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BY ELECTRONIC MAIL AND FAX

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RE: Environmental Assessment – Gray Wolf Damage Management (GWDM) in Montana for the Protection of Livestock, Other Domestic Animals, Human Safety, and Other Resources

To Whom It May Concern:

On behalf of the Animal Welfare Institute (AWI) and The Humane Society of the United States (The HSUS) and its 12 million supporters, more than 40,000 of whom live in Montana, please accept the following comments on the environmental assessment (EA) for Wildlife Services' (WS) gray wolf damage management (GWDM) in Montana dated October 2012.

WS identifies three decisions that are to be made based on the information and analysis contained in the EA:¹

- Should Montana WS, in cooperation with Montana Department of Fish, Wildlife and Parks (MFWP), Tribes, and the U.S. Fish and Wildlife Service (USFWS), continue their involvement in GWDM as currently practiced?
- What mitigation measures should be implemented or continued by WS, and MFWP or Tribes?
- Would the proposed action have significant impacts on the quality of the human environment which would require preparation of an environmental impact statement (EIS)?

The following comments are submitted in response to these questions and WS' corresponding analysis of proposed alternatives. Based on the EA and other available information, we conclude that WS improperly excluded from consideration an alternative that would restrict WS' involvement in Montana's wolf management efforts to use of nonlethal measures that minimize animal suffering and do not include cruel leghold traps and neck snares. WS' weak scientific analysis and justification for selecting Alternative 1, pursuant to which WS would continue to engage in lethal and otherwise inhumane wolf "management" practices, are inconsistent with the mandate of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq.*, as well as gray wolf conservation

¹ USDA WILDLIFE SERVICES, ENVIRONMENTAL ASSESSMENT: GRAY WOLF DAMAGE MANAGEMENT IN MONTANA FOR THE PROTECTION OF LIVESTOCK, OTHER DOMESTIC ANIMALS, HUMAN SAFETY, AND OTHER RESOURCES 27 (2012) [hereinafter EA].

objectives. Because killing wolves in Montana will have significant environmental impacts, WS must prepare a complete environmental impact statement (EIS) including a detailed analysis of predicted impacts on wolves, including effects on the social dynamics of wolf packs, threatened and endangered species in the region, other species, and the public if it elects to proceed with its lethal control proposal.

I. Montana WS should not continue its involvement in GWDM as currently practiced

a. The EA overstates the damage caused by wolves

In its discussion of the purpose and need for the proposed action, WS overstates the threat posed by wolves to livestock. The EA states that “[i]t is important to recognize that the numbers [of confirmed wolf kills] represent only the minimum numbers of livestock actually killed by wolves, and that more livestock were probably killed, but not confirmed as wolf predation or missing.”² WS also refers to a 2003 study to support its assertion that actual wolf depredation rates are likely much higher than the number of confirmed kills. The study suggested that for each confirmed livestock loss, seven additional losses could be attributed to wolf depredation.³ However, the authors’ conclusion was based on data gathered in extreme conditions in which the environment and livestock management practices left cattle particularly susceptible to depredation. Moreover, the study in fact concluded that “[t]he overall effect of wolves on the calf population within the [study area] **was not significant**.”⁴

In contrast to WS’ presumption that wolf kills far exceed reported figures, studies show that wolf depredation rates are widely exaggerated.⁵ Wolves are often blamed for kills attributable to other causes, such as disease or depredation by other carnivores.⁶ In some instances, ranchers have reported that nonexistent livestock have been killed by wolves, possibly motivated by compensation programs designed to reimburse ranchers for losses to wolves. It is inappropriate for WS to base its decision on speculation about missing livestock and/or livestock losses that are not confirmed to be attributable to wolves; rather, WS must establish its plan based on the number of unequivocally confirmed wolf depredations and the conditions surrounding them.

It appears that WS turns to lethal wolf management methods by default, even where there is doubt as to whether wolves were involved in particular instances of depredation. The 2011 Oregon Wolf Management Report, for instance, illustrates that WS may not always make accurate determinations about wolf depredation in that state. As discussed in that report, an independent panel reviewed investigations of livestock depredations attributed to wolves and found that WS held wolves responsible for livestock losses in instances where there was not sufficient evidence of wolf

² EA at 17.

³ *Id.* (citing John K. Oakleaf et al., *Effects of wolves on livestock calf survival and movements in central Idaho*, 67 J. WILDLIFE MGMT. 299 (2003)).

⁴ Oakleaf et al., *supra* n. 3, at 304.

