes in human attitudes about wolves, we must realize that the education mission has not been fully attained and continual educational efforts are imperative to the health of the state's wolf population. 2). Continue to make the wolf population monitoring a priority. If we fail at this component, we will be unable to ascertain the population at hand, thus opening up the opportunity for damaging assumptions from various resource user groups. It is extremely important that we learn more about the species we are trying to maintain. 3). Continue to focus towards the health of the species and its habitat not the needs of bureaucrats. When in question, the committee must always refer back to scientific facts. 4). The state of Wisconsin should evaluate the plan on an annual basis to monitor the progress of the plan's strategies. 5). The state of Wisconsin should continue to accept public comment as the plan reaches various stages (i.e. potential public harvest). The committee needs to remember it does not work in a vacuum - that public input is extremely important to communication, trust, and integrity of the effort. TWA appreciates the efforts of the wolf management committee in drafting the best possible plan for us to review. Thank you for allowing us to comment. Sincerely, Pam Troxell, Timber Wolf Alliance Coordinator SIGURD OLSON ENVIRONMENTAL INSTITUTE

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
05-May-99	Todd			Zeuske				
	0			tzeuske@midplains.net				

As I have not yet heard from Mr. Wydeven I would like to ask if there are even higher wolf estimates of 247 animals? What number do we get when we put 20% growth from this starting number? This is reminiscent of what happened several years ago when the bear population went from 7000 to 12000 overnight when DNR people changed their numbers. In this light do we need to have a population cap or do we risk having to stay on the sidelines with our hands tied by a 5 year plan while the wolf population explodes? Todd Zeuske

06-May-99	Judy			Ettenhofer				
	0			GHW & JAE"				
				<pmapple@itlis.com				

Dave W.: Judy Ettenhofer here. Although I offered some comments as a member of April's roundtable in Wausau, they were representative of the Timber Wolf Alliance's positions. I would like to submit my personal comments now, which are not connected to TWA. I am sorry I'm a day late with these.

1. I am in support of the core areas as a means to give wolves a space that is mostly free of human impact.
2. I do not support adding language in the plan that sets a ceiling, or maximum wolf population. I do support the management goal of 350 if that is intended as a sort of average.
3. If any language is added about a public hunt, do not reduce the conditions currently in the plan regarding such a hunt. Public input and approval is crucial before any hunt is allowed. I have a strong desire that the level of social tolerance not be gauged solely on the loudest comments heard, which will no doubt be from hunters. I do not want wolf policy to be dictated by myths, fears and rumors.
4. Remove depredation payments for hunting dogs or at least put a cap on the amount of money an owner can receive after wolves are delisted. I feel strongly that the hunter who chooses to use dogs bears the responsibility and takes the risk and it should not fall on the DNR to pay once wolves are delisted. It will be hunting dog claims that deplete quickly any available depredation monies if these owners are allowed to receive \$2,000 or more per dog.
5. I strongly support restrictions on and licenses/permits to be required for wolf-dog hybrids.
6. Although I support the depredation control measure that will allow individuals to kill a wolf in the act of attacking pets or livestock, I sincerely doubt that it will be used only in those circumstances. I believe there are some who will use that language as a justification to shoot any wolf that comes on their land, whether it is threatening an animal or not. However, I don't see a practical way to monitor such situations.
7. I strongly support continued efforts by the DNR, working with colleges, to develop techniques to discourage livestock depredation. Any aversive conditioning measures that have a likelihood of success should be piloted in the field. Building good will with farmers and livestock raisers can only help raise awareness and acceptance of the wolves' presence.
8. In general I am most alarmed at the pressure placed on the wolf management plan by the Conservation Congress. The group does not adequately represent the opinions of all Wisconsinites and I believe it shouldn't be able to frame the debate to the extent that it does. I realize there is little I can do about this fact of life, however. As an aside, I would strongly favor the creation of a non-consumptive outdoor recreation fee that would give non-hunters a voice at the table with the DNR. Thank you for accepting my comments, Judy Ettenhofer pmapple@itlis.com

