

Comment by Prof. Adrian Treves, PhD, on Revision of Wolf Management Plan and Quota for 2021 Wolf Hunt

May 15, 2021

To: Wisconsin Natural Resources Board,
Wisconsin Department of Natural Resources,
Wolf Management Plan Committee, and
Wolf Harvest Advisory Committee

Via: Randy Johnson, WDNR Large Carnivore Specialist, Randy.Johnson@wisconsin.gov
Laurie J. Ross, Board Liaison, Laurie.Ross@wisconsin.gov

Re: Setting Quota for 2021 Wolf Hunting Season and Revision of Wolf Management Plan

Thank you for the opportunity to comment on Wisconsin's wolf management planning and the formulation of guidelines for a November 2021 wolf hunt. I am a Wisconsin resident and a professor at the University of Wisconsin in Madison. Specifically, I am a wolf ecologist and the founder of the Carnivore Coexistence Lab. I conduct interdisciplinary research on the human dimensions of wolf management and the law relating to coexistence with gray wolves. I have published more than 134 peer-reviewed scientific articles on ecology, management, and conservation. I have been investigating human-wolf coexistence in Wisconsin since 2000, with my most recent peer-reviewed scientific article on Wisconsin wolves published on May 10, 2021.¹

I will address four issues in my comments, and for the sake of brevity, will include supplemental information on each topic in appendices for your review, as well as providing a collection of scientific articles that are relevant to the critical issues.

First, as the Wisconsin Department of Natural Resources (DNR) revises its plan for the management of gray wolves, and takes immediate action to set a quota for the fall 2021 hunt, it must consider those actions in context of its role as a trustee, which must manage and conserve wildlife populations, including wolves, on behalf of current and future generations. I thus preface my comments on these upcoming decisions with a summary of my assumptions about the responsibilities of a public trustee, based on my extensive research about the duties in caring for a public asset such as wolves.

Second, because a trustee cannot manage an asset responsibly without full information, I describe the information and data that DNR must have before it makes management decisions about the Wisconsin wolf population, to avoid substantial impairment of that public asset.

Third, I discuss the lessons we have learned from the past history of Wisconsin wolf management and policy, drawing on my research into ecology, human dimensions of wildlife management and law. Finally,

¹ My full curriculum vitae is at http://faculty.nelson.wisc.edu/treves/archive_BAS/Treves_vita_May2021.pdf. Publications cited in this comment and its appendices are indicated by "[X]", and are listed in Appendix 3 - Collected References. Except for cited books, all are available at the embedded links, and/or are gathered here: http://faculty.nelson.wisc.edu/treves/archive_BAS/Public_comment_2021.zip. For access to the cited books, or if you have trouble accessing any other publications, please contact me at: atreves@wisc.edu.

since I believe DNR must set realistic expectations for its wolf management goals, I end with a caution about what the science tells us that public wolf-hunting cannot achieve.

I. Duties Of A Wildlife Trustee

Before DNR makes a decision about how to manage the wolf population, it must frame that decision in terms of how it interprets its duties as a public trustee of that wildlife asset. As a scientist working for a public institution, I believe I have my own duties as a public trustee, to provide the agency and the public with the best available science and help them to interpret diverse facts. I have extensively studied and published on the subject of the duties of a wildlife trustee, and I propose three primary principles to guide DNR's management decisions, including the decision on the upcoming fall 2021 hunt.

- First, the highest-priority duty for a wildlife trustee is to ensure that the health of wildlife populations is not substantially impaired. In the context of the Wisconsin wolf population, this means: (a) avoiding actions that will risk lowering the population to state listing level of 250; (b) protecting the renewal capacity of the public asset, by preventing harm to the reproductive capabilities of the wolf population; (c) preventing any harm to the wolf population that would result in the federal government removing the state from its trustee position by placing wolves back on the federal Endangered Species list--thus putting the U.S. Fish and Wildlife Service in the role of primary trustee; and (d) if any actions have already been taken that risk the harms detailed above, putting a plan in place to ensure that this damage is repaired.
- The second priority for a wildlife trustee is to preserve wildlife for future generations. This requires: (a) prioritizing future generations' interests in preservation over current users' interests in exploitation; (b) regulating use by current generations with precautions taken to protect against errors; and (c) preventing illegal, unregulated, or undetected uses that drain the public asset.
- Finally, the third priority for a wildlife trustee is to act transparently, so that the public on whose behalf it is managing the asset can see that it is doing so responsibly, effectively, and cost-efficiently. That requires: (a) demonstrating the use of the best available science and information to protect wildlife and regulate human uses; (b) providing accountability to all trust beneficiaries; (c) correcting errors forthrightly and honestly; (d) acting in a manner that is incorruptible and is not unduly influenced to favor one class of beneficiaries over another.