⁵ See Edward E. Bangs et al., *Control of Endangered Gray Wolves in Montana*, in *ECOLOGY AND CONSERVATION OF WOLVES IN A CHANGING WORLD* 127 (Ludwig N. Carbyn et al. eds., 1995).

⁶ See, e.g., Steven H. Fritts, *Wolf Depredation on Livestock in Minnesota*, U.S. Fish and Wildlife Serv. Res. Pub. No. 145 (1982); J. Christopher Haney et al., *Wilderness Discount on Livestock Compensation Costs for Imperiled Gray Wolf *Canis lupus**, USDA Forest Serv. Proc. RMRS-P-49 (2007).

involvement.⁷ WS' conclusions "appeared to the Panel to be inconsistent with evidence presented and in a number of instances appeared to be the result of misidentification of evidence," and "[t]he Panel found it difficult to understand how WS investigators reached their conclusions from their written reports."⁸ We are greatly concerned, in light of evidence that WS broadly attributed livestock losses to wolves, that WS is now proposing to kill wolves in Montana that may or may not be responsible for harming livestock.

b. The EA does not provide a sufficiently detailed plan for WS' implementation of nonlethal wolf management measures

In discussing its preferred alternative, WS provides little detail about the extent to which it presently makes or intends to make use of individual wolf management methods. The program's track record with wolf management leaves us questioning how much it will rely on nonlethal measures. Assurances that nonlethal tools will be used where possible are vague, unsupported by past actions, and unconvincing. WS has a long history, both in Montana and elsewhere, of relying heavily on lethal and inhumane wildlife control methods. We don't want further "lip service"; we want to see tangible evidence of its commitment to advancing nonlethal practices. We are greatly concerned that, although the EA suggests that WS will balance lethal and nonlethal approaches to wolf management in Montana, it provides no insight into the extent to which certain methods will be used, or the impacts that this so-called balance will have on the region's ecosystems. At a minimum, WS should mandate that all feasible non-lethal management tools will be tried first, including prophylactically in known wolf-livestock conflicts zones, that such methods will be documented, and the results measured and reported before it should consider lethal methods.

II. WS' mitigation measures should include the implementation of humane, nonlethal wolf management practices

a. WS should not rely on steel-jaw leghold traps, neck snares, or other inhumane and indiscriminate methods for wolf management in Montana

Under both Alternative 1 and Alternative 2, WS would use steel-jaw traps and snares as nonlethal wildlife management tools. While we strongly support the use of practical and effective nonlethal livestock protection practices—such as the use of human shepherds, shed-lambing, fencing, electronic sensors, and noise-making devices—in place of lethal approaches, we oppose WS' use of traps and snares to capture and harm wildlife. These devices inflict substantial pain and suffering on animals, many of whom die as a result of being trapped; to describe them as nonlethal or humane methods of livestock protection is a profound misrepresentation of their impacts. Further, it is disingenuous of WS to describe leghold traps and snares as "nonlethal methods" when these devices are used to catch (and harm) animals who will then be killed. The method of control is often lethal and that is how it should be classified.⁹

Steel-jaw leghold traps are internationally recognized as inhumane and have been banned in many countries. Wolves and other mammals, upon being trapped, frantically struggle to free themselves both by attempting to pull the trapped limb out of the device and by chewing at the trap itself or

⁷ OREGON DEP'T OF FISH AND WILDLIFE, 2011 OREGON WOLF MANAGEMENT REPORT 27 (2012).

⁸ *Id.*

⁹ EA at 56–57.

even the animal's trapped limb. The force of the jaws clamping on the animal's limb and the subsequent struggle result in severe trauma including mangling of the limb, fractures, damage to muscles and tendons, lacerations, injury to the face and mouth, broken teeth, loss of circulation, frostbite, and amputation.¹⁰ In addition to the pain and fear associated with the struggle to get free, animals captured in steel-jaw traps and snares are left unable to protect themselves from predation or return to their young.

