Re: Docket No. APHIS-2021-0055; Comments on Pre-Decisional Draft Environmental Assessment for Predator Damage Management in New Mexico

Dear New Mexico State Director, Wildlife Services:

Thank you for the opportunity to submit comments on the Pre-Decisional Draft Environmental Assessment (“EA”) for the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (“APHIS”), Wildlife Services’ (“Wildlife Services” and “WS-New Mexico”) Predator Damage Management (“PDM”) in New Mexico. These comments are submitted on behalf of WildEarth Guardians, Western Environmental Law Center, Project Coyote, the Animal Welfare Institute, Center for Biological Diversity, Rio Grande Chapter Sierra Club, Western Watersheds Project, Animal Protection Voters New Mexico, Western Environmental Law Center, The Rewildling Institute, Mountain Lion Foundation, (collectively, “Organizations”). The Organizations each work to protect and preserve wildlife and the environment of New Mexico. The Organizations have significant aesthetic, recreational, scientific, inspirational, educational and other interests in the conservation and proper management of New Mexico’s wildlife resources.

We incorporate by reference all previous comments and attachments we have submitted on Wildlife Services’ proposals to kill native wildlife in New Mexico.

Given the significant impacts of the proposed activities and their controversial nature, we encourage the program to prepare a full Environmental Impact Statement (“EIS”) for its proposed PDM activities in New Mexico.

I. INTRODUCTION

Wildlife plays an essential role in the environment of the American West. The return of native carnivores to the landscape after decades of government-sponsored eradication campaigns has begun to restore a vital balance to New Mexico’s natural ecosystems. Their presence aids in enhancing the abundant richness of wildlife and wild ecosystems that make New Mexico the unique and important landscape that it is. Many members of the public understand the critical role wildlife plays in New Mexico and have supported wildlife conservation for decades. It would be shameful to see the substantial investment in and significant progress towards the successful recovery of species like Mexican gray wolves, lynx, lesser prairie chicken, Mexican spotted owl, or California condors undermined by WS-New Mexico’s activities, which occur largely at the behest of a ranching and livestock industry whose killing campaigns have already eradicated Mexican jaguars from suitable
habitat\(^1\) in the state. Unfortunately, we fear that WS-New Mexico’s revised EA presents yet another example of agency capture.

On a broader note, Wildlife Services has lost the trust of the American public and wildlife scientists over its use of controversial animal damage control activities to primarily benefit agribusiness interests. Nationally, the Wildlife Services program has been marked by secrecy, controversy, public opposition, stale and deficient environmental reviews, and indiscriminate killings of millions of animals. The program killed over half a million native animals nationwide in 2020, per its own reporting.\(^2\) More specifically, more than 6,800 native animals were killed or euthanized, with another 5,079 burrows or dens removed or destroyed in New Mexico alone in 2020.\(^2\) Notably, these figures are likely much higher in reality, considering Wildlife Services’ history of inaccurate record keeping.

Wildlife Services spends millions of dollars each year to serve concentrated private interests and special interest groups. Almost 80 percent of Wildlife Services’ $3.38 million budget in New Mexico went toward the protection of agricultural resources.\(^3\) The absence of any binding regulatory framework to govern its activities, a scathing New York Times Editorial,\(^4\) and coverage of growing backlash against the program,\(^5\) particularly over the use of dangerous and indiscriminate sodium cyanide bombs,\(^6\) demonstrate that the program has lost touch with American values that are markedly shifting towards non-lethal strategies for managing conflicts with wildlife. Instead, Wildlife Services remains rooted in the past, entrenched in a culture of killing native carnivores at the expense of ecosystem health and sustainability.\(^7\)

WS-New Mexico is failing to meet its mission to “to provide federal professional

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leadership and expertise to resolve wildlife conflicts to help create a balance that allows people and wildlife to coexist.” The EA provides yet another example of Wildlife Services’ institutionalized belief that wildlife like Mexican wolves, coyotes, mountain lions, and foxes do not deserve to roam free throughout their Western homelands, but instead should be subject to aggressive lethal “management” by federal and state agencies.

This EA fails to justify its anachronistic and ineffective carnivore killing practices through meaningful and objective analysis, while providing lip-service to “balance” and “sustainability.” The EA incorrectly states that WS-New Mexico “recommends and/or implements a cohesive integrated wildlife damage approach, which incorporates biological, economic, environmental, legal and other information into a transparent wildlife damage management decision-making process, and includes many methods for managing wildlife damage, including non-lethal and lethal options.” We know this to be untrue, as the program has attempted to hide its killing activities, has consistently under-reported kill numbers, and has perpetuated a culture of “shoot, shovel and shut-up” with its field employees.

This EA demonstrates a deep bias toward lethal control of native carnivores, operating off the assumption that native carnivores, or “predators,” must be “controlled” to prevent “damage.” However, by the EA’s own admission, “damage” cannot even be defined by WS-New Mexico. Rather, “damage” is determined by individual tolerance of those who request WS-New Mexico’s assistance. Thus, much of the science showing the effectiveness of non-lethal technical assistance, showing the ecosystem impacts of carnivore killing, and showing social tolerance for carnivores increasing, is ignored and damage is determined by the requesting cooperator. This leads to reckless lethal removal strategies that are not only catastrophic to ecosystems, but also ineffective at preventing and deterring depredations and counter to the best available science. In fact, despite decades of conducting PDM in New Mexico, WS-New Mexico continues to field a similar number of complaints year after year. The EA states “the average number of conflicts WS-New Mexico recorded for the species in this EA is over 10,266 responses (Work Tasks) per year between 2015 and 2019 (MIS 2017). Out of the total number of responses, predator damage to livestock comprises 76.4% or an average of 6,397 annual responses.” PDM done by WS-New Mexico is not working and has been proven to be ineffective at deterring future conflicts, even by its own account.

The EA fails to accurately describe the baseline conditions of the area to be affected by the proposed action, fails to analyze an appropriate range of alternatives and fails to fairly analyze the alternatives it does consider. Moreover, the EA fails to take a sufficiently hard look at numerous issues as demanded by law, or adequately consider the best available science and consider the impacts of cumulative and similar actions as required by the National Environmental Policy Act (“NEPA”). The document falls short of providing any research from the last decade that even justifies killing carnivores as an effective solution to conflict with

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8 EA at Executive Summary.
9 Id.
11 EA at 36.
12 EA at 69.
livestock or humans. The document also fails to adequately consider impacts to threatened and
dangerous species and non-target animals, and special areas containing unique resources and
habitats. Lastly, the document fails to adequately consider impacts to special areas containing
unique resources and habitats, including Wilderness areas and Wilderness Study Areas. We
request that a full EIS be completed for the PDM program due to significant environmental
impacts and controversy surrounding the proposed activities

II. NEPA MANDATES THAT WS-NEW MEXICO MUST PREPARE AN EIS FOR
ITS NEW MEXICO PDM PROGRAM

The agency must prepare an EIS for this action because an EA is legally insufficient. In
enacting NEPA, Congress declared a national policy of “creat[ing] and maintain[ing] conditions
under which man and nature can exist in productive harmony.” 42 U.S.C. § 4331(a). NEPA is
intended to “ensure that [federal agencies] . . . will have detailed information concerning
significant environmental impacts” and “guarantee[] that the relevant information will be made
available to the larger [public] audience.” Blue Mountains Biodiversity Project v. Blackwood,
161 F.3d 1208, 1212 (9th Cir. 1998). There are two specific mechanisms whereby federal
agencies must evaluate the environmental and related impacts of a particular federal action – an
EA and an EIS. See 42 U.S.C. § 4332(c). These procedural mechanisms are designed to inject
environmental considerations “in the agency decision making process itself,” and to “help
public officials make decisions that are based on understanding of environmental consequences,
and take actions that protect, restore, and enhance the environment.” Dep’t of Transp. v. Pub.
Citizen, 541 U.S. 752, 768-69 (2004) (quoting 40 C.F.R. § 1500.1(c)).

Pursuant to NEPA, an EIS must be prepared for every “major Federal action significantly
affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(c); see also 40 C.F.R. §
1508.27. Furthermore, “[a] determination that significant effects on the human environment will
in fact occur is not essential” for an EIS to be required; “[i]f substantial questions are raised
whether a project may have a significant effect upon the human environment, an EIS must be
prepared.” Sierra Club v. U.S. Forest Serv., 843 F.2d 1190, 1193 (9th Cir. 1988) (emphasis
added); Idaho Sporting Congress (ISC) v. Thomas, 137 F.3d 1146, 1149 (9th Cir. 1998)
(requiring preparation of an EIS “if substantial questions are raised as to whether a project may
cause significant degradation of some human environmental factor”); W. Watersheds Project

Under NEPA’s implementing regulations,13 “significance” requires consideration of both
context and intensity. 40 C.F.R. § 1508.27. “Context” refers to the scope of the activity,
including the affected region, interests, and locality, which varies with the setting of the action,
and includes both short and long-term effects. 40 C.F.R. 1508.27(a) (2018). “Intensity” refers to
the severity of impact, as determined by consideration of ten factors. 40 C.F.R. § 1508.27(b); see

13 On July 16, 2020, the Council on Environmental Quality (“CEQ”) issued an Update to the Regulations
Notably, the EA states: “[f]or this EA, WS will proceed under the 1978 NEPA regulations and existing APHIS
procedures because this EA was initiated prior to the September 14, 2020 NEPA revisions.” EA at 52. Thus, the
revised regulations are not applicable to this decision document.
also Blue Mtns. Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998). The BLM failed to adequately evaluate both the “context” and “intensity” of the proposal.

First, with respect to both “significance” and “context,” WS-New Mexico must prepare an EIS due to the breadth and scope of the project. The WS-New Mexico program is intentionally designed to have more than insignificant environmental effects. As the EA states, the goal of the WS-New Mexico PDM program is to manage predator damage and threats of future damage to livestock, property, human and pet health and safety, as well as natural resources by responding to all requests for assistance, including technical and direct operational assistance, by both public and private entities throughout the state. As such, the purpose of WS-New Mexico PDM program – annually removing thousands of native carnivores and other wildlife from the environment in the hopes of altering the environment for other species, such as domestic livestock, game animals, or species of ecological concern, is, by design, intended to significantly affect the environment.

The sheer number of native animals killed by WS-New Mexico on an annual basis, combined with the immensely broad geographic scope of those wildlife killing activities, demonstrates the environmental significance of the WS-New Mexico PDM program. In 2020 alone, the most recent year for which data is available, WS-New Mexico reported intentionally killing 3,139 coyotes, 4 endangered Mexican gray wolves, 6 foxes (including the unintentional take of 1 swift fox and 1 kit fox; both species have experienced recent large declines in population and face unknown distribution in New Mexico), 7 bobcats, 4 black bears, 2 mountain lions, and hundreds of other animals, primarily birds, including various species of doves, ducks, geese, grackles, pigeons, and hawks.

WS-New Mexico refuses to analyze the site-specific impacts of its predator control actions and ignores the environmental significance to local wildlife populations and ecosystems by pointing to statewide predator population estimates, most of which are uncorroborated by any actual monitoring data or only marginally supported by decades-old data. See WWF v. USDA APHIS Wildlife Services, 320 F. Supp. 3d at 1147 (rejecting Wildlife Services’ attempt to minimize the significance of its actions by presuming that it kills a relatively small number of predators relative to estimated statewide populations).

Second, with respect to “intensity,” multiple NEPA “significance” factors are triggered by the proposed action, indicating that the environmental impacts of the BLM’s proposal may, both individually and cumulatively, have significant environmental impacts, thus requiring the BLM to prepare an EIS. 42 U.S.C. § 4332(C); see also Utah Shared Access All. v. U.S. Forest Serv., 288 F.3d 1205, 1207 (10th Cir. 2002) (stating that if an action will significantly affect the environment, the agency is required to prepare an EIS), WildEarth Guardians v. Conner, 920 F.3d 1245, 1251 (10th Cir. 2019) (same). The “obligation to conduct an EIS can be triggered by

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14 EA at 183.
15 EA at 239.
17 Id.

The following significance factors are triggered here:

1. **40 C.F.R. § 1508.27(b)(2): the degree to which the proposed action affects public health or safety**

   Wildlife Services’ New Mexico PDM program may have significant negative effects on public safety. See 40 C.F.R. § 1508.27(b)(2). As part of its proposed actions, Wildlife Services intends to deploy poisonous gas discharge systems in New Mexico, including the use of M-44 sodium cyanide devices, as well as the continued use of lead shot despite “gravitating toward” non-lead ammunition. There is no question that exposure to sodium cyanide and lead presents a risk to public health and safety. The agency’s additive contribution to sodium cyanide and lead, even on private property, in New Mexico’s environment threatens a cumulatively significant impact.

   The EA’s discussion of M-44s in New Mexico is inadequate. While planning to modify is operations to address Senate Bill 32, “Wildlife Conservation and Public Safety Act” (SB-32), the program fails to take accountability for the danger, trauma and accidental deaths M-44s have caused in New Mexico and beyond. Further, despite state legislation that M-44s cannot be used on public land, WS-New Mexico has stated that approximately 59% of statewide take by M-44s occurred on Private Land. The EA makes clear that WS-New Mexico failed to consider not using M-44s altogether. Wildlife Services cannot summarily conclude the risk of these devices is insignificant while wholly ignoring the growing body of empirical evidence that shows otherwise.

   Over the past couple decades there have been dozens of reported instances of human and pet exposure to sodium cyanide as a result of contact with M-44s, involving at least 26 Wildlife Services employees and 18 members of the public. The Humane Society of the United States (“HSUS”) obtained the following data on M-44 exposure to people and pets from a Freedom of

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18 EA at 302.
20 EA at 126.
Information Act (“FOIA”) request to the EPA and other sources. This list is not exhaustive, but rather, highlights the impacts that the EA fails to consider:

- In 1994, in Oregon, Amanda Wood Kingsley was exposed to sodium cyanide after her dog triggered an M-44 on her private property. Ms. Wood suffered secondary poisoning after she gave her dog mouth-to-mouth resuscitation.

- In 1998, in Texas, Bill Guerra Addington was exposed to an M-44. He documented his encounter: “I noticed what appeared to be a rusted rod sticking out of the ground about 15 ft from the watering tank I bent over to pull the rod out of the ground. After I grabbed the top and moved the ‘metal rod’ back and forth to remove it from the ground, it exploded in my hand. I looked at my hand and saw it was all cut up and burned, and there was yellow powder all over it. The yellow powder was even burnt into the burns and cuts on my hand. My hand was bleeding and was starting to swell from the explosion trauma . . . I was puzzled why a 'coyote getter’ would be on our private land. The pain was really bad for about 2 hours. My hand healed slowly. I had a yellow palm for five or six months.”

