



FINDING OF NO SIGNIFICANT IMPACT AND DECISION

United States
Department of
Agriculture

FOR THE ENVIRONMENTAL ASSESSMENT:

Marketing and
Regulatory
Programs

GRAY WOLF DAMAGE MANAGEMENT IN MONTANA

for

PROTECTION OF LIVESTOCK and OTHER DOMESTIC ANIMALS, HUMAN SAFETY, and OTHER RESOURCES

Animal and
Plant Health
Inspection
Service

November 2013

I. INTRODUCTION

Wildlife
Services

The reduction of gray wolf (*Canis lupus*) conflicts is considered important for wolf recovery and is addressed in “*The Reintroduction of Gray Wolves to Yellowstone National Park and Central Montana*” Environmental Impact Statement (EIS) (U.S. Fish and Wildlife Service (USFWS) 1994, 59 Federal Register Notice (FR) 60266), subsequent rules (50 Code of Federal Regulations (CFR) 17.84(i)(3)(vii), 50 CFR 17.84 (n), and management plans (USFWS 1987, 1990, GW Plans¹). It is believed that prompt, professional reduction of damage and conflicts with wolves is an important component of wolf management, conservation, and recovery because it facilitates local acceptance and tolerance of wolves (Fritts 1993, Mech 1995, Bangs et al. 1995, 2009, MFWP 2003, Fritts et al. 2003, Creel and Rotella 2010)².

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The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program is authorized and directed by Congress to conduct wildlife damage management, as requested, to protect American agricultural, industrial and natural resources, property, and human health and safety from damage associated with wildlife (Act of March 2, 1931 as amended 46 Stat. 1486; 7 USC 426-426c). WS is a cooperatively funded, service-oriented program that assists the requesting public and private entities and government agencies. The Montana Department of Fish, Wildlife and Parks (MFWP), Confederated Salish and Kootenai Tribes (CSKT) and Blackfoot Nation (BN), organizations, and individuals have requested WS assistance with the reduction of gray wolf conflicts and damage in Montana, currently subject to MFWP and Tribal decisions and authorizations.

In November, 2012, after wolves were federally delisted³ from the protections of the Endangered Species Act (ESA) of 1973, WS in cooperation with the MFWP released an

¹ Montana Wolf Conservation and Management Plan (MFWP 2003 - henceforth known as the 2003 GW Plan), Montana state law and administrative rules for gray wolves as a species in need of management (Montana Code Annotated (MCA) §87-5-131) are the principal guidance for managing wolves in Montana. In addition, BN (2008) and CSKT (2009) have wolf management plans (henceforth known as GW Plans, to include the 2003 GW Plan) on their reservations.

² These researchers suggest that one of the best ways to promote wolf recovery is to encourage education about wolf management issues so that a significant portion of the public support wolf recovery while tolerating some level of control (Mech 1995).

³ On April 15, 2011, President Obama signed Public Law 112-10 which required revision of the threatened and endangered species list by removing most of the Northern Rocky Mountain (NRM) population of gray wolf as a Distinct Population Segment (DPS) effective May 5, 2011. The U.S. Fish and Wildlife Service (USFWS) published a final rule delisting wolves in Idaho, Montana and parts of Oregon, Washington and Utah and the states will monitor wolf populations in the NRM DPS and gather population data for at least five years (74 FR 15213 et seq.). On May 5, 2011, USFWS published the final delisting rule designating wolves throughout the DPS, except Wyoming, as a delisted species and subsequently the Center for Biological Diversity filed a challenge in federal district court in Missoula, Montana, arguing that a congressional rider requiring removal of Endangered Species Act (ESA) protections for wolves in the NRM was unlawful because it violated the separation of powers in the U.S. Constitution. However, the lawsuit challenging the constitutionality of the Congressional delisting was unsuccessful (Alliance



United States Department of Agriculture
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Environmental Assessment (EA) that evaluated ways that WS could cooperatively work together with agencies involved in wolf conservation and management to resolve human-wolf conflicts in Montana. WS along with MFWP consulted with the USFWS, Bureau of Land Management (BLM), U.S. Forest Service (USFS), Montana Department of Livestock (MDOL), CKST, and BN for the EA. The EA documented the need for gray wolf damage management (GWDM) in Montana and assessed and analyzed the potential environmental and social effects of issues under the various alternatives for resolving wolf damage. After interagency review, the EA was released to the public for comment. Comments received from the public during the public involvement process for the EA were reviewed for substantive issues and new alternatives. None were received that altered the content of the EA, but the comments received will be discussed in this document, some providing more detailed discussion. WS determined that the Proposed Action would not have any significant impacts on the human environment. Thus, WS determined that a Finding of No Significant Impact (FONSI) for the EA was reasonable. This FONSI provides the rationale and notification of WS' selection of a management alternative to reduce human-wolf conflicts. If the legal status or classification of wolves in Montana changes as a result of current or future litigation, legislation, or other actions outside of WS' control, wolf management activities would be conducted under the appropriate management strategy or guidance as authorized by the USFWS, MFWP, Tribe, or the courts, as appropriate.

The EA only evaluated alternatives for WS involvement in GWDM in Montana and cannot change the USFWS wolf management policies (USFWS 1994, 50 CFR 17.84(n)) or MFWP wolf management policies (2003 GW Plan) or court decisions. WS selects Alternative 1, "Continue with Current Adaptive Integrated GWDM in Cooperation with MFWP, Tribes, or USFWS (No Action, Preferred Alternative)," to reduce wolf damage and conflicts on public and private lands in Montana, as authorized under the appropriate GW Plans. MFWP has stated that they intend to implement their wolf management policies with or without WS involvement as required by Montana statute (MCA §12.9.1301) (L. Hunauska-Brown, MFWP 2011, pers. com.). WS' GWDM approach, commonly known as Integrated Pest Management (WS Directive 2.105), involves the simultaneous or sequential use or recommendation of a combination of nonlethal and lethal methods to reduce damage. However, preference is given to non-lethal methods if they are deemed effective and practical (WS Directive 2.101)⁴. Additionally, it should be noted that MFWP, Tribes, or USFWS could determine a specific course of action that WS take to resolve a problem and, thus, no decision is made on the part of WS in these situations.

II. BACKGROUND

Following the preparation and issuance of an EIS (USFWS 1994), USFWS introduced gray wolves into Yellowstone National Park (YNP) and central Idaho in 1995 and 1996 as nonessential, experimental populations (59 FR 60252-60281). Following this reintroduction, the wolf population in the Northern Rocky Mountains (NRM) considered a distinct population segment (DPS) steadily increased and the established biological recovery criteria were reached by 2002 (USFWS 2012b). The 1994 10j rule, under which wolves were originally reintroduced, was subsequently revised in 2005 and again in 2008 (73 FR 4720-4736) to provide for greater management flexibility to deal with the growing number of wolves (USFWS 2012b).

for the Wild Rockies, et al. v. Salazar, et al., CV-11-70-M-DWM, Center for Biological Diversity, et al. v. Salazar, et al., CV-11-71-M-DWM, Aug 03 2011). On August 8, 2011, plaintiffs in the above lawsuit gave notice that they appealed to the U.S. Court of Appeals for the Ninth Circuit CV-11-71-M-DWM, the order issued by District Judge Donald W. Molloy 2. Judge Schroeder of the Ninth Circuit issued an opinion, dated March 14, 2012, ruling that Section 1731 (the wolf bill) was constitutional, a legal action of Congress, and that the delisting of wolves by Congress in the NRM was fully legal. USFWS (2012b) Recovery Program Update Reports summarize relevant delisting and litigation activities that have transpired.

⁴ The wolf damage and conflict management methods used by WS are not based on punishing offending animals, but are components of damage management strategies developed and implemented using the WS Decision Model thought process (Slate et al. 1992, WS Directive 2.201).

In the NRM, 2012 marked the eleventh consecutive year that the minimum recovery goal of at least 30 or more breeding pairs and at least 300 wolves were documented in Montana, Idaho, and Wyoming, and, for the first time, the entire NRM DPS was delisted and wolves were relegated to be managed under State authority in Montana, Idaho, Wyoming, the eastern one-third of Washington and Oregon, and a small part of north central Utah. Based on minimum population counts, the NRM DPS wolf population contained at least 1,674 wolves in more than 103 breeding pairs. This far exceeded the originally established biological recovery objectives. MFWP has successfully administered and conducted 3 separate public wolf hunting seasons and 1 public wolf trapping season in Montana, along with resolving the primary conflicts with wolves involving injury and predation on livestock and pets (MFWP 2013).

III. AGENCY AUTHORITIES

With the current delisting, the 2003 GW Plan and Montana state law and administrative rules for gray wolves as a species in need of management (Montana Code Annotated (MCA) §87-5-131) are the principal guidance for managing wolves in Montana. In addition, BN (2008) and CSKT (2009) have wolf management plans (*henceforth known as GW Plans*, to include the 2003 GW Plan) on their reservations. These plans permit more flexibility in addressing wolf damage problems and conflicts than what was permitted while wolves were federally listed. Whether wolves are managed by MFWP or some other agency, the role of WS is essentially unchanged. All management activities are under the direct authority of the managing agency responsible for wolves in Montana, currently MFWP and Tribes, regardless of who that may be at the current time.

Wildlife Services

USDA-APHIS-WS is authorized by Congress to manage a program to reduce human-wildlife conflicts. WS' mission, developed through a strategic planning process (APHIS 2013), is to *"...provide Federal leadership in managing problems caused by wildlife. WS recognizes that wildlife is an important public resource greatly valued by the American people. By its very nature, however, wildlife is a highly dynamic and mobile resource that can damage agricultural and industrial resources, pose risks to human health and safety, and affect other natural resources. The WS program carries out the Federal responsibility for helping to solve problems that occur when human activity and wildlife are in conflict with one another."* WS is a non-regulatory agency authorized and directed by Congress to conduct wildlife damage management to protect American agricultural, industrial and natural resources, property and human health and safety from damage associated with wildlife (Act of March 2, 1931 as amended 46 Stat. 1486; 7 USC 426-426c). WS conducts research programs and conducts technical assistance and applied management to resolve problems that occur when human activity and wildlife conflict. WS is a cooperatively funded, service-oriented program that assists requesting public and private entities and government agencies. Before WS responds to or conducts any wildlife damage management, a request must be received and an *Agreement for Control* must be signed by the landowner/administrator for private lands or other comparable documents for public lands must be in place. WS responds to requests for assistance when valued resources are damaged or threatened by wildlife and responses can be technical assistance or operational damage management, depending on the complexity of the problem and the funding available. WS activities are conducted in accordance with applicable federal, state and local laws, Cooperative Service Agreements, *Agreements for Control*, Memoranda of Understanding (MOUs) with other state and federal management agencies, and other applicable documents (WS Directive 2.210). These documents establish the need for the requested work, legal authorities and regulations allowing the requested work, and the responsibilities of WS and its cooperators. Montana WS is authorized as a designated agent of MFWP⁵ to assist in wolf monitoring, research, and to reduce damages from depredating wolves under the authority of the MFWP and Tribes.

⁵ WS acts as an agent for MFWP, at their request, in conducting wolf damage management activities (L. Hunauska-Brown, MFWP 2011, pers. com.), but in the absence of WS involvement, MFWP or Tribal agency would be responsible for conducting wolf damage management. MFWP

U.S. Fish and Wildlife Service

USFWS is a federal agency within the U.S. Department of the Interior authorized to manage fish, wildlife, and habitats. USFWS mission reads, “. . .working with others to conserve, protect, and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people.” As the principal federal agency responsible for administering the ESA, USFWS takes the lead in recovering and conserving imperiled species by fostering partnerships, employing scientific excellence, and developing a workforce of conservation leaders.

Currently wolves are delisted from the ESA in the NRM DPS. While all federal agencies have the responsibility to “utilize their authorities in furtherance of the purposes of the ESA . . . pursuant to section 4”, USFWS has primary authority for endangered species recovery. Currently, USFWS has legal oversight through the 5 year, post-delisting, monitoring period of the gray wolf (USFWS 2012b).

U.S. Forest Service and Bureau of Land Management

USFS and BLM have the responsibility for managing resources on federal lands for multiple uses including livestock grazing, timber production, recreation and wildlife habitat, while recognizing the state’s authority to manage wildlife. USFS and BLM recognize the importance of reducing wildlife damage on lands and resources under their jurisdiction, as integrated with their multiple use responsibilities. These uses are outlined in their Land and Resource Management Plans and Resource Management Plans, respectively, and wildlife damage management actions may be taken on National Forest System and BLM administered lands to protect resources on adjacent properties. For these reasons, USFS and BLM have entered into national MOUs with WS to facilitate a cooperative relationship regarding the reduction of wildlife damage and conflicts.

Tribes

WS has MOUs with BN, CSKT, Crow, Fort Peck and Fort Belknap Tribes. The most recent MOUs with BN and CSKT were signed in 2013 and 2011 respectively. The MOUs outline the roles and responsibilities of the Tribes and WS in dealing with a variety of wildlife damage problems on their reservations, including wolf damage problems. GWDM on Tribal lands is directed by the MOUs between WS and the individual Tribes. Any actions conducted under the Proposed Action would be consistent with the guidance in the MOUs. Additional protocol, effective March 2010, was added to address the increasing wolf depredations affecting the Montana livestock community, and to improve depredation responses and efficiency.

State of Montana

Montana Gray Wolf Conservation and Management Plan (2003 GW Plan)

Montana Statutes charge MFWP with conservation and management of resident wildlife (2003 GW Plan), and the result classification of wolves as a “*species in need of management*,” in Montana allows MFWP to provide protection for wolves as well as consider the impacts of wolves on other big game species. The goal of 2003 GW Plan is to ensure the long-term survival and conservation of wolves in Montana while minimizing wolf-human conflicts.

The plan addresses wolf conservation and management anywhere wolves occur in Montana, except where management authority is otherwise explicitly reserved to other jurisdictions, such as Montana’s Indian

has stated that they intend to implement their wolf management policies with or without WS involvement as required by Montana statute (MCA §12.9.1301

Tribes. Conservation of wolves is implemented through the combined decisions and actions of the MFWP Commission, the seven MFWP administrative regional offices, MFWP's headquarters in Helena, MDOL, WS, local law enforcement or county authorities, and other cooperators (2003 GW Plan). The State of Montana seeks to manage wolves at recovery levels that will ensure viable, self-sustaining populations (MFWP 2007, 2008, 2009, 2010, 2011*b*, 2013).

IV. MONITORING

WS will continue to coordinate with MFWP and Tribes depending on which agency is responsible for wolf management, to monitor wolf take, recovery, and non-target species that could be affected by GWDM. This will primarily be done by MOU, reporting, closely coordinating and conducting activities as to ensure that cumulative impacts of WS' actions in combination with all other wolf management activities are not having an adverse effect on the wolf population and recovery. The EA will also be reviewed each year to ensure that there are no new needs for action, issues, or environmental affects meriting additional analysis.

V. PUBLIC INVOLVEMENT

Issues related to the proposed action were initially developed by WS, based on an awareness of issues that were raised regarding predator damage management in general, and GWDM in particular. The EA on "Gray Wolf Damage Management in Montana" was released for public comment on November 6, 2012. A Notice of Availability (NOA) was e-mailed to 81 persons and organizations who had expressed interest in WS GWDM, or who were presumed to be interested, and a NOA was also posted in the Helena Independent Record, the newspaper of state record for public notices (72 FR 13237), for 3 consecutive days (November 9, 10, and 11, 2012). The NOA and the EA were also posted on the WS website at: http://www.aphis.usda.gov/regulations/ws/ws_nepa_public_notice_MT.shtml. The 39 day comment period ended December 15, 2012. However, as a result of a minor glitch on the website, basically if someone copied the e-mail address and pasted into their e-mail to send a comment letter, the entire e-mail address was not copied. The problem was noted by the third commenter (the first two commenters typed out the e-mail address apparently or noted that the entire e-mail address was not copied and completed it) on December 13, 2012 and the problem was fixed that day (it took a few hours to determine the source of the problem). However, WS may not have received comments, but senders received an error message. Since commenters received the error message, it was believed that they would have contacted WS, as did the third commenter. Once the problem was fixed, WS extended the comment period until December 31, 2012 to ensure all comments were received. WS received 14 comments from individuals and organizations. All comment letters received are considered in this document. As part of WS' environmental analysis process, and as required by the Council on Environmental Quality (CEQ 1981) and APHIS-NEPA implementing regulations, this FONSI will be made available to the public through NOAs published in the Helena Independent Record, on the APHIS website, and through direct mailings to parties that have specifically requested to be notified.

VI. AFFECTED ENVIRONMENT

Montana's geography is an intermingling of valleys and mountainous terrain, and a patchwork of human settlement, variable wild prey densities, and livestock distribution. Wolves in Montana occur primarily in the western part of the state, but could be found anywhere in Montana (Hanuska-Brown et al. 2012). Western Montana wolf populations may be nearing habitat or population carrying capacity, saturated conditions where territoriality and pack density limit room for additional breeding pairs. In this case population growth can only be accommodated through range expansion.