Relying on steel-jaw leghold traps with offset and laminated jaws or so-called padded jaws, as required by WS policy,¹¹ will not prevent the injury and pain associated with capture. These variations do not prevent long-drawn out pain and fear. Data reflecting injuries suffered by coyotes captured in leghold traps is instructive. USDA itself found that 97 percent of coyotes trapped in "padded" traps experienced edematous swelling or hemorrhage in the restrained limb, while 94 percent of coyotes captured in offset traps and 95 percent of those in laminated traps experience such injury.¹² Many other injuries were observed, and some of the coyotes examined had broken bones.¹³

Snares can be similarly inhumane. Neck snares are particularly worrisome. Even if wildlife captured in snares is not killed prior to release, it is subjected to a great deal of pain and distress. Animals captured in snares experience joint luxation, soft tissue erosion, tooth fractures, severe lacerations, damage to neck and throat tissue, internal bleeding, and other injuries.¹⁴ The EA suggests that snare modifications such as stops may be used to reduce the likelihood of injury or death,¹⁵ and reduce the likelihood of take of protected, non-target species,¹⁶ but such features can be difficult to operate effectively, and the EA provides no detail concerning the extent to which it would equip its snares with these devices or the circumference at which stops would be attached.

Although WS categorizes steel-jaw traps and snares as nonlethal tools, animals captured in these devices often die from injuries while trapped or must be killed upon discovery. WS' own records show that nearly every animal captured in steel-jaw traps and foot and neck snares is killed, including the majority of non-target animals captured using these methods.¹⁷ Even animals that are released may not survive, as they are left susceptible to gangrene following loss of circulation in the trapped limb, as well as stress-related illness and death.¹⁸ Accordingly, WS cannot rely on these devices for "nonlethal" wildlife management in Montana.

Steel-jaw traps and neck snares are not only inhumane, but are also nonselective and environmentally destructive. In an effort to address the nonselective nature of these devices, the EA

¹⁰ See, e.g., Robert L. Phillips et al., *Leg Injuries to Coyotes in Three Types of Leghold Traps*, 24 WILDLIFE SOC'Y BULLETIN 260 (1996); Detlef K. Onderka et al., *Injuries to Coyotes and Other Species Caused by Four Models of Legholding Devices*, 18 WILDLIFE SOC'Y BULLETIN 175 (1990).

¹¹ EA at 56.

¹² See Phillips et al., *supra* n. 10, at 262.

¹³ *Id.*

¹⁴ For a review of relevant literature, see IRENE ROCHLITZ, *THE IMPACTS OF SNARES ON ANIMAL WELFARE* 14–20 (2010).

¹⁵ EA at 57, 93.

¹⁶ EA at 85.

¹⁷ USDA WILDLIFE SERVICES, *ANIMALS TAKEN BY COMPONENT/METHOD TYPE AND FATE BY WILDLIFE SERVICES IN MONTANA – FY 2011* (2012).

¹⁸ See ROCHLITZ, *supra* n. 14, at 9–10, 18.

suggests that steel-jaw leghold traps and snares can be modified to prevent indiscriminate killing. With respect to snares, WS suggests that modifications such as stops can reduce both suffering and non-target capture, but provides no detail concerning how it currently uses snares or its plans for future use of this feature, such as how frequently this adaptation is used or what proportion of captures are made with snares modified in this way. Similarly, WS suggests that steel-jaw traps can be modified to promote selectivity through the use of pan-tension devices. While these devices may enable WS to exclude a some animals from leghold traps, they cannot exclude all non-target wildlife, as WS itself acknowledges. Anecdotal evidence suggests that even when pan-tension devices are in use, leghold traps nonetheless capture many non-target animals.¹⁹

Wildlife Services fails to consider additional measures that have the potential to reduce the suffering of trapped and snared animals. The EA omits any discussion of trap monitoring devices and tranquilizer trap devices (TTDs), both of which have been shown by the agencies' own data to reduce animal suffering. Although steel-jaw traps cannot be used without causing some amount of animal suffering, these tools can reduce the duration of a captured animal's pain and struggle. Trap monitoring devices consist of transmitter equipment that serves to notify WS staff when an animal has been captured in a trap. A WS agent, once aware of the capture, may go to the trap site and release or kill the animal. These devices are characterized by a high degree of accuracy, and WS itself has identified many benefits associated with the use of trap monitoring devices, including not only improved animal welfare, but also savings in agency time and resources.²⁰

TTDs also have the potential to reduce the suffering of trapped and snared animals. TTDs are devices that contain a tranquilizer and are attached to traps or snares. They are intended to subdue captured animals and prevent excessive struggle and associated physical harm. USDA itself has determined that TTDs can substantially reduce injury to animals captured in steel-jaw traps,²¹ and similar results have been observed when TTDs are used with snares.²² Despite these promising findings, WS failed to seriously consider these options in its EA.²³ As noted, we firmly oppose the use of steel-jaw traps and unmodified snares, but if, inconsistent with our recommendations, WS proceeds with its proposal to use these traps to capture wolves in Montana, we urge the agency to consider the significant advantages of trap monitoring devices and TTDs.