- On March 3, 1999, while irrigating his farm in Crawford, Colorado along with his three-year-old daughter and his dog, Paul Wright witnessed his dog’s death after the dog triggered an M-44 illegally placed on Mr. Wright’s private property. A lawsuit was filed February 2000 in federal court and the matter settled in 2001 for $10,000.

- In December of 1999, a private landowner tried to remove an M-44 placed on property that he was leasing and accidentally triggered the device.

- In November of 2002, a woman accidentally triggered an M-44 device placed on her property. She experienced increased respiratory rate and eye irritation but was able to drive herself to the hospital.

- On March 12, 2002, a Wildlife Services specialist transported set M-44s in his truck. He reached for bait, triggering one. The cyanide caused his eyes to burn and he had a bad taste in his mouth. He drove to a stock tank to fill an eye flush bottle which “increased exposure time” he went to an emergency room for treatment.

- In April 2006, Sharyn and Tony Aguiar’s two-year-old German shepherd was killed at a rock quarry in Utah. In a June 21, 2006 internal memorandum to colleagues, then-Utah State Director of Wildlife Services Michael J. Bodenchuk, wrote: “After investigation of the M-44 device in this case followed all applicable laws, regulations and policies and no negligence occurred on our part. It is unfortunate that a dog was killed in this area. I have concerns about the government settling cases with dog owners because it is all too easy for someone to intentionally take a dog into an area posted with signs with the intention of getting the dog killed. I recommend against settling this claim.”

- On December 23, 2006 a coyote hunter, who had been “calling” coyotes in Utah, sat...

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down near a device that he had not detected. Moments later, his dog pulled the M-44 and died.

- On May 17, 2007, a Texas man spraying mosquitoes in an oil field “kicked or stepped” on an M-44 and cyanide was “ejected into his eyes” and he suffered “irritation” and “burning” and was admitted to a hospital. In his Brazoria County Sheriff report, Officer Shanks reports that the victim drove himself to a small business where a woman found him disoriented and asking for help. Officer Shank was ordered to “go home immediately and take a shower”; he writes: “I informed everyone on the scene who came into contact with the victim to shower immediately also.”

- On February 16, 2011, a border patrol agent in Texas kicked an M-44 and then pulled it with his gloved hand, which discharged the device. The agent then read a “nearby M-44 individual device warning sign” and called an ambulance and went to hospital.

- On March 13, 2017, in Pocatello, Idaho, 14-year-old Canyon Mansfield walked up a hill from his house. He found an M-44 and thought it was a sprinkler. He pulled it and it asphyxiated his dog, Casey. Canyon and the sheriff’s deputy who came to investigate were both hospitalized for cyanide exposure. The matter has seen considerable public attention both nationally and internationally. Canyon was seriously ill following his exposure to cyanide.

From 2010 to 2016, more than 415 dogs were killed by M-44s. Most recently in 2020, Wildlife Services reported unintentionally killing 19 dogs that were “feral or free-ranging.” In reality, many of these dogs were likely family pets running off-leash. While Wildlife Services may no longer use M-44s on public land as a result of SB 32, WS-New Mexico clearly intends to continue using these devices on private land. As family pets may run off-leash and these dogs, not to mention native wildlife, cannot distinguish boundaries between private and public land, risk to these animals as well as the public safety and health of humans will still be an issue when such indiscriminate devices continue to be employed. Wildlife Services has failed to provide an adequate explanation of why similar events are not reasonably foreseeable in New Mexico, particularly if WS-New Mexico intends to continue using indiscriminate killing methods across large swaths of private land.

The EA also fails to acknowledge the fact that Wildlife Services has received criticism from other governmental agencies, and misinterprets a series of audits, the most recent in 2018, by the USDA’s Office of Inspector General, which revealed Wildlife Services' inability to track how its program funds are being spent, pointing to holes in the program’s oversight. In 2004, 2005 and 2006, the USDA’s Office of Inspector General (“OIG”) released audits revealing

25 Id.
26 Id.
that APHIS was not in compliance with the Bioterrorism Preparedness and Response Act. OIG’s 2004 audit showed that Wildlife Services’ aircraft were not secured and could potentially be used in terrorist attacks. In the 2005 audit, the OIG found that APHIS had not secured “dangerous biological agents and toxins.” In the 2006 audit, the OIG found that APHIS was not complying with regulations concerning the security of toxins, that it had not secured access from unauthorized persons, that individuals using toxicants did not have adequate training, and that inventories had not been maintained to prevent the illegal possession (theft), transfer, or sale of these toxicants. The OIG selected 10 of 75 sites to visit, and none were in compliance with the Bioterrorism Preparedness and Response Act.

By its own account, Wildlife Services had seventeen accidents occur between 2000 to 2016 while conducting aerial shooting operations. These accidents resulted in ten fatalities and 28 injuries to federal employees and contractors. This clearly indicates a threat to human safety that must be evaluated in an EIS.

Moreover, this EA also improperly downplays the environmental risks associated with adding lead to the environment through the use of lead ammunition. Rather, the EA points to the impacts of other lead sources like gasoline, then states their impacts from lead ammunition and sinkers is “substantially smaller.” After listing other sources of lead pollution, and minimizing the program’s potential impacts, WS-New Mexico states that switching to non-lead ammunition would be too cost prohibitive. However, the program has no qualms about spending $865/hour on dangerous aerial shooting operations, and that dollar amount does not include food, lodging and transportation, etc. The localized impacts of the use of lead shot must be evaluated in greater detail in the EA. The U.S. Fish & Wildlife Service has recognized this risk, stating “we recommend discussing in detail that lead bullets fragment in shot animals, that many raptors/eagles can feed off of one single carcass, and that a very, very small amount of lead (tiny fragment) can kill an eagle.” Pls. Summary Judgment Memorandum, Case 1:17-cv-00206-BLW (ECF No. 18-1, filed Jan. 26, 2018).

Thus, accurate baseline data is necessary to properly examine the potentially significant impact on the local level (e.g. specific ecosystems), especially the cumulative impact when combined with lead from other sources. Using lead ammunition, especially when just a tiny fraction of that could kill non-target wildlife, raises a substantial question about whether WS-New Mexico’s PDM program may have a significant impact. See Sierra Club, 843 F.2d at 1193. As a result, an EIS must be prepared to more thoroughly evaluate that issue.

The use of steel-jaw leghold traps, snares, and body-crushing traps creates a safety hazard for humans and companion animals. People, including children, have been caught and injured in these devices. An EIS is required to fully assess the risks that these devices pose to human and

29 EA at 302.
30 Id.
31 Id at 9.
companion animal health and safety.

2. **40 C.F.R. § 1508.27(b)(4) and (b)(5): the degree to which the effects on the quality of the human environment are likely to be highly controversial, and to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks**

   WS-New Mexico’s wildlife killing program is highly controversial and involves uncertain effects and unknown risks. A proposal is highly controversial, mandating preparation of an EIS, when: (1) “substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor;” or (2) there is “a substantial dispute [about] the size, nature, or effect of the major Federal action.” *Nat’l Parks & Conservation Ass’n. v. Babbitt*, 241 F.3d 722, 736 (9th Cir. 2001); see also *Hillsdale Environmental Loss Prevention, Inc. v. U.S. Army Corps of Engineers*, 702 F.3d 1156, 1181 (10th Cir. 2012) (“Controversy in this context does not mean opposition to a project, but rather a substantial dispute as to the size, nature, or effect of the action.”). A substantial dispute exists “when evidence, raised prior to the preparation of an EIS or FONSI, casts serious doubt upon the reasonableness of an agency’s conclusions.” *Hillsdale*, 702 F.3d at 1181.

   Furthermore, where “the environmental effects of a proposed action are highly uncertain or involve unique or unknown risks, an agency must prepare an EIS.” *Ocean Advocates v. Army Corps of Engineers*, 361 F.3d 1108, 1129 (9th Cir. 2004) (citing 40 C.F.R. § 1508.27(b)(5)). “Preparation of an EIS is mandated where uncertainty may be resolved by further collection of data . . . or where the collection of such data may prevent speculation on potential . . . effects. The purpose of an EIS is to obviate the need for speculation by ensuring that available data are gathered and analyzed prior to the implementation of the proposed action.” *Nat’l Parks*, 241 F.3d at 732 (internal citations omitted). An agency’s “lack of knowledge does not excuse the preparation of an EIS; rather it requires the [agency] to do the necessary work to obtain it.” *Id.* at 733.

   Courts have invalidated APHIS-WS’ prior EAs for its PDM programs in other states, holding the preparation of a full EIS was necessary because the agency’s proposed actions – the same actions proposed here – gave rise to highly controversial and uncertain environmental effects. For instance, in *Wildlands v. Woodruff*, 151 F. Supp. 3d 1153, 1165 (W.D. Wash. 2015), the court applied these factors in finding that Wildlife Services’ proposed wolf killing in the State of Washington was highly controversial and the intended effects highly uncertain, because there was significant disagreement among experts about whether wolf control actually reduces livestock depredations. Similarly, in *WWP v. APHIS-WS*, 320 F. Supp. 3d 1137, 1147-48 (D. Idaho 2018), the court rejected Wildlife Services’ attempts to downplay the potential significance of its PDM program on the local-level by asserting its activities are dispersed throughout the state and by pointing to statewide population estimates and the overall annual take of predators statewide. Also, unconvincing, as the court explained, “are the agency's attempts to explain away scientific challenges to the effectiveness of predator removal.” *Id.* at

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33 See also https://www.animallaw.info/case/western-watersheds-project-v-usda-aphis-wildlife-services.
The same is true here. Wildlife Services again fails to squarely address why the large body of scientific literature and research shows the functional ineffectiveness of its lethal control methods in preventing future losses of livestock does not amount to a serious controversy indicating the need for an EIS.

Wildlife Services has failed to show that their efforts do not lead to higher livestock losses and the scattering of predators around the landscape after breaking up social networks with lethal control methods. The scientific controversy has largely resolved that the evidence for lethal control is: (a) weak and (b) there are as many or more studies finding counterproductive increases in livestock losses as there are either finding no effects or finding the desired effects of lower livestock losses. Moreover, the few outdated studies that show the desired effects have been shown to have fatal flaws in research design, so their conclusions cannot be relied upon.34 This research creates a substantial dispute about the effectiveness of WS-New Mexico’s PDM activities and “casts serious doubt upon the reasonableness of [the] agency’s conclusions,” requiring the preparation of an EIS. Nat’l Parks & Conservation Ass’n, 702 F.3d at 1181; 40 C.F.R. §§ 1508.27(4), (5).

And, while a growing body of science points to many undesirable, indirect ecological consequences of removing predators from native ecosystems (i.e. “trophic cascades”), the EA, at a minimum, shows the cascading effects of the PDM program involve a great deal of scientific uncertainty, further indicating the need for an EIS. 40 C.F.R. § 1508.27(b)(5); see e.g., EA, pp. 357, 608 (explaining “[i]t is extremely difficult to establish complex causal links between the indirect effects of top predators cascading over several trophic levels, and is still the subject of modern studies”). Moreover, Wildlife Services’ dismissal of all of this science as irrelevant primarily because the agency’s actions “do not result in long-term extirpation or eradication of any native wildlife species,”35 was also already rejected by at least one district court: WWP v. APHIS-WS, 320 F. Supp. 3d at 1147-48.

The cascading effects of large carnivores on other species and their ecosystems can be felt when it occurs at very local scales (e.g., the centers of single wolf pack territories in Wisconsin saw recolonization by threatened and endangered understory plants because deer were too afraid of the wolves to linger and over-browse in such areas).36 Therefore, one need only reduce the functional effect of large carnivores in their own range to remove the potential ecological benefits and cause a cascade of effects. Wildlife Services’ position that there is a “maximum sustainable harvest” that an ecosystem can sustain is simply false.37 As such, this factor weighs in favor of preparation of an EIS.

Additionally, WS-New Mexico’s actions involve unknown risks: the EA does not

35 EA at 268.
37 EA at 191.
identify specifically where PDM will occur. While the science that WS-New Mexico cites to support its activities does not flatly contradict the assumption that carnivore control will achieve desired objectives, it shows there is significant uncertainty about whether carnivore control works. Furthermore, the very nature of placing a trap leads to uncertain results: Will WS-New Mexico trap the target animal? Will it catch a non-target species? Will WS-New Mexico accidentally trap a federally listed species? Will the animal die? Will the animal be alive when the trap is checked? Will the animal be severely injured? All of these basic questions show that WS-New Mexico’s actions have uncertain outcomes, and this uncertainty requires the preparation of an EIS. Similarly, there exist unknown risks, including potential for human death or injury as the result of an aerial operations accident or through being caught in a steel-jaw leghold trap, snare, or body-crushing trap.

3. **40 C.F.R. § 1508.27(b)(6): the degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration**

WS-New Mexico’s predator-killing program affects unique, specially protected, and ecologically critical areas. While WS-New Mexico had not conducted PDM activities in wilderness or Wilderness Study Areas (WSAs) between FY15 and FY19, the EA states there is the possibility that PDM will be conducted in congressionally designated wilderness areas and WSAs in the future. As such, this proposal may establish a precedent for future actions with significant environmental effects, which further points to the need for an EIS.

Furthermore, while the EA identifies certain other ecologically critical areas, like wildlife refuges, it does not provide any analysis of the expected impacts on these important areas. The EA also does not adequately examine the impacts to federally designated critical habitat for threatened or endangered species, or other specially protected areas such as Wild & Scenic River corridors that will likely be affected by the WS-New Mexico PDM program. Overall, this factor weighs heavily in favor of preparing an EIS. 40 C.F.R. § 1508.27(b)(3); WWP v. USDA APHIS Wildlife Services, 320 F. Supp. 3d at 1150 (holding Wildlife Services’ plans to kill predators in congressionally designated wilderness and WSAs further warranted an EIS).

4. **40 C.F.R. § 1508.27(b)(7): whether the action is related to other actions with individually insignificant but cumulatively significant impacts**

WS-New Mexico’s wildlife killing program is likely to have cumulatively significant environmental effects. A project will have a “significant” impact “if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.” 40 C.F.R. § 1508.27(b)(7). If several actions have a cumulative environmental effect, “this consequence must be considered in an EIS.” N. Plains Resources Council v. Surface Transportation Bd., 668 F.3d 1067, 1076 (9th Cir. 2011); Blue Mountains, 161 F.3d at 1214. As explained in Section III, Wildlife Services failed to take the requisite ‘hard look’ at potentially significant cumulative impacts to local predator populations and ecosystems. WS-New Mexico’s operations contribute

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38 EA at 330.
39 EA at 174.
substantially to the deaths of a high percentage of the state’s native carnivore populations each year.\textsuperscript{40} The cumulative impacts of killing such high proportions of these predators are significant, both for the species themselves, and for ecosystems they inhabit. As a result, an EIS must be prepared.