Montana shares border wolf packs with Idaho, Wyoming, and Canada. A border pack will reside part time in each state or province (MFWP 2011*b*). Wolves are very mobile and are now expanding their

range outside of what has been considered optimal habitat and beginning to show up more regularly on private land with livestock grazing. Dispersers that survive may eventually find a mate and become breeders. Future wolf population growth in Montana will likely be determined in part by social conflicts between wolves and humans. How fast the population grows and where wolves will be found will differ across the area and the alternatives analyzed in this EA reflect that spectrum of social tolerances and management approaches (the 2003 GW Plan).

The area of the proposed action includes all private and public lands in Montana where wolf damage is occurring or could occur. The proposed action could be conducted in urban or rural sites when a request is received and a need is present. Goals of the proposed action include the protection of agricultural and natural resources, property, and human and pet health and safety where wolves cause or could cause losses.

VII. MAJOR ISSUES

The EA analyzed a range of management alternatives with regard to the issues relevant to the scope of the analysis, including:

- Effects on the wolf population in Montana
- Effects on nontarget species populations including State and Federally listed T&E species
- Effects on public and pet health and safety
- Humaneness and animal welfare aspects of the methods to be used

Under the Proposed Action, WS GWDM would not have a significant effect on any of these issues.

VIII. ALTERNATIVES

The following three alternatives were developed and analyzed in detail (EA at Section 3.2) and nine additional alternatives were considered but not analyzed in detail (EA at Section 3.5). A detailed discussion of the effects of the alternatives on the issues is described in Section 4.3 of the EA. The following is a summary of the alternatives analyzed in detail.

Alternative 1 - Continue with Current Adaptive Integrated GWDM in Cooperation with MFWP (No Action, Preferred Alternative⁶)

Alternative 1 would continue the use or recommendation of a full range of legal, practical, and effective methods for preventing or reducing wolf damage while minimizing any potentially harmful effects of damage management measures on humans, the wolf population, other species and the environment as authorized and managed by the MFWP⁷. WS would provide technical assistance and operational GWDM using nonlethal and lethal management methods selected after applying the WS Decision Model (Slate et al. 1992), assist with wolf research and monitoring, and removal of wolf dog hybrids. Wolf management in Montana and the NRM is oriented toward maintaining a sustainable wolf population while resolving human-wolf conflicts when and where they occur.

Human-wolf conflicts are often addressed and resolved after damage has occurred. However, resource owners can employ several GWDM nonlethal methods to help avoid take such as cultural practices (*e.g.*, shed lambing, night penning, carcass removal, and predator-proof fencing). Additionally, private citizens can opportunistically harass or can kill a wolf in the act of biting, wounding, or killing livestock, domestic

⁶ The No Action Alternative serves as the baseline against which the impacts of management alternatives can be compared and can be defined as a continuation of current management practices (CEQ 1981).

⁷ MFWP manages wolves as a game animal with a regulated public harvest as the primary population management tool (Letter to J. Steuber, WS from K. McDonald, MFWP, July 30, 2011).

pets, or people on private or public properties as allowed in the GW Plans. Wolf numbers and distribution can fluctuate as a result of MFWP management actions, private citizens' actions, changes in prey abundance and distribution, disease, and intraspecies competition (71 FR 43410, 73 FR 10514, 74 FR 15123, 2003 GW Plan). However, it is anticipated that the wolf population will remain above the threshold of what USFWS considers recovered as well as 15 breeding pairs as required in the 2003 GW Plan. It is possible that Montana resident's social tolerance for wolves could lead to management that stabilizes the population at a lower level or that the population will grow slower than predicted. However, wolf distribution will probably increase as individual wolves disperse from core areas and colonize new habitats with sufficient prey. Thus, the wolf population could increase or decrease, but most likely fluctuate at levels higher than the level required by the 2003 GW Plan.

As far as effects, it is expected that the wolf population under this alternative will not be significantly affected. Effects on nontarget species under this Alternative are expected to remain low. WS lethally took 2 nontargets from FY07 to FY11 and it is anticipated that this would remain at about the same level, relative to target wolf take. Effects on people and pets are expected to remain at a low risk under this Alternative. Finally, GWDM are expected to be implemented as humanely as possible in compliance with all laws and regulations.

Alternative 2 – WS Nonlethal GWDM Only

This Alternative would work similarly to the Current Program Alternative except Montana WS would only use and provide advice on nonlethal GWDM methods. MFWP and the Tribes, as appropriate, and property owners would still be able to use lethal methods in accordance with the GW Plans, federal regulations, and State laws.

WS would continue to assist with the MLLB compensation program for wolf damage to livestock and could conduct nonlethal GWDM. With authorization from MFWP or Tribe, WS could use nonlethal projectiles, aversive conditioning (e.g., dog training collars, Radio Activated Guard (RAG) boxes, etc.), and any other experimental nonlethal GWDM methods; fladry could be used without special authorization. Most nonlethal methods included in this alternative have been and are currently available to reduce wolf depredation on livestock in Montana. Improvements in animal husbandry practices and the utilization of other nonlethal GWDM methods such as livestock guarding animals have the potential to reduce wolf damage, at least temporarily, and resource owners would be encouraged by WS to implement these techniques, as appropriate. However, these methods are not always effective and may not be appropriate (e.g., the use of some noise-making frightening devices may be incompatible with land uses on adjacent properties or where a wolf has attacked or killed a person, albeit a rarity). Bangs and Shivik (2001) reported that while nonlethal methods can be effective, many were expensive to implement and none were widely effective. Consequently, individual(s) experiencing damage would likely seek lethal damage management alternatives in addition to or instead of recommendations offered by WS.

If WS selected this alternative, MFWP has indicated they would implement the lethal portions of their GWDM program (K. McDonald, MFWP, Wildlife Bureau Chief, Pers, Comm. 2012 and the 2003 GW Plan). However, MFWP has limited financial resources and assigning state agency staff to conduct the lethal portions of their GWDM program would likely come at the cost of other programs and projects. This would probably result in a shift of MFWP staff from wolf research and population monitoring to GWDM. Wolf research would probably only be conducted to obtain the minimum information necessary to meet the 2003 GW Plan monitoring requirements. While biologists with MFWP are trained wildlife management professionals, they do have multiple demands on their time and may not be able to respond to requests for help as promptly as the current WS program. This could result in perceived difficulties with GWDM assistance which may, in turn, reduce landowner tolerance of wolves and result in a potential increase in illegal take (Treves and Naughton-Treves 2005). Illegal actions by private individuals are less likely to be very specific (e.g., illegal poisons) and could potentially have more

adverse impacts on the wolf population than focused lethal actions by trained, authorized professionals. MFWP or Tribe could designate other individuals or organizations to serve as agents of the state to aid with lethal GWDM projects. MFWP could also increase use of shooting and trapping permits for people who have lost animals or those with vulnerable livestock and other domestic animals. The Tribes would also likely issue an increased number of permits. Non-WS entities may not have the same training, resources, or access to research assistance as WS making their efforts less effective, and may also have difficulties in responding to damage problems. Capturing a specific wolf or wolves associated with a depredation problem can be difficult. Individuals with less experience than WS staff may not be as successful in removing wolves associated with damage problems.

Demands on MFWP and Tribal resources and potential for problems with individuals that are dissatisfied would be greater under this alternative than with Alternative 1 where WS along with MFWP and Tribes would work together to provide GWDM assistance. The impact of these changes on the wolf population could be that authorized take of wolves for GWDM might be lower than under Alternative 1, but frustration and illegal take may increase (Allen et al. 1996) which would, in actuality, lead to a higher take of wolves under this Alternative.

Use of techniques like nonlethal projectiles, aversive conditioning (*e.g.*, dog training collars), and disruptive stimuli (remote activated frightening devices, fladry and guarding-and-hazing) by WS would be slightly higher under this Alternative than Alternative 1 because WS would be required to use these techniques in situations where a lethal method might be the preferred technique for resolving a damage problem. However, the increase would likely be minor, because situations warranting the use of lethal methods would be referred to MFWP and the Tribes. Any activity that involves the capture and handling of wolves or the use of nonlethal projectiles involves a risk of unintentional death of the wolf.

As far as effects, it is expected that the wolf population under this alternative would not be significantly affected, but more would likely be taken lethally under this Alternative than under Alternative 1. Effects on nontarget species under this Alternative are expected to remain low since most wolves would be taken by MFWP. However, private entities conducting control would have a higher nontarget because methods would not be used as effectively, both with legal and illegal methods. Effects on people and pets are expected to remain at a low risk under this Alternative, but again, private entities are expected to have higher risks from the use of legal and illegal methods. Finally, GWDM is expected to be implemented humanely, but unfamiliarity with effective methods and their appropriate use, along with the possible use of illegal methods could decrease the level of humaneness.

Alternative 3 – No WS GWDM in Montana

Under Alternative 3, WS would not provide any wolf conflict management assistance in Montana, but the MFWP, Tribes, and property owners would still be able to use lethal and nonlethal methods in accordance with federal and State laws, as authorized by MFWP and Montana State Statues. All requests for GWDM assistance received by WS would be referred to the MFWP and the Tribes, as appropriate.

Effects, for all practical purposes, would be the same as that under Alternative 2. The EA delves into the differences

Alternatives Considered, but Not Analyzed in Detail

1. Bounties
2. Eradication and Suppression
3. Damage Management Through Birth Control
4. Nonlethal before Lethal
5. Agencies Exhaust All Nonlethal Methods Before Attempting Lethal Methods

6. Lethal Only Program
7. Technical Assistance Only
8. Agencies Should Encourage Producers to Take Action to Prevent Wolf Depredation or Provide Funding for Damage Prevention Supplies and Equipment
9. Wolf Damage Should Be Managed by Hunters and Trappers

IX. DECISION AND FINDING OF NO SIGNIFICANT IMPACT

I have carefully reviewed the EA prepared for wolf damage management in Montana and input from the public involvement process and adopt the EA as final. I believe that the issues identified in the EA are best addressed by selecting Alternative 1, "Continue with Current Adaptive Integrated Gray Wolf Damage Management In Cooperation with MFWP (No Action, Preferred Alternative)," and applying the associated Standard Operating Procedures discussed in Chapter 3 of the EA. I am selecting Alternative 1 because: 1) it best enables the wolf management agencies a way to provide prompt, professional assistance with human-wolf conflicts and will help maintain local tolerance for wolf recovery in Montana; 2) it will maximize effectiveness and benefits to resource owners and managers while minimizing cumulative impacts to wolf and non-target species populations; 3) it has the greatest chance of maximizing net benefits while minimizing adverse impacts to public and pet health and safety; and 4) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of these issues are considered. WS' decision to adhere to the standard operating procedures detailed in the EA and annual monitoring insures that environmental impacts, including WS approved and authorized take of wolves and impacts on the wolf population, risks to non-target species, impacts on public and pet health and safety, humaneness of methods to be used and sociological issues, will remain as described in the EA.

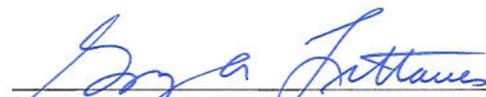
The analysis indicates that this proposed action does not constitute a major federal action significantly affecting, individually or cumulatively, the quality of the human and natural environment under the meaning of NEPA Section 102(2)(c). I agree with this conclusion and therefore find that an EIS need not be prepared. This determination is based on the following factors:

1. GWDM as proposed in the EA is not regional or national in scope; WS activities are limited to the State of Montana and WS actions will only be conducted after approval and authorization is received from the MFWP, Tribes, and possibly USFWS, as appropriate and in compliance with court rulings.
2. Analysis of the cumulative impacts for this or other anticipated actions within the State or other NRM states indicate that the proposed action would not threaten the continued existence of the wolf population. Based on increases in the NRM wolf populations, the wolf population is large enough and healthy enough that even while the proposed action and all other mortality factors have adverse effects on individuals, they are not likely to adversely impact the viability of any state or NRM wolf population.
3. The proposed action would pose minimal risk to public health and safety. Risks to the public from WS GWDM methods were determined to be low in a formal risk assessment (USDA 1997, Appendix P).
4. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected. Built-in measures that are part of WS' Standard Operating Procedures and adherence to laws and regulations will further ensure that WS' activities do not harm the environment.
5. The effects on the quality of the human environment are not highly controversial. Although there is opposition to wolf conflict management as proposed, this action is not highly controversial in

terms of size, nature, or effect. Support and opposition over wolf management has been acknowledged and analyzed in the EA.

6. Based on the analysis in the EA and the accompanying administrative file, the effects of the proposed damage management program on the human environment would not be significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.
7. The proposed action would not establish a precedent for any future action with significant effects. Authorizations and approvals are issued by MFWP, Tribes, and possibly USFWS, as appropriate, for all Montana GWDM activities.
8. No significant cumulative effects were identified through this assessment. The EA discussed cumulative effects on the Montana wolf population, effectiveness of efforts to reduce wolf predation on domestic animals or wild ungulates, effects on public and pet health and safety, animal welfare and humanness of methods to be used, and impacts to stakeholders, including aesthetics of wildlife and concluded that such impacts were not significant for this or other anticipated actions to be implemented or planned within the State.
9. WS proposed activities would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural, or historical resources. If an individual activity with the potential to affect historic resources is planned under the selected alternative, then site-specific consultation, as required by Section 106 of the NHPA, would be conducted as necessary (EA Section 4.3.3).
10. USFWS has previously determined that the proposed program would have no effect on or is not likely to adversely affect any federally listed threatened or endangered (T&E) species. This determination is based on Section 7 consultations completed by USFWS for Montana WS predator damage activities. Montana WS will continue to abide by previously established reasonable and prudent measures and terms and conditions pending the conclusion of the current consultation process.
11. The proposed action will comply with all federal, state, and local laws, rules, regulations and court rulings.

Therefore, it is my decision to implement the proposed action (Alternative 1) as described in the EA. Copies of the revised EA are available upon request from the Montana Wildlife Services State Office, P.O. Box 1938, Billings, MT, 59103, (406) 657-6464, or on the WS website @ http://www.aphis.usda.gov/wildlife_damage/nepa.shtml.



Gary Littauer, Acting Regional Director
USDA-APHIS-WS, Western Region
Fort Collins, Colorado

11/26/13

Date

APPENDIX A

COMMENTS ON THE MONTANA WOLF DAMAGE MANAGEMENT EA AND RESPONSES

Of the 14 comment letters, most were from organizations (11) and a few from individuals (3). Many of the comments were addressed in the EA and further addressed in this appendix which contains the comments from the public during the comment period for the EA and WS' responses. Comments from the public are in order of the Chapters in the EA that they are primarily addressing. However, some fall outside the scope of the EA and listed in that category. WS' response follows each comment.

It should be noted that wolf management and wolf damage management plans for Montana and the NRM have been established (USFWS 1987, 1988, 1990, 1994, 2003 GW Plan, 59 FR 60266, 50 CFR 17.84(i)(3)(vii)). Montana and the USFWS have committed to implementing these management decisions with or without the involvement of WS and the courts have upheld that decision (Case No. 4: CV-09-686-BLW). Therefore, the content and policies established in these documents are outside the scope of the EA. The purpose of the EA was to analyze the environmental impacts of WS involvement, if any, in the implementation of GWDM in Montana as requested and authorized by the responsible management agency, MFWP, Tribe, or USFWS.

A. COMMENTS ASSOCIATED WITH THE NEED FOR ACTION

Comment A1: WS villainizes wolves throughout EA.

Response A1: WS did not vilify wolves in the EA. However, with that said, WS resolves human-wildlife conflicts and the EA addresses these as they pertain to gray wolves in Section 1.3 which may be interpreted as vilifying the wolf because the Need for Action is based on conflicts with them. Section 1.3 describes damage problems caused by wolves and these create the reasons WS is requested to assist in GWDM.

Comment A2: Relatively few livestock are killed by wolves; Livestock kills overreported; Coyotes (*Canis latrans*) kill more livestock than wolves where the two species overlap; Damage caused by wolves not significant, and widely exaggerated; EA claims wolves kill vast numbers of livestock; Ranchers are experiencing higher losses of livestock with wolves.

Response A2: Section 1.3.2 in the EA discusses the direct effects that wolves have on livestock production and 1.3.1.1 and 1.4 discusses some of the potential indirect effects of wolves on livestock such as disease (MFWP and using nonlethal protection. As discussed in the EA, confirmed livestock kills do not represent total probable direct mortality, nor do they account for indirect damages to livestock and associated costs to producers. While total statewide numbers of confirmed livestock losses from wolves may be less than other sources of mortality, wolf depredation can create substantial hardships on affected individual producers. It is believed that prompt, professional reduction of damage and conflicts with wolves is an important component of wolf management, conservation and recovery because it facilitates local acceptance and tolerance of wolves (Fritts 1993, Mech 1995, Bangs et al. 1995, 2009, Fritts et al. 2003, Creel and Rotella 2010). These researchers suggest that one of the best ways to promote wolf recovery is to encourage education about wolf management issues so that a significant portion of the public support wolf recovery while tolerating some level of control (Mech 1995).