While we prefer the use of non-lethal tools only for wolf management by WS, if WS employs any traps for the capture of wolves, they must be equipped with trap monitoring devices and TTDs. Furthermore, in this case, WS should commit to checking traps immediately upon notification that a trap has been sprung or a minimum of every 24 hours. Indeed, even if standard traps are used, WS

¹⁹ Tom Knudson, *Long Struggles in Leghold Device Make for Gruesome Deaths*, SACRAMENTO BEE, Apr. 29, 2012, at 15A.

²⁰ WILDLIFE SERVICES NATIONAL WILDLIFE RESEARCH CENTER, EVALUATION OF REMOTE TRAP MONITORS (2008).

²¹ Doris E. Zemlicka et al., Development and Registration of a Practical Tranquilizer Trap Device (TID for Foot-hold Traps, Proc. Great Plains Wildlife Damage Control Workshop (1997).

²² Shelley D. Pruss et al., *Evaluation of a Modified Neck Snare to Live-Capture Coyotes*, 30 WILDLIFE SOC'Y BULLETIN 508 (2002).

²³ The acknowledges that these devices have the potential to reduce suffering among trapped animals, EA at 37, but makes does not suggest that WS has an intention of incorporating them into its wolf management practices in Montana.

should commit to a 24-hour trap check time as it has an obligation to prevent unnecessary suffering to any animal—target or non-target—that it has trapped.

b. Nonlethal wolf management methods that minimize animal suffering are effective and should be adopted if WS remains involved in Montana’s gray wolf management efforts after additional, far more thorough, environmental review

If WS elects to work with MFWP to manage the state’s wolves, the program’s resources should be directed strictly toward the implementation of nonlethal and noninvasive controls and the provision of technical assistance to encourage the use of such tools. If WS proceeds with its proposed lethal control plan, it should exhaust all nonlethal options before resorting to lethal control—an alternative that was considered but rejected with little explanation in the EA.²⁴ As noted, a variety of alternative methods have been successfully used to prevent livestock depredations. WS improperly dismisses these methods because no single approach is universally effective, ignoring the fact that when properly combined and adjusted to the size and nature and location of a livestock operation, these tools are ultimately more effective and cost-efficient than traditional lethal methods.

The EA suggests that nonlethal control methods are generally ineffective.²⁵ In practice, however, a number of nonlethal wildlife management practices have proven highly effective in preventing depredation. The EA glosses over these findings to reach what appears to be a predetermined decision that it will rely on lethal control in Montana. For instance, WS dismisses frightening devices and fladry because they are not permanent deterrents, yet studies that WS references conclude that these tools can assist in reducing depredation rates.²⁶

It should be noted that lethal control does not permanently stop livestock predation—if wolves are removed from suitable habitat, others will move in to replace the animals who have been killed. Thus lethal control must be repeated time and again. There is a risk that non-depredating animals will be killed, only to have animals who might prey on livestock fill the niche. Nonlethal methods must not be judged by unrealistic criteria while lethal control is given minimal scrutiny. The EA does not give adequate weight to the fact that nonlethal methods can provide protection to livestock during critical periods of vulnerability, such as calving seasons, and are therefore viable management options. Similarly, the EA summarily dismisses any relationship between husbandry and livestock disposal practices and depredation, despite substantial evidence that husbandry practices focused on reducing livestock vulnerability can reduce depredation risks.²⁷

The utility of nonlethal livestock protection tools is evidenced by successful programs in the United States. A demonstration project in central Idaho revealed that the use of nonlethal methods including turbo-fladry, increased human presence, and light- and sound-generating devices was highly successful in preventing wolf depredation.²⁸ Over the course of four years, fewer than 20 of

²⁴ EA at 62.

²⁵ EA at 59–60.

²⁶ See, e.g., Sarah J. Davidson-Nelson & Thomas M. Gehring, *Testing Fladry as a Nonlethal Management Tool for Wolves and Coyotes in Michigan*, 4 HUMAN–WILDLIFE INTERACTIONS 87 (2010).

²⁷ See, e.g., ERIC M. GESE ET AL., LINES OF DEFENSE: COPING WITH PREDATORS IN THE ROCKY MOUNTAIN REGION 13–14 (2005).