5. \textit{40 C.F.R. § 1508.27(b)(9): the degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973}

WS-New Mexico’s wildlife killing program is likely to adversely affect threatened and endangered species listed under the Endangered Species Act (ESA) and their designated critical habitats. See 50 C.F.R. § 17.11(h). As discussed in more detail, \textit{infra}, WS-New Mexico has completed informal and formal consultation with the U.S. Fish and Wildlife Service (USFWS) for effects from all of its activities on federally-listed threatened and endangered species. The effects analyses and findings pertinent to this EA are based on the WS-New Mexico Biological Assessment (BA) for all WDM activities in 2014, which found that “PDM activities have the potential to affect the Mexican wolf, jaguar, lynx, lesser prairie chicken, and Mexican spotted owl.”\textsuperscript{41} In light of the indiscriminate methods used by WS-New Mexico, even if only applied to private land, – including the use of M-44 sodium cyanide bombs, traps, snares, and poisons – Wildlife Services’ history of unintended take of endangered and threatened species, and the unknown whereabouts of some of these species as they return to the state, demonstrates there is sufficient risk to these species to necessitate the preparation of an EIS.

6. \textit{40 C.F.R. § 1508.27(b)(10): whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment}

The proposal may result in incidental take of species listed under the ESA, 16 U.S.C. §§ 1531 \textit{et seq.}, and it is not apparent that WS-New Mexico has complied with the ESA to address such take. Congress passed the ESA in 1973 to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species . . . .” 16 U.S.C. § 1531(b). Under Section 7 of the ESA, Congress charged every federal agency with the duty to conserve imperiled species, which the ESA explicitly elevates over the primary missions of federal agencies. 16 U.S.C. § 1536(a). In furtherance of this duty, the ESA requires every federal agency to obtain review and clearance for activities that may affect listed species or their habitat from the USFWS or the National Marine Fisheries Service (“NMFS”). If an activity authorized, funded, or carried out by a federal agency may affect a listed species or its designated critical habitat, that activity cannot go forward until consultation with USFWS or NMFS is completed to ensure that it will not jeopardize the species or result in the destruction or adverse modification of designated critical habitat. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a).

Furthermore, the listing of a species under the ESA triggers prohibitions under Section 9 of the Act, 16 U.S.C. § 1538, including the prohibition on the “take” of species, which includes “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to

\textsuperscript{40} EA at 267, Table 3.18.
\textsuperscript{41} EA at 239.
engage in any such conduct.” 16 U.S.C. § 1532(18). The prohibitions in Section 9 of the ESA encompass “incidental take,” or take that is not a direct goal of the proposed action. During Section 7 consultation, if USFWS or NMFS concludes that take will not jeopardize the species, then the agency may issue an Incidental Take Statement that specifies the impacts of the incidental take on the species, mitigation measures, reporting requirements, and any other terms and conditions with which the action agency must comply. 16 U.S.C. § 1536(b)(4)(C).

Several lethal methods identified in the EA are indiscriminate and have the potential to kill or injure non-target species, including listed threatened and endangered species that occur in New Mexico. These indiscriminate methods include steel-jaw leghold traps, snares, body-crushing traps, and M-44s. Also, of concern is the use of lead ammunition, which has a high risk of poisoning non-target animals. As mentioned above, M-44s are so deadly that they have caused the deaths of two grizzly bears, and in New Mexico, in 2020 alone, WS-New Mexico accidentally killed 1 red fox, 2 gray foxes, and a dog with M-44’s. Also, of concern is the use of lead ammunition, which has a high risk of poisoning non-target animals. As mentioned above, M-44s are so deadly that they have caused the deaths of two grizzly bears, and in New Mexico, in 2020 alone, WS-New Mexico accidentally killed 1 red fox, 2 gray foxes, and a dog with M-44’s.43 Wildlife Services’ data also demonstrates that in New Mexico in 2020 it was responsible for the “unintentional take” of 1 bobcat, 1 black bear, 1 striped skunk, 1 swift fox, 1 kit fox, 3 gray foxes, 2 porcupines, 2 raccoons, 1 badger 1 cat, and 1 dog through its use of neck snares, foot snares, and steel-jaw leghold traps.44 The indiscriminate nature of these types of traps is particularly concerning because bobcats, which are sometimes a target of Wildlife Services, and Canada lynx, a threatened species, are morphologically similar and have overlapping ranges in New Mexico. Without critical habitat designation in New Mexico, it is even more important that WS-New Mexico thoroughly reviews its impacts on the species within an EIS. Moreover, endangered Mexican gray wolves that disperse could be vulnerable to M-44s intended for coyotes. On the whole, there is a significant risk that certain methods WS-New Mexico is proposing in the EA will result in incidental take, which threatens to violate the ESA. Thus, an EIS is required to evaluate this risk further.

III. WS-NEW MEXICO FAILED TO TAKE THE REQUISITE HARD LOOK AT NUMEROUS ISSUES

NEPA requires WS-New Mexico to take a “hard look” at all of the consequences of its proposed actions. The statute’s twin objectives are to: (1) ensure that WS-New Mexico “consider[s] every significant aspect of the environmental impact of a proposed action,” and (2) “inform the public that it has indeed considered environmental concerns in its decision-making process.” Earth Island Institute v. U.S. Forest Service, 442 F.3d 1147, 1153–54 (9th Cir. 2006) (citing Kern v. U.S. Bureau of Land Management, 284 F.3d 1062, 1066 (9th Cir. 2002)); see also Baltimore Gas and Elec. Co. v. Natural Res. Def. Council, 462 U.S. 87, 100 (1983) (NEPA’s focus is on ensuring that agencies take a “hard look” at potential environmental impacts and environmentally enhancing alternatives “as part of the agency’s process of deciding whether to

44 Id.
pursue a particular federal action”). The Code of Federal Regulations clearly states that NEPA procedures must ensure that environmental information is “of high quality” because “[a]ccurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.” 40 C.F.R. § 1500.1(b). Likewise, agencies and programs of the federal government “shall insure the professional integrity, including scientific integrity, of the discussions and analyses” in environmental review documents. Id. at § 1502.24. Where scientific uncertainty is present, Wildlife Services must openly analyze the reputable opinions contrary to its proposed action. Sierra Club v. Bosworth, 199 F. Supp. 2d 971, 980 (N.D. Cal. 2002).

In order to satisfy the “hard look” mandate, NEPA requires agencies to disclose and analyze all foreseeable impacts from their proposed actions, both “direct” and “indirect” as well as “cumulative.” 40 C.F.R. §§ 1502.16; 1508.7, 1508.8. An agency must engage in a “reasoned evaluation of the relevant factors” to ensure that its ultimate decision is truly informed. Greenpeace Action v. Franklin, 14 F.3d 1324, 1332 (9th Cir. 1992). An agency’s failure to use the most up-to-date information and tools available, or the inclusion of erroneous information, undermines the public’s confidence in the environmental review document and renders it legally defective. Tribal Village of Akutan v. Hodel, 869 F.2d 1185, 1192 n. 1 (9th Cir. 1989). Without accurate, up-to-date information, there is no way for the public or the agency to adequately assess the pros and cons of a proposed action. This EA fails to comply with these obligations for numerous reasons.

A. The Ecological Impacts of Reduced Carnivore Populations Is Not Evaluated in Sufficient Detail

Wildlife Services must consider its wildlife killing program’s impacts on biodiversity and ecosystems in sufficient detail. WS-New Mexico cannot simply state “WS-New Mexico does not dispute the significance of the ecological role played by predators. APHIS-WS shares concerns with the public and scientific community for the integrity of ecological systems in which we live, work, and recreate,”46 then assert that WS-New Mexico could sustainably increase their cougar-killing (2 were killed in 2020) to up to 40 cougars.47 These two statements are contradictory and it is clear from WS-New Mexico’s actions that the latter is true. WS-New Mexico does not share the concerns of the science community or the public, or their actions on the ground would evolve. The current wildlife killing program raises significant concerns about the potential for trophic cascades and mesopredator release. While WS–New Mexico considers modern, peer-reviewed science on the ecosystem impacts of lethal control, it quickly disregards modern science in favor of studies from the 1970’s.48 This ecosystem issue warrants an in-depth analysis, with weight given to the studies produced in the last two decades49, even if WS-New Mexico does not intend to totally eradicate native wildlife populations. Adverse ecosystem effects can occur well before the eradication of a species at both local and regional scales.

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46 EA at 265.
47 EA at 209.
48 EA at 194.
In Fiscal Year 2020, WS-New Mexico reported that it killed/euthanized or removed/destroyed more than 6,861 native animals, which included over 3,100 coyotes.\textsuperscript{50} As high as these numbers are, reports have indicated that “[t]he field guys do not report even a fraction of the non-target animals they catch.”\textsuperscript{51} The removal of so many animals from the environment – especially carnivores – certainly alters native ecosystems directly, indirectly, and cumulatively.\textsuperscript{52}

Literature indicates that killing wildlife at this scale has contributed to the localized extinction (extirpation) of many North American species, and has fundamentally altered ecosystems at a local, regional, and continental scale.\textsuperscript{53} There is a consensus emerging among ecologists that extirpated, depleted, and destabilized populations of large predators are negatively affecting the biodiversity and resilience of ecosystems.\textsuperscript{54} Wildlife Services, however, has recently claimed that it need not consider these impacts because its lethal activities do not affect species at the population level statewide, and that it only kills target animals. The claim is unsupported, however, and in fact is undermined by Wildlife Services’ own reporting. Requiring “population-level impacts” is not the proper test for analysis under NEPA. Even if it were, the sheer scale of killing that occurs under the program, particularly on a regional scale, belies Wildlife Services’ claims that only a few offending animals are killed. Furthermore, the Forest Service has stated in other contexts that Wildlife Services’ failure to analyze the ecological impacts of its activities violates Forest Service policy and would preclude Wildlife Services from being able to conduct operations in designated Wilderness areas.\textsuperscript{55}

Many of the species targeted by WS-New Mexico play critical roles in ecosystems, and their removals result in a cascade of unintended consequences. The loss of top carnivores in particular is well documented to cause a wide range of “unanticipated impacts” that are often profound, altering “processes as diverse as the dynamics of disease, wildfire, carbon sequestration, invasive species, and biogeochemical cycles.”\textsuperscript{56}

An overview of ecological principles illustrates this. “Predators” are animals that prey on other animals.\textsuperscript{57} “Apex” predators such as coyotes and mountain lions have few or no predators

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\textsuperscript{50} Id.
\textsuperscript{52} John Winnie Jr., Scott Creel; Montana State University. “\textit{The many effects of carnivores on their prey and their implications for trophic cascades, and ecosystem structure and function},” Food Webs, Volume 12, September 2017, Pages 88-94.
\textsuperscript{54} Bradley J. Bergstrom, Carnivore conservation: shifting the paradigm from control to coexistence, Journal of Mammalogy, Volume 98, Issue 1, 8 February 2017, Pages 1–6, \url{https://doi.org/10.1093/jmammal/gyw185}
\textsuperscript{55} K. Connaughton, Comment RE: Gray Wolf Damage Management in Oregon EA (2012).
\textsuperscript{56} B.J. Bergstrom et al., \textit{License to Kill: Reforming Federal Wildlife Control to Restore Biodiversity and Ecosystem Function}, 7 CONSERV. LETTERS 131–42 (2013); J.A. Estes et al., Trophic Downgrading of Planet Earth, 333 SCIENCE 301–06 (2011).
\textsuperscript{57} A.S. LEOPOLD ET AL., CARNIVORE AND RODENT CONTROL IN THE UNITED STATES 9 (1964)(“The assertion that native birds and mammals are in general need of protection from native carnivores is supported weakly, if at all, by the enormous amount of wildlife research on the subject conducted in the past two or three decades.”).
of their own and occupy the top of the food chain. Apex predators create a trophic cascade of beneficial effects that flow through and sustain ecosystems and the web of life. For example, coyotes help to control disease transmission by keeping rodent populations in check, consume carrion, remove sick animals from the gene pool, disperse seeds, protect ground-nesting birds from smaller carnivores, and increase the biological diversity of plant and wildlife communities.

In particular, because WS-New Mexico is proposing a drastic increase in the number of mountain lions it kills each year, the role of mountain lions in the ecosystem must be more thoroughly addressed. Mountain lions play important roles in maintaining ecosystem health, diversity and integrity. For example, mountain lions contribute a disproportionate amount of carrion to the landscape, supporting at least 39 species of birds and mammals. Additionally, recent research found that mountain lions act as ecosystem engineers, providing habitat to at least 215 different species of beetles, including the federally endangered American burying beetle (*Nicrophorus americanus*). Furthermore, in addition to helping regulate herbivore numbers through predation, the mere presence of mountain lions and wolves on the landscape can help to reduce over-browsing of plants and shrubs by herbivores, such as deer, elk and moose and maintain ecosystem integrity.

The removal of apex predators may have other unexpected outcomes; for example, it can cause the “release” of mid-sized or “mesopredators” like foxes, raccoons, and skunks that are not at the top of the food chain in the presence of coyotes. Increased abundance of mesopredators in turn can negatively affect populations and diversity of other species, including ground-nesting birds, rodents, lagomorphs, and others. In some cases, declines in these species results in reduced prey for other carnivores and contribute to their decline and extirpation. Studies have also found that coyotes have a positive effect on rodent species diversity. For example, one study determined that Ord’s kangaroo rat became the dominant species in areas without coyotes. As their numbers increased, so did their competitive advantage. This had an overall negative effect on species diversity and richness throughout the ecosystem. Correspondingly, coyotes were found to keep kangaroo rat populations in check, which removed their competitive advantage and increased overall rodent species diversity.

