

Wydeven, A. P., R. R. Jurewicz, R. C. Willging, R. N. Schultz, J. E. Wiedenhoef, and A. Treves. 2004a. Depredation on domestic animals by a colonizing wolf population in Wisconsin. The Wildlife Society, 11th Annual Meeting, September 18-22, 2004, Calgary, Alberta, Canada

Wydeven, A. P., A. Treves, B. Brost, and J. E. Wiedenhoef. 2004b. Characteristics of wolf packs in Wisconsin: Identification of traits influencing depredation. Pp. 28-50. *in* Fascione, N., A. Delach, and M. E. Smith (eds.). *People and Predators: From Conflict to Coexistence*. Defenders of Wildlife, Island Press, Washington, D. C. 285 pp.

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.

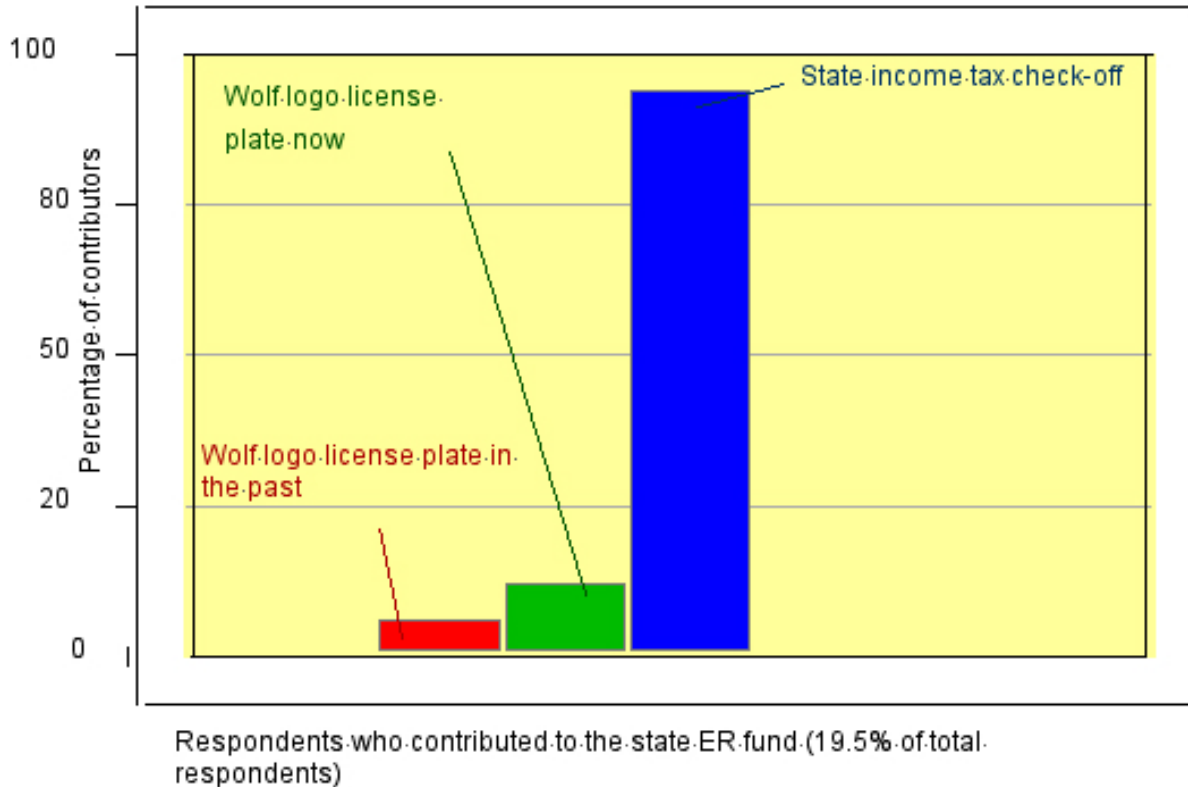
RESULTS

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.