In Appendix 1, attached, I fully explore each of these trust responsibilities in the context of Wisconsin wolf management, with citations to scientific support.

This support includes a study that my colleagues and I have submitted for review, which concludes that during the February 2021 hunt, the state trustee allowed just over 300 wolf-hunters and wolf-poachers to reduce the state wolf population by 27-33%. We predict that in order to allow the wolf population to recover from this impairment, the state would need to protect it from hunting or high rates of government lethal control for several years, assuming that reproduction has not also been substantially impaired.

II. Data DNR Must Have to Avoid Substantial Impairment of Trust Asset

As I detail in Appendix 1, Wisconsin could suffer from a substantial impairment to its wolf population as a result of: 1) damage to or deterioration of the reproductive output of the wolves; 2), numerical depletion of the wolf population; or 3) deterioration or loss of ecological functions in the wild ecosystems of the state.

My primary concern with the future of Wisconsin wolf management is that DNR does not seem to have sufficient information to assess the status of the wolf population, to determine if there has already been such a substantial impairment, especially following the February 2021 wolf hunt, or to allow it to measure the effects of future actions to prevent them from causing substantial impairment to pack reproduction, ecological function, or a self-sustaining healthy population. If DNR has this information, it has not been shared with the public, who are the beneficiaries of the wildlife trust resources that DNR manages on our behalf.

Before DNR takes additional actions that may impair the Wisconsin wolf population, such as setting a quota for any future wolf hunts, it must have information necessary to evaluate the current status of the population, and quantify the threats posed to pack reproduction, juvenile recruitment, ecological functions, and natural ecological interactions. I suggest that the revision of the Wolf Management Plan include processes to gain this baseline of information, to update it regularly, and to present it to the public in an accurate, precise, reliable, and unbiased form. The information needed to make responsible management decisions includes the following:

1. Number of wolf packs in the state and how many breed successfully each year
2. Number of wolves in each pack
3. Survival of juveniles and causes of death by November each year
4. Survival of adults and causes of death each year
5. Locations of illegal kills and methods and motivations of poachers) those who kill wolves illegally)

6. Effectiveness of non-lethal and lethal methods of protecting domestic animals from wolf predation
7. Detailed records of marked wolves (collared or otherwise tagged) from marking until death or disappearance, including locational data and cause of death or disappearance
8. The ecological effects of human-caused wolf mortality, including evaluation of the effects of intentional killing, whether by the public or by government agents
9. Reliable social science data on attitudes to wolves and tolerance for various scenarios involving coexistence with wolves, inclination to poach wolves, and support for DNR policies, measured in a uniform random sample of state residents and out-of-state hunters
10. Veterinary and pathological information on diseases and causes of death for a relatively large random sample of recovered wolf carcasses
11. Other information on changing rates of nonhuman causes of death or reproductive impairment each year
12. Critically, the effect on the wolf population after wolves were killed, nearly twice the state “quota,” in February 2021, and illegal kills since April 2020

Very little of this information is currently available. Until DNR has gathered sufficient baseline data, and set up processes to monitor changes, it should not make any additional decisions out of ignorance that may endanger the state wolf population, and violate its primary duties as a trustee.