WS-New Mexico ignores the trophic cascade effects of predator control in the EA. For example, the EA claims that coyote populations will not be negatively affected if less than 60

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62 K. Crooks and M. Soulé, *Mesopredator Release and Avifaunal Extinctions in a Fragmented System*, 400 NATURE 563–66 (1999) (noting that although coyotes are mesopredators when wolves are present, they can act as apex carnivores where wolves have been extirpated).
64 S.F. Henke and F.C. Bryan, *Effects of Coyote Removal on the Faunal Community in Western Texas*, 63 J.
percent of the population is removed annually, which could occur in perpetuity.\textsuperscript{65} The EA goes as far as citing a study from 1995 that asserts “coyote populations could withstand an annual removal of up to 70\% of their numbers and still maintain a viable population.”\textsuperscript{66} This “maximum harvest” is only based on anecdotal evidence for baseline population numbers from New Mexico Game & Fish (NMDGF) stating “NMDGF does not track or attempt to estimate coyote population levels or densities, and has minimal information on harvest levels. However, NMDGF indicates that coyote populations in New Mexico are stable.”\textsuperscript{67} It also cherry-picks data from within studies, for example citing a study from Ripple et al., that “coyote populations with strong social structure can be resilient in the face of moderate levels of exploitation.”\textsuperscript{68} This analysis fails to consider the trophic cascade effects of predator control, such as the ecological impact of coyote-rodent control, the cascading impacts along the food chain, as well as dispersal of seeds, protection of ground-nesting birds from smaller carnivores, and increases in the biological diversity of plant and wildlife communities. Numerous studies suggest the occurrence of trophic cascades following decreases in apex predator populations. For example, Mezquida et al. (2006) concluded that a decrease (not eradication) of coyotes could adversely affect sage-grouse by allowing an increase in foxes, badgers, and ravens—mesopredators that prey on sage-grouse eggs and young.\textsuperscript{69}

Moreover, even if the state’s population of coyotes may remain stable as a whole with removal rates of less than 60\%, the EA fails to consider the impact on local ecosystems. If the majority of coyotes were removed from an isolated ecosystem (say, 80\% of the total number of coyotes removed in the state are removed from one region) the local impact would be different than the impact to another region where far fewer coyotes were removed. The stability of the population in the state as a whole is not a sufficient baseline against which the real impact of removal of an apex predator from an ecosystem can be addressed. The EA also fails to take any consideration into the behavior and pack structure of coyotes in its plans. Literature suggests that coyote populations are self-regulating if not killed indiscriminately,\textsuperscript{70} yet the EA, while recognizing social structures existing within coyote packs, ignores any discussion of self-regulation.

Similarly, the EA considers the black bear population in the state as a whole in its determination that the proposed action (removal of up to 25 black bears per year by WS- New Mexico) will not adversely impact the size or sustainability of the New Mexico black bear population.\textsuperscript{71} The EA abdicates its contributions to black bear mortality by ceding regional management to the state and not considering the impacts of localized bear removals. WS-New Mexico must take into consideration the variance in ecosystems across the state and consider the

\textsuperscript{65} EA at 195.
\textsuperscript{66} EA at 194.
\textsuperscript{67} Id.
\textsuperscript{71} EA at 199.
impact of maximum sustainable harvest levels across these ecosystems.

The EA makes similar sweeping assertions about the ecological impact of mountain lion (cougar) removal as well. Although WS-New Mexico killed an average of 3.8 cougars each year between 2015 and 2019, the EA states that WS-New Mexico could kill up to 40 cougars annually. Despite this very significant potential increase in lethal management by WS-New Mexico, the EA contains no meaningful analysis of the impact on the local ecosystem. The research provided to reinforce this “maximum harvest,” includes a study from 1977 and a study from 1983. The EA fails to meaningfully evaluate the trophic cascades of this approach. In Utah, an examination of Fremont cottonwood (Populus fremontii) recruitment in Zion National Park linked a decline in mountain lions to a trophic cascade in Zion Canyon. As mountain lion numbers declined, deer numbers increased, which let to reduced cottonwood recruitment, increased bank erosion, and decreased riparian diversity. In contrast, riparian communities where mountain lion populations have remained undisturbed have remained intact. WS-New Mexico must consider the best available science, to reinforce any claims they make within the EA.

Additionally, many of Wildlife Services’ methods are indiscriminate and often kill non-target species. Since 2000, Wildlife Services has killed more than 50,000 members of more than 150 non-target species, including federally- and/or state-protected animals such as Mexican gray wolves, grizzly bears, kangaroo rats, eagles, falcons, a California condor, red-tailed hawks, great horned owls, armadillos, pronghorns, porcupines, long-tailed weasels, javelinas, marmots, snapping turtles, turkey vultures, great blue herons, ruddy ducks, sandhill cranes, and ringtail cats. These killings undermine federal efforts to conserve and recover the affected species, which often need protection under state and/or federal laws in part due to Wildlife Services’ practices. The EA should meaningfully address this issue.

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72 EA at 209.
73 Id.
74 EA at 210.
78 Over the past century, Wildlife Services played a leading role in the decimation of populations of a multitude of wildlife species, to the detriment of species like the bald eagle, California condor, Canada lynx, kit fox, swift fox, Utah prairie dog, Gunnison’s prairie dog, grizzly bear, gray wolf, Mexican gray wolf, fisher, and others. 41 Fed. Reg. (July 12, 1976) (bald eagle); U.S. Fish and Wildlife Service (“FWS”), ANIMAL DAMAGECONTROL “MAY AFFECT” DETERMINATIONS FOR FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES, USFWS BIOLOGICAL OPINION 44 (1997) (California condor); FWS, SPECIES ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM, Gunnison’sprairie dog (2010); FWS, RECOVERY PLAN FOR UPLAND SPECIES OF THE SAN JOAQUIN VALLEY, CALIFORNIA (1998) (San Joaquin kit fox); FWS, UTAH PRAIRIE DOG (Cynomys parvidens) REVISED RECOVERY PLAN (2012); FWS, GRIZZLY BEAR RECOVERY PLAN (1993); FWS, NORTHERN ROCKY MOUNTAIN WOLF RECOVERY PLAN (1987); FWS, SPECIES ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM, WEST COAST POPULATION OF FISHER
B. Evaluation of the Effectiveness of Predator Damage Management

The EA fails to include a sufficient analysis of the effectiveness of WS-New Mexico’s use of lethal methods to manage predators, which violates NEPA. The EA inexcpliably ignores both extensive scientific research and reports demonstrating that lethal control is often ineffective and that non-lethal methods are highly effective at reducing predation. WS-New Mexico should consider the significant body of scientific literature, discussed in this comment and provided as attachments, demonstrating that lethal predator control is unlikely to prevent future losses of livestock and can cause incidental take of numerous non-target species. The scientific literature also shows there is a high probability that lethal control measures will exacerbate the situation by inducing increases in livestock losses after removal of mountain lions, bears, or coyotes.

From 2016-2020, at least six independent scientific teams have published nine reviews of evidence addressing lethal carnivore control in response to livestock losses. The reviews cover every continent and include different worldviews and specialties, and address New Mexico’s carnivore species (Mexican gray wolves, black bears, cougars, and coyotes). The scientific consensus is clear that the quality of evidence is higher for studies involving non-lethal methods and that there is better evidence for functional effectiveness in preventing livestock losses from

(2012). By targeting carnivores, the Wildlife Services program acts as a subsidy for livestock producers in contravention of other federal expenditures; for example, the federal government spent more than $43 million since 1974 to recover the gray wolf. See B.J. Bergstrom et al., License to Kill: Reforming Federal Wildlife Control to Restore Biodiversity and Ecosystem Function, 7 CONSERV. LETTERS 131–42 (2013). 79 A. Treves, M. Krofel, O. Ohrens, and L.M. Van Eeden, Predator control needs a standard of unbiased randomized experiments with cross-over design. Frontiers in Ecology and Evolution 7 (2019) 402-413.

non-lethal methods than from lethal methods.

These reviews include:


Furthermore, the evidence from the latest reviews mentioned above (Khorozyan et al. 2020; Treves et al. 2019, van Eeden et al. 2018) is published in the world’s top scientific journals based on the criteria of impact factor and editorial adherence to the independent Committee on Publication Ethics (COPE), whereas the journals that USDA-WS often cites have a poor record of scientific reliability in the topic of predator control.81

Strength of inference and lack of bias in scientific studies is paramount to the use of research as evidence, yet multiple studies sponsored by USDA-WS or conducted by that agency in the 1970s-2002 were found to have fatal flaws in research design due to biases, whether

intentional or unintentional. Moreover, the few outdated studies that show the desired effects of predation reduction have been shown to have fatal flaws in research design, so their conclusions cannot be trusted.

The second concern with lethal control, besides its poor history of research design, is that lethal methods have shown recurrent counterproductive effects leading to more livestock losses in Europe and North America. While there are weak correlational studies from Spain and from the Northern Rocky Mountains (the latter in particular received a great deal of attention), the stronger studies have received much less attention. We describe that next.

While it might seem obvious that killing a lion whose jaws are about to close on a goat would protect the goat, the functional effectiveness of most lethal action against predators is not so obvious. Most lethal control is implemented indirectly with traps or far from the site of predation, or long afterwards. Perhaps, at a site with few territorial large carnivores, such as African lions – killing a lioness returning to a carcass soon after predation might protect other livestock, but experiments with such methods also show surprisingly high error rates. Indeed, recent, independent research in several regions found killing wild animals could exacerbate future threats to human interests, e.g., cougars, and wolves—without requiring us to delve into the unresolved controversy and contested evidence about wolves in the Northern Rocky Mountains, USA or in Southern Europe.

For coyotes, only a study from 1998 shows that the after-effects of lethal control were sometimes positive (lower livestock losses), sometimes ineffective (no change in livestock losses), and sometimes counter-productive (higher livestock losses with the latter two results predominating in a multi-year dataset). We emphasize the only result for coyotes because previous studies at the same site or in private livestock operations have been judged unreliable in

peer-reviewed scientific articles.\textsuperscript{88} Indeed, studies show that coyotes compensate powerfully for lethal controls through increased reproductive rates and that destabilizing packs by killing territorial adults exacerbates predation problems. But rather than addressing the science demonstrating these effects, Wildlife Services writes them off, citing a GAO report from 2014 that claimed, without citation of any scientific literature, that “the most comprehensive study,” of Wildlife Services’ effectiveness “published in 1994, concluded that Wildlife Services’ current program, which uses all practical methods (both lethal and nonlethal) of control and prevention, was the most cost effective of the program alternatives evaluated.”\textsuperscript{89}

Given the similarity of social systems in wolves and coyotes (cooperatively breeding, pack-living, territorial canids), it seems reasonable to predict that killing one or a few coyotes in an area will leave vacancies and social instability that can invite a greater number of newcomers than the number of residents removed. This occurred with cougars as one resident male killed by trophy hunters was replaced by multiple younger newcomer males. As they jockeyed for social position for years, apparently they killed more livestock than the resident had killed for years previously.\textsuperscript{90} Science is still in the early stages of understanding the instabilities created by lethal control, partly because the field has been excessively focused on indirect monitoring and a perspective that only populations matter whereas lethal control is all about individuals perceived to be problems and the local effects of killing them or deterring them with non-lethal methods.

The EA claims that its coyote-killing program only causes short-term population impacts, because of the resiliency of populations in the face of “moderate levels of exploitation.”\textsuperscript{91} Specifically, the EA points to studies that showed that when less than 60 percent of a coyote population was removed, all populations recover and that “coyote populations could withstand an annual removal of up to 70% of their numbers and still maintain a viable population.”\textsuperscript{92} But the EA also admits that controls at the upper range affect the population structure of the coyote population.

Indiscriminate lethal controls, like those carried out by Wildlife Services in New Mexico – especially when it conducts so-called “preventive” control – keep the local coyote population in a state of constant destabilized social chaos and colonization. How is the program effective in the long-run if it has no impacts on coyote populations in the long-run, and simply causes younger coyotes to quickly colonize the affected area? A successful program would, theoretically, mean that each year, less coyotes would need to be killed by WS-New Mexico. Instead, by its own reporting, WS-New Mexico killed over 300 more coyotes in 2020 than they did in 2019.\textsuperscript{93} In fact, between 2015 and 2019 WS-New Mexico consistently killed between 2,600–3,500 coyotes with the numbers trending upward in 2020,\textsuperscript{94} demonstrating there is no

\textsuperscript{89} EA at 92.
\textsuperscript{91} EA at 194.
\textsuperscript{92} Id.
\textsuperscript{93} Id.
\textsuperscript{94} EA at 196.
functional effectiveness (reducing livestock loss) of this killing program. And why hasn’t Wildlife Services truthfully addressed the effects of the long-term social destabilization it has visited upon New Mexico’s coyote population?

Recent studies also found that hunting of cougars may increase conflicts with livestock. Specifically, cougar hunting destabilizes the social structure of cougars in the wild, disrupting cougars’ sex-age structure and tilting cougar populations so that they are comprised of younger males. Younger males are more likely to engage in livestock depredations than animals in stable, older populations. Additionally, another recent study suggests that carnivores may increase prey kills as a result of stress from hunting.

There does not appear to be any meaningful discussion of this issue in the EA. The EA’s attempt to dismiss this issue because WS-New Mexico’s program will not wholly eradicate apex predators from the landscape is insufficient. This must be corrected in a full EIS. This issue cuts to the heart of whether the lethal PDM program is achieving its stated goal of protecting domestic animals, or should be replaced by non-lethal methods except in the rarest extreme. The agency should fully evaluate all studies relevant to this issue.

C. The EA Fails to Adequately Assess the Humaneness of Certain PDM Methods

The EA fails to take a hard look at the humaneness of certain methods used by WS-New

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Mexico technicians to conduct PDM activities. WS-New Mexico’s data for 2020 indicates that its most commonly used tools for lethal take include aerial gunning, steel-jaw leghold traps, including padded foothold traps, neck snares, firearms, M-44 sodium cyanide bombs, and gas cartridges containing sodium nitrate. The EA largely fails to directly evaluate the humaneness of these methods and lacks adequate consideration of much of the relevant scientific literature, which is insufficient to satisfy the requirements of NEPA. This information is essential for the public to be able to fully understand the impacts of the proposed action to both target and non-target animals.

The absence of discussion on the humaneness of the use of traps, snares, and M-44 devices is particularly egregious in light of these specific tools being legislatively banned in New Mexico via SB-32 “Roxy’s Law.” While Roxy’s Law banned the use of traps, snares, and M-44s on public lands for a multitude of reasons, the cruel nature of these devices – and the needless suffering they impose on wildlife and domestic animals – was part of the impetus of passage of this piece of legislation. Public testimony regarding the cruel nature of traps, snares and sodium cyanide devices was provided at multiple points in the legislative process this past legislative session. The humaneness of these devices is clearly an issue of concern to the public in New Mexico and must be directly addressed by WS-New Mexico in the EA.

The broad discussion of “humaneness” and esoteric discussion of dominionistic, humanistic, moralistic, and negativistic philosophies may be of academic interest but it is not relevant to the fundamental issue, which is that WS-New Mexico’s lethal PDM activities are not humane. Despite identifying American Veterinary Medicine Association (AVMA) guidelines on humaneness, WS-New Mexico quickly concludes that due to their role of killing animals in the field they are not beholden to such guidelines on humaneness. Rather than fully consider humaneness, WS-New Mexico focuses on appropriate forms of euthanasia, stating that “it may still be an act of euthanasia to kill an animal in a manner that is not perfectly humane or that would not be considered appropriate in other contexts. For example, due to lack of control over free-ranging wildlife and the stress associated with close human contact, use of a firearm may be the most appropriate means of euthanasia.” This abdicates the responsibility of WS-New Mexico field employees to act humanely and is offensive in the context of a program focused on killing wildlife that often suffer pain and trauma for an extended period of time before death. Despite the repeated assertion that WS-New Mexico kills animals as “humanely as possible,” the program sidesteps the possibility that if animals cannot be euthanized humanely, then they should simply not be killed or trapped.