06-May-99	Linda			Windmoeller				
	0			PPL1@webtv.net				

Please send a copy of the Wolf Management Plan (as I could not download it from WebTv at our library) to me as follows: Linda Windmoeller 1205 Pine Ridge Road Phillips, WI 54555-9561

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
06-May-99	Theodore		Taylor					
	54302		300 Elizabeth St.,		Green Bay		WI	

This letter is a protest against the "plan" to increase and protect the wild wolf population within the State of Wisconsin. I have attended two hearings during the past year, and have listened to speakers pro/con, collecting notes, articles and literature. I have a bulky information file on the subject. There is an abundance of info that provides clear and convincing evidence that the 'plan' to further infest and pollute our rural northern environment with wolves is ill-advised and foolish and dangerous to not only our wild game, especially whitetail deer, domestic farm animals and pets, but also - children and adult humans who will dare to venture forth to fish our streams, rivers, ponds and lakeshores...I would not fish/hunt without carrying a large-caliber handgun or rifle to defend against any wild, unpredictable and dangerous (hungry) wolves...nor would I permit any of my 8 young grandsons to venture forth without their own sidearm or/and adult escort armed for self defense...please avail yourselves of the facts available and presented to you by Mr. Lawrence Krak...the 'tea and croissant' crowd of silly city dwellers are the only ones who believe that we need wolves, but not in their backyards...

06-May-99	Glenn and Carolyn		Potter					
	0		gpotter@execpc.com					

I could never see justifying a hunt on any species with a state population under 500. Maybe if the population was over 2000 would I consider it. The money we have spent re-introducing the wolf and paying damages to farmers is in-significant. I oppose any group or politician that would legalize a wolf hunt. Can you please keep me informed about the progress of this issue.

08-May-99	Donna		VanBuecken					
	0		DVanbuecke@aol.com					

I realize I am late with responding to your revised plan, but felt I would touch base with you anyhow. I am totally against some of the changes you propose to minimize some of the parameters originally set up to safeguard the reestablishment of wolves into our State. I believe we should keep the wolves on the endangered species list until a population of 300 animals has been maintained for at least 3 years..I believe the population goal should remain at 500. I believe we should not designate a smaller habitat area as wolf refuge area. I would like to see the original 7,600 square miles retained. Please consider my remarks when preparing your presentation to the Natural Resources Board. Thank you. -- Donna VanBuecken

Mail First	Last	Organizatio	Address	City	State	Code	Comment
11-May-99	Norm	Weiland			USFS - Chequamegon-Nicolet Nat. Forest		
54501	68 S. Stevens St.		Rhineland			WI	

Page 6, Tony Rinaldi is listed as USFWS biologist instead of USFS biologist, P20, Plan states low standard roads and ATV trails are not well addressed in the Wisconsin Recovery Plan. They still aren't well addressed in this management plan. At a minimum they should define Forest Service Class D roads and make a better attempt to correlate disturbance factors related to ATV trails with wolf colonization and pack maintenance. P32. The statement that USFS monies will no longer be available 5 years after delisting as a federal species is not accurate and should be deleted. Our funding mechanism is different than the USFWS and we may choose to expend funds on wolves beyond delisting. P36. USFS should be added to the glossary and defined like th other agencies listed. P52. Typo in the last paragraph on the left side of the page. Second sentence should read "at a rate of 8 deer per wolf per year" not "18 deer per wolf pack per year." p55. Second paragraph on left side of page should read infectious canine hepatitis" instead of "infections" Cover Page -- it is stated that an EIS is not needed, but will an EA be required? If so it should be stated. P4 Suggest that the main subheading of Table 1 be change to read "management options allowed under different state listing" The format of the table could be improved by having three bold face subtitles of endangered, threatened and nongame protected, with minor subheadings with the number of wolves. List Tony Rinaldi as USDA-FS Last sentence under Introduction should "cooperation" be replace with something stronger like "consultation?" P19-20 Delete metric distances and areas (km, km2, etc) in this section since not used elsewhere. The 5812 mi2 number mentioned twice under Potential and Favorable Wolf Habitat does not agree with the bottom of page 12 that says "approximately 5,700 square miles" P12 bottom, map on page 13 and pages 19-21 - there is confucion in the terms, primary, secondary, suitable and favorable. Is primary and favorable the same, and suitable means primary (favorable) and secondary? P20 last paragraph under access management - suggest rewriting the third and fourth sentences as 'impacts associated with low standard roads, motorized trails and open areas where off-road motorized vehicles are not restricted to trails are difficult to measure, but probably have similar effects on wildlife species such as wolves. The Wolf Advisory Committee recommends that development of low standard roads, trails, and areas open to cross-country motorized use should receive thorough review when proposed in areas with suitable wolf habitat." Glossary - add Euthanize, Suitable Habitat and USDA-FS.