²⁸ DEFENDERS OF WILDLIFE, FINAL REPORT: TURBO-FLADRY EXPERIMENTAL PROJECT (2012).

the approximately 40,000 sheep that occupied the study area were lost to wolves—a significant decline from the frequency of depredation prior to the project’s implementation.²⁹ An independent cost-benefit analysis, accounting for both economic and non-economic values, suggested that the social benefits derived from the demonstration program totaled between \$80,000 and \$4.66 million in 2011 dollars.³⁰

Marin County, California provides another strong illustration of the advantages associated with nonlethal predator control. In 2000, Marin redirected funds from lethal toward nonlethal measures. Funds were allocated for the provision of tools such as night corrals, fencing, lamb sheds, noise- and light-generating devices, and compensation to farmers for livestock losses. These measures proved less expensive and more effective than lethal control; average annual losses declined from five percent to 2.2 percent. Marin’s experience demonstrates that nonlethal wildlife management tools are both effective and affordable.

With these successes in mind, we urge WS to direct its attention and resources toward promoting nonlethal wolf management and providing technical assistance to producers to implement nonlethal wildlife control methods that will minimize animal suffering if it decides to remain involved with wolf management in Montana following more extensive environmental review. Many ranchers are not aware of the effective, nonlethal livestock protection tools that are available to them.³¹ Some engage in practices that specifically leave their animals vulnerable. Producers would benefit from WS’ direct assistance in implementing nonlethal methods, in addition to technical assistance. If WS continues to partner with MFWP to manage wolves in Montana, it should focus its attention on using and promoting nonlethal control methods that minimize animal suffering and providing ranchers and wildlife managers with technical assistance and education about coexistence with wolves. Furthermore, technical assistance through education including one-on-one discussions, community events, and presentations at appropriate venues to promote best husbandry practices to reduce, prevent, or mitigate wolf-livestock conflicts before they occur are of particular importance and will likely improve the efficacy of non-lethal methods if subsequently needed to address particular incidents.

- c. If, inconsistent with the foregoing recommendations, WS continues to use inhumane traps and snares to capture and kill wolves in Montana, it should ensure that all traps and snares are checked at least once every twenty-four hours**

Both target and non-target animals frequently sustain severe injuries from being trapped, and the type and severity of injuries vary with factors such as the type of trap, the species trapped, outdoor temperature and weather conditions, and duration of time in the trap. Clearly, reducing the length of time an animal spends in a trap can dramatically reduce its injuries and its suffering.

²⁹ *Id.*

³⁰ Ashley L. Abernethy, *Coexisting with Carnivore: A Cost-Benefit Analysis of Non-lethal Wolf-Depredation Management in Central Idaho* (Apr. 28, 2011) (M.E.M. thesis, Duke University).

³¹ *See* DEFENDERS, *supra* n. 28, at 3 (“The greatest obstacle to the use of nonlethal deterrents to prevent wolf-related livestock losses is their lack of use by the majority of livestock producers....[M]ore needs to be done to help inform producers of their availability and correct application”).

The EA states that under the preferred alternative, “[t]raps, snares, and cable restraints would be checked consistent with WS/MFWP MOU and WS policy,”³² and notes that they are “checked frequently.”³³ WS does not describe with adequate specificity the trap check times that will apply to wolf traps and snares in Montana, nor does it mention the use of trap monitors, which would alert WS agents of the need to check traps that have been triggered.

Currently, thirty-one states require that traps be checked every 24 hours. WS should commit to 24-hour trap checks for wolves in Montana. In addition, WS should use trap monitoring devices, which, as noted, can significantly reduce animal suffering. While traps that have not been triggered should be checked every 24 hours, WS should comply with a significantly shorter response time where a trap monitor shows that a trap has been set off. Traps should be checked as quickly as possible once triggered to minimize the suffering of both target and non-target animals that are captured.

III. WS’ proposed action requires preparation of an environmental impact statement (EIS)

a. The proposed action will have significant impacts on the quality of the human environment

Because lethal wolf management would have significant environmental impacts, WS must prepare an EIS. 42 U.S.C. § 4332(2)(C). Under Alternative 1, the preferred alternative, WS would continue to use lethal methods to manage wolves in Montana. Wolves play a fundamentally important role in maintaining healthy ecosystems in their native range. Lethal control is inconsistent with wolf conservation and would have substantial adverse impacts on the region’s ecosystems.