Comment A3: No studies or science to support assumption that killing wolves reduces depredation rates; killing wolves does little to stop more damage; EA failed to look at ineffectiveness of large-scaled predator control.

Response A3: Commenters expressed concern that the removal of wolves to reduce depredation rates does not work and often cite Harper et al. (2008) to support their claim. Harper et al. (2008) examined the effectiveness of removing depredating wolves to reduce depredation the next year. The authors note in the abstract that "no analysis indicated that trapping wolves substantially reduced the following year's depredations at state or local levels." It did continue to say, "However, more specific analyses indicated that in certain situations, killing wolves was more effective than no action (i.e., not trapping)." The authors concluded that the depredation recurrence rate was higher when no trapping was performed than when trapping with or without success was conducted. Specifically, they found that when looking at reoccurring depredation rates at the same location, removal of an adult male wolf had lower re-depredation rates than not trapping. They also noted that increased

depredation events the following year may be explained by an increased number of wolves living in the area or that some wolves may have learned to prey on livestock as discussed in Harper et al. (2005).

When considering depredations by all species of livestock, they found that trapping, and not catching lead to lower recurrence of depredation than did not trapping. This pointed to the potential benefit of increased visitations to properties experiencing livestock depredations. However, for depredation on sheep, removing wolves was more effective in reducing recurrence of depredations than unsuccessful trapping or not trapping at all. They concluded by saying lethal management of wolves in Minnesota was effective for reducing depredation on sheep but for cattle, targeting one or more adult male was more effective.

Comment A4: WS inappropriately applied a study of wolf depredation on livestock in Idaho (Oakleaf et al. 2003) because it generalizes the study of a worst case scenario.

Response A4: We disagree with this statement. Oakleaf et al. (2003) was cited as an example among others in the EA (Section 1.3.2), to demonstrate the importance of recognizing that the numbers of livestock that have been confirmed to be killed by wolves may represent only the minimum numbers of livestock actually killed and injured by wolves, and that more livestock were probably killed but not confirmed as wolf predation (Bjorge and Gunson 1985, Oakleaf et al. 2003, Hanauska-Brown et al. 2012). Oakleaf et al. (2003) does note that depredation rates in less rugged or less forested country may be lower than their study findings (e.g., 1/2). The authors went on to suggest that the value of compensation programs in the western United States was not sufficient to account for actual or probable losses of livestock which should be adjusted upward for each confirmed wolf-caused mortality. Finally, Oakleaf et al. (2003), as used in the EA, specified the particular Idaho study location. While we did not use this study to generalize conditions in all areas, Montana does have similar remote grazing allotments that wolves currently occupy which are mountainous with dense coniferous cover interspersed with small grassy meadows and riparian areas.

Comment A5: Wolves are 170 times more likely to kill cattle with active depredation management – WS cannot make such a statement based on a non-peer-reviewed document.

Response A5: The analysis in Collinge (2008) was prepared using both published and unpublished data including reports from the National Agricultural Statistics Service and livestock damage data reported to the Idaho Wildlife Services program. The author suggested that individual wolves were more likely to prey on livestock than individual mountain lions (*Puma concolor*), black bears (*Ursus americanus*), grizzly bears (*Ursus arctos horribilis*), or coyotes. Using both published and unpublished, but public, information, the author used the number of cattle and sheep kill by wolves, mountain lions, bears, and coyotes, respectively, in relation to their estimated populations. The suggested findings pointed that wolves killed more sheep and cattle per their estimated population total than did the other 3 predator species. The author concluded, “*Although the livestock loss estimates and predator population estimates used in arriving at these relative likelihoods of risk are believed to be the best information available, it is important to recognize that these comparisons should be viewed as generalizations, rather than specific numbers applicable to all situations.*” In Collinge (2008), the author acknowledged that livestock predation from wolves makes up a small percentage as compared with other predator species such as coyotes. It was also stated that wolves had lower predation rates but could be because other predator species occur at much higher population levels. We believe that the article, while not peer-reviewed, made valid points and used the best available information to make such points.

Comment A6: The EA’s assertion that wolf predation not evenly distributed is misguided.

Response A6: Wolf predation does not occur evenly throughout their range in Montana. As the EA discussed, one rancher lost 120 rams to wolves in a single incident, surplus killing, and this is infrequent. This alone, though, shows that wolf predation is not evenly distributed. Wolf predation does not occur where every pack exists and may be associated only with a few individuals or packs in the state at any given time. However, the ranchers that are impacted may be few, but can bear the burden of high losses.

Comment A7: Large numbers of livestock killed at one time a rarity; as [Section 1.3.2] identifies the loss of large numbers of rams, we want to highlight that wolves are far more aggressive in killing rams than sheep in general. This is documented in numerous depredation incidents where wolves have targeted attacks on rams despite easier access to other sheep and other types of more vulnerable livestock. Rams, or perhaps their scent, may trigger this

response based on a reaction to pheromones. We are routinely advising wolf managers and sheep owners that rams are at greater risk of wolf predation and better protection is needed in protecting rams.

Response A7: As suggested, large numbers of animals killed at one time, “surplus killing” is infrequent, but occurs on a regular basis. Much depends on how the opportunity for depredation presents itself to the predators doing the depredation, and in this case, wolves.

As far as rams being targeted over ewes from pheromones, we are unaware of this being documented in the literature. However, thank you for the comment as we will keep this in mind, but at this time understanding that it is anecdotal information.

Comment A8: EA’s analysis of wolf impact on elk (*Cervus canadensis*) flawed; The introduction of wolves has had severe negative impacts on the environment, elk and other big game; Support decision not to expand to protecting wildlife such as elk.

Response A8: The EA discussed wolf predation on elk in Sections 1.3.1 (ecological effects of wolves on elk), 2.4.6 (effects on environment from removing wolves that prey on elk), and 4.1.1.2 (wolf habitat in Montana). We believe that these sections adequately discuss the impacts of wolves on elk and that the discussion was not flawed and that MFWP (2004) discusses the management of elk in Montana. It should be noted that Mech (2012) further discusses the effects of wolves on elk and believes that many claims about the trophic cascade effects of wolves on the environment including elk are not true, but rather that science is correcting itself in the broad claims for the NRM population of gray wolves. It should be noted that at this time, WS in Montana does not anticipate assisting with wolf removal for big game protection.

Comment A9: The GWDM EA does not support removal of wolves for disease.

Response A9: Section 1.3.1.1 discusses diseases that can infect wolves. WS does not plan on carrying out removal for disease unless the action was requested by a managing agency because the disease was harming other wolves or other wildlife species to an extent that caused concern. A good example of a removal that would take place would be for a rabid wolf that created concerns or a wolf with severe mange. We believe the EA adequately discussed diseases associated with wolves and that disease could be the basis for a removal. MFWP (2012) discusses diseases and parasites associated with wolves and effects on people and animals.

Comment A10: Managing wolves has impacted us financially, not only from livestock and wildlife losses, but also costs associated with agencies having to manage wolves and higher court costs.

Response A10: We believe that Section 1.3 adequately addresses costs associated with livestock depredations from wolves and gives some indication for wildlife. However, the EA did not address costs associated with managing wolves. In FY12, federal, state, and tribal agencies spent \$3.3 million of federal funding in wolf management and research (USFWS 2013). This does not include state, tribal, and private funding that was also spent for these activities. In addition, court costs do incur from litigation such as the money spent on litigation regarding the delisting of wolves. We do not have information regarding court costs regarding wolves, but non-profit environmental groups filed more than 1,500 lawsuits under the Equal Access to Justice Act and in turn the Federal Government paid out more than \$4.7 billion in taxpayer dollars in settlements and legal fees in cases against the U.S. government from 2003 to July 2007 (Idaho Farm Bureau 2009) of which some cases in this time frame involved gray wolves in the NRM. It must be understood that the attorney and court fees are paid by the federal government whether or not a case is won or lost in most situations. Thus, several costs are associated with gray wolf management and can have an effect on ranchers. However, the EA was primarily concerned with livestock losses.

Comment A11: The EA fails to adequately assess potential threats to human health and safety; wolves will not kill people; EA speculative on threats to people.

Response A11: The EA addressed human health and safety in relation to wolf attacks because those situations can and have occurred and WS believes this information should be disclosed and analyzed in the EA. Wolves are generally not dangerous to humans, as long as they are in low numbers, have sufficient food, have little contact with humans and are occasionally hunted (Geist 2006) and the EA clearly states that “*Fatal wolf attacks*

on humans are a rarity . . .”, but as the incidents discussed at Section 1.3.3 of the EA illustrate, “*two fatal attacks on humans in North America have occurred in recent years.*” The EA also stated “*This [the removal of a bold, habituated wolf] is anticipated to be a minimal number and likely occur, at most, once or twice in the span of several years.*” although the above information indicates wolves can threaten human safety, we expect that requests for assistance in removing wolves for that reason to be rare.”

Under current wolf management in Montana, the USFWS, MFWP, or Tribes could request assistance, approve, and authorize Montana WS to reduce any real or potential threats to human health and safety from a “bold” wolf or wolf attack. Since this is a real possibility, it was deemed appropriate to discuss the possibility of this type request to WS.

Comment A12: Bias of EA towards livestock producers skews analysis.

Response A12: The EA was not biased towards livestock producers. Livestock predation provides a need for action and MFWP, the tribes, and USFWS have requested that WS assist with this action. Thus, the analysis is based on the request and need. We believe that throughout the EA, this need is discussed and addressed appropriately.

Comment A13: WS has great working relationship with MFWP and Tribes.

Response A13: We believe so too. Thank you for the comment.

Comment A14: We believe that the proposed action, the No Action Alternative, is best to resolve impacts for livestock and wildlife; The EA does not justify wolf take for ungulate protection.

Response A14: Livestock predation by wolves is discussed as a need for action in Sections 1.3.2, but benefits to wildlife is only minimally discussed in the EA because this was not an action WS would conduct in Montana. MFWP has determined that regulated sport harvest, as discussed in Section 1.7, will be used to manage wolves for ungulate protection. We believe the EA adequately addresses these needs for action.

Comment A15: The EA does not consider changing social attitudes towards wildlife ecological distributions.

Response A15: We believe that this, more or less, was addressed in the Sections 1.1 and 1.2 of the EA, especially keeping up with societal concerns. Thus, we believe that as far as wolf distribution in Montana, we understand that societal shifts occur and some people believe that the distribution of wolves should be much bigger while other would like to see it smaller.

B COMMENTS ASSOCIATED WITH ISSUES

Comment B1: The EA does not adequately address impacts to wolves.

Response B1: We disagree. The EA adequately addressed WS and cumulative take of wolves in Sections 2.3.1, 4.1.1.3, 4.3.1.1, 4.3.2.1, and 4.3.3.1. We believe the EA speaks for itself.

Comment B2: Wolves can be managed and survive into the future; Under State control WS will be able to take immediate action to resolve predation.

Response B2: We agree. The EA adequately addressed WS and cumulative take of wolves in Sections 2.3.1, 4.1.1.3, 4.3.1.1, 4.3.2.1, and 4.3.3.1. We believe, even with control as shown under the alternatives, that wolves can be managed to reduce livestock depredation and will continue to last into the foreseeable future.

Comment B3: EA’s discussion of nontarget impacts inadequate.

Response B3: We disagree. The EA adequately addressed WS take of nontarget species as well as risks associated under the alternatives from others in Sections 2.3.2, 4.3.1.2, 4.3.2.2, and 4.3.3.2. We believe the EA speaks for itself.

Comment B4: WS has a responsibility under the Endangered Species Act to consult and conserve.

Response B4: WS has consulted with USFWS and abides by all Reasonable and Prudent Measures and Alternatives and Terms and Conditions of Biological Opinions to avoid jeopardizing any species. Sections 2.3.2.1 and 2.3.2.2 discuss federal and state listed species in Montana and what WS is doing to avoid take, including nonlethal take. Section 4.3.1.2 discusses present impacts to T&E species, which have been minimal. We believe the EA adequately addresses T&E species.

Comment B5: Decline in apex predators threatens biodiversity.

Response B5: Apex predators discussed in the EA included primarily wolves, bears, mountain lions, and, to a lesser degree, wolverines (*Gulo gulo*), coyotes, and lynx (*Lynx canadensis*). These were discussed in Sections 2.3.1 and 2.3.2. The analyses in Chapter 4 showed that none of these species would be impacted by the proposed action, and likely minimally under the other alternatives. Thus, it is not anticipated that there will be a decline in the apex predators in Montana as a result of the proposed action. Thus, biodiversity will not be affected. As for wolves causing a trophic cascade in the NRM, Mech (2012) in a review of literature does not believe that this has occurred in the NRM and points out the studies to corroborate this finding.

Comment B6: The EA does not adequately address impacts to those who value wolves and native wildlife generally; Wildlife held in public trust has economic value; Wolf watching big for economy.

Response B6: This was basically addressed in Section 2.4.3. We understand that people value seeing wolves and other wildlife, and understand this. But as the analyses in section 4.3 shows, wolves and other wildlife will be least affected under the proposed action and very little under the other alternatives, with the exception of the unknown impacts from the illegal or unwise use of GWDM methods or chemicals. Therefore, people will still have the opportunity to view wolves and other wildlife. If a wolf people were watching was involved in livestock depredation or a human safety incident and was taken, they may not be able to see that wolf again, but other wolves will remain and so they will continue to be able to see and enjoy wolves and other wildlife

Comment B7: The EA does not adequately address the issue of humaneness and animal welfare; Animals feel pain and stress in traps; No animal should be made to suffer; Wolves suffer trauma, psychologically, and emotionally; No methods that cannot guarantee a quick painless death and no distress; WS fails to discuss what happens to pups that are orphaned by control actions; chew off limbs; No steel jaw/leghold traps/snares; Aerial shooting at animals (in flight-running) cannot guarantee a kill shot; Do not know how often WS will use approved euthanasia methods (EA says whenever possible).

Response B7: The issue of humaneness and animal welfare was discussed in the EA in Section 2.3.4 and discussed under each alternative in Sections 4.3.1.4, 4.3.2.4, and 4.3.3.4. WS treats wolves as humanely as conditions allow and uses euthanasia methods recommended by the American Veterinary Medical Association (AVMA) (2013) for free ranging wildlife, and Julien et al. (2010). Wildlife Services Directive 1.301 (8/31/10) requires program personnel to “utilize the WS Decision Model (EA Section 3.3.3, Figure 3-1) to resolve wildlife damage problems and strive to use the most selective and humane methods available, with preference given to nonlethal methods when practical and effective.” WS provides technical assistance to ranchers to reduce losses and our preference is to prevent livestock depredations, if possible, rather than killing wolves after depredations have occurred. WS trains its employees in humane wildlife handling techniques.

Under the scope of this EA, MFWP, tribe, or USFWS will make the final decision of whether wolves are removed. Depending on the circumstances, lethal removal of wolves to address livestock depredation problems may involve removing some or all members of a specific wolf pack. If the decision has been made to remove the entire pack, concerted efforts are made to remove all of the pups as well as the adults, in order to avoid orphaning the pups. It is not always possible to remove all the adult wolves from a pack and in those cases, the remaining wolf or wolves may continue to feed and care for the remaining pups (Boyd and Jimenez 1994, Packard 2003). Despite concerted efforts to humanely remove any pups left after all adult wolves of a pack have been removed, one or more pups may be left on very rare occasions without any adult wolves to feed or care for them. The only way to avoid this circumstance altogether would be to limit wolf removal efforts during this time frame, so as to always ensure that at least one or more adult wolves were left to care for any pups. In

some circumstances, this would be inconsistent with the objective of stopping chronic wolf predation on livestock.

Unfortunately, there could be occasional instances where dependent young may be orphaned during removal activities. To keep things in perspective, it is important to consider the amount of suffering and death that occurs in the absence of predator removal as well. Predators by definition kill and eat prey, which does not ordinarily represent a problem unless this behavior conflicts with human interests. But regardless of whether predation creates conflicts with human interests, prey species are typically subjected to pain and suffering when preyed upon by predators. Death in nature is notoriously harsh (Howard 1986), and it would be purely speculative to infer whether the fate of any potentially orphaned wolf pups would be any more or less harsh if their parents had not been killed through wolf management activities. To the extent that wolf management removes animals that would otherwise continue to kill, injure, or orphan prey animals, the overall level of pain and suffering may or may not be reduced.

WS uses traps that are scientifically acceptable and many implemented standards are being utilized that have been identified in an Association of Fish and Wildlife Agencies (AFWA 2006a, b, and c) best management practice (BMP). AFWA (2006 a, b, and c) and Turnbull et al. (2011) suggest that the trap anchoring system needs to be sufficient to the largest possible species which the trap might capture, so larger non-target species may pull free. Aerial hunting is often quick and efficient method of targeting wolves. Gunners are trained extensively and strive to make kills quickly which, not only reduces suffering for the animal, further minimizes the already low risk of an aircraft accident.