11-May-99	Richard	Spotts					
54806	719 Orchard Lane		Ashland			WI	
	spotts@ncis.net						

Dear Friends: This E-mail contains my brief input on the second draft of the proposed Wolf Management Plan. In general, I believe that this second draft is thorough, well-written, and reasonable. However, I submitted a comment on the first draft that was apparently ignored or overlooked because I could not find it referenced or responded to in the second draft. This comment is that the "Central Forest Zone" (now Zone 2) should be CONNECTED to the "Core Areas" (Zone 1) to the north. At present, there is an obvious but small "gap" between these zones with Zone 3 dividing them. Given the importance of coherent management and the need to better protect wolves moving between these zones 1 and 2, this "gap" should be removed so that there is a contiguous boundary between zones 1 and 2. This would seem to be common sense. I hope that this comment is given serious consideration, and that this "gap" is indeed removed when the final plan is submitted for Natural Resources Board approval. Thank you very much.

11-May-99	Mike	Lewis					
	<bearml@up.net						

Since I was a young boy I have always been fascinated by the wolf. I have wolf plates and wolf t-shirts and still have a place in my heart for the wolf, but I realize what they need to survive and not always be in conflict with people. They don't belong, unprotected, in Wisconsin. They will be nothing but trouble when trying to live their life in close proximity with people. I hope you people don't ever figure out how to reintroduce dinosaurs.

Mail	First	Last	Organizatio	Address	City	State	Code	Comment
11-May-99	Dr.	James	Connell					
	54868	1893 Troy Drive		Rice Lake			WI	

I favor the continued inclusion of a significant population of Canis Lupus in Wisconsin...I certainly want to see...as much of the original balance as possible and the allowing of it to be self-sustaining...I have had the pleasure of solo winter ski-hiking in the blue hills and following the tracks of a hunting pair...last week...along the Upper St. Croix near Gordon Dam...(saw)...a lone wolf scurry across a back road...it was good to know the wolf was with us...managing wild (ferrel) dogs and free-roaming dogs and of hybrid pups is vital; protection by maintenance of no-logging zones and forest continuity across Wisconsin has values that go beyond just wolf protection...euthanized might be termed killed by DNR personnel under strict regulation and procedures...specify that specimens means dead specimens...part of public awareness might include noting that there are lots of animals -- insect to mammal-- that can adversely affect people...suggest rethinking to eliminate extremely strict rules on keeping a specimen of wolf --- or feather of a dead bird or shed feather.

13-May-99	Matt		Rundquist					
	0	<bear@werewolf.net						

Dear Whomever this may concern, I am very much interested in the wolf population. I was wondering if you could send me any possible information on how well the wolves are doing. If you could send me any information on it to my address I would greatly appreciate it. Matt Rundquist My address is: E9862 Co. Rd. EE Elk Mound WI 54739 Or if you could e-mail me any information send it to matrundquist@hotmail.com Thanks for all of you time.Sincerely, Matt Rundquist