Wolves, as keystone predators, play an essential role in their native ecosystems. The return of wolves to Montana has had, and will continue to have, far-reaching benefits for the state’s wildlife and plant communities. The presence of wolves encourages ungulates such as elk and deer to spend shorter periods of time grazing in a single location, thereby preventing overgrazing and allowing native vegetation to recover.³⁴ The restored plant life, in turn, provides myriad ecosystem services, reducing erosion, protecting water quality, and providing habitat and forage for a variety of species.³⁵

Scavenger species such as eagles and bears also benefit from the presence of wolves, and rely on wolf kills for nourishment. This relationship has been observed in Yellowstone National Park, where twelve scavenger species are known to visit wolf kills.³⁶ This food source is increasingly important to scavengers’ survival in the face of climate change.³⁷ As winters grow shorter and snow thaws begin

³² EA at 64.

³³ EA at 87.

³⁴ See, e.g., William J. Ripple & Robert L. Beschta, *Wolf Reintroduction, Predation Risk, and Cottonwood Recovery in Yellowstone National Park*, 184 FOREST ECOLOGY & MGMT. 299 (2003); William J. Ripple & Eric J. Larsen, *Historic Aspen Recruitment, Elk, and Wolves in Northern Yellowstone National Park, USA*, 95 BIOLOGICAL CONSERVATION 361 (2000).

³⁵ See Robert L. Beschta & William J. Ripple, *Large Predators and Trophic Cascades in Terrestrial Ecosystems of the Western United States*, 142 BIOLOGICAL CONSERVATION 2401 (2009).

³⁶ Christopher C. Wilmers et al., *Resource Dispersion and Consumer Dominance: Scavenging at Wolf- and Hunter-Killed Carcasses in Greater Yellowstone, USA*, 6 ECOLOGY LETTERS 996 (2003).

³⁷ Christopher C. Wilmers & Wayne M. Getz, *Gray Wolves as Climate Change Buffers in Yellowstone*, 3 PLOS BIOLOGY 571 (2005).

earlier, fewer animals die from starvation and harsh conditions, leaving fewer carcasses for scavengers to consume.³⁸ Wolf kills help to compensate for this decline, enabling scavenger populations to survive as global temperatures rise and other food sources grow scarcer.

Wolves also control coyote population numbers through competition.³⁹ When wolves were reintroduced to Yellowstone National Park, coyote populations declined by 50 percent or more.⁴⁰ By limiting coyote populations, the return of wolves enables populations of species preyed upon by coyotes to recover and grow. In addition, the relationship between wolves and coyotes may reduce the incidence of livestock depredation by coyotes. Accordingly, killing wolves to protect livestock could lead to just the opposite of the desired result.

The EA fails to account for the keystone role that wolves play in ecosystems; killing wolves and interfering with wolf population will significantly impact the region's ecosystems at every trophic level, and therefore warrants thorough analysis in a complete EIS. Although the EA acknowledges the ecological importance of wolves,⁴¹ it fails to consider the environmental impacts that will accompany continued killing in Montana. Following a discussion of wolves' valuable role in their ecosystems, the EA simply states that "[s]imilar ecological processes... would be expected to continue occurring in Montana under all of the Alternatives being considered in this EA, because MFWP intends to continue managing Montana's wolf population in a sustainable manner."⁴² This does not constitute the thorough analysis that NEPA demands.

In addition, the EA entirely ignores the impact of lethal control on the social dynamics of a wolf pack. This is a common deficiency in wolf management plans whereby state agencies evaluate management actions at the population level ignoring the sociality of the species. It is well known that wolves live in packs that are led by an alpha male and female. Wolf packs have complex and intricate social relationship both within a pack and between packs. The removal of an alpha male or female through WS action can substantially impact pack dynamics and may even contribute to an increased potential of remaining pack members to turn to livestock as food when, previously, the pack subsisted on wild game. Limiting the analysis of environmental impacts to the population ignores those impacts of lethal control on individual packs, pack dynamics, and individual wolves.

We urge WS to complete an EIS if it proceeds with its plan to remain involved in Montana's wolf management program, and emphasize that additional review should take into account the shortcomings described in these comments.

b. The EA does not adequately address the impacts of hunting on Montana's wolf population

³⁸ *Id.*

³⁹ See J.A. Merkle et al., *Interference Competition Between Gray Wolves and Coyotes in Yellowstone National Park*, 87 CANADIAN J. ZOOLOGY 56 (2009).