The EA states “when implementing PDM management activities, APHIS-WS evaluates all potential tools for their humaneness, effectiveness, and ability to target specific individuals as well as species, and potential impacts on human safety. APHIS-WS supports using humane, selective, and effective damage management techniques, and continues to incorporate advances

98 EA at 274.
100 For more comments on Senate Bill 32, see page 90 in this document.
101 EA at 34.
102 Id.
into wildlife control program activities.” However, if this statement were to be true, WS-New Mexico would not continue use of the many inhumane methods of capturing and killing wildlife they engage in. To simply state something in an EA does not makes it true unless it is supported by WS-New Mexico’s actions on the ground. For instance, the EA states “Wildlife Services employees are concerned about animal welfare.” However, for example, we know that on the ground field employees are attacking trapped coyotes with their dogs, photographing it and boasting about it on social media.

In particular, we are most concerned about the lack of a complete analysis on the inhumaneness of foot and neck snares, steel-jaw leghold traps, M-44s, chemicals used in denning operations, aerial gunning, and the use of Weevil-Cide® to target Gunnison’s and black-tailed prairie dogs. We are also concerned about the use of body-crushing traps, though these types of traps do not appear to be used with regularity by WS-New Mexico technicians. All these methods are particularly cruel, and in addition to the suffering caused to target species, they also pose a danger to people, companion animals, and non-target species, including threatened and endangered species. Below is a discussion of our concerns about these methods.

i. Neck and Foot Snares

Neck and foot snares are used by WS-New Mexico, yet these methods are particularly inhumane. Regarding neck snares, in 2020, according to its own data, WS-New Mexico killed 664 animals in neck snares including badgers, bobcats, coyotes, porcupines. As all of these mortalities were categorized as “euthanized/killed,” it is unclear if the neck snares were used in strangling kill sets or to restrain the target animals prior to being killed, nor is it known if the neck snares used by WS-New Mexico are manual or mechanical neck snares. The EA must provide clarity on this point. Regardless of the intention of the snare set (i.e., killing or restraining) or the type of snare in use, the cruelty associated with neck snares is extreme. In kill sets, the snare continues to tighten as the animal struggles until strangulation occurs. In sets intended to restrain the snared animal, the captured animal is held by his or her neck until the technician arrives to kill the animal, unless the animal has died due to the extent of his or her struggles.

WS-New Mexico uses neck snares primarily to capture coyotes, which is a brutally inhumane method for canids. In their analysis of manual and powered neck snares for use in trapping canid species in Canada, Proulx et al. (2015) documented significant welfare concerns associated with the use of neck snares. They found that manual and powered killing neck snares did not consistently and quickly render canids unconscious, were non-selective, and did

103 EA at 277.
104 EA at 276.
107 Of the 664 animals WS-New Mexico captured in neck snares in 2020, 654 were coyotes and 2 were foxes.
not routinely capture animals by the neck. Proulx et al. also found the following:

1. Laboratory researchers failed to achieve exact and ideal positioning of neck snares behind the jaw of the target animal suggesting that, in the field, such exact placement would be far more difficult; for manual killing neck snares, one study of 65 snared coyotes found that 59 percent were captured by the neck, 20 percent by the flank, and 10 percent by the foot, and nearly half of the animals were still alive the morning after being snared;\(^{109}\)

2. In another study of various manual killing neck snares, between 5 and 32 percent of the snared animals were still alive when found 12 or more hours after capture;\(^{110}\)

3. The amount of disturbance at a capture site is not indicative of time to death of the captured animal as “captured animals may remain conscious but physically inactive due to distress, shock, injury or pain;”

4. In a thorough evaluation of power killing neck snares, three models rendered 4 of 5 anaesthetized red foxes irreversibly unconscious within 10 minutes but when used on non-anaesthetized animals in a semi-natural environment it was difficult to capture foxes behind the jaw with the snares and to cause irreversible loss of consciousness within 300 seconds.\(^{111}\)

Proulx et al. noted it is not the placement or operation of the neck snares that can result in suffering, but rather that the anatomy and physiology of canids can exacerbate the suffering associated with the use of neck snares. As reported by Proulx et al., laboratory tests with dogs show that canids have the ability to continue to circulate blood to the brain after bilateral ligation of the common carotid arteries because of the ability of other arteries (e.g., vertebral arteries) situated more deeply within the neck to compensate (Moss 1974; Clendenin and Conrad 1979a, b). Collateral circulation also occurs within the venous blood flow from the brain such that drainage can continue if the internal jugular veins are occluded (Andeweg 1996; Daoust and Nicholson 2004). Because of collateral blood circulation, it is difficult, if not impossible, to stop blood flow to and from the brain by tightening a snare on the neck.

More recently, in his book *Intolerable Cruelty: The Truth Behind Killing Neck Snares and Strychnine*,\(^{112}\) Dr. Proulx reports that when a canid is snared, the thick musculature around the animal’s neck allows the carotid artery to continue to supply blood to the brain, but the jugular vein is constricted, cutting off blood back down to the heart. A telltale sign is the grotesquely swollen heads of the snares’ victims (which trappers refer to as “jellyheads”). Canids caught in neck snares take hours, if not days, to die.

Furthermore, the non-selectivity of neck snares resulting in non-target mammal and bird species was clearly reflected in data presented in Table 1 in Proulx et al. (2015), re-created in relevant part below


In 2020, four animals were killed unintentionally by neck snares, including a kit fox, a swift fox and two porcupines. An additional four animals were caught in neck snares and subsequently released, including one bobcat, one dog, one cat, and one raccoon. WS-New Mexico admits to accidentally killing an annual average of 28 animals per year via neck snare. The EA contains little meaningful analysis of this non-target take or what WS-New Mexico is doing to decrease the number of animals unintentionally caught in neck snares. The EA must take a hard look at the numerous concerns surrounding the inhumaneness of neck snares generally, the inhumaneness of the devices when used to capture canids specifically, and the high potential for non-target animals to be captured, to suffer, and to be killed by neck snares.

Regarding foot snares, the EA inadequately examines the inhumaneness of this method. WS-New Mexico primarily uses this method to trap large carnivores, including black bears, and

### Table A.1: Number of animals captured and killed in neck snares

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of cases</th>
<th>Injured by snare</th>
<th>Killing by snare</th>
<th>Total snared</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Target species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coyote</td>
<td>Canis latrans</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Gray wolf*</td>
<td>Canis lupus</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Red Fox</td>
<td>Vulpes vulpes</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Non-target species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American black bear*</td>
<td>Ursus americanus</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Bobcat*</td>
<td>Lynx rufus</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Canada lynx*</td>
<td>Lynx canadensis</td>
<td>0</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Fisher</td>
<td>Pekania pennanti</td>
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<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mountain lion</td>
<td>Puma concolor</td>
<td>0</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Snowshoe hare</td>
<td>Lepus americanus</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White-tailed deer</td>
<td>Odocoileus virginianus</td>
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<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Wolverine*</td>
<td>Gulo gulo</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>8</td>
<td>21</td>
<td>29</td>
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<tr>
<td><strong>Birds</strong></td>
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</tr>
<tr>
<td>Bald eagle</td>
<td>Haliaeetus leucocephalus</td>
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<tr>
<td>Barred owl</td>
<td>Strix varia</td>
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<td>2</td>
<td>2</td>
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<tr>
<td>Common raven</td>
<td>Corvus corax</td>
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<td>2</td>
<td>2</td>
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<tr>
<td>Golden eagle</td>
<td>Aquila chrysaetos</td>
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<tr>
<td>Goshawk</td>
<td>Accipiter gentilis</td>
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<tr>
<td>Great horned owl</td>
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</tr>
<tr>
<td>Red-tailed hawk</td>
<td>Buteo jamaicensis</td>
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<td>10</td>
<td>11</td>
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<tr>
<td>Rough-legged hawk</td>
<td>Buteo lagopus</td>
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<td>7</td>
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<td><strong>Total</strong></td>
<td></td>
<td>9</td>
<td>126</td>
<td>135</td>
</tr>
</tbody>
</table>

In *Total specimens* 17 147 164

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113 EA at 264.
mountain lions. In their assessment of the literature evaluating the welfare implications of snares, Rochlitz et al. (2010) concluded that “some pest control methods have such extreme effects on an animal’s welfare that, regardless of the potential benefits, their use is never justified” and determined that “snaring is such a method.” While Rochlitz et al. did not distinguish between neck and foot snares, based on their review of the literature they determined that:

1. Snares do not operate humanely, either as restraining or as killing traps;
2. The mortality and morbidity of animals caught in snares is higher than with most other restraining traps, such as box traps;
3. Snares are inherently indiscriminate and commonly catch non-target, including protected, species;
4. Snares can cause severe injuries, pain, suffering, and death in trapped animals (target and non-target species);
5. Stopping of snares may not prevent injury or death in trapped animals (target and non-target species);
6. The free-running mechanism of a snare is easily disrupted and likely to fail, resulting in injury, pain, suffering, and death in trapped animals (target and non-target species);
7. Animals caught in snares are exposed to the elements, to thirst, hunger, further injury and attack by predators;
8. It is difficult to assess the severity of injury in an animal when the animal is caught in a snare;
9. Animals that escape, or that are released, may subsequently die from their injuries, or from exertional myopathy, over a period of days or weeks;
10. The monitoring of correct snare use is difficult, if not impossible; and
11. Neck snares are open to abuse because they are cheap and require minimum effort to set and maintain.

By neglecting to provide meaningful analysis on the majority of these concerns, the EA fails to satisfy NEPA’s hard look requirement on the humaneness of foot snares. The EA must address the issues identified by Rochlitz et al. (2010), and should specifically discuss the potential for injuries as well as unintentional take of non-target species. Regarding non-target take, the EA states that breakaway devices “can minimize capture of non-target species and reduce the risk of holding a non-target animal.” Because WS-New Mexico uses foot snares to target black bears and mountain lions, which are among the largest and strongest animals in the state, the use of breakaway devices is unlikely to substantially reduce non-target take because non-target species will generally not be capable of exerting greater force than black bears and mountain lions in order to escape the snare. The EA fails to address this issue. The EA also fails to state whether WS-New Mexico technicians actually use breakaway devices.

**ii. Steel-Jaw Leghold Traps**

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115 The analysis by Rochlitz et al. was focused on the use of snares in the United Kingdom, though most of the overall findings referenced below are applicable to snare use in the United States, others are not due to difference in state laws and regulations governing snare use and trap check times.

116 EA at 279.
The EA also fails to fully consider the humaneness of steel-jaw leghold traps, which WS-New Mexico used to trap 434 target animals, and 6 non-target animals, including badgers, gray foxes, raccoon, and striped skunk in 2020. The EA does not adequately evaluate the inhumaneness of this method in terms of pain and suffering from injuries as a result of being caught in the trap, or suffering and potential mortality due to predation or exposure, including for animals who are unintentionally trapped. Many trapped animals will violently fight the trap after being caught, often biting at the device, which results in broken teeth and gum damage in addition to the damage to the captured limb, including lacerations, strained and torn tendons and ligaments, extreme swelling, and broken bones. In the summer heat, many animals cannot survive for long without water. In harsh winter conditions, an animal’s limb below the trap is likely to experience frostbite and the animal may freeze to death after being caught in a trap. At other times of the year, prolonged constriction of a limb in a trap can cut off or severely restrict blood supply to the affected appendage, potentially causing the appendage to be lost due to gangrene. For these reasons, steel-jaw leghold traps have been condemned as inhumane by the World Veterinary Association, the National Animal Control Association of the United States, and the American Animal Hospital Association.

Iossa et al. (2007) provided an extensive review of the injury rates associated with multiple trap types, including padded, off-set, enclosed, and unpadded steel-jaw leghold traps. Leghold traps resulted in minor injuries more than 50 percent of the time in the majority of studies reviewed, ranging from 8 percent minor injuries for Canada lynx captured in a padded leghold trap to 100 percent for a bobcat captured in a leg hold snare. For major injuries, the percentage of injuries ranged from 4 percent for red foxes captured in a padded steel-jaw leghold trap to 74 percent for raccoons captured in an unpadded steel-jaw leghold trap.

The types of injuries assessed in evaluating the “humaneness” of traps include: (1) mild trauma, such as claw loss, edematous swelling or hemorrhage, minor cutaneous laceration, minor subcutaneous soft tissue maceration or erosion, major cutaneous laceration, except on footpads or tongue, and minor periosteal abrasion; (2) moderate trauma, such as severance of minor tendon or ligament, amputation of 1 digit, permanent tooth fracture exposing pulp cavity, major subcutaneous soft tissue laceration or erosion, major laceration on footpads or tongues, severe joint hemorrhage, joint luxation at or below the carpus or tarsus, major periosteal abrasion, simple rib fracture, eye lacerations, and minor skeletal degeneration; (3) moderately severe trauma, including simple fracture at or below the carpus or tarsus, compression fracture, comminuted rib fracture, amputation of two digits, major skeletal degeneration, and limb ischemia; and (4) severe trauma, including amputation of three or more digits, any fracture or joint luxation on limb above the carpus or tarsus, any amputation above the digits, spinal cord injury, severe internal organ damage (internal bleeding), compound or comminuted fracture at or below the carpus or tarsus; severance of a major tendon or ligament, compound or rib fractures.

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119 Id., see Tables 4 and 5.
ocular injury resulting in blindness of an eye, myocardial degeneration, and death.\textsuperscript{120}

Such injuries, particularly those included in the moderate trauma, moderately severe trauma, and the severe trauma categories, should not be considered acceptable or humane. Any trap that results in such trauma should not be utilized. In addition to identifiable injuries caused by the trap, when evaluating the impact of PDM activities on target and non-target species, it is critical to consider the potential for indirect mortality as a result of capture in a leghold trap or any restraining device. Intentional live capture and release as well as unintentional capture and release of non-target species, can be harmful to the animal, which the EA does not address. Even if the animal is released with no apparent injuries or injuries deemed to be minor, the animal may still suffer adverse effects from restraint (including from restriction of blood flow or extended exposure to the elements) hours, days, or even weeks after capture.