Approved euthanasia is used for live animals slated for removal. Most often it is a shot to the brain. This information is not recorded in the MIS.

Comment B8: EA failed to discuss or take hard look at the full ecological importance of wolves; Wolves important for many species; Wolves restored aspen (*Populus tremuloides*); Wolves keep elk herds healthy; Wolves benefit ecosystem; EA does not discuss sufficiently value of wolves; Value of ecosystem service; The EA did not address the wolf population as a benefit to the ecosystem and possibly mesopredator (particularly coyotes) effects on prey; Scavengers such as bald eagles (*Haliaeetus leucocephalus*), golden eagles(*Aquila chrysaetos*), and bears benefit; Wolves control coyote numbers.

Response B8: WS recognized in the EA the benefits as well as the damages that wolves can cause⁸. As stated in Section 1.2 of the EA, wildlife generally is regarded as providing economic, recreational, and aesthetic benefits (Decker and Goff 1987), and the mere knowledge that wildlife exists is a positive benefit to many people. Direct benefits are derived from a user's personal relationship or direct contact with wildlife and may include both consumptive (e.g., using or intending to use the animal such as in hunting or fishing) and non-consumptive uses (e.g., observing or photographing animals) (Decker and Goff 1987).

The EA also recognized in Sections 2.4.6 and 4.1.1 that wolves may play an important role in the structure and function of ecological communities (i.e., predator/prey relationships, interactions with scavengers, and other predators). When wolves cull vulnerable individuals (i.e., old, young, sick, injured, weather weakened, etc.) from a prey population, they may help maintain healthier, viable prey populations when other prey population mortality factors are in balance (Mech 1970, Gese and Grothe 1995, Crabtree and Sheldon 1999a). The EA also recognized that wolves may indirectly affect plant life by changing the herbivore density and behavior⁹ (e.g., elk reduced their use of riparian areas and moved to higher areas because of wolf predation or threats of predation) (Smith et al. 2003, Ripple and Beschta 2004, 2006, 2007, Beschta 2005, Mao et al. 2005, Beyer 2006); riparian areas provide habitat for other species such as beaver, fish, and birds. Fortin et al. (2005) found elk less likely to travel into aspen stands when wolves were present; while wolves were present elk travelled more frequently into conifer forests. Creel and Winnie (2005) showed that in the presence of wolves, elk retreated into forest cover whereas when wolves were absent elk foraged in open grassland. Gude et al. (2006) found that in the Madison River Valley, elk responded to wolf presence by moving away from wolves.

⁸ WS' vision is to improve the coexistence of people and wildlife and those involved must consider a wide range of public interests that can conflict with one another. We strive to develop and use wildlife damage management strategies that are biologically sound, environmentally safe, and socially acceptable while attempting to reduce damage caused by wildlife while at the same time reducing wildlife mortality.

⁹ It has been hypothesized that a reduction in herbivore foraging pressure created by wolves would result in an increase in browse, providing for more songbird habitat, riparian stability and restoration and an increase in beaver (Baker and Hill 2003, Hansen et al. 2005).

However, more recent research documented that aspen have not regenerated well in YNP because elk continued to eat young aspen and researchers believed that elk learned to avoid “high-risk areas” where wolves frequent or when wolves were present (Kauffman et al. 2010). Further, Mech (2012) determined that wolves had little effect on the elk and other animals as had been theorized.

To provide a more balanced analysis, WS also recognizes that these interactions come with trade-offs, depending on ecological principles and the desires of the human community (Paquet 1992, Arjo et al. 2002). For example, in the absence of wolves in the Greater Yellowstone Area (GYA), moose (*Alces alces*) and elk numbers were greater. Berger et al. (2008) reported that mean densities of resident coyotes (*Canis latrans*) were similar between wolf-free and wolf-abundant sites. However, if coyote populations decrease because of wolf presence, researchers have reported that there is an increase in pronghorn (*Antilocapra americana*) fawns¹⁰ (Berger et al. 2008, Berger and Conner 2008), but also may lead to an increase in other mesopredators (e.g., mesopredator release of small predators such as raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), red fox (*Vulpes vulpes*), and gray fox (*Urocyon cinereoargenteus*)) which in turn could result in an increase in predation of ground- and shrub-nesting birds and small rodents (Soule´ et al. 1988, Rogers and Caro 1998, Crooks and Soule´ 1999).

Wolves initially reduced coyote numbers in YNP through predation but coyote eventually adjusted to the presence of wolves (Crabtree and Sheldon 1999a, 1999b; Berger and Gese 2007). Berger and Gese (2007) stated that coyote “mortality factors differed significantly based on territorial status” with the abundance of transient coyotes, when compared to resident coyotes, significantly lower in areas used by wolves and resident coyotes appear to be significantly less affected. These data are supported by differences in the mortality rates of resident and transient coyotes in Grand Teton National Park (GTNP) between 2001 and 2004, and younger coyotes in YNP between 1989 and 1998 (Crabtree and Sheldon 1999a, 1999b; Berger and Gese 2007). Crabtree and Sheldon (1999b) stated that wolves killed coyotes opportunistically and that the coyote mortality tended toward younger, less experienced individuals (Berger and Gese 2007). Most of the coyote population reduction in YNP was from direct killing of coyotes at wolf kills when coyotes attempted to scavenge on carcasses (Crabtree and Sheldon 1999a, 1999b; Ballard et al. 2003). Based on Arjo (1998) and Atwood (2006), wolves were responsible for the deaths of just 13% and 3% of radio-collared coyotes in north-western Montana and the Northern Madison Study Area (NMSA), respectively and just 16% in the Berger and Gese (2007) study. In contrast, mountain lions (*Puma concolor*) killed 40% of radio-collared coyotes in north-western Montana (Arjo 1998) and 14% of coyotes at the NMSA (Atwood 2006).

In addition, any negative relationship between coyote and wolf densities does not appear to hold outside protected areas, such as YNP or GTNP, as no discernible pattern, or perhaps even a positive relationship is evident from the Berger and Gese (2007) analysis. Coyotes are an adaptable species and have adapted to wolves by avoiding them, travelling in groups, etc. (Crabtree and Sheldon 1999a, 1999b). Coyotes have also apparently adjusted the areas they occupy. Coyote packs on the fringe of wolf territories, are faring better, number from six to ten individuals and have experienced little mortality, while still occupying areas close enough to wolves to effectively scavenge wolf kills (Crabtree and Sheldon 1999b, Mech 2012).

In addition, when coyotes outnumber a single wolf or pair of wolves, the tables can turn on the wolf(ves). Coyotes have chased and even attacked individual wolves and wolf pups (Crabtree and Sheldon 1999b). When a pack of three or more coyotes encounter a single wolf feeding on a carcass, the coyotes may occasionally harass the wolf and chase it off. When coyote and wolf groups of similar size (3 to 6 animals) encounter each other, they may watch each other closely and sometimes engage. Occasionally groups of wolves chase groups of coyotes; Crabtree and Sheldon (1999b) observed growling and occasional nipping, but no serious contact or death of either a wolf or coyote.

Wolves, coyotes, and even red foxes continue to coexist in the Northern Rockies. The coyote’s adaptability and demographic resiliency to exploitation is an evolutionary result from coexisting with competing species, mainly the gray wolf (Crabtree and Sheldon 1999a, 1999b). Since wolves have returned to the GYA, coyote populations have become wiser and more wary. Coyotes certainly will survive, and will very likely continue to outnumber wolves (Crabtree and Sheldon 1999b).

¹⁰ Berger and Conner (2008) reported that the mortality for antelope fawns was similar among years and between wolf-free and wolf-abundant areas.

Wolves also compete with mountain lions where wolves are generally dominant over mountain lions¹¹ (Ruth 2004), however competition between wolves and mountain lions appears to be minimal as mountain lion prey selection and kill rates have not changed compared with pre-wolf monitoring (Murphy 1998, Ruth 2004). Researchers predict, however, that in another 10 years post-wolf in YNP, based on studies in Banff National Park, competition between wolves and mountain lions will increase to a degree that could reduce mountain lion abundance (Kortello et al. 2007, Hebblewhite and Smith (2005).

To analyze the balance that wolves can create in the human environment, the EA also discusses the damage or conflict from wolf activities. The ability of wolves to kill cattle, sheep, poultry, game farm animals, and other livestock is well documented (Young and Goldman 1944, Fritts 1982, Carbyn 1983, Fritts et al. 1992, USFWS 1994, Collinge 2008, Mack et al 2010). Domestic dogs and cats are also occasionally killed and eaten by wolves (Fritts and Paul 1989). The economic impact of wolf depredation on livestock can be substantial for individual producers. Further, when wolves come into contact with people or kill or injure their pets, there is both an economic and an emotional loss (Linnell et al. 2002).

Wolves can also negatively impact other wildlife species, especially wolf prey species. Where wolves are the dominant predator on an ungulate species (white-tailed deer (*Odocoileus virginianus*), mule deer (*O. hemionus*), moose, elk, etc.) and prey numbers are below carrying capacity, a significant reduction in wolf numbers can produce increases in the number of ungulate prey (Gasaway et al. 1983, Gauthier and Theberge 1987). Deer, moose, elk, and other ungulates have great economic and aesthetic value and, therefore, wolf control can sometimes be economically justified.

As far as benefitting scavengers, Mech (2012) discussed the actuality of this. It was determined that more biomass would be present if wolves were not in the picture. Wolf kills are spread out throughout the year which could be beneficial, but they leave little for scavengers when they are finished whereas winter kills and road kills would provide more, but spiking at specific times of the year. Thus, it was not seen as the benefit that has been touted.

In Section 3.2 of the EA, under Issues Not Analyzed in Detail, WS concluded that after reviewing much of the information available (over 160 citation in this EA, nearly 300 citations in the ID EA) that “Wolf damage management, combined with other forms of mortality, would not be likely to result in a net decrease in wolves; rather, it is expected to support eventual conservation and wolf management as discussed in the GW Plans. Mech and Boitani (2003) determined “*we do not claim to know whether the wolf’s effects are positive or negative, what its net effect is, or whether the effects are of any great consequence ecologically.*” In a recent paper by Dr. Mech (2012), who has over 40 years of professional research and emphasis on wolves, he reviewed the current finding and statements of wolves’ ecological benefits. Mech made the point in saying that “*science is self-correcting*”, referencing the advantage subsequent research improving on the available information of its predecessors. Much of the early research on the ecological benefits of the wolf recovery in Yellowstone and elsewhere led to subsequent research correcting or further clarifying findings. Of the several examples reviewed by Mech, he stated “*It should be clear from the above examples that sweeping definitive claims about wolf effects on ecosystems are premature whether made by the public or by scientists.*” He went on to say that some of the information may be found to be correct, and may be defined spatially or by time. When such ecological effects are found in national parks, Mech said that they apply to National Parks and not necessarily to other locations.

After reviewing references that Mech (2012) cited as examples, as well as others, we find no reason to expect that wolf removals would result in significant adverse effects on the quality of the human environment because of possible wolf-related changes in ecosystems.

Comment B9: Wolf removal (through control actions or sport hunting) disrupts pack social structure; GWDM changes social dynamics, structure, and behavior of packs.

Response B9: While it is true that wolf removal can have a short-term disruptive impact on pack structure, that disruption does not appear to result in adverse impact on the overall wolf population (Nadeau et al. 2007, 2008,

¹¹ Although wolves have clearly been the largest change to the carnivore community in the last 10 years in YNP, both grizzly bear and mountain lion densities have also been higher in the last 10 years.

2009, Mack et al. 2010, USFWS 2013). Pack resilience to mortality is inherent in wolf behavioral adaptation and reproductive capabilities (Brainerd et al. 2008). The data on wolf mortality rates suggests some wolf populations tend to compensate for losses and return to pre-removal levels rapidly, potentially within a year. Wolf populations have sustained human-caused mortality rates of 30 to 50% without experiencing declines in abundance (Keith 1983, Fuller et al. 2003). Based on mean pack size of 8, mean litter size of 5, and 38% pups in packs, Boertje and Stephenson (1992) suggested 42% of juveniles and 36% of adults must be removed annually to achieve population stability. Mech (1970) suggests that more than 50% of wolves older than 5-10 months must be killed to “control” the wolf population; other researchers have indicated declines may occur with human-caused mortality at 40% or less of fall wolf populations (Ballard et al. 1997, Peterson et al. 1984) (See Chapter 4, Section 4.4.1.1 for more discussion of wolf mortality effects). In addition, Brainerd et al. (2008) found that 62% of packs in recovering populations retained territories despite breeder loss, and of those who lost territories, one-half became re-established. Furthermore, pup survival was primarily dependent on size of pack and age of pup because multiple pack members feed pups despite loss of a breeder. Pup survival in 84% of packs with breeder loss was similar or higher than packs without breeder loss (Mech and Boitani 2003). Brainerd et al. (2008) stated that breeder replacement was highest and fastest in populations with more than 75 wolves, as is the case in Montana. In Montana, where wolf management has occurred since shortly after the reintroduction, the wolf population increased from the 40 founding individuals in the mid-1990’s to an estimated 835 wolves in 94 packs in 2009 and 1,706 wolves in 242 packs in the NRM DPS.

Potential vacancies created by wolf conflict management would most likely be filled by dispersing animals from their natal packs in areas occupied by wolves. The rapid expansion of the wolf population in the NRM following initial reintroductions demonstrates the natural dispersal potential and population growth potential and resilience of wolves (Mack et al. 2010, USFWS 2013). The movement of dispersing wolves among packs and populations would not be disrupted by the level of removal within Montana or other areas of the NRM DPS, and connectivity among populations would be maintained (73 FR 4720). Therefore, the Proposed Action nor any of the Alternatives analyzed in detail in the EA would impact genetic exchange among wolves in Montana or throughout the NRM DPS, and would not impact the gray wolf recovery program or compromise meeting recovery goals for Montana or NRM DPS. Given the resilience of wolf populations, there are no anticipated long-term direct impacts from wolf conflict management, and the biology, dynamics, or conservation status of the wolf population in Montana or the NRM recovery areas would not be impacted.

WS’ mission is to provide Federal leadership and expertise to resolve wildlife conflicts and create a balance that allows people and wildlife to coexist peacefully with wildlife (see Section 2.3.5.1 of the EA). WS only removes wolves after a request has been received and after the USFWS or MFWP, whichever agency is responsible for managing wolves in Montana, has approved and authorized the removal. We strive to develop and use wildlife damage management strategies that are biologically sound, environmentally safe, and socially acceptable while attempting to reduce damage caused by wildlife to the lowest possible levels while at the same time reducing wildlife mortality.

It is also important to remember and note that at the time of the reintroduction of the experimental nonessential population of wolves to central Montana, the USFWS addressed the issue of depredating wolves in their 1994 10j rule (59 FR 60266, 50 CFR 17.84(i)(3)(vii)) with this specific language: “*All chronic problem wolves (wolves that depredate on domestic animals after being moved once for previous animal depredations) will be removed from the wild (killed or placed in captivity).*” It is important to note that this language did not specify chronic depredating wolves “*may*” be removed from the wild, but that they “*will*” be removed from the wild. Thus, wolf management requires active management, not passive preservation when resolving conflicts with agricultural and natural resource, or protecting property and human health and safety. Managers are best served to approach damage management with an open mind, remembering that the goal of active management is the conservation of wildlife, including wolves (Fritts et al. 1992, Fritts 1993, Mech 1995, Fritts and Carbyn 1995, Bangs et al. 1995, 2009, 2003 GW Plan, Boitani 2003, Fritts et al. 2003, Creel and Rotella 2010, 73 FR 10514, 50 CFR 17.84(n)).

As indicated in Figure 1-1 in Chapter 1 of the EA, as the number of wolf packs in Montana has increased, the number of investigation and incidents of confirmed predation on livestock has increased. And as discussed in Section 2.4.2 in the EA, from a conflict management standpoint, WS and the wolf management agencies removed wolves incrementally to disrupt pack behavior and reduce or eliminate the likelihood of additional depredations.

Comment B10: WS employee posted several photos of being inhumane.

Response B10: This incident was not associated with GWDM in Montana. WS personnel in Montana are professional and euthanize wolves slated for removal as quickly and humanely as possible.

Comment B11: WS GWDM is controversial and uncertain.

Response B11: This was adequately addressed as an issue not discussed in detail in Section 2.4.8 of the EA.

Comment B12: WS should teach tolerance of wolves; Wolves, people, and wildlife need to coexist; Killing wolves escalates the fear of wolves by the public; Educate anti-wolf vigilantes; WS GWDM crucial to public acceptance of wolves; People are glad wolves were reintroduced; Wish wolves had not been reintroduced; WS involvement does not help reduce fears.