⁴⁰ See Robert L. Crabtree & Jennifer W. Sheldon, *Coyotes and Canid Coexistence in Yellowstone*, in CARNIVORES IN ECOSYSTEMS: THE YELLOWSTONE EXPERIENCE 127 (T.W. Clark et al. eds., 1999); see also Kim Murray Berger & Eric M. Gese, *Does Interference Competition with Wolves Limit the Distribution and Abundance of Coyotes?*, 76 J. ANIMAL ECOLOGY 1075 (2007).

⁴¹ EA at 44–46.

⁴² EA at 46 (citation omitted).

Wildlife Services explicitly omits from its analysis support for and opposition to a wolf hunting season, stating that because the State of Montana is responsible for establishing hunting seasons, accompanying impacts are outside the scope of the EA.⁴³ To suggest that the impacts of the hunting season are irrelevant to WS' wolf "management" activities is unreasonable given the significant numbers of wolves killed during hunts since the state's wolves were stripped of the Endangered Species Act's protections. Hunters killed 166 wolves during the 2011–2012 season, and nearly 100 wolves have been killed since the 2012–2013 season opened in September. This season, which is longer than the 2011–2012 season, kill limits have been eliminated entirely in most areas. Moreover, the state will open a trapping season this year—allowing trapping for the first time in decades—during which large numbers of wolves may be killed. The EA does not adequately evaluate the cumulative impact of the proposed action by WS in light of the impact of the state's extended hunting and newly opened trapping season as is required by NEPA. Consequently, given that hunting and trapping will likely have a significant impact on the state's wolf population, WS should carefully consider the cumulative effects of all forms of wolf mortality in an EIS.

c. The EA relies on an outdated Programmatic Environmental Impact Statement (PEIS), and current science and integrated planning are lacking

WS' programmatic environmental impact statement, which is repeatedly referenced and relied upon throughout the EA, was published in 1994 and revised—but not supplemented with additional environmental analysis—in 1997. Nonetheless, WS relies on guidelines and conclusions from this outdated document to develop its analytical model and to select alternatives.⁴⁴ Moreover, WS cites to the PEIS to support its assertions that "the magnitude of impact for the proposed action is considered extremely low to nonexistent"⁴⁵ and "the methods proposed for use may affect but [a]re not likely to adversely affect bald eagles...and would have no effect on any other Federally-listed species other than wolves."⁴⁶ Rather than drawing broad conclusions based upon an outdated program-scale analysis, WS should complete a thorough environmental review that accounts for the ecological conditions in Montana and relies upon current data.

The EA overlooks or omits recent and topical scientific findings, particularly theoretical and conceptual works describing advances in methodology in wildlife damage management. We will refer to examples of the missing and needed science in our comments below, but these will not be inclusive of all the sources WS should consult and bring in to its NEPA analysis here and in the future.

An important, indeed critical, lack of contemporaneity is reflected in the EA's referral to the 1994 Programmatic EIS for WS as well as its even older 1992 Decision Model. These documents are twenty years old and based on analysis of operational data from an even earlier date. There have been significant advances in all aspects of the science and policy surrounding wildlife damage management since they were published, including work performed by WS scientists and policy-makers themselves. WS should by now have revised and updated both of these documents. In the absence of that, it is incumbent on WS to use other and more contemporary research in wildlife

⁴³ EA at 48.

⁴⁴ EA at 49.

⁴⁵ EA at 33.

⁴⁶ EA at 35.

damage management⁴⁷ in both its NEPA compliance documentation and its day-to-day work. While NEPA's implementing regulations allow the agency to "tier-back" to prior environmental compliance analysis including EAs and EISs, reliance on outdated data and analyses is a hallmark of arbitrary and capricious action that violates both NEPA and the federal Administrative Procedure Act.

The EA fails to follow WS directives for holistic and integrated planning (Policy Directives 1.201, 2.105, and 2.201) and pays scant attention to the behavioral and ecological approaches to managing wolves or to the use of human dimensions research to capture stakeholder interests and values. Advances in wildlife damage management decision models⁴⁸ dictate that WS clarify and better define not only how it might identify when a wolf might pose a threat to property or human safety, but establish sound and objective criteria to guide operations against such animals in a justifiable manner.

d. Humaneness, welfare assessment, and ethics considerations

The EA discusses the concepts of humaneness⁴⁹ which we applaud. The EA should address animal welfare standards as described by Proulx⁵⁰ and others as well as animal welfare measures, which are generally addressed by referral to animal welfare assessments.⁵¹ We agree with WS that better ways of assessing the welfare consequences of both non-lethal and lethal wildlife damage control methods need to be found and employed, and highly recommend that a science-based welfare assessment approach be adopted. The matrix formulation of Sharp and Saunders⁵² should be applied in both general and specific context throughout this document. This source would be more appropriate than a 21-year old California Environmental Impact Statement (EIS) on bear hunting which is cited as a source on humaneness.⁵³