III. Lessons Learned from History of WI Wolf Management

I have spent substantial time studying Wisconsin’s record of wolf management, and the science on which it has been based, and I have detailed much of this work in **Appendix 2**. As DNR revises its Wolf Management Plan and sets up future hunts, it is crucial that it spend time reflecting on the errors that have been made in the past--both so it can correct the damage that has already been done to the state wolf population, and understand how to avoid those same mistakes going forward. My most urgent concerns relate to the state’s conduct of the unprecedented February 2021 wolf hunt, which had the following novel, and alarming, characteristics:

- **Timing.** The hunt was held during the last week in February, so it would overlap with wolf mating season. The state has never held such a hunt before.
- **Methods.** The February hunt allowed night-time hunting, pursuit by hounds in deep snow, and pursuit by snowmobile.

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- To my knowledge there has never been any peer-reviewed research about the effects of this combination of methods and timing of a hunt on a wolf population.
- Finally the NRB's explicit desire to set a "conservative" quota for hunting Wisconsin's wolves, suggests a different approach than was taken in the February 2021 hunt. As a scientist, I interpret conservative assumptions or conservative methods as those that are less likely to cause error.

I recommend using the minimum bound of the most reliable and proven population estimate, and the upper bound of background non-harvest mortality. For the latter, I strongly recommend embracing the replicated findings that background mortality increases significantly when wolves are not federally listed, so as to avoid recommending quotas that will damage the wolf population quickly. I counsel against using 'black box' models that are not subjected to rigorous external evaluation and recommend any model be opposed against simpler alternative models. At every step of the process of producing and using science, transparency will support well-informed decisions. Other principles of scientific integrity such as independent review and reproducibility are similarly indispensable.

Likewise, transparency will be an asset for separating personal or agency values from the values of the broadest public, which should take much higher priority. To attain the goals of the broadest public, I recommend against any hunt or any hunting method that targets breeding adults, and recommend in general that the DNR focus on protecting the reproductive capacities of Wisconsin wolf packs when feasible. The most critical intervention for long-term sustainability of the state wolf population will be to enforce anti-poaching laws because illegal killing is the major cause of mortality. Failure to do so seems to favor escalations of wildlife crimes from low rates of overt poaching to high rates of cryptic poaching.

IV. Setting Realistic Goals for What Wolf Hunting Seasons Can Achieve

Finally, since 2005 and accelerating in 2016, my work has focused on evaluating two scientific claims made about hunting as a wildlife management tool. The first claim is that the public will tolerate controversial wildlife better if regulated killing is permitted. The second common claim is that illegal killing will diminish if legal killing is permitted. I present years of evidence from numerous independent sources that contradict both claims (Appendix 3). Furthermore, evidence shows that killing wolves to protect livestock more often backfires and creates additional conflicts. Lethal methods of limiting wolf predations on livestock have also been subject to less rigorous experimental tests than non-lethal methods, which are more likely to reduce such conflict. (Appendix 4).

V. Conclusion

I believe a public trustee should prioritize preserving Wisconsin's wolves for future generations as the highest priority, then secondarily regulating current uses, preventing and repairing unregulated, illegal, or undetected uses, and accounting transparently with the best available science to the broadest public. These duties apply to future wolf management planning and to the coming months before recommending any quota for a november 2021 wolf-hunt. However, I find most of the information

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needed is lacking to act as a responsible trustee and make prudent, science-based, transparent decisions about wolves.

Furthermore, my study of the history of wolf policy suggests such gaps in information are not new and the DNR has experienced many shortcomings in transparency and scientific integrity since 1999. The February 2021 wolf-hunt has created long-lasting uncertainty about the resiliency of wolves in our state and exposed the risks posed by hunting without deliberative, science-based decision-making.

What is needed now is deliberative, reasoned, pluralistic, precautionary policy guided by multiple sources of scientific evidence that have been tested by internationally recognized standards for strength of inference and reliability. I call for careful collection of the needed information by independent, diverse researchers who can and must be allowed to transparently share all information and discuss it before submitting their consensus -- after scientific debate insulated from undue political influence. I call for strict avoidance of the conditions preceding the February 2021 wolf-hunt. Finally, I call for abandoning long-held but erroneous assumptions that recreational hunting of wolves improves human tolerance, reduces poaching, or protects livestock.

Thanks for your attention to the four (4) Appendices attached with this comment,

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P.S. My full curriculum vitae is at http://faculty.nelson.wisc.edu/treves/archive_BAS/Treves_vita_May2021.pdf.

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