Response B12: An adequate understanding of both biological and sociological factors in human wildlife conflict is essential for successful predator conservation and management; to optimize coexistence, behavioral modifications of both predators and humans are required (Treves and Karanth 2003). Social attitudes influence tolerance of predators and predator management techniques, and the success of predator conservation and management will come from a balance of biological, economic, and sociological factors (Lance 2009, Lance et al. 2010). When managers are deciding on a course of action to alleviate a wildlife problem, an important factor is public perception of damage and how the problem should be managed (Reiter et al. 1999). While biological factors are the easiest to manipulate, economic loss and social perceptions of predators and their management are the most common cause of predator-livestock conflicts and perhaps the most difficult to manage (Lance 2009).

WS' mission is to provide Federal leadership and expertise to resolve wildlife conflicts and create a balance that allows people to coexist peacefully with wildlife (see Section 2.3.5.1 and Appendix C of the EA). During the last 130 years, with the introduction of domestic livestock, urbanization, and other modern agricultural and cultural practices, wildlife management has also changed. Management of wolves should not be absolute protection or total elimination, but a discretionary management action where conflicts are minimized in an environmentally sensitive manner for multiple-use needs. Thus, it should be recognized that responsible management requires active management, not passive preservation when managing agricultural and natural resource, or protecting property and human health and safety. WS' vision is to improve the coexistence of people and wildlife, and those involved in management activities must consider a wide range of interests that can conflict with one another. We strive to develop and use wildlife damage management strategies that are biologically sound, environmentally safe, and socially acceptable while attempting to reduce damage caused by wildlife all while attempting to reduce wildlife mortality. WS also attempts to improve and modify management strategies that are constrained by technologies, knowledge, or resources.

WS operates in accordance with state and federal laws and wolf management plans intend to balance the level of wolf mortality, primarily human-caused mortality, with the wolf population growth rate to achieve desired management objectives. The 1980 and 1987 NRM wolf recovery plans (USFWS 1980, 1987) and wolf control plans (USFW 1988, 1990) recognize that conflict with livestock was the reason that wolves were extirpated, and the reduction of conflicts is a necessary component of wolf recovery. These plans and others also acknowledged that control of problem wolves is important to maintain local public tolerance of wolves and that removal of some wolves did not prevent the wolf population from achieving recovery (Bath 1987, McNaught 1987, Fritts 1993, Pate et al. 1996, Mech 1995, Bangs et al. 1995, Wolstenholmer 1996, Bjerke et al. 1998, Fritts et al. 2003, Bangs et al. 2009, Creel and Rotella 2010, Bruskotter 2010, 74 FR 15123). The USFWS analyzed the effectiveness of those plans in 1999, and revised their guidelines for management of problem wolves (USFWS 1999). The USFWS plans have proven successful, as wolf depredation on livestock and subsequent agency management actions have remained compatible with recovery; the wolf population expanded and its distribution and numbers went far beyond, and more quickly than, earlier predictions (USFWS 1994, USFWS 2013). Despite agency wolf removal, nearly all suitable areas for wolves are being occupied by resident packs (Oakleaf et al. 2006, USFWS 2013). The NRM wolf pack distribution has remained largely unchanged since 2000, indicating that wolf packs are occupying areas with suitable habitat, thus as the USFWS explained, the NRM wolf population is likely at or above long-term carrying capacity (74 FR 15123).

Rapid, effective assistance to human-wolf conflicts is critical to maintaining support for wolf populations, not just among affected stakeholder groups but the public in general (Bath 1987, McNaught 1987, Pate et al. 1996, Mech 1995, Wolstenholmer 1996, Bjerke et al. 1998, Naughton et al. 2005, Bruskotter 2010, 74 FR 15123). The purpose of the proposed action is not to limit the size of the Montana or NRM wolf population and based upon data from Hanauska-Brown et al. (2012), Mack et al. (2010), and USFWS (2013), there is no evidence supporting the concept that the Montana or NRM wolf population will be limited by the proposed action.

As for killing wolves escalating fear, we can find no basis for the statement. As discussed, fear seems to be reduced by resolving conflicts with wolves quickly and effectively.

We recognize that public tolerance or attitudes towards wolves are varied among the different segments of society (Biggs 1988, Bath 1991, Lohr et al. 1996). With the reintroduction and recovery of wolves, researchers have paid special attention to stakeholders' perceptions of wolves and management (Tucker and Pletscher 1989, Williams et al. 2002, Ericsson and Heberlein 2003, Naughton-Treves et al. 2003). Wolf predation on livestock can cause economic adversity for livestock producers and can increase animosity towards wolves, thus complicating the balance of wolf conservation and other human interests (Lance 2009). The benefits of improved social tolerance are not just measured in terms of an increase in cultural carrying capacity. Improved social tolerance also impacts the fate of individual wolves and risks to the environment from inappropriate wolf removal efforts. Considerable information from prominent social theory and research shows that tolerance toward a wildlife species is influenced by the value of losses attributable to that species, the benefits attributable to the species by the affected individual, and by the perception of the risk of losses as controlled or voluntary (Slovic 1987). Risks/threats considered involuntary by an individual are less likely to be viewed as acceptable whereas risks that can be controlled are generally considered to be more acceptable. In this context, the availability of prompt and effective wolf damage management has value (Fritts 1993, Mech 1995, Bangs et al. 1995, 2009, 2003 GW Plan, Fritts et al. 2003, Creel and Rotella 2010, 50 CFR 17.84(n)). Improving social tolerance can result in an increase in the number of animals that can be supported without provoking increases in inappropriate behavior towards wolves (e.g., poaching). Social tolerance is a relevant issue for wolf population management at any level when wolf damage and conflicts occur.

Further, Houston et al. (2010) concluded an increase in negative discourse about wolves. Williams et al. (2002) found that 51% of survey respondents had positive attitudes toward wolf reintroduction and 60% supported wolf restoration. However, their review concluded that wolf reintroduction and recovery was viewed more favorable among urban residents than rural residents (Hook and Robinson 1982, Bath 1987). Rural residents generally had more negative attitudes toward wolves which may have correlated with age¹² (McNaught 1987, Pate et al. 1996, Bjerke et al. 1998), ranching and farming occupations (Bath 1987, Wolstenholmer 1996, Bjerke et al. 1998), and hunters (Bruskotter 2010). Said another way, ranchers, farmers and hunters, more than urban residents, believed they needed to deal with wolves on a more personal, day-to-day basis¹³, and believed they have more at risk than urban residents¹⁴ (Bruskotter 2010, Houston et al. 2010). Houston et al. (2010), in a review of news media, reported "aggregated results indicate that roughly 72% (21,518) of all expressions were negative, while 28% (8,471) were positive over the ten year analysis time period. They further state that relative to the year, the belief that wolves positively impact human activities and the judgment that wolves should be protected both decreased significantly from 1999 to 2008, while the belief that wolves negatively impact ecosystems increased over this time period." Another example of more negative attitudes were from Scandinavia and Western Europe, where a majority of people did not support wolves and positive attitudes among all respondent toward wolves did not appear to be increasing over time (Ericsson and Heberlein 2003).

As wolf populations in the U.S. rebound through legal protections and recovery efforts, local resistance and negative attitudes seems likely to increase (Kellert 1985, Ericsson and Heberlein 2003). Specifically, Houston et al. (2010) suggested "that attitudes may actually be increasingly negative toward wolves, at least in regions with new wolf populations and in recovery zone regions where the public has little familiarity with the species." Kellert (1999) suggested that people had an increased "affection for...wolves" in Minnesota, but he also found

¹² Groups that anticipate negative impacts (e.g., livestock producers, big game hunters) have exhibited increased negative attitudes and support for more aggressive control of wolf populations (Kellert 1999, Enck and Brown 2002, Ericsson and Heberlein 2003).

¹³ Traditionally, people with the most positive attitudes toward wolves have been those with the least experience (Williams et al. 2002).

¹⁴ Hunters, ranchers, and other rural residents have direct access to wolves, and are thus more likely to have an opportunity to influence wolf populations (Williams et al. 2002, Bruskotter 2010).

increased support for the control of wolf damage to livestock. Ericsson and Heberlein (2003) found similar results when comparing two Swedish surveys conducted over a 25-year period. Duda et al. (1998) found Adirondack area residents' support for wolf reintroduction decreased from 76% in 1996 to 46% in 1997, and a subsequent study found just 42% of those surveyed supported wolf reintroduction (Enck and Brown 2002).

Thus, WS responding to wolf conflicts and administering a responsible, responsive wolf management program is considered very important for wolf recovery and beneficial for building tolerance for wolves (Fritts 1993, Mech 1995, Bangs et al. 1995, 2009, 2003 GW Plan, Fritts et al. 2003, Creel and Rotella 2010, 50 CFR 17.84(n)).

Comment B13: The EA does not adequately address the impacts to scientific efforts – radio collared animals have a great deal of research that is wasted if these animals are killed.

Response B13: WS responds to requests for assistance when valued resources are damaged or threatened by wildlife, including wolves when authorized. WS only removes wolves after a request has been received, damage has been documented and after the MFWP, tribe, or USFWS, whichever agency is responsible for managing wolves where the wolves are present in Montana, has approved and authorized a removal. WS' objective is to improve the coexistence of people and wildlife. These objectives include wildlife conservation, biological diversity, and the welfare of animals, as well as the use of wildlife for purposes of enjoyment, recreation and livelihood. Individuals and institutions involved in conducting research or monitoring of wolves in Montana could only do so under permit from the MFWP, tribe, or USFWS whichever agency is responsible to manage wolves in Montana, and they would be aware that individual wolves or wolf packs involved in depredations on livestock are subject to removal through authorized WS actions. Although wolf removals might conceivably impact some research projects to some degree, the projects are undertaken with the recognition that wolf removals may occur, and this possibility is considered when removals are authorized and in the development of research projects.

Comment B14: WS agents have routinely misidentified wolf kills and killed non-problem wolves; disagreed publicly over wolf kills, undermined public tolerance. Recommend extensive training to identify wolf kills; Need a natural process for conducting field investigation; Panel from 2011 Oregon Wolf Management Report concerned with WS conclusion for wolf predation in the field; misidentification of the evidence; WS written reports inadequate to determine the species actual responsible; Necropsy methods crude and unsophisticated; need to use DNA analysis.

Response B14: There have been some instances of differences in professional opinion between WS and other agencies when investigating wolf damages to livestock. The agencies and tribal governments have been working together to ensure that a consistent protocol by all involved parties will be applied. WS will continue to work closely with MFWP, Tribes, and USFWS in this regard. WS and MFWP, Tribes, and others have had an ongoing dialog and working relationship to improve investigation and reporting and are continuing to develop and improve standardized procedures and protocols for identifying wolf kills. WS personnel are trained to identify wolf kills, but sometimes conditions can be such that it is difficult. WS personnel are also trained to fill out the paperwork, but the bare minimum is required. As far as necropsy methods, they are fine for the field. It would be too laborious to bring carcasses of dead cows, sheep, and other livestock to laboratories where sophisticated equipment is available. Finally, DNA analysis would be great, but at this point is too costly to use in the field. We believe that this could soon be available, but would have to be reasonably priced and easy to use under field conditions. WS employees in Montana are the most experienced wolf depredation investigators in the country with many having investigated hundreds of reported wolf-caused livestock depredations as well as grizzly bear, black bear, mountain lion, and coyote depredations. They are highly trained and have provided wolf depredation investigation training around the country, to other WS employees, state wildlife department employees, and USFWS employees. WS is recognized as the experts in identifying predators responsible for livestock depredations by MFWP, USFWS, and the Montana Livestock Loss Board.

Comment B15: WS should adopt use of non-lead ammunition in all circumstances.

Response B15: Currently, no legal or policy requirement for WS to use non-lead ammunition is in place. WS, though, has been transitioning to nontoxic bullets and shot as reliable, safe nontoxic ammunition becomes

available. In GWDM, little lead is used, especially considering that an average of 90 wolves was taken from FY05 to FY11. An analysis of this amount of lead would show that minimal amounts of lead were used, especially considering the fact that most wolf carcasses are retrieved. Most WS aerial gunning operations in Montana for wolves are conducted using lead or copper-plated lead shot. It should be noted that, especially in rocky areas and on frozen ground and ice, steel is unsafe to use in many instances because of ricochet problems (steel bounces back and often strikes the aircraft).

Most studies that have examined lead ingestion by scavengers have focused on bullet fragments deposited in offal or carcasses during the sport hunting seasons. Rogers et al. (2009) collected samples of liver, hair, blood, and feces from black bears (*Ursus americanus*) and grizzly bears (*Ursus arctos horribilis*), wolves, coyotes, and mountain lions, and tested samples for the presence of lead. Preliminary results show that during the non-hunting season, no grizzly bear blood samples (n = 11) exhibited lead exposure. However, during the hunting season, 46% of 13 samples showed exposure with blood lead levels, presumably from feeding on offal or big game carcasses. In addition, of six liver samples collected from wolves during the non-hunting season, none have shown signs of lead exposure. In most cases when WS kills a wolf using lead ammunition, when practical and safe, the wolf carcass is retrieved and provided to the MFWP and the number of wolf carcasses unrecovered is minimal. Thus, there appears to be little to no lead poisoning risk to scavengers from WS' wolf damage management activities.

Currently no federally listed T&E species are deemed likely to encounter or scavenge on any wolf carcasses that may be left in the field by WS with the potential exception of grizzlies, wolverines, and, though much less likely, lynx. However, none have ever been found to succumb to lead poisoning. Therefore, the risk of lead poisoning to a T&E species or other significant environmental effects from lead toxicity is extremely low.

Previously prepared Biological Assessments determined that the grizzly bear (WS 2010a) and the Canada lynx (WS 2009) are the only federally listed T&E species which have the potential to be affected by WS GWDM activities. The USFWS (2012a) determined that "*it is the Service's biological opinion that the effects of the statewide Montana Wildlife Services' wildlife damage program in Montana on grizzly bears are not likely to jeopardize the continued existence of this species.*" Similarly, USFWS (2009) found that "*it is the Service's biological opinion that the effects of the statewide Montana Wildlife Services' wildlife damage program in Montana on Canada lynx are not likely to jeopardize the continued existence of this species.*" WS abides by the Reasonable and Prudent Measures and Terms and Conditions of the Incidental Take Statements to avoid take of these two species. WS (2010b) has determined that GWDM would have "no effect" on any other species in Montana.

Comment B16: MFWP seems not to want to pay for predation investigations, but rather have federal taxpayers foot the bill; WS is not appropriated the necessary funding for wolf management and, therefore, other WDM programs are suffering such as predator damage management; WS should manage the funding provided for GWDM.

Response B16: Thank you for these comments, but WS works cooperatively with all agencies to provide GWDM and funding is given to the appropriate agencies through the appropriate means.

Comment B17: Stray bullets can hurt people and kill nontarget wildlife.

Response B17: The use of firearms and potential to harm people and nontarget animals was included as an issue in Chapter 2 and analyzed in Chapter 4. As discussed in the EA and for more explanation, the following is given. The use of firearms is anticipated to have minimal potential to harm people or pets, or take nontarget wildlife. WS personnel are trained and certified to use firearms to ensure operations are conducted safely. To ensure safe firearm use and awareness, WS employees who use firearms to conduct official duties are required to attend an approved firearms safety and use training program within 3-months of their appointment and a refresher course annually, thereafter (WS Directive 2.615). Further, WS employees who carry firearms, as a condition of employment, are required to verify that they meet the criteria as set forth in the Lautenberg Amendment which prohibits firearm possession by anyone who has been convicted of a misdemeanor crime of domestic violence. Further, the risk of a stray bullet inadvertently striking nontarget wildlife, an individual, or pet is virtually eliminated by WS' precautionary measures such as positively identifying target animals before shooting, ensuring a backstop should the bullet miss, using rifles that fire single projectiles per shot and using only specially trained personnel. On the other hand, if WS were not conducting GWDM, others would. While

State agency and Tribal personnel may have similar training, individuals carrying out this activity may not have the same training and thus the risk of stray bullets striking an unintended target could be higher. Thus, we believe that the risk of this occurring would be greater under alternatives that promote individuals in carrying out such activities.

Comment B18: WS lethal methods are dangerous to WS personnel.

Response B18: The two methods used in GWDM that have the most potential for causing injuries or death to WS personnel are the use of firearms and aerial hunting. As discussed in B17, WS requires training and certification for employees to use firearms. No person has been injured with a firearm in GWDM in Montana. Nationally, a few WS personnel have had accidents with firearms, mostly from accidental discharge, but five personnel have been injured in the last 10 years; 3 injuries were to the leg (1 pellet from an air rifle, 1 a .22 caliber pistol, and the last a high-powered rifle) and 2 were to hands and face from rounds going off in the barrel. Most accidents result from complacency on the part of the employee and can be avoided, but some are from mechanical failure that will not be avoided. WS requires more stringent training of employees and fewer accidents have occurred since the training became mandatory. However, considering the number of firearms used (including air rifles and pyrotechnics) by WS and the number of rounds fired (hundreds of thousands annually), few accidents have occurred and the risk of injury is relatively minor.