Related to, but separate from, the concept of animal welfare assessment is the justification for control and the stepwise procedures that should be followed in a comprehensive and holistic wildlife

⁴⁷ See, for example, JIM HONE, WILDLIFE DAMAGE CONTROL (2007); Daniel J. Decker et al., *Understanding Risk Perceptions to Enhance Communication about Human-Wildlife Interactions and the Impact of Zoonotic Disease*, 51 J. INST. LABORATORY ANIMAL RES. 255 (2010); Jim Hone, *Analysis of vertebrate pest research*, 17 PROC. VERTEBRATE PEST CONF. 13 (1996); Kirsten M. Leong, *The tragedy of becoming common: landscape change and perceptions of wildlife*, 23 SOC'Y AND NAT. RESOURCES 111 (2010); M. Nils Peterson, *Rearticulating the myth of human-wildlife conflict*, 3 CONSERVATION LETTERS 74 (2010).

⁴⁸ See, for example, John Hadidian, *Integrated pest management (IPM) for vertebrates: do we need to broaden the concept?*, 24 PROC. VERTEBRATE PEST CONF. 361 (2010); K. E. Littin & D. J. Mellor, *Strategic animal welfare issues: ethical and animal welfare issues arising from the killing of wildlife for disease control and environmental reasons*, 24 REVUE SCIENTIFIQUE ET TECHNIQUE 767 (2005).

⁴⁹ See, e.g., EA at 36.

⁵⁰ Gilbert Proulx, *Review of current mammal trap technology in North America*, in MAMMAL TRAPPING 1, 1-46 (1999).

⁵¹ J.K. Kirkwood et al., *The welfare of free-living wild animals: methods of assessment*, 3 ANIMAL WELFARE 257 (1994).

⁵² TRUDY SHARP AND GLEN SAUNDERS, AUSTRALIAN GOVERNMENT DEPARTMENT OF AGRICULTURE, FISHERIES AND FORESTRY, A MODEL FOR ASSESSING THE RELATIVE HUMANENESS OF PEST ANIMAL CONTROL METHODS (2008).

⁵³ EA at 36.

damage management planning process.⁵⁴ As noted, the use of the 1992 Decision Model, now fully two decades old, should not supersede more recent work on stepwise approaches in wildlife damage management cited above. Calls for an overarching policy framework in wildlife damage control must include principles and methodologies that establish ethical frameworks for management.⁵⁵

IV. Conclusion

Legal protections and active recovery efforts have enabled the gray wolf to gradually reestablish populations in the western United States. As wolves have returned to Montana, they have resumed their role as keystone predators in the region's ecosystems, providing far-reaching ecological benefits. WS should not interfere with the population in Montana by continuing lethal control measures, and should abandon inhumane, nonselective traps and snares under the guise of nonlethal predator control.

If WS plans to proceed with its proposed course of action, it must first draft a complete environmental impact statement and undertake a far more rigorous analysis of the direct, indirect, and cumulative consequences of lethal control, and must give due consideration to the option of limiting its role to supporting the implementation of nonlethal methods that minimize the pain and suffering inflicted on wildlife to prevent conflicts between wolves and livestock.

We appreciate the opportunity comment on this EA, and we hope that WS will carefully consider the foregoing discussion as it proceeds.

Sincerely,

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⁵⁴ Hadidian, *supra* n.49, at 361–64; Littin & Mellor, *supra* n.49, at 767; K.E. Littin, *Animal welfare and pest control: meeting both conservation and animal welfare goals*, 19 ANIMAL WELFARE 171 (2010); K. E. Littin at al., *Animal welfare and ethical issues relevant to the humane control of vertebrate pests*, 52 NEW ZEALAND VETERINARY J. 1 (2004); Clive Marks, *Ethical issues in vertebrate pest management: can we balance the welfare of individuals and ecosystems?*, PROC. W. PLAINS ZOO CONF. 79 (1999).

⁵⁵ Jeffrey A. Lockwood, *The moral standing of insects and the ethics of extinction*, 70 FLA. ENTOMOLOGIST 70–89 (1987); James Yeates, *What can pest management learn from laboratory animal ethics?*, 66 PEST MGMT. SCI. 231 (2009).