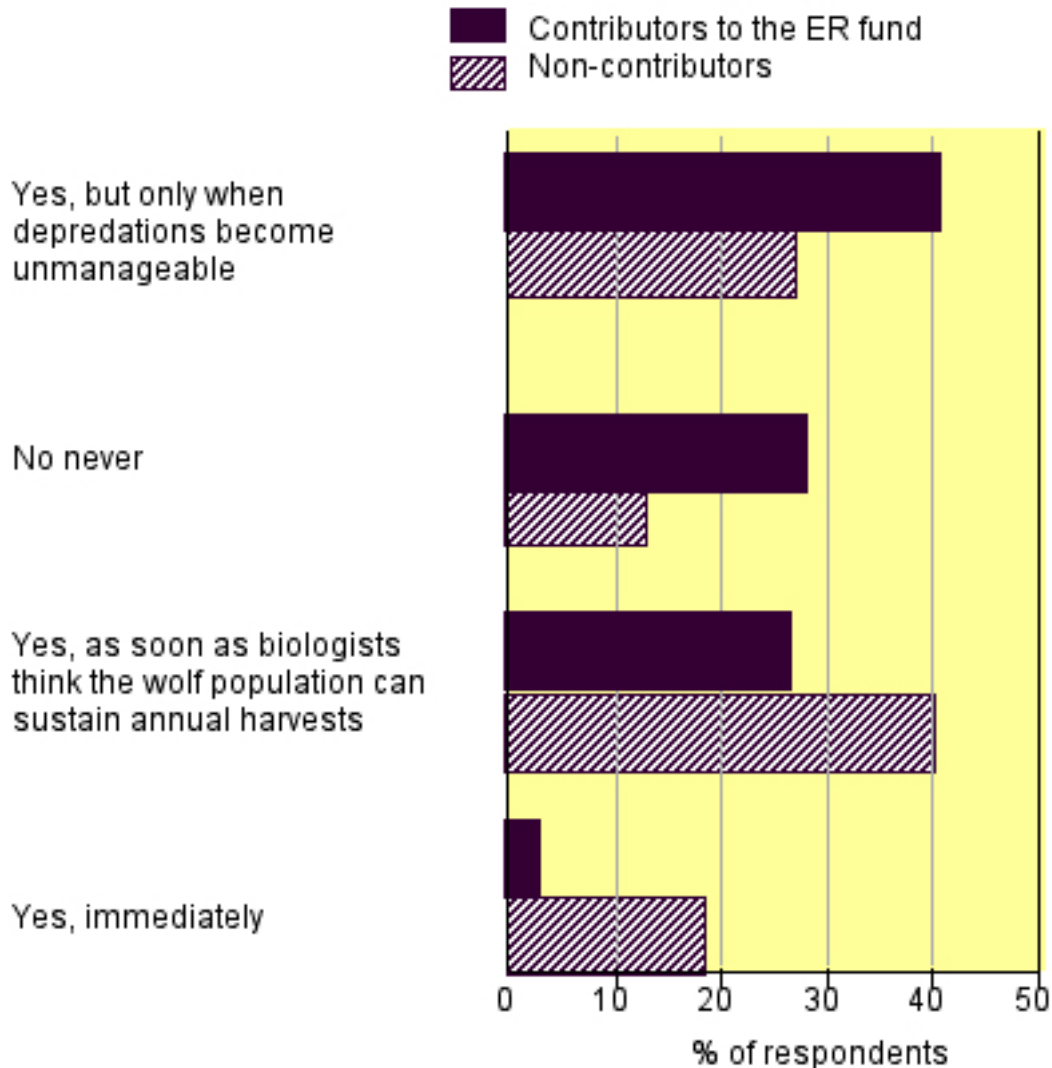
When asked "If a wolf kills livestock..." or "If a wolf kills a family pet...", a majority of respondents preferred "capture and relocate the wolf to a wilderness area" (43-57% of all respondents) followed by "kill the wolf" (35-39% of non-contributors) or "take no immediate action toward the wolf but 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.