Table 1. WS employee and contract pilots hours flown, WS accidents and general aviation hours and accidents (NTSB 2013) for 1996-2012.

Year	WS Hours Flown	WS Accidents	CP Hours Flown	CP Accidents	GAV Hours#	GAV Accidents
1996	14,999	1	1,282	1	24,881,000	1,908
1997	18,953	0	921	1	25,591,000	1,840
1998	15,910	1	1,182	3	25,518,000	1,902
1999	16,072	0	884	1	29,246,000	1,905
2000	12,334	1	1,221	2	27,838,000	1,837
2001	12,856	0	1,596	1	25,431,000	1,727
2002	12,609	1	3,173	0	25,545,000	1,716
2003	4,723	2	2,936	1	25,998,000	1,741
2004	9,609	2	7,536	0	24,888,000	1,619
2005	10,219	0	7,108	0	23,168,000	1,671
2006	10,226	1	7,384	0	23,963,000	1,523
2007	9,709	2	6,268	0	23,819,000	1,654
2008	10,048	0	6,739	0	22,805,000	1,569
2009	20,094	0	6,018	0	20,862,000	1,480
2010	9,832	0	5,073	0	21,688,000	1,440
2011	9,906	1	3,943	0	21,488,000	1,470
2012	11,021	0	3,652	0	21,697,000	1,471
Total 96-12	199,120	12	66,916	10	414,426,000	28,473
Accident Rate	WS Hours	6.03 per 100,000	CP Hours	14.94 per 100,000	GAV Accident Rate	6.87 per 100,000
	All Aerial Hunting		8.27 per 100,000			
Total 03-12	95,387	8	56,657	1	230,376,000	15,638
Accident Rate	WS Hours	8.39 per 100,000	CP Hours	1.77 per 100,000	GAV Accident Rate	6.79 per 100,000
	All Aerial Hunting		5.92 per 100,000			
Total 08-12	50,901	1	25,425	0	108,540,000	7,430
Accident Rate	WS Hours	1.96 per 100,000	CP Hours	0 per 100,000	GAV Accident Rate	6.85 per 100,000
	All Aerial Hunting		1.31 per 100,000			

CP = Contract Pilots
NTSB 2013

GAV = General Aviation

Accident rate is standardized for 100,000 hours flying

Aerial hunting combines use of aircraft and firearms. Few accidents have been reported in the last seventeen years by WS and contract pilots (22), or 8.27 accidents per 100,000 hours of flying, just minimally over the national general aviation accident rate of 6.87 per 100,000 hours (National Transportation Safety Board (NTSB) 2013) which includes low- and high-level flying (the accident rate for the general public low-level flying is much higher) (Table 1). However, as a result of a series of accidents in the late 1990s and early 2000s and a WS requested aviation safety audit, WS built and maintains an Aviation Training Center. The training center certifies pilots and gunners, both WS personnel and contract pilots. The training center has a flight simulator which prepares pilots for low-level flying risks. In the last 5 years, with the Aviation Training Center fully

operational, the WS accident rate has dropped to 1.31 per 100,000 hours, well below the general aviation accident rate of 6.79 per 100,000 in the same time frame. Some of WS's accidents have involved pilot error while others are directly related to mechanical failure. Of the accidents between 1996 and 2012, 14 were due to pilot error, 6 were due to mechanical failure, and 2 due to unknown causes. Notably, WS has been responsible for notifying the Federal Aviation Administration of 2 discrepancies (identified aircraft problems), one involving turbine engines was issued to the public in an Airworthiness Directive. Of the accidents, 5 had fatalities associated with them involving 8 WS personnel or contractors. These were immense losses to the WS program, but within the norms of flying. Pilots and crewman are aware of the relative risks of flying; the same can be said for those personnel that operate government vehicles during the performance of their duties. Since WS has had relatively few accidents and the accident rate has been declining, it has been determined that risks are minimal and currently less than the national average for aviation.

Even though some risks are associated with GWDM methods, we believe that they are relatively minor. Training and certification programs have reduced risks associated with these methods. Therefore, we believe that the comments stating that WS GWDM methods are dangerous for employees are unfounded. However, we do believe that these methods represent a higher risk when used by the public.

Comment B19: Government sponsored predation management benefits commercial agriculture; GWDM is unethical.

Response B19: Congress directed the federal government to provide assistance in predation and other wildlife damage management. Thus, Congress deemed it an appropriate and ethical use of public funds and that it is an appropriate function of government. Also, wildlife is "held in trust" for the public, therefore, an argument for supporting that government-sponsored wildlife damage management is ethical and appropriate is that such government-sponsored management is one way, perhaps the only practical way, for the public to bear some of the responsibility for the damage to private interests caused by the public's wildlife. Regardless of whether such assistance is believed to be ethical or not, this issue is mostly outside the scope of this EA because wildlife management is deemed appropriate and directed by Congress.

COMMENTS ASSOCIATED WITH ALTERNATIVES

Comment C1: Some commenters expressed opposition for lethal control of wolves and promoted the use of non-lethal methods; Effective use of nonlethal deterrents makes most sense; EA does not adequately address nonlethal methods:

Response C1: WS will continue to cooperate with the MFWP, Tribes, USFWS, universities, and interest groups as appropriate, to investigate ways to reduce conflicts between people and wolves (USFWS 2013). For example, WS and the cooperating agencies have investigated and assisted in implementing the use of fencing; guard animals; extra herders; lights, sirens, and other scare devices, including those activated by wolf radio-collars such as RAGs; shock aversion conditioning; flagging; less than-lethal munitions; offensive and repelling scents; supplemental feeding; harassing wolves at dens and rendezvous sites to move the center of wolf pack activity away from livestock; trapping and moving individual wolves or the entire pack; moving livestock and providing alternative pasture; investigating the characteristics of livestock operations that experience higher depredation rates; and research into the type of livestock and rate of livestock loss that are confirmed on public grazing allotments. WS also conducted research on non-lethal wolf management methods and corresponds with researchers and wildlife managers to learn of potentially better ways to deal with wolf conflicts (Shivik 2001, 2004, Bangs and Shivik 2001, Shivik and Martin 2001, Breck et al. 2002, Shivik et al. 2002, 2003, Bangs et al. 2005, 2006). While preventative and nonlethal wolf management methods are useful (see Section 4.4.1.2 of the EA), they have not been consistently reliable, and lethal removal remains an important tool to reduce wolf damage when depredations on livestock or other conflicts occur (Fritts 1993, Mech 1995, Bangs et al. 1995, 2009, 2003 GW Plan, Fritts et al. 2003, Creel and Rotella 2010).

Comment C2: A commenter expressed that an alternative should be considered where all nonlethal methods, which are effective in stopping wolf predation, should be exhausted before lethal control is conducted; Non-lethal tools should be exhausted, especially in areas of key dispersal routes, and buffer zones should be implemented around core source populations.

Response C2: This was adequately addressed in Section 3.5.5 of the EA. However, the NRM wolf population occupies nearly 100% of the core recovery areas recognized in the 1987 recovery plan (USFWS 1987) and nearly 100% of the areas where suitable habitat was predicted to exist (USFWS 1994, Oakleaf et al. 2006, USFWS 2013). This occupation is expected to continue, because management plans for public lands in the NRM DPS maintain suitable wolf habitat. These goals were designed to provide the NRM gray wolf population with sufficient representation, resilience, and redundancy for its long-term conservation (73 FR 10514).

An alternative to assess the exhaustion of nonlethal methods would work in a similar manner as the Current Program Alternative and most action alternative analyzed in the EA (Section 3.2 and 3.5.7)¹⁵. WS already gives preference to using or recommending non-lethal methods¹⁶ when they are deemed practical and effective as part of the Current Program Alternative (WS Directive 2.101), to the extent that it is allowed by USFWS, MFWP, or Tribe when those agencies make decisions¹⁷ about how to resolve wolf conflicts. The practicality of a particular nonlethal method(s) can vary substantially among producers and depredation situations. Therefore, it is difficult or impractical to determine appropriate and reasonable criteria to dictate ahead of time which particular non-lethal method(s) should be required in given situations (Mech 1996). Animals can become habituated to nonlethal methods, rendering them ineffective (Musiani et al. 2003), which results in disappearance of an animal's fear towards a novel object (Shivik et al. 2003). Habituation is determined by the intensity of a stimulus and the motivation of individual animals (Shivik et al. 2003). A key motivational factor for many animals is hunger (Wilson et al. 1993, 1994) or personal behavioral traits (Gosling 1998, Darrow 2006) and it has been suggested that hunger in wolves plays an important part in the process of habituation (Lance 2009). Thus, each situation needs to be evaluated before a management strategy can be effectively implemented.

Some methods that would need to be used or attempted under an Alternative like this would be impractical, inappropriate, or have a low chance of being effective for a variety of reasons. And the potential for additional losses to occur while experimenting with nonlethal methods would be unacceptable to some producers which could result in an increase in individuals seeking to solve their own problems instead of working with the USFWS, MFWP, or Tribes and WS personnel.

One reason for having effective damage management assistance available is to foster support for and minimize or reduce the amount of opposition to wolf conservation and recovery. As stated in Section 1.3.2 of the EA, prompt, professional management of wolf conflicts is an important component of wolf recovery because it facilitates local public acceptance and tolerance of wolves (Fritts and Carbyn 1995, Mech 1995, Bangs et al. 1995, Boitani 2003, Fritts et al. 2003). We would expect that some, or perhaps many, experiencing losses from wolves would cease to request assistance from WS if the management agencies made the conditions for receiving such assistance too burdensome from their perspective. Greater incidence of illegal wolf killings could result, or increased political efforts to get laws changed by Congress, as evidenced by recent legislation that effected the removal of wolves from ESA protection¹⁸.

Thus, we believe that inclusion of this Alternative or an Alternative to assess the exhaustion of a full-range of nonlethal methods would not contribute new information or options for consideration and analyses that are not already considered in the EA, and maybe counterproductive to wolf recovery and conservation. Furthermore, pursuing an alternative to require that nonlethal methods be exhausted, in light of our current program alternative and the other alternative analyzed in the EA might even be considered inconsistent with NEPA (Eccleston 1995).

Comment C3: Several commenters provided information on livestock management methods used in GWDM because they believed that the EA did not provide enough detail on methods such as: risk mapping, keeping

¹⁵ The USFWS, MFWP, or Tribes, as appropriate, and property owners would still be able to use lethal methods in accordance with Federal regulations, state laws, and as authorized by the USFWS, MFWP, or Tribes, whichever agency has management responsibilities at the time.

¹⁶ Non-lethal methods used or recommended by WS could include all available and approved methods, including but not limited to, animal husbandry practices, installation of fencing, electronic guards, fladry and turbo-fladry, aversive conditioning, nonlethal projectiles, use of livestock guarding animals, and/or other nonlethal methods as appropriate.

¹⁷ Under any of the alternatives analyzed by WS, the primary decision-makers (*i.e.*, USFWS or MFWP) for determining how wolf depredation situations are resolved have not established any requirement for producers to use non-lethal methods prior to receiving WS assistance. Because WS acts as an agent of either the USFWS or MFWP (depending on whether the wolf remains delisted or is again listed) for GWDM in Montana, we do not consider it appropriate for WS to establish these types of conditions before providing service.

¹⁸ U. S. Representative from Montana drafted legislation in Congress which advocated state control of wolves and backed legislation in the U.S. House of Representatives that removed wolves from consideration under the ESA. Similar legislation was introduced by U.S. Senators from Montana, Wyoming, Idaho and Utah.

livestock in away from areas where predation risk is higher; making livestock more vigilant to predators; calving in May-June when natural prey is more available; having greater human presence around livestock; burying livestock carcasses; and lambing or calving, and keeping sick livestock near houses.

Response C3: We believe that the availability of these cultural GWDM methods, primarily for livestock producers to implement, was adequately discussed in Section 3.4.1. Risk mapping, per se, was not discussed, but understanding risks to livestock, especially historic predation areas, is important to understanding the level of need and was discussed. These methods are important to an integrated GWDM program to protect livestock.

Comment C4: EA dismisses fladry and scaring devices – studies that EA cites found that these are effective.

Response C4: We disagree with this statement. The EA does not dismiss these GWDM methods and were discussed as GWDM methods that would be used in Section 3.4.1. WS has used these methods as discussed in Section 1.3.2 and will continue to use them. With that said, no method is 100% effective and wolves can habituate to them, and therefore, WS is continually looking for new and better methods to reduce damage caused by wolves.

Comment C5: WS uses blanket GWDM indiscriminate methods; imperative to have IWDM available to resolve damage problems.

Response C5: The commenter believes that WS uses “*nonselective, broad-scale removal of target species, and with broad unintended adverse effects to other wildlife or other environmental resources.*” WS does not engage in this sort of approach when resolving wildlife damage conflicts, including wolf damage management as described in the EA in Sections 3.3 and 3.4. Sections 3.3.1 and 3.3.2 discuss the approach and methods that would be used by WS to reduce wolf damage. Our proposal is to assist MFWP, Tribes, or USFWS, depending on which agency is in charge of wolf management in the area of Montana where GWDM is needed, with conducting highly selective and targeted GWDM actions, including removal of wolves as directed and authorized by the MFWP, Tribes, or USFWS, as is often the case with depredating wolves. Our assistance would have little or no effect on wolf recovery or other management objectives that have been identified by MFWP, Tribes, or USFWS. As explained in the above mentioned Sections and in Section 1.6, our assistance with GWDM would be authorized by MFWP, and the methods are highly selective for the target species and would thus have little or no effect on non-target wildlife species populations.

Comment C6: Depredating or problem wolves should be relocated; On page 56 it states that unless it becomes necessary to restore wolves to a specific area or for genetic connectivity, neither MFWP nor Tribes will relocate wolves – please clarify whether or not WS will relocate wolves.

Response C6: WS will only relocate wolves at the request of USFWS, MFWP, or Tribes. Nearly all suitable areas for wolves are being occupied by resident packs (Oakleaf et al. 2006, USFWS 2013). The NRM wolf pack distribution has remained largely unchanged since 2000 (USFWS 2013), indicating that wolf packs are occupying areas with suitable habitat. As the USFWS explained, they believe that the NRM wolf population is likely at or above long-term carrying capacity¹⁹ (74 FR 15123). Thus, it is unlikely that wolves will be relocated.

In addition, wolves have been relocated to other areas, but many returned to where they were caught or became a problem elsewhere (Fritts et al. 1984, 1985). Mech et al. (1996) concluded that where wolf populations are large and secure, relocation has little value in wolf management.

Comment C7: Urge WS to confirm commitment to prioritization of nonlethal first; Nonlethal before lethal preferred; EA biased towards lethal over nonlethal control which skews analysis.

Response C7: We agree that nonlethal methods should receive first consideration and when effective and is the Proposed Action Alternative. However, WS relies by decisions or protocols made by MFWP (2012), Tribes (BN 2008, and CSKT 2009), and USFWS for resolving conflicts. They may request that wolves be removed

¹⁹ Wolf populations continually try to expand and disperse and if suitable habitat is not available, we expect wolves will increasingly disperse into unsuitable areas (*i.e.*, areas used for livestock production). A higher percentage of wolves in those areas will become involved in conflicts with livestock, and a higher percentage of those wolves will be removed to reduce future livestock damage.

lethally because they have been involved in a depredation incident(s). Sometimes lethal methods are not necessary. As discussed in the EA, Sections 2.2. and 2.3, WS encourages producers to use nonlethal measures such as guard animals, fencing, fladry, and other measures to protect livestock whenever it is practical. Education and nonlethal technical assistance are integral to the proposed action. However, education alone may not be sufficient to prevent the development of negative public attitudes among stakeholders, especially livestock producers experiencing actual depredation problems. Maintenance of public support demands effective resolution of problems at whatever frequency they occur (Fritts 1993, Mech 1995, Bangs et al. 1995, 2009, Fritts et al. 2003, Creel and Rotella 2010, 50 CFR 17.84(n)).

Comment C8: EA does not discuss TTD (trap/snare tab tranquilizer device).