This was demonstrated by Andreasen et al. (2018) in a study that examined cause-specific mortality in mountain lions unintentionally caught in steel-jaw leghold traps set for bobcats from 2009 through 2015 in their study site in Nevada.\textsuperscript{121} The authors found that if female mountain lions were captured in steel-jaw leghold traps, it directly reduced their survival by causing injuries that made the animals more susceptible to other forms of mortality. The EA should evaluate such indirect mortality of non-target species. Of the 48 lions originally included in the study, 33 died during its seven-year duration. Of the 33 lions, seven died as a consequence of non-target trapping (five were caught in steel-jaw leghold traps and two in snares). Of the seven that died due to non-target trapping, five (four adult females and one juvenile) had been captured in steel-jaw leghold traps one or more times, and the other two had been captured in snares. Most of the injuries recorded ranged from no visible damage or slight edema, to more severe lacerations or broken toes. Of the four adult females, two died as a result of trap related injuries several weeks after capture, another died from starvation and was missing two digits on her front right paw, and the fourth died three weeks after she escaped from a trap. The fourth mortality was discovered as a result of a lion paw being found in a trap, suggesting the animal may have self-amputated the paw to escape from the trap. WS-New Mexico has failed to evaluate such indirect mortality of target and non-target species in the EA, which violates NEPA.

WS-New Mexico briefly identifies the Association of Fish and Wildlife Agencies’ Best Management Practices (“BMP”) testing process for all restraining, killing, and leghold traps used in its predator damage management operations, though the EA does not state that every device they use has been approved for the species they are targeting. The undersigned organizations question the veracity of AFWA’s testing program, particularly because it relies on trappers for trap testing purposes and reporting on injury types and rates, and non-target captures, as well as because the actual injury/mortality data is not disclosed in the trap-specific BMP reports. Additionally, the program is biased towards certain devices, such as steel-jaw leghold traps, due to the frequency with which they are used by trappers. Since the species-specific BMP trap reports do not contain the actual injury/mortality scoring information for each trap, WS-New Mexico should obtain and disclose that data so that the public can compare the “humaneness” of

\textsuperscript{120} Id.
each species-specific BMP trap type. Such disclosure is necessary so that any claim WS-New Mexico makes of using BMP traps can be verified and to permit the public to provide substantive and informed comments as to whether such traps should be used given welfare concerns. Similarly, since BMP reports do not disclose the number, species, and type of injury sustained by non-target animals trapped during BMP testing or cite to the relevant species-specific trapping literature, WS-New Mexico must disclose that information so the public is aware of non-target take data and the scientific, peer-reviewed literature, if any, that substantiates the findings in BMP trap reports.

Currently there are 22 species-specific BMP reports. Each report contains information about several recommended BMP traps that have been evaluated as “humane” including information about any trap accessories (e.g., swivels, springs, anchors) and trap set requirements used to achieve the “humane” rating. The EA must more thoroughly disclose which BMP traps, trap accessories, and trap set requirements it uses for each species that it traps. Regarding trap designs and trap accessories, that disclosure should include information on the type of jaw as well as the use of additional springs (“beefier kits”), swivels, chain length, and the type of anchors actually used by WS-New Mexico technicians. The EA’s simple identification of different trap design and trap accessories is not useful to the public. For padded steel-jaw leghold traps, the EA should disclose how frequently rubber strips commonly damaged by trapped animals are replaced with new ones. Information on the maintenance routine for traps and snares used by WS-New Mexico technicians should be provided as trapping devices that are not working properly due to age, rust, non-working or missing parts, and lack of care may be even more cruel than fully functioning devices.

The EA does not adequately discuss the inhumaneness associated with enclosed leghold traps (dog proof traps), which are generally used for trapping raccoons and are included as BMP traps for both species. Notably, such traps are particularly inhumane for raccoons, who experience excruciating pain when one of their front feet is caught due to the hyper-sensitivity of those limbs. While such traps, given their design, are intended to reduce bycatch of non-target species, feral cats and any species with a small paw able to reach into the trap and pull up could be captured in such traps. Despite reducing the potential for non-target captures, enclosed leghold traps can result in injuries, amputations, and mortality, which the EA must address. The EA must also explain why Wildlife Services would choose to use enclosed foothold traps to capture species such as raccoons rather than more humane alternatives such as box and cage traps.

Hubert et al. (1996) evaluated the injury rates associated with the EGG trap (one type of enclosed leghold trap) for capturing raccoons. They used a scoring system that assigned points to different types of documented injuries with the higher scores reserved for the more severe injuries. A score >50 is considered serious damage while scores greater than 125 are reflective

122 All BMP species-specific trap reports are available at: [https://www.fishwildlife.org/afwa-inspires/furbearer-management](https://www.fishwildlife.org/afwa-inspires/furbearer-management). The 22 reports include separate reports for eastern and western coyotes and for gray, red, and Arctic fox.


124 Id. Table 1.
of severe damage. Of the 62 raccoons studied by Hubert et al., 23 experienced injury scores associated with the EGG trap of 50 or higher with 9 experiencing injury scores of 125 or greater. Of 62 raccoons captured in the EGG trap, there were 125 instances (affecting 82.3 percent of captured raccoons) of edematous swelling and/or hemorrhage, 47 (37.1 percent) cutaneous lacerations greater than or equal to 2 centimeters, and 19 (22.6 percent) instances of damage to the periosteum.

WS-New Mexico abides by New Mexico state law in terms of trap check time, which for furbearers and nongame species is once daily for land sets and every other day for water sets. If using steel-jaw leghold traps, WS-New Mexico technicians should employ trap monitors. Wildlife Services’ National Wildlife Research Center (“NWRC”) has found that trap monitors save driving or hiking time, decrease fuel usage and reduce driving time over rough terrain, save Wildlife Services and its customers money, and prioritize checks of particular traps. Considering the benefits of such devices, particularly in terms of reducing the time animals are left in traps and thereby reducing their suffering, these devices can and should be used in circumstances where they are reliable and Wildlife Services, in collaboration with NWRC and trap monitor device manufacturers, should be pioneering efforts to improve the design, functionality, and efficiency of these devices by testing them under field conditions.

From a humane perspective, the use of monitoring devices is very important because it can greatly decrease the amount of time a captured animal is restrained, minimizing pain, stress, and injury and allowing non-target animals to be released in a timely manner to increase the likelihood of post-release survival. This was demonstrated by Will et al. (2010) in their study of the use of a telemetry-based trap monitoring system on San Nicolas Island off the coast of California during a project to eradicate the island’s feral cat population. Given the size of the island and the presence of fewer than 600 island foxes, the trap monitoring system was essential to “remotely check trap status, decrease staff time spent checking traps, and decrease response time to captured animals to limit fox injuries and mortalities due to exposure.” The system allowed a field team of six people to conduct daily checks of nearly 250 traps with a response time of less than 60 minutes during daylight hours. Specifically, Will et al. reported:

The average daytime response time for capture events was 43 minutes ± 31 minutes (n = 162), while the average overall response time was 5 hours ± 4 hours (n = 853). Foxes that were caught after working hours spent an average of 6 hours ± 3 hours (n = 691) in traps. While 4 foxes were in a trap for an unknown amount of time because of monitor failures, no animal was in a trap for more than 14 hours with a working monitor. There were 1,012 total non-target capture events with 74 injuries, for an injury rate of 7%. There were 9

128 Id.
monitor failures with 4 leading to injury or casualty.\textsuperscript{129}

In another experiment where Global System for Mobile communication trap alarms were used when capturing otter, Néill et al. (2007) found that functioning alarms permitted trapped otters to be removed within 22 minutes of capture and reduced the injuries suffered by the animals from an average cumulative score of 77.7 to only 5.5 on the trap trauma scale developed by the International Organization for Standardization, ISO 10990-5.\textsuperscript{130} This information must be evaluated in the EA.

\textit{iii. M-44s}

The EA fails to adequately address the inhumaneness and indiscriminate nature of M-44s. In 2020, WS-New Mexico reported 440 animals killed with the use of M-44s or cyanide bombs including 436 coyotes. When triggered, an M-44 shoots a sodium cyanide pellet into the animal’s mouth which, when mixed with moisture from saliva, creates a hydrogen cyanide gas, a deadly vapor that is rapidly absorbed by the lungs, resulting in a relatively rapid death.\textsuperscript{131} The EA also suggests that M-44s can result in a quick death for exposed animals\textsuperscript{132} but, again, WS-New Mexico fails to disclose or evaluate the potential impact to animals of a sublethal dose either due to M-44 malfunction or if the animal were close to, but downwind from, an M-44 triggered by another animal. According to the USDA, chronic or sublethal exposure to hydrogen cyanide gas include:

Symptoms of chronic toxicity in mammals may include uncontrolled body movement and increased urination (Towill et al. 1978). A common sublethal symptom in coyotes is vomiting (Blom and Connolly 2003). A WS biologist observed partial paralysis in coyotes exposed to a sublethal dose of NaCN, with speculation that a lack of oxygen to the body’s tissues caused damage to the lower spinal cord or some part of the brain.\textsuperscript{133}

While WS-New Mexico may believe that its use of M-44s results in rapid deaths of target species, the EA must evaluate the potential implications to the well-being of wildlife species as a result of exposure to a sublethal dose of the gas so that the public and the agency are aware of such impacts.

M-44s are also known to kill non-target species.\textsuperscript{134} According to Wildlife Services’ data,

\textsuperscript{129} Id.
\textsuperscript{132} EA at 304.
M-44s killed 217 non-target animals in 2018, including 130 gray fox, 63 raccoons, seven Virginia opossums, four red foxes, four striped skunks, four feral swine, three kit foxes, one swift fox, and one black bear.\textsuperscript{135} In New Mexico specifically, according to its own data, WS-New Mexico accidentally kills an average of 32.4 animals per year with M-44s.\textsuperscript{136} Animals unintentionally killed by WS-New Mexico with M-44s have included dogs, gray foxes, kit foxes, red foxes, swift foxes, ravens and striped skunks. In 2020, for example, M-44s caused the unintentional deaths of one dog, two red foxes, and one gray fox. The potential for non-target mortality could be much higher. For example, Shivik et al. (2014), in their study examining visitation rates to sites where M-44s had been installed, documented coyotes visiting the sites 34 times and investigating the devices 11 times while other species, including black bear, bobcat, domestic cat, domestic cow, crow, white-tailed deer, domestic dog, donkey, red fox, domestic horse, opossum, passerine birds, rabbit, raccoon, domestic sheep, skunk, squirrel, and turkey, visited the sites 1,597 times and investigated the devices on 55 occasions.\textsuperscript{137} In a related study, the authors documented 39 instances where the M-44 devices were triggered, including 36 times by coyotes, twice by domestic dogs, and once by a red fox (all of which were target species). While they concluded that in their study the M-44 device appeared to be “very selective for coyotes,” they did not rule out the possibility that other canid species like wolves, foxes, and domestic dogs could be affected by M-44s.\textsuperscript{138}

Sacks et al. (1999) questioned the efficacy of using M-44s for killing coyotes, documenting an M-44 susceptibility bias toward younger coyotes on their study site in Northern California while older coyotes demonstrated avoidance behavior.\textsuperscript{139} The authors concluded that M-44s would not be effective in controlling coyote depredation because the coyotes responsible for most livestock killings are usually older, breeding animals. This result was similar to what Brand et al. (1995)\textsuperscript{140} and Brand and Nel (1997)\textsuperscript{141} found in their studies of blackbacked jackals, where the older jackals demonstrated avoidance behavior toward the devices.

Furthermore, considering high profile examples of both human and domestic animals (i.e., dog) exposure to M-44 gas, as described above in a separate section, WS-New Mexico must disclose information about all such reported incidents, the cause of the exposure, the consequences of the exposure to the human and animal victims, and the specific actions taken by

\textsuperscript{136} EA at 264.
\textsuperscript{138} Id.
WS or required of its field technicians to avoid such incidents.

Based on these considerations, and the public sentiment as expressed through passage of Roxy’s Law WS-New Mexico should cease the use of M-44s across the state, on both public and private lands.

iv. Denning

Denning, which involves the use of gas canisters containing sodium nitrate to kill animals in their dens, is an inhumane practice used by WS-New Mexico to target over 3,600 Gunnison’s prairie dog, black-tailed prairie dog, and rock squirrel burrows in 2020 alone, as well as one coyote burrow.\textsuperscript{142} When gas canisters are used, they are ignited, placed inside the active den, and then the den opening is covered with soil. When heated to 1,000 degrees, sodium nitrate explodes and produces toxic fumes of nitrous oxide and sodium oxide.\textsuperscript{143} The resulting gas that is released, carbon monoxide, converts the hemoglobin in blood to methemoglobin, which is unable to carry oxygen,\textsuperscript{144} effectively suffocating the animals inhabiting the den. This method often causes the deaths of entire animal families, including young. Furthermore, it is likely that this method results in the deaths of considerably more animals than WS-New Mexico reports. Since Wildlife Services technicians do not excavate burrows/dens to determine the number and species of animals killed using gas canisters, it is unclear how many animals are actually killed by this method. The number of deaths reported are merely estimates based on consideration of the species, time of year, average litter size, and anticipated number of young in the burrows/dens.\textsuperscript{145} The actual death toll could be significantly higher based on variations in litter size, and may include non-target species.

WS-New Mexico largely dismisses the potential for non-target animals to be killed in denning operations. The agency claims that its technicians will conduct pretreatment site surveys before using gas canisters at den sites to determine if non-target species are present in dens and burrows,\textsuperscript{146} but it discloses no post-treatment data reflecting any examination of den sites (i.e., excavation of the den site to determine the full suite of species killed or harmed by the operation). Absent such data, it is inaccurate to suggest that gassing den sites is humane or that the risks to non-target species are minimal. Notably, EPA labels for large and small gas cartridges warn against harm to a variety of non-target species.\textsuperscript{147} The EA should evaluate these issues, as well as the potential impacts of a sub-lethal dose of carbon monoxide to target or non-

\textsuperscript{144} Id.
\textsuperscript{146} EA at 438.
target species in the event a canister is not set correctly or malfunctions.

v. Aerial Gunning

Aerial gunning, which is one of the methods WS-New Mexico uses to kill coyotes, bobcat, feral swine, and Mexican gray wolves,\(^{148}\) is inherently inhumane for several reasons. First, this method causes distress due to noise from the aircraft and from gunfire, which can harm the hearing of multiple species. Second, this method forces animals to expend critical energy reserves to escape, which may affect survival and reproduction. Third, target animals often are not killed by the first shot, which prolongs suffering and can allow maimed or “crippled”\(^{149}\) animals to escape. Lastly, there is a significant likelihood that dependent young will be orphaned because these operations often coincide with the peak coyote birthing period.