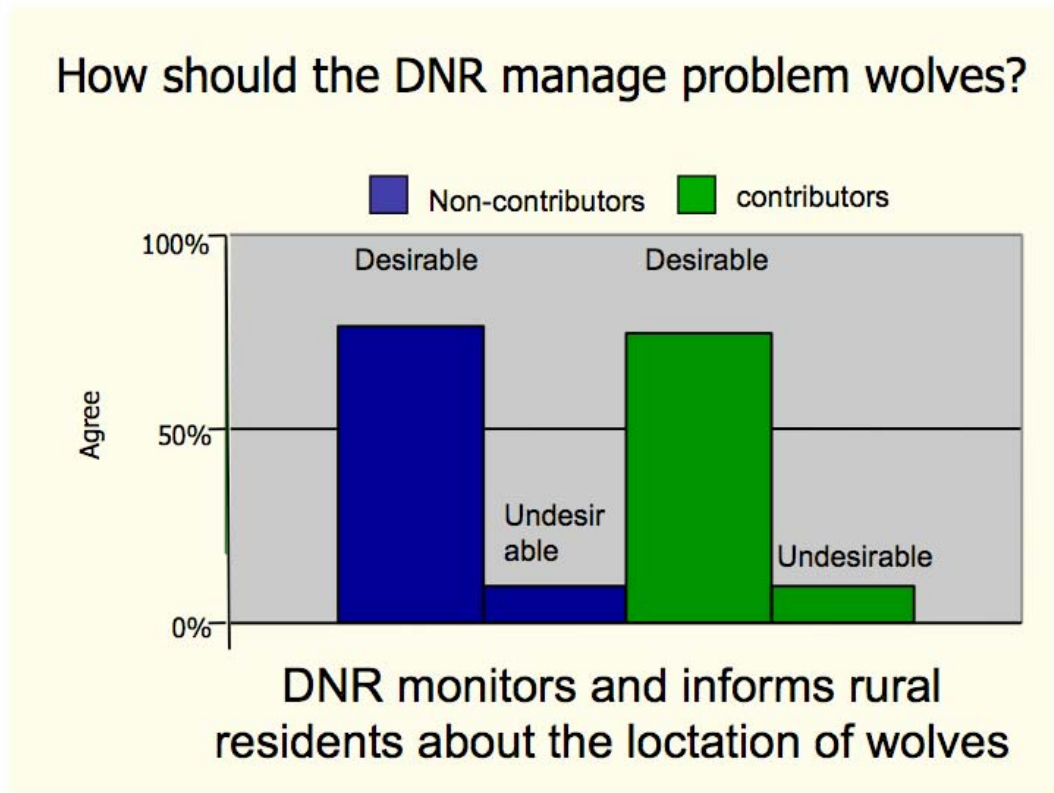
Far and away, the most popular source of funding for compensation was the existing state ER fund (70% and 78% approval among non-contributors and contributors respectively) although “hunting fees” also appealed to a majority of contributors.

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).

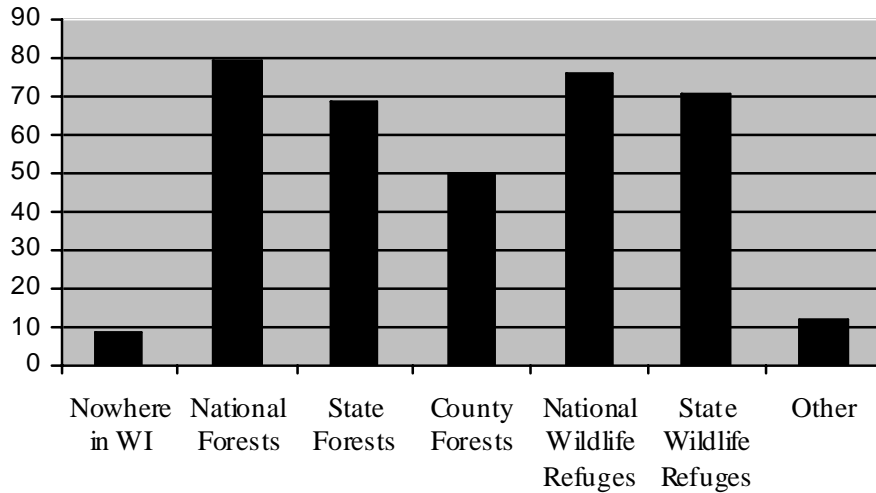
Monitoring and informing rural residents about the locations of wolves was highly popular among both contributors and non-contributors (Figure 3).

Figure 3.



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.