Response C8: Tranquilizer tab trap devices (TTDs) are small rubber containers filled with propiopromazine hydrochloride, a tranquilizer that can be used in conjunction with leghold traps and foot snares to, in essence, make the trap more humane, by calming the animal. Predators, upon capture instinctively bite on the trap, along with the trap tab and ingest the immobilizing drug, sedating them, and thereby reducing damage to their leg that can be caused by the trap. Used properly it does not render the animal unconscious. The drug is administered in a rubber nipple, the tab, fastened to the jaw of the trap. It has been used on traps to capture coyotes, dogs, and wolves. Sahr and Knowlton (2000) concluded that the TTD can be an effective tool to reduce the physical harm of trapping through a moderate level of sedation. The authors found that they could not verify if animals ingested the chemical and the amount of chemical ingested but that their findings showed about 50% of animals capture with a TTD attached to the trap displayed some signs of sedation. Their research also discussed the concerns of a wolf's ability to thermo regulate in freezing or hot temperatures. WS TTD training manual emphasizes this concern by requiring careful consideration when using them below 32 degrees or above 90 degrees. Montana WS did not widely use TTDs during recovery of the NRM DPS due to the USFWS concern for thermal regulation. Additionally, consideration must be given when administering immobilization/sedation chemicals to any animal, including the animal's health, before, during, and after the application of an immobilization or sedation chemical. Other concerns that have been identified are related to the well-being of an animal under sedation. Environment threats such as pooling water from a rain storm or standing water may restrict the use of a TTD if a sedated animal was to have the potential to access such water (WS TTD Manual). Another environmental concern is the ability of a drug and restrained animal to defend itself from another animal such as another predator. Bears, mountain lions, and wolves have been known to attack wolves and a sedated wolf may not be able to adequately defend itself. It was found that animals under heavy sedation were more vulnerable to flies and found that flies exploited that vulnerability by laying eggs around their eyes. Additionally, any animal suspected of consuming the TTD sedative is unfit for human consumption. Any potential nontargets that are potential consumable (e.g., deer) are required to be tag with identification noting they are not fit for human consumption. Likewise, any euthanized animal would need to be disposed of consistent with preventing secondary contamination. Thus, Montana WS has had serious reservations about using TTDs because too many concerns are associated with their use.

Much research has been devoted to identify and reducing harm to trapped wildlife (Turnbull et al. 2011). The Association of Fish and Wildlife Agencies (2006a, b, and c) have established best management practices for trapping in the United states, providing improvements in animal welfare by incorporating trap type, jaw type, as well as trap set up (chain length, center swiveled, solid anchors, shock springs), much of which has come out since many of the cited studies on different trap types. WS will continue to work to identify opportunities to implement appropriate measures to minimize harm.

Comment C9: The EA does not provide sufficient detailed plan for WS's implementation of nonlethal methods; EA does not include the latest info on nonlethal methods; all nonlethal methods such as risk mapping should be discussed and used; The EA does not adequately address non-lethal options; the Current Program has balanced approach between nonlethal and lethal means to respond appropriately to resolve damage situations for various resources and human health and safety.

Response C9: The general methods used in GWDM were discussed in Section 3.4 and their implementation was discussed in Section 3.3. We believe these sections adequately discussed what methods are available and strategies to implement them, though they may not discuss every method (e.g., all the different types of fencing available).

Comment C10: Nonlethal methods are most effective when good communication is coordinated between agencies, livestock managers, and project planners.

Response C10: We agree and strive to keep communications open between all entities involved in a GWDM project which, no doubt, makes all GWDM efforts more effective, lethal and nonlethal.

Comment C11: The EA does not adequately analyze experimental damage management mechanisms that may be used, adequately disclose impacts of these and other management mechanisms, or what may or may not be used by private parties.

Response C11: We disagree and believe that Section 3.3 discusses GWDM methods and strategies adequately and what can and cannot be used by agencies and public in GWDM. However, WS may or may not be involved in experimental GWDM methods, but incorporates new methods as these are tested for their effectiveness and become available.

Comment C12: The EA does not adequately address the issue of livestock producer responsibility for their domestic livestock and economic interests

Response C12: The commenter is opposed to WS GWDM, possibly under the belief that the program is a subsidy to livestock producers and they should conduct GWDM to protect their own interests. The EA presents information to show producers in the State how to implement nonlethal GWDM methods to a considerable degree and this is discussed in Section 3.5.8. Therefore, we believe this concern is unfounded. It should be noted that a compelling reason for government providing GWDM services is that the public should bear responsibility and cost for controlling damage caused by publicly owned wildlife such as wolves.

Comment C13: WS uses lethal GWDM 90% of time as indicated by own data.

Response C13: The use of data from the MIS and Program Data Reports (PDRs) on the WS website is very complicated and, though, seemingly easy to decipher, it is not. From FY08 to FY12 in Montana, WS annually averaged the lethal removal of 104 target wolves and nonlethal take of 27 target wolves (0.2 trapped and released, 12 dispersed, and 15 captured, collared and released). Thus, 78% of the MIS data shows that WS used lethal removal. However, dispersal of wolves with methods such as fladry, fences, RAGs, and a host of others are rarely estimated because it is near impossible to know how many times animals were repelled. Most lethal methods have concrete numbers associated with them (not all) whereas most nonlethal methods only have abstract numbers or guesses associated with them. Thus, only part of the picture is being seen in the data given. Additionally, ranchers and other resource owners as well as other agencies and entities use many methods that are not captured in the MIS prior to WS assistance. Thus, nonlethal methods are used much more often than recorded, likely much more than lethal methods. Thus, we disagree with this assertion. Finally, most GWDM conducted in Montana by WS is conducted after a determination of the fate has been made by the managing agency, and thus WS completes their desires and, thus, the method, lethal or nonlethal, is irrelevant.

Comment C14: Lethal methods are expensive, dangerous to WS personnel, and temporary solution (Musiani et al. 2005).

Response C14: We disagree. First, nonlethal methods are given priority where they will be effective over lethal methods. Second, GWDM methods, lethal and nonlethal, may be expensive or cost-prohibitive, and thus, cost is considered in determining which method(s) to use. As pointed out in the EA, cost:benefit analyses have shown that lethal methods may be a cost effective solution, thus these may be considered in resolving an issue. However, cost is not the only consideration in determining the most effective strategy in resolving a damage problem. Third, risks to WS personnel, the public, and pets from lethal and nonlethal method are considered in determining methods to use. GWDM methods have some risks to WS personnel, but risks are minimal or non-existent (USDA 1997, Appendix P). Additionally, risks are further reduced by requiring WS personnel to take training to increase their awareness of risks associated with the different GWDM tools. Finally, WS personnel strive to determine the most effective short- and long-term strategies. For example, WS personnel may determine, or be requested by other agency personnel, that removal needs to be used to resolve a problem. WS personnel would then carry out the removal. However, WS personnel may then recommend a nonlethal technique(s) such as predator fencing, depending on the situation, to keep problems from recurring.

Unfortunately, no method(s) resolves wolf damage permanently. Lethal methods seem to be more effective than nonlethal methods at resolving problems longer term as discussed by Bangs et al (2009) in Section 3.4.5. We believe this is adequately discussed in the EA.

Comment C15: WS failed to look at a site-specific analysis – using Decision Model to side-step site specific analysis; WS skirts its hard look by giving the public a flow chart instead of analysis; EA relies on outdated Decision Model

Response C15: This EA analyzes potential impacts of GWDM on the human environment as required by NEPA and addresses WS GWDM activities on all lands under *Cooperative Agreement* or *Agreements for Control*, or as otherwise covered by *WS Work Plans* (e.g., on federal public lands) within Montana. It also addresses the impacts of GWDM on areas where additional agreements with WS may be written in the reasonably foreseeable future in Montana. Because the proposed action is to continue the current program and the current program's goal and responsibility is to provide service when requested within the constraints of available funding and manpower, and the fact that the wolf population is highly dynamic and can fluctuate and move, it is conceivable that additional GWDM efforts could occur in new areas of Montana. Thus, this EA anticipates that GWDM will be conducted in areas where the wolf population resides and in potential expansion areas, and analyzes the impacts of such expanded efforts as part of the current program anywhere in the range of wolves in Montana. However, even though WS knows that most management will occur in the current range of wolves in Montana, WS has very little idea of the exact areas where damage may occur.

Planning for the management of wolf damage must be viewed as being conceptually similar to federal or other agency actions whose missions are to stop or prevent adverse consequences from anticipated future events for which the actual sites and locations where they will occur are unknown but could be anywhere in a defined geographic area. Examples of such agencies and programs include fire and police departments, emergency clean-up organizations, and insurance companies. Although some of the sites where predator damage is likely to occur and lead to requests to WS for assistance can be predicted, all specific locations or times where such damage will occur in any given year cannot be predicted. This EA emphasizes major issues as they relate to specific areas whenever possible; however, many issues apply wherever predator damage and resulting management occurs, and are treated as such.

The WS standard Decision Model (Figure 3-1 in Section 3.3.3 of the EA) and WS Directive 2.105 is the site-specific routine thought process for determining methods and strategies to use or recommend for individual actions conducted by WS in Montana. The Decision Model necessarily oversimplifies complex thought processes. Decisions made using the model would be in accordance with standard operating procedures (SOPs) described herein and adopted or established as part of the decision. While the Decision Model was crafted in 1992 (Slate et al. 1992), it still is applicable today as the site-specific decision process and considers the relevant steps necessary to determine the most appropriate strategy to resolve a specific damage situation.

The analysis in this EA considers impacts on target and nontarget wildlife species, people, pets, and the environment. Wildlife populations, with the exception of T&E species, are monitored over large geographic areas (i.e., the West, the State) and smaller geographic areas (i.e., game management units). WS monitors target wolf and nontarget take for the State and provides that information to MFWP. The general location for each wolf taken is provided to the MFWP, Tribe, or USFWS as appropriate so they can monitor overall take in the State or local area.

We believe that the EA provides analysis of wolf take in the state and that MFWP, and others as appropriate, are able to analyze take at the site-specific level by year to determine the impact on the wolf population. MFWP does not believe that the population has been impacted to any great degree in any occupied area of Montana.

Comment C 16: GWDM uses methods that could become National Security hazards.

Response C16: The use of firearms and aircraft in GWDM are likely the methods that this comment referred to. WS takes the issue of securing property seriously and tries to ensure that these are in safe locations. However, the firearms and aircraft used in GWDM are common and could be obtained through theft from many

places. Additionally, these are not the types of aircraft or weapons typically considered highly dangerous in the scheme of what is available (military planes vs. small Piper Super Cub fixed winged aircraft/small helicopters or automatic weapons vs. shotguns/ rifles)

Comment C17: Animals released may not survive.

Response C17: WS is aware that an animal may not survive being caught in a trap or other GWDM method (e.g., injured leg). WS personnel free nontarget wildlife if, under their professional opinion, the animal will be able to survive. If it is determined it cannot, WS personnel euthanize the animal.

Comment C18: The EA does not analyze a reasonable range of alternatives.

Response C 18: We disagree with this comment. The EA analyzed 3 alternatives in detail (Section 3.2 describes the alternatives). We believe that these 3 alternatives cover the potential range of alternatives that needed to be discussed for GWDM in Montana. Part of the decision to use this number of alternatives is because the State would provide GWDM whether WS were involved or not. Thus, only a limited number needed to be discussed to determine impacts. Additionally, the EA discussed 9 alternatives that were not considered in detail in Sections 3.5.1 to 3.5.9, but were dismissed because of problems associated with their implementation.

Comment C19: Trapping is ineffective and detrimental.

Response C19: The use of foothold traps and snares are very effective at targeting wolves. Though trapping has the potential for taking nontargets, it can be minimized by using specific lures, increasing pan-tension, and placing traps strategically to capture targets and not nontargets. These were discussed in Section 3.4.2. The detrimental aspects of trapping would be the take of nontarget species. Section 4.3.1.2 discusses nontarget take and from FY07 to FY11 on two animals were taken lethally. The remaining animals were able to be freed. Thus, trapping is not deemed as highly detrimental. We believe the EA adequately discusses the beneficial and adverse effects of using traps in GWDM.

Comment C20: Believe that the alternative selected should be that cooperators fund all GWDM for lethal take with WS funding for nonlethal GWDM only.

Response C20: We believe that this would not be in the spirit of the NEPA process conducted by USFWS to reintroduce wolves, as discussed. Also, as discussed, one reason for having effective damage management assistance available is to foster support for and minimize or reduce the amount of opposition to wolf conservation and recovery. As stated in Section 1.3.2 of the EA, prompt, professional management of wolf conflicts is an important component of wolf recovery because it facilitates local public acceptance and tolerance of wolves (Fritts and Carbyn 1995, Mech 1995, Bangs et al. 1995, Boitani 2003, Fritts et al.2003). We would expect that some, or perhaps many, experiencing losses from wolves would cease to request assistance from WS if the management agencies made the conditions for receiving such assistance too burdensome from their perspective. Greater incidence of illegal wolf killings would likely be the end result. Thus, we believe that this would not be a viable alternative as it would cause many problems.

Comment C21: WS should commit to a 24-hr trap/snare check.

Response C21: WS abides by MOUs and Protocols with MFWP, tribes, and USFWS as described in section 1.6.6, 1.6.7 and 1.6.8. These MOUs dictate our SOPs and can and do change. Additionally, we follow the BMP's for the GWDM (AFWA 2006a, b, and c). As the current managing agency for wolves in Montana, MFWP has determined that a 48-hour trap check is appropriate for all private trappers and WS trappers during the wolf trapping season, and a 24-hour trap check outside the public trapping season for WS. This requirement has changed in the past and may change in the future. WS will continue to abide by the MOU's and SOP's as prescribed by the appropriate managing agency.

COMMENTS ASSOCIATED WITH ENVIRONMENTAL CONSEQUENCES

Comment D1: The EA did not adequately identify and analyze the affected environment and environmental impacts.

Response: We disagree. Chapter 4 provides a relatively succinct analysis of GWDM on the affected environment and known and potential impacts to wildlife species, people, pets, and the environment. Please refer to Chapter 4.

Comment D2: WS has taken a significant portion of the wolf population.

Response D2: We disagree. Section 4.3.1 discusses what portion of the population is and has been taken under the current program and the other alternatives. A way to determine if a significant portion of the population has been taken is to look at population growth and management objectives. Table 4-3 of the EA reflects an increasing population from 2005 to 2011, suggesting that a significant portion of the wolf population has not been taken. Since the population has increased despite mortality from several sources, we can conclude from that alone that a significant portion of the population has not been taken.

This comment typically refers to the total number of wolves WS has killed over a period of several years. Often, to make a point, animal take is totaled over several years to show a large number of animals being taken, especially when compared to the current population. However, with a renewable resource such as wolves, take, other mortality factors, and recruitment or a population estimate along with management objectives of the responsible agency must be analyzed annually to determine if a significant portion of the population has been taken. Table 4-3 of the EA shows that the population has increased annually during the period from 2005 to 2011 and take has been within the management objectives of MFWP, the tribes, and USFWS. Thus, we believe that this comment has no basis.

Comment D3: Nontarget take only available for last 5 years (EA pg 34), but data available from FY92 to FY11.

Response D3: Nontarget take by WS is available for FY92 to FY11, but it includes all nontargets taken from all wildlife damage management activities in Montana. The EA included all nontargets taken in GWDM from FY07 to FY11 in Table 4-4. Five years provides a good indication of what nontargets WS can expect to take. As discussed in the EA, lethal take was minimal (2) and not significant to any wildlife population. The new MIS (from FY05 to present) allows querying the data with more specifics, but requires a diligent search to separate out what WDM activity was being conducted. Some of the nontargets in Table 4-4 could have been on properties where WS was conducting more than one WDM activity and taken while conducting an activity for another species, but it was assumed the nontarget was taken conducting GWDM. As for FY05 and FY06, the other 2 years in the new MIS, no nontargets were lethally taken in GWDM. From FY92 to FY04, the only rare nontarget species taken was gray wolves (5), but likely conducting other predator control activities and not GWDM. Thus, only 2 animals were known to be taken lethally in GWDM from FY92 to FY11, or one every ten years. This is a very minimal number taken and was not significant to the 2 species' populations.

Comment D4: If lethal control is implemented, every effort must be taken to target the individual wolf(ves) responsible for the depredation; The EA does not adequately analyze and disclose information and impacts related to various control mechanisms so that we know how problem wolves are identified and the "right ones" targeted.

Response D4: WS, USFWS, MFWP, and Tribes always strive to target the specific wolf and or wolf packs involved in the depredation problem. Personnel from these entities are highly trained in the methods of identifying wolf depredations, and use sound scientific information to assess wolf depredation (Acorn and Dorrance 1990). WS strives to target the specific wolves involved in depredation but cannot guarantee that the wolf taken is always the specific individual involved in the depredation. Identification of depredating individuals is complicated by the pack hunting behavior of wolves. In instances when a pack is involved in a depredation incident, multiple individuals may have been involved in the predation event. Measures used to identify and target depredating wolves include but are not limited to careful analysis of wolf sign at the site by trained professionals and review of information on radio-collared wolves and wolf observations in the area near the depredation site. Sign from the depredation site can be used to determine if the depredation was caused by an individual wolf or a pack. Traps will usually be set close to kill sites, and normally wolf packs responsible

for making the kills would be the ones most likely visiting such kills. Because wolves are very territorial, strange wolves would not likely enter another packs area or feed on kills made by other packs. Data on wolf and pack activity and territory size is used to identify other areas used by the pack where traps may be set and reduce risks to non-target packs. Thus, WS believes that the “right” wolves are targeted in most instances.

Comment D5: Several factors were not considered in the EA that could affect wolf populations including toxicants, anthropogenic harms, limited land available for wolves, animal-vehicle collisions, disease, human overpopulation, global warming, livestock grazing on public lands, and so on.