WS-New Mexico dismisses the impact of noise on wildlife by citing a number of species-specific studies that examined the effect of aircraft (fixed wing and helicopter) overflights of wildlife,\(^{150}\) but few of these studies involved an assessment of low-flying aircraft engaging in aerial predator control. Independent observers should be permitted to accompany Wildlife Services technicians in different habitat types, at different altitudes, with real or mock gunfire, and accurate monitoring of noise levels to record wildlife reactions to fully assess the impact of aerial gunning on target and non-target species. Pepper et al. (2003),\(^{151}\) in their study of the impacts of low flying aircraft on wildlife, found that aircraft noise, turbulence, and vibrations can adversely impact the hearing of multiple species, while the mere appearance of aircraft can cause a flight response forcing animals to expend critical energy reserves to escape the perceived threat. This energy loss, depending on the availability of food and seasonal timing of the impact, may affect survival or reproduction.\(^{152}\) This should be evaluated in the EA.

WS-New Mexico fails to address the issue of how many passes are required to kill targeted animals in the EA. NEPA documents produced by Wildlife Services on predator damage management operations in other states have claimed that aerial gunning results in the death of most target animals after a single pass,\(^{153}\) yet the agency offered no data or studies to verify that target species are killed in a single pass or even after two passes. There is no assessment as to variations depending on habitat type or shooter experience, nor is it clear how, while flying in an aircraft, WS technicians are sure that target animals are killed versus wounded. WS-New Mexico also fails to discuss the time it takes for an aircraft to prepare to conduct a second pass of a particular area or animal and how that correlates to the likelihood of finding and killing a wounded animal if the animal has found cover. It is difficult to ascertain whether a target has been killed or merely wounded by the first shot. Targeted animals not killed by one shot


\(^{149}\) EA at 328.

\(^{150}\) EA at 360.


\(^{152}\) Id.

prolongs suffering of these animals and can allow maimed animals to escape. This should be
taken into consideration in the EA, along with an assessment of factors that may affect how long
it takes for animals to be killed and the likelihood they will be injured but escape, perhaps to die
a protracted death. These factors include variations depending on habitat type, shooter
experience, the time it takes for an aircraft to prepare to conduct a second pass of a particular
area or animal, and the likelihood of finding and killing a wounded animal if the animal has
found cover. Wildlife Services should also conduct studies focused on the impact on wildlife
from the noise generated by low-flying aircraft in different habitat types and at different
altitudes, with real or mock gunfire, using accurate monitoring or noise levels, and using third
party observers to record wildlife reactions to these activities so that the impacts of aerial
gunning on both target and non-target species may be fully assessed.

WS-New Mexico concedes that dependent young will be orphaned as a result of its PDM
operations, particularly given the timing of many of those operations, which often coincide with
the peak coyote birthing period. WS-New Mexico claims that technicians try to locate coyote
dens in areas where PDM occurs in order to kill the pups, but the agency provides no data on
the success of such den location searches, what proportion of estimated dens are found, or how
many personnel or hours are utilized in such searches over the course of a year. WS-New
Mexico does offer some discussion on the potential fate of dependent young coyotes that are not
found, citing studies from the 1980’s that state: “if the den cannot be located, pups may
sometimes be fed and cared for by one or more members of a social group of coyotes associated
with that den (Bekoff and Wells 1980). The only way to totally avoid this circumstance would be
to refrain from conducting any predator removal efforts during this period of time.
Unfortunately, this is also the period during which some of the most serious predation problems
occur, such as coyotes killing young lambs to feed their pups (Till and Knowlton 1983).”
Again, there is no consideration of the humaneness of leaving pups to starve and no scientific
evidence provided from the past two decades to justify this position. These issues must all be
evaluated when assessing the question of the humaneness of aerial gunning.

vi. Weevil-Cide® tablets

In 2020, WS-New Mexico has used Weevil-Cide® to destroy 1,400 Gunnison’s prairie
dog burrows, yet the EA contains no discussion of this method at all, which violates NEPA.
Weevil-Cide® is a pesticide and is primarily used as a fumigant to kill a variety of insects in
above-ground applications as well as burrowing animals. It is highly toxic to animals, and can be
fatal to humans. Its active ingredient is aluminum phosphide, and it is available as tablets and

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154 EA at 277.
155 Id.
156 For example, in 2019, WS-New Mexico technicians applied Weevil-cide™ on 188 black-tailed prairie dog
burrows. U.S. Dep’t of Agriculture, Animal & Plant Health Inspection Service, Wildlife Services, Program Data
Feb. 17).
antioxidant defense system. Pharmacology & Toxicology; 89, 315–319.
pellets, which are the formulations most commonly used to kill burrowing animals. Once placed in the burrow system, the tablets or pellets interact with atmospheric and/or soil moisture to create a highly toxic gas (phosphine). According to Hygnstrom and Vercauteren (2000), if applied properly with all burrow entrances sealed, aluminum phosphide reduced black-tailed prairie dog burrow activity by 95-98 percent.

The use of Weevil-Cide® is an inhumane method of killing black-tailed prairie dogs. Mason and Litten (2003) provide the following summary of the impact of phosphine on rodents:

In poisoned rodents, it gives rise to similar signs of respiratory irritation and pain and other forms of discomfort. For example, in one study, rats exposed to phosphine gas showed ‘clinical signs indicative of mild respiratory irritation’ such as salivation, lacrimation, face-pawing and dyspnoea. A review by the Pesticide Safety Directorate also showed that rats and mice exposed to phosphine gas display face-washing movements suggestive of eye and respiratory irritation, shivering, piloerection, clinging to the walls of the cage, exophthalmos (protruding eyeballs), convulsions, and hind limb paralysis followed by full paralysis and death. Animals may not start being symptomatic until 30 min after exposure, and die usually within 2 h (the range being 50 min to 3 h, depending on dose).

Such protracted suffering is unacceptable. WS-New Mexico must fully analyze the adverse effects of Weevil-Cide®, and reasonable, humane alternatives to its use.

vii. Conibear and Other Body-Crushing Traps

The EA also fails to fully consider the humaneness of Conibear and other body-crushing traps. To satisfy NEPA’s requirements, WS-New Mexico must disclose the specific types of body-gripping traps it uses and provide information about those traps, including the intended strike location, strike momentum, clamping force, expected percentage of accurate strikes (with data to support this), time to death, time to unconsciousness, injury/wounding scores, and non-target species capture rates), as well as an analysis of the welfare implications of the traps in use and the impacts on non-target species.

According to Iossa et al. (2007), for a kill trap to satisfy humaneness criteria in North America, 70 percent of animals must be rendered unconscious within 70 seconds (for stoats), 120 seconds for marten, lynx, and fisher, and 180 seconds for all other species. As noted in Table 1

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161 Id. (internal citations omitted).

(see below) in Iossa et al. (2007), the majority of killing traps tested, including a variety of different models of Conibear traps, failed to satisfy the loss of consciousness standard for humaneness.

The failure of kill traps to meet established welfare standards has been documented by other researchers. Proulx and Barrett (1988) rejected the commercially available Conibear 120 as an effective trap to kill marten since it failed to render (greater than/equal to) 5/6 unanaesthetized marten struck in the head/neck region irreversibly unconscious within three minutes (based on Canada’s General Standards Board (CGSB) performance criteria). Linscombe (1976), when comparing the killing efficiency of the Victor No. 2 leghold and Conibear 220

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Accepted standards of animal welfare for killing traps.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Trap model</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>Canis latrans</td>
<td>King necksnares</td>
</tr>
<tr>
<td></td>
<td>Mosher necksnares</td>
</tr>
<tr>
<td>Canis lupus</td>
<td>-</td>
</tr>
<tr>
<td>Castor canadensis</td>
<td>Conibear 330™</td>
</tr>
<tr>
<td></td>
<td>Modified Conibear 330™</td>
</tr>
<tr>
<td>Lutra canadensis</td>
<td>-</td>
</tr>
<tr>
<td>Lync rufus</td>
<td>-</td>
</tr>
<tr>
<td>Lync canadensis</td>
<td>Conibear 330™</td>
</tr>
<tr>
<td></td>
<td>Modified Conibear 330™</td>
</tr>
<tr>
<td>Martes Americana</td>
<td>Conibear 120™</td>
</tr>
<tr>
<td></td>
<td>Conibear 120 Magnum™</td>
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<tr>
<td></td>
<td>Conibear 160™</td>
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<tr>
<td></td>
<td>Sauvageau 2001-S™</td>
</tr>
<tr>
<td>Martes pennanti</td>
<td>Bionic</td>
</tr>
<tr>
<td></td>
<td>Conibear 220™</td>
</tr>
<tr>
<td></td>
<td>Modified Conibear 220™</td>
</tr>
<tr>
<td>Ondatra zibethicus</td>
<td>Leprin’ spring trap</td>
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<tr>
<td></td>
<td>Conibear 110™</td>
</tr>
<tr>
<td>Procyon lotor</td>
<td>Conibear 160™</td>
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<tr>
<td></td>
<td>Conibear 280™</td>
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<tr>
<td></td>
<td>Conibear 330™</td>
</tr>
<tr>
<td></td>
<td>Sauvageau 2001-B™</td>
</tr>
<tr>
<td>Taxidea taxus</td>
<td>-</td>
</tr>
<tr>
<td>Castor fiber</td>
<td>-</td>
</tr>
<tr>
<td>Lutra lutra</td>
<td>-</td>
</tr>
<tr>
<td>Lync lynx</td>
<td>-</td>
</tr>
<tr>
<td>Martes martes</td>
<td>-</td>
</tr>
<tr>
<td>Martes zibellina</td>
<td>-</td>
</tr>
<tr>
<td>Meles meles</td>
<td>-</td>
</tr>
<tr>
<td>Mustela erminea</td>
<td>Penn Mk IV</td>
</tr>
<tr>
<td></td>
<td>Penn Mk VI</td>
</tr>
<tr>
<td></td>
<td>Victor Snapback²</td>
</tr>
<tr>
<td></td>
<td>Waddington backcracker 4</td>
</tr>
<tr>
<td>Nyctereutes procyonoides</td>
<td>-</td>
</tr>
</tbody>
</table>

Mis-strike refers to the number of animals struck in a non-target body part; time limits to unconsciousness refer to the loss of corneal and palpebral reflexes; n is the number of animals tested.

Most of the tests were conducted in North America under the criteria that ≥ 70% of animals should be unconscious in ≤ 60, 120 or 180 seconds (eg Proulx 1999a; review in Powell & Proulx 2003). This is therefore used to assess passes and failures. The line divides North American from European species.

⁶ Species found in both continents; ¹ the trap failed because of high number of mis-strikes; ² not tested in the field; in a different experiment 2/10 animals escaped and 1/10 mis-strike; ³ time to loss of heartbeat; ⁴ see main text for stoat; ⁵ the trap failed because of high number of escapes.


traps, determined, as expected, that more trapped animals were found alive in the leghold trap but that the Conibear 220 trap does not consistently kill trapped animals with 9.7 percent of adult nutria and 10.7 percent of immature nutria found alive in the traps. For fisher, Proulx and Barrett (1993)\textsuperscript{165} determined that the Conibear 220 trap, despite being mechanically improved compared to the standard Conibear trap, did not consistently render the species irreversibly unconscious in ≤5 minutes, thereby failing to satisfy the three-minute standard. Proulx et al. (1995)\textsuperscript{166} found that the Conibear 330 trap failed to consistently render trapped lynx irreversibly unconscious within three minutes for one animal struck in the shoulder and two of eight animals struck in the neck. This trap, when modified by adding two clamping bars, did satisfy the standard. Proulx (1999)\textsuperscript{167} determined that the Conibear 120, 160, 220, 280, and 330 traps did not consistently satisfy the three-minute standards for irreversible unconsciousness for multiple species while modified versions of some of these traps (e.g., Conibear 120 Magnum with pitchfork trigger, Conibear 120 Magnum with pan trigger, Conibear 330 with clamping bars) did satisfy the standard. In their assessment of the welfare implications and ethics of multiple trap types, including kill traps, Powell and Proulx (2003)\textsuperscript{168} found that, absent modification, no standard or commercially available Conibear traps, or other types of killing traps, consistently killed animals within three minutes.

Proulx and Rodtka (2019)\textsuperscript{169} determined, in their review of the relevant literature, that Conibear traps used for marten and mink failed to satisfy either the CGSB criteria or the Agreement on International Humane Trapping Standards (AIHTS) criteria (e.g., for martens the animals must be rendered unconscious and insensible within two minutes). For the standard, commercially available Conibear 120 trap, which is not certified as humane under Canadian standards\textsuperscript{170} but is considered acceptable under the BMP trapping criteria, they determined that:

Mechanical evaluations showed that the Conibear 120 trap does not have the potential to render animals unconscious in ≤3 min \textsuperscript{[15]} and thus to meet AIHTS’ 2-min time limit. This was further demonstrated in tests with wild animals in simulated natural environments where 2 out of 6 tested animals did not lose consciousness within 5 min (the time limit was 3 min but the research protocol allowed researchers to prolong it to 5 min to learn more about traps). This result suggests that, based on the normal approximation to the binomial distribution (one-tailed), the Conibear 120 trap would then be expected to humanely kill (by rendering animals unconscious in ≤3 min as per CGSB), with 95\% confidence, >20\% of all captured martens of a true population. The poor performance of the Conibear 120 trap to humanely kill martens was further determined

\begin{thebibliography}{169}
\item As noted by Proulx and Rodtka, mechanically improved Conibear 120 trap models have now been developed and have been certified as humane by the Fur Institute of Canada.
\end{thebibliography}
on working traplines. At least 4 out of 13 martens captured in Conibear 120 traps were struck in non-lethal regions that would not result in a loss of consciousness in ≤3 min. Thus, on the basis of a one-tailed binomial test, the trap would, with 95% confidence, render <40% of captured martens unconscious in ≤3 min. (citations omitted)

For mink, which have greater cervical musculature and stronger bones compared to the American marten, Proulx and Rodtka reported that:

Mink . . . cannot be humanely killed, i.e., lose consciousness in ≤3 min as per CGSB, by the Conibear 120 trap. In fact, even the mechanically superior and stronger C120 Magnum failed to humanely kill mink captured by the neck. Furthermore, while the Conibear 120 trap is marketed with a two-prong trigger, its inability to properly strike mink in vital regions was reported nearly 50 years ago. The stronger C120 Magnum trap equipped with a pan trigger humanely killed mink double-struck in the neck and thorax. Because the two-prong trigger fails to ensure strikes in vital regions, and the Conibear 120 trap does not have the striking and clamping forces to produce a humane kill, many minks captured in this trap stay alive for many hours, and sometimes until the following day. Thousands of minks are trapped every year in North America, and many of those captured in the Conibear 120 trap must experience pain and suffering for periods of time exceeding AIHTs’ time limit of 5 min. (citations omitted).