Response D5: We believe that these factors are all part of the current environmental baseline and are considered in the cumulative impact analysis. However, as far as GWDM, many of these are outside the scope of the EA because GWDM will have no effect on these factors including global population and warming, livestock grazing on public lands, and limited land availability. These factors would tend to limit the size that the population could reach and, thus, are considered in the population number that was in the EA; however, as noted in the EA the population of wolves in Montana has been growing and, therefore, these factors have not impacted the population. It also is expected that wolves will be killed by vehicles, diseases, possibly toxicants, and other anthropogenic sources which were considered in the EA where known; mortality associated with many of these factors such as disease goes unknown because wolves that die from these sources are often not found unless they are radio-collared. Even though these sources of mortality are unknown, they are included in the population number (Table 4-3 in the EA) because they would be absent in the population censuses as these wolves are not counted in the population estimate. However, the wolf population in Montana has been increasing over the past several years (Table 4-3 in the EA) and, therefore, these are obviously not limiting the current wolf population.

As far as cumulative impacts, USFWS, MFWP, and tribes are concerned with the long term viability of wolves in Montana and want to ensure that their populations continue into the future. Wolves are monitored by these agencies, primarily MFWP today. If the wolf population declined below the desired minimum management level, then GWDM could change, and the agencies would likely implement new management activities to bolster the population. It is anticipated that, similar to the first several years following the wolf reintroduction, if the wolf population decreased, GWDM would decrease proportionately.

Comment D6: The EA improperly excludes numerous relevant and important issues from detailed analysis, and without providing rationale – aesthetics (e.g., whole wolf packs being removed – no longer in area);

Response D6: We disagree with this assertion as relevant issues were included in the analysis in Chapter 4. Section 2.4 dismisses several issues, including aesthetics, and provides the rationale for not including them in the analysis in Chapter 4. As discussed in the EA, while wolf packs may be removed from an area, other wolves exist and new wolves will repopulate these areas, provided the habitat is available. We believe that EA provides sufficient detail for issues not considered.

Comment D7: MFWP count of wolves is inaccurate

Response D7: Montana wolf packs are monitored year-round with techniques that include direct observational counts, howling and track surveys, use of trail cameras, and public wolf reports. MFWP documents pack size and breeding pair status of known packs. Wolf monitoring data is not a precise accounting of the number of wolves in Montana, but is used to make decisions to address wolf-livestock conflicts, to set wolf hunting and trapping regulations, and to set harvest quotas (e.g., MFWP 2011a). MFWP and tribes have management authority for wolves and neither wants them to be listed again and, therefore, they will continue to monitor them closely to ensure their viability into the future. Therefore, we defer to MFWP and tribes for their knowledge, especially wolf numbers, to determine impacts and believe their numbers provide a reasonable population estimate

Comment D8: WS failed to analyze aerial hunting: # flights in specific areas; cost per flight; aerial hunting overflights; critical habitat of grizzlies; private aerial gunning; unsafe for WS personnel and people on ground.

Response D8: Aerial hunting is used to take, survey, and radio-collar wolves. It is typically conducted in remote, back-country areas, but not always. WS in Montana also uses aerial hunting for coyotes and red fox.

When WS flies, the number of hours are recorded and the activity when something is done (e.g., 2 wolves radio-collared). However, if nothing is done (activities include ferrying from the airport to hunting areas, safety training, and hunting without take), only the hours are recorded and these cannot be separated from aerial hunting for other target animals. Thus, to analyze the number of hours for aerial hunting wolves, it is assumed that where no activity is entered that it is an equal percentage of the total animals targeted where the activity was entered. Table 2 gives the total hours of aerial hunting for FY10-FY12 and the number of wolves involved in the different activities. WS in Montana averaged taking 1 wolf per aerial hunting hour and an average of 2 per ranch hunted. The Colorado Predator EA (WS 2005) analyzed much higher hours of aerial hunting and found no significant impacts to target animals, recreationists, other wildlife from overflights (discussed in detail WS 2005), and hazards to people on the ground. Table 1, from Comment B18, shows the minimal number of accidents associated with aerial hunting by WS nationally. It should be noted that no person has ever been hurt on the ground. Additionally, WS avoids grizzlies as soon as they are seen per the Section 7 consultation with USFWS. We believe that Table 2 shows the minimal number of hours flown for wolves in Montana with half being done for surveying animals (locating radio-collared animals, checking new areas out, and so on). The average hours strictly aerial hunting wolves averaged 66 hours on 34 ranches where an average of 65 wolves was removed.

Table 2. Hours spent on aerial hunting activities by WS for wolves in Montana.

Activity	Number of Wolves				Aircraft Hours			
	FY10	FY11	FY12	Average	FY10	FY11	FY12	Average
Aerial Hunting	109	36	50	65	108.4	43.5	45.4	65.8
Surveying	120	50	87	86	75.8	17.8	50.8	48.1
Radio-Collaring	3	2	1	2	2.4	6.4	1.0	3.3
Nothing Taken/Ferry/Safety					81.4	23.0	44.1	49.5
Total	232	88	138	153	268.0	90.7	141.3	166.7
Ranches Hunted with Take	41	20	40	34				

Comment D9: The EA does not adequately address impacts to threatened, endangered and sensitive species (grizzlies (says no harm to pg. 85, but releasing grizzlies considered take under ESA), fisher, lynx, wolverine, and bald and golden eagles); WS implies that grizzlies are not in habitats below 5,000 ft, but they are, but we agree that WS actions will not jeopardize the grizzly population.

Response D9: We believe the EA discusses potential impacts to T&E and sensitive species adequately in Sections 2.3.2.1, 4.3.1.2, 4.3.2.2, and 4.3.3.2. As discussed (Table 4-4), the only take involving a T&E species during GWDM from FY92 to FY11 was a grizzly bear in FY07 which was subsequently freed. Thus, no T&E species has lethally been taken. Therefore, we believe the risks to be minimal. Additionally, WS abides by the SOPs discussed in Section 3.6 - Figure 3.2. These ensure that while the potential for take for some species may exist, this is reduced or nullified by these SOPs.

As far as grizzlies occurring below 5,000 ft., we do know that this occurs, but densities are much lower and less frequent.

Comment D10: Impacts on tourism and economic impacts were inadequately addressed.

Response D10: Section 1.4.2 discusses tourism for wildlife watching as an economic benefit to Montana. However, as discussed in Section 4.3.1.1, WS will not have an impact on the wolf population in Montana and, therefore, tourism and other economic benefits of wolves will be unaffected by GWDM. Therefore, we believe that this was adequately addressed.

COMMENTS ASSOCIATED WITH THE NEPA PROCESS

Comment E1: EA incorporated by reference USDA (1997) and tiered to it – data is outdated. EA inappropriately tiered to USDA (1997).

Response E1: Actually, USDA (1997) was incorporated by reference which is a way of citing an agency document and relevant portions of that EIS to reduce the bulk of the EA instead of repeating information that is already available. The EA did not tier to USDA (1997). Tiering is actually when a narrower document such as this EA, covering GWDM activities in Montana, incorporates another broader more all-encompassing document

that covers such activities as that discussed in the smaller document. By tiering, much information does not have to be repeated and the document incorporates the relevant portions of the entire document into the EA. However, WS did not tier to USDA (1997) because the document is considered outdated. Additionally, USDA (1997) used late 1980s data to analyze the effects of the WS nationwide program. At that time, GWDM was only being conducted in Minnesota as the NRM population had not been reintroduced. However, the parts that were cited primarily included parts of USDA (1997) that are not outdated material and relevant to the discussion where it was cited. For example, risk characterization of different methods was in Appendix P of USDA (1997) which still is applicable to this day. Thus, USDA (1997) is an important source of some information and cited at appropriate times, but not tiered to.

Comment E2: This EA sets precedence.

Response E2: We disagree. WS has conducted GWDM for many years including in the NRM DPS. In Montana, WS began assisting with capturing wolves in FY94, the year of the reintroduction, as guided by USFWS. The No Action in this EA is to continue the Current GWDM program. Since GWDM in Montana has been conducted from FY94 to present, and throughout several states where wolves are located, and since several states have completed EAs, clearly this EA will not be precedent setting.

Thus, take increased with the increasing wolf population, but the wolf population increased even though take increased which provides evidence that take has not been significant. WS has completed several GWDM EAs and conducted wolf damage management in Montana and other states for many years. Thus, the EA is not precedence setting.

Comment E3: WS did not do “scoping” when developing the EA.

Response E3: NEPA and CEQ implementing regulations [40 CFR 1501.4(d)] do not require scoping in the preparation of an EA but only require “scoping” in the preparation of an EIS. Regulations that guide WS in completing an EA include: *II.A.3.b. - Scope and Scoping. Scoping is a critical step in EIS development because it helps to define the direction of the analysis process. (Scoping can be useful in the preparation of an EA and a finding of no significant impact (FONSI), but is not required).* WS, nationally, has done many EAs and EISs and scoping for several of these documents. Scoping from these documents, comments on prior EAs in Montana and other states, concerns from interagency review, and other comments provide WS with a good idea of what concerns the public has and so these are covered in the EA. WS published a legal notice of availability of the EA as required by APHIS NEPA implementing procedures, and additionally e-mailed or mailed hard copies of the notice of availability to known persons or organizations believed to have an interest in wolf management and the EAs. Further, as noted in Section 1.10.5 of the EA, any new issues or alternatives identified during the public involvement period will be considered to determine whether the EA should be revisited prior to issuance of a decision.

Comment E4: WS failed to provide a cost:benefit analysis of GWDM; Federal agencies have formal guidelines for economic analysis, but USDA does not, but one should be done; livestock losses minor so a cost:benefit analysis should include financial costs (direct out-of-pocket expenses) and opportunity costs (value of predators [wolves] in society) and should be completed.

Response E4: Specific information to quantify benefits in terms of the value of wolf losses avoided by conducting GWDM in Montana is not available and difficult to quantify. CEQ regulations (40 CFR 1502.23) do not require a formal cost:benefit analysis to be in compliance with NEPA regulations. Since a major intent of WS is to be cost-effective within the confines of other SOPs, WS employees weigh the relative benefits with the cost of different GWDM tools to determine the most productive potential solution.

Comment E5: The EA adequately analyzed impacts and found no significant impact, so a FONSI should be completed. EIS needed because wolves are a keystone predator and essential to native ecosystem; EIS unnecessary as EA adequately shows no negative impact on the quality of the human environment, and, thus, would be another unnecessary expense; WS needs to prepare EIS; Withdraw EA and do an EIS because EA speculative and there are significant impacts on environment; WS has had no significant impact on the environment.

Response E5: The EA did not find significant impacts on the quality of the human environment. The decision-maker for the EA, the WS Western Regional Director, considers the EA and comments from the public to determine whether a FONSI and a Decision will be completed or an EIS will be written following NEPA protocol. Since it has been determined that no significant impacts will occur, a FONSI and Decision will be written. Thanks for your comments.

Comment E6: WS has a responsibility under ESA to consult and conserve.

Response E6: WS takes this responsibility seriously and has consulted with USFWS, as well as MFWP, on potential T&E species impacts and will continue to do so.

Comment E7: EA seems unnecessarily duplicative to the efforts of MFWP.

Response E7: MFWP wolf conservation plan does not satisfy the NEPA process. Thus, WS has to comply and has done so by writing an EA for GWDM in Montana.

Comment E8: EA needs to use sound science and should not ignore what studies have been done; WS relies on inaccurate information for EA; EA lacks scientific integrity (e.g., relies on USDA 1997 and data is outdated); Need a discussion relevant scientific evidence of reasonably foreseeable significant adverse impacts; info incomplete; info unavailable; need more peer-reviewed articles

Response E8: We disagree that the EA did not use sound science, lacks integrity, did not use the best available data and so on. Many of the articles used cited a multitude of articles to reach their conclusions such as the Montana Wolf Conservation and Management Plan (MFWP 2003) and Mech (2012). Therefore, we do not see this as a problem in the EA and believe it used the best available information to make an informed decision on whether WS should be involved in GWDM or not and to what extent.

Comment E9: EIS needs to be written because significant impacts (e.g., the take of one grizzly is significant to their population).

Response E9: An EIS is prepared if it is determined that a significant impact on the human environment will occur by carrying out a proposed action or another alternative selected in the EA process. However, the EA found no significant impacts, and thus an EIS does not need to be prepared. Sections 2.4.7 and 2.4.8 have additional discussion.

Comment E10: The EA does not include referenced documents necessary for public comment and full disclosure of impacts and analysis.

Response E10: The EA does not include all of the referenced documents because the cited documents in an EA is not required, but are cited appropriately so the reader can find the information, often on the internet or at least at the local library. Some documents may be difficult to access and can be requested from WS.

COMMENTS OUTSIDE SCOPE OF EA

Comment F1: Traps and snares set in open shallow water poses risks to nontargets.

Response F1: We believe that this comment was meant for an EA done for aquatic rodents. WS would rarely, if ever, use a water-set for wolves. Thus, we believe that this comment is outside the scope of the EA.

Comment F2: Should wolves have been reintroduced?

Response F2: Whether or not wolves were reintroduced is outside the scope of this EA and was determined in prior NEPA documentation by USFWS.

Comment F3: Are wolves really endangered where reintroduced if taken from non-endangered population?

Response F3: This is a question regarding implementation of the Endangered Species Act which is outside the scope of this EA.

Comment F4: Losses by other predators should be analyzed.

Response F4: The EA covered losses by wolves which provided a need for action. Other predators and their losses were outside the scope of this EA and have no bearing on the need for action in this EA.

Comment F5: Grizzly bear, lynx, and wolverine populations are declining from anthropogenic factors such as roads.

Response F5: We agree other factors could cause declines in T&E species and these are discussed where known in cumulative impacts to a nontarget species or as the environmental baseline since these mortalities are likely to occur. However, there is no way to affect these losses through this EA, just ensure that the cumulative effects are not causing declines.

Comment F6: WS failed to look at cumulative impacts including livestock grazing; The EA improperly excludes some issues from any consideration as outside the scope of analysis such as livestock grazing on public lands; Public lands ranching makes no sense economically or biologically; Voluntary grazing permit release.

Response F6: This was discussed in Section 2.5.4. Public lands grazing is outside the scope of this EA as WS has no authority for such activities as we are not a land management agency. Grazing on public lands is allowed and therefore, part of the environmental *status quo* or baseline.

Comment F7: Montana needs more law enforcement.

Response F7: The decision to hire additional law enforcement officers to protect wolves is outside the scope of this EA. From all indications, if WS continues to provide GWDM, some financial resources at MFWP will be freed to assist with wolf conservation. As part of MFWP and Tribes wolf conservation efforts is education. With more financial resources, MFWP and the Tribes could offer more education to the general public about wolves, but education for the general public was outside the scope of the EA.

Comment F8: WS use of toxicants such as M-44s and Livestock Protection Collars (LPCs) was not discussed in the EA – impacts to wolves, nontarget species, people and the environment.

Response F8: WS does not use the M-44, LPC, or any other toxicant for protection of livestock from wolves. These are not used in known occupied wolf habitat. Thus, their use is outside the scope of this EA.

The illegal use of chemicals was discussed in the EA and in some detail in Section 2.3.3. We believe the EA sufficiently addressed this issue.

Comment F9: The EA failed to consider wolf hunting as biologically harmful, unethical, and uneconomical; low cost for tags.

Response F9: Decisions regarding the sport hunting of wolves is made by the managing agency, which for Montana is MFWP and tribes. WS has no authority to affect decisions made with regards to hunting and the price of tags. Thus, these decisions are outside the scope of this EA.

Comment F10: Commenter does not like how MFWP manages dollars from wolf tag sales as well as monies they get from USFWS and believes it would be better to give to WS.

Response F10: WS has no authority over these funding sources and would have no effect on them in this EA. Thus, they are outside the scope of the EA.

Comment F11: Wolves do not have sufficient habitat and could easily be extirpated.

Response F11: The amount of habitat available for wolves cannot be altered by actions from this EA. This is the current environmental baseline which USFWS considered when they reintroduced wolves. The amount of habitat available will limit the wolf population to a certain size, "carrying capacity," but that has not likely been reached.

COMMENTS ON ALTERNATIVE SELECTION

Comment G1: Select the Proposed Action Alternative; Select Alternative 1 – the Current Program Alternative (Proposed Action); WS has done an awesome job and should continue with the Current Program; Select No Action Alternative; Fully support the No Action Alternative.

Response: This was Alternative 1, the Proposed Action/No Action/Current Program Alternative. Thank you for your comment.

Comment G2: Adopt Nonlethal before Lethal Alternative.

Response G2: This was discussed in Section 3.5.4 and dismissed as an alternative discussed in detail, since this is the basic premise of the Proposed Action Alternative.

Comment G3: Montana WS should not continue to be involved in GWDM in MT

Response G3: This was Alternative 3 or No WS GWDM in Montana. Thank you for your comment.

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