Warburton (1982) examined two kill traps from New Zealand (the Banya and Kaki traps) and two from North America (the Conibear and Bigelow traps). The two North American traps proved to be the least humane as several common brushtail possums caught by the neck remained alive while others were trapped across the chest, abdomen, or rump. In another study from New Zealand, Warburton and Hall (1995) assessed the impact momentum and clamping force of kill traps. Based on their preliminary tests, they found that:

[m]ost kill-traps available in New Zealand generate an impact momentum of about 1 kg.m.s\(^{-1}\), much lower than the impact threshold of about 7 kg.m.s\(^{-1}\) required to kill a possum when no clamping force is added. It appears unlikely, therefore, that new traps based solely on impact to achieve a humane kill can be developed if the strike location and direction of impact are the same as those used by the simulator.

Furthermore, when the possums struck across the neck were examined, it was determined that death was caused by suffocation and/or cerebral anoxia due to the compression of the trachea and jugular veins. Physical trauma in the form of vertebral or cranial fractures as only found when the impact momentum exceeded c. 5-6 kg.m.s\(^{-1}\). Additionally, Warburton and Orchard (1996) determined that the Conibear 160 trap and the BMI 160 trap failed to satisfy

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171 Id. (emphasis added).
humane criteria for traps contained in the draft standards from the International Organization for Standardization because the Conibear 160 trap did not kill enough possums during pen trials, and the BMI 160 trap failed to achieve a sufficiently high number of correct strikes during field trials.

As indicated by Warburton (1982)\textsuperscript{175} and other studies, the location where the trap strikes the animal is critical in determining how quickly the trapped animal dies and, in the field, animals do not consistently enter the trap in ways that assure a rapid loss of consciousness. Phillips (1996)\textsuperscript{176} reported that mis-strikes ranging from 8 to 14 percent and Pohlmeyer et al. 1995\textsuperscript{177} reported mis-strikes equaling between 13 and 15 percent. Warburton (2000)\textsuperscript{178} found that possums trapped in the field were often found with their necks rotated in the trap and/or with a forelimb caught between the striking bar and the neck reducing the efficiency of the killing traps. When the neck is rotated, he determined that it is unlikely that both carotid arteries would be totally occluded preventing rapid, irreversible unconsciousness. Therefore, for a kill trap to operate effectively, the animal “must, as much as possible, be vertically aligned with no limbs obstructing the striking bar” – a circumstance that is difficult to consistently achieve in the wild.

Furthermore, the EA does not assess the likelihood of capture of non-target species. Trap selectivity is assessed by measuring the number of individuals of the target species captured relative to the number of non-target animals (Iossa et al. 2007).\textsuperscript{179} As noted in Table 6 from Iossa et al. (see below), trap selectivity varies widely with trap type. For rotating jaw traps (or Conibear traps), in one study 43 percent of the devices set to trap American martens captured non-target species Canada jay’s and Northern flying squirrels, all of whom were found dead in the traps. In a second study assessing the selectivity of Conibear traps, 30 percent of the trapped animals were non-target species the American crow, rat species, and domestic house cats.

\begin{flushright}
\end{flushright}
Table 6  Selectivity (number of non-target animals relative to total captures), mortality and injury caused to non-target species in various types of traps.

<table>
<thead>
<tr>
<th>Trap type</th>
<th>Target species</th>
<th>Non-target species</th>
<th>Selectivity</th>
<th>Mortality</th>
<th>Injury</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Killing traps</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drowning trap</td>
<td><em>Ondatra zibethicus</em></td>
<td><em>Anas platyrhynchos</em>, <em>Rattus</em> spp, <em>Mustela erminea</em></td>
<td>1.44-7.40%</td>
<td>-</td>
<td>-</td>
<td>Crasson 1996</td>
</tr>
<tr>
<td>Spring trap in tunnels</td>
<td><em>Mustela erminea</em>, <em>M. nivalis</em>, <em>M. vison</em></td>
<td><em>Alectoris rufus</em>, <em>Erinaceus europaeus</em>, <em>Oryctolagus cuniculus</em>, <em>Mustela putorius</em></td>
<td>5%</td>
<td>100%†</td>
<td>-</td>
<td>Short &amp; Reynolds 2001</td>
</tr>
<tr>
<td>Tunnel traps/snare</td>
<td>-</td>
<td><em>Mustela putorius</em></td>
<td>-</td>
<td>61%</td>
<td>39%</td>
<td>Birks &amp; Kitchener 1999</td>
</tr>
<tr>
<td>Spring trap</td>
<td><em>Trichosurus</em> spp</td>
<td><em>Erinaceus europaeus</em>, <em>Mustela putorius</em>, <em>Rattus</em> spp</td>
<td>23%</td>
<td>50%</td>
<td>50%</td>
<td>Warburton &amp; Orchard 1996</td>
</tr>
<tr>
<td>Leg-hold snare/coil spring trap</td>
<td><em>Oryctolagus cuniculus</em>, <em>Vulpes vulpes</em></td>
<td><em>Lynx pardinus</em></td>
<td>-</td>
<td>64%</td>
<td>22.5%</td>
<td>Garcia-Perea 2000</td>
</tr>
<tr>
<td>Neck snare</td>
<td><em>Canis latrans</em></td>
<td><em>Odocoileus hemionus</em>, <em>O. virginianus</em>, <em>Bos taurus</em></td>
<td>21%</td>
<td>33-63%</td>
<td>-</td>
<td>Phillips 1996</td>
</tr>
<tr>
<td>Neck snare</td>
<td><em>Lepus americanus</em></td>
<td><em>Martes americana</em></td>
<td>50%</td>
<td>0%</td>
<td>0%</td>
<td>Proulx et al 1994a</td>
</tr>
<tr>
<td>Rotating jaw-trap</td>
<td><em>Martes americana</em></td>
<td><em>Perisoereus canadensis</em>, <em>Glaucomys sabrinus</em></td>
<td>43%</td>
<td>100%</td>
<td>-</td>
<td>Naylor &amp; Novak 1994</td>
</tr>
<tr>
<td>Rotating jaw trap</td>
<td><em>Martes americana</em></td>
<td><em>Corvus brachyrhynchos</em>, <em>Rattus</em> spp, <em>Felix catus</em></td>
<td>30%</td>
<td>-</td>
<td>-</td>
<td>Proulx &amp; Barrett 1993a</td>
</tr>
<tr>
<td><strong>Restraining traps</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box trap</td>
<td><em>Felis silvestris</em>, <em>Lynx lynx</em></td>
<td><em>Meles meles</em>, <em>Ursus arctos</em></td>
<td>64%</td>
<td>0%</td>
<td>0%</td>
<td>Potočnik et al 2002</td>
</tr>
<tr>
<td>Box trap</td>
<td><em>Canis familiaris</em></td>
<td><em>Corvus brachyrhynchos</em>, <em>Felix catus</em>, <em>Procyon lotor</em>, <em>Mephitis mephitis</em></td>
<td>93%</td>
<td>-</td>
<td>-</td>
<td>Way et al 2002</td>
</tr>
<tr>
<td>Box trap</td>
<td><em>Martes pennanti</em></td>
<td><em>Martes americana</em>, <em>Gulo gulo</em>, <em>Vulpes vulpes</em></td>
<td>94%</td>
<td>1%</td>
<td>-</td>
<td>Weir 1997</td>
</tr>
<tr>
<td>Leg-hold snare</td>
<td><em>Panthera leo</em></td>
<td><em>Hyaena hyaena</em>, <em>Crocuta crocuta</em>, <em>Acinonyx jubatus</em></td>
<td>32%</td>
<td>0%</td>
<td>17%</td>
<td>Frank et al 2003</td>
</tr>
<tr>
<td>Leg-hold snare</td>
<td><em>Puma concolor</em></td>
<td><em>Odocoileus hemionus</em>, <em>Canis latrans</em>, <em>Bos taurus</em></td>
<td>45%</td>
<td>17%</td>
<td>-</td>
<td>Logan et al 1999</td>
</tr>
<tr>
<td>Neck snare</td>
<td><em>Vulpes vulpes</em></td>
<td><em>Canis familiaris</em>, <em>Felix catus</em>, <em>F. sylvestris</em>, <em>Meles meles</em>, <em>Martes martes</em>, <em>Lutra lutra</em>, <em>Lepus europaeus</em></td>
<td>46%</td>
<td>-</td>
<td>-</td>
<td>Chadwick et al 1997</td>
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† The relative % of injured and dead animals is not known. ‡ Mortality and injury combined.
The lack of selectivity with body-gripping traps is consistently noted in the published literature. Linscombe (1976)\textsuperscript{180} documented 57 non-target mammals and 127 non-target birds were captured in No. 2 Victor and No. 220 Conibear traps with more non-target species, particularly birds, captured in the Conibear trap. In his study of multiple trap types in Arkansas, Sasse (2018)\textsuperscript{181} found that non-target spotted skunks, a species of “greatest conservation concern in Arkansas and that may warrant protection under the Endangered Species Act,\textsuperscript{182} were captured in body-gripping traps set for bobcats, raccoons, coyotes, and fox. Neither Linscombe nor Sasse indicated whether any of the non-target animals trapped in their studies were found alive. Nor did they provide any estimates of time to death or unconsciousness. Hill (1987)\textsuperscript{183} found that trap mortality in non-target animals taken in No. 220 Conibear traps was “sufficiently high to make them unsuitable for conventional terrestrial trapping in the Southeastern United States, except for special situations such as for control of feral dogs, or predator populations on specific areas during rabies epizootics.” No. 120 Conibear traps also captured non-target species but not in the numbers captured in the 220 traps. Davis et al. (2012),\textsuperscript{184} in their study of body-gripping traps in the Cape Horn Archipelago that straddles the border of Chile and Argentina, determined that a number of non-target bird species (caracaras, kelp gulls, flightless streamer ducks) and mammal species (domestic cats, feral pigs) were captured when they used an open front configuration for their trap sets.

\textit{viii. Indiscriminate nature of methods}

Lastly, the EA erroneously concludes that the methods of take employed by WS- New Mexico are “highly selective for target animals.”\textsuperscript{185} However, as discussed above, many of these methods are indiscriminate, and some of the methods – including use of M-44s and poisons – have specifically been banned in other states because of their indiscriminate nature. Additionally, despite WS-New Mexico’s conclusory statement, 2020 data from Wildlife Services shows the unintentional take of swift fox, kit fox and porcupines, along with a bobcat and raccoon that were reportedly released.\textsuperscript{186} WS-New Mexico should clarify this statement or explain why it is unwilling to eliminate indiscriminate methods of take in order to only take intended species.

\textsuperscript{185} EA at 18.
\textsuperscript{186} \textit{Id.}
D. The EA Fails to Adequately Assess the Impacts of PDM on Non-Target Species, Including Imperiled Species

The EA fails to adequately analyze the impacts of WS-New Mexico’s predator control program on non-target species, including species protected by the ESA. Nationwide, Wildlife Services’ non-selective lethal control methods have unintentionally killed many companion animals, vertebrates of 150 species, and thousands of mammals of at least nine different taxa that are listed as threatened or endangered federally or in certain states. Specifically, since 2000, Wildlife Services has unintentionally injured or killed Mexican gray wolves, grizzly bears, kangaroo rats, wolverines, river otters, swift and kit foxes, gray wolves, eagles, falcons, a California condor, red-tailed hawks, great horned owls, armadillos, pronghorns, porcupines, long-tailed weasels, javelinas, marmots, snapping turtles, turkey vultures, great blue herons, ruddy ducks, sandhill cranes, and ringtail cats. These killings undermine federal efforts to conserve and recover the affected species, which often need protection under state and/or federal laws in part due to Wildlife Services’ historical practices.

Regarding New Mexico specifically, the EA claims that WS-New Mexico killed 387 non-target animals from fiscal years 2015–2019 (averaging over 77 animals annually). This number in and of itself is highly concerning. Yet, we question whether this represents the full scale of non-target incidents, considering the almost-century-long history of USDA Wildlife Services (and its predecessor agencies) concealing the deaths of non-target animals. It seems likely that the agency killed additional non-target animals and did not report the death. The EA’s reporting on and analysis of the number of non-target animals it killed must therefore be based on the known effects of WS-New Mexico’s killing methods and the known vulnerabilities of the

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191 EA at 264.

various non-target species. This data should be disclosed in full and analyzed.

We are particularly concerned about the potential for non-target animals, including threatened and endangered species and companion animals, to be caught in steel-jawed leghold traps, body-gripping traps, and snares, which the EA does not adequately address. As these species cannot recognize the distinction between public and private land, WS-New Mexico not using these devices on public lands does not alleviate this issue. These devices are highly indiscriminate, and the use of bait is very problematic because it lures not only the target species but non-target species as well, in addition to causing conflicts between animals and disrupting behavioral ecology. Even research conducted by USDA’s National Wildlife Research Center shows the large number of non-target species that visit Wildlife Services’ trap sites.

The EA states that non-target species caught in these devices will be released, if possible. Unfortunately, as discussed in the above section, many animals will experience injuries, or even death, from capture. In discounting impacts to non-target species, the EA fails to reconcile the abundant literature on the risks and trauma associated with trapping (e.g., lacerations, sprains, strains, amputations, broken bones, organ damage, hypo- and hyper-thermia, dehydration, and mortality) and how animals released in apparently good condition often die after release (e.g., reperfusion syndrome resulting in generalized organ damage).

i. The EA Fails to Adequately Discuss Impact of PDM on Mexican gray wolves

As the EA acknowledges, and as also discussed above, there are two threatened species at particular risk from WS-New Mexico’s predator control activities: Mexican gray wolves and Canada lynx.

Regarding Mexican gray wolves, the indiscriminate methods used by WS-New Mexico to target coyotes, including foot and neck snares, padded steel-jawed leghold traps, and aerial ginning, create a significant risk that Mexican gray wolves could be taken. Aerial ginning poses unacceptable risks to Mexican gray wolves in particular because it is difficult for a shooter to determine whether the target is a wolf or a coyote from the air. While the EA addresses mitigative measures taken in an attempt to prevent accidentally shooting an endangered wolf again, WS-New Mexico fails to consider wolves dispersing beyond the MWEPA.

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196 EA at 248.
Mexico runs the risk of killing wolves instead of coyotes, and potentially orphaning young wolves that are unlikely to survive the death of their mother. The EA must address these issues.

Furthermore, WS-New Mexico does not adequately consider the role that USDA-APHIS Wildlife Services and its “government trappers” played in the extirpation of Mexican gray wolves in their naturally occurring range. The EA also does not adequately address concerns about the level of training technicians receive, which is necessary to mitigate against the type of situation that occurred in 2013, when an employee accidentally shot a Mexican gray wolf after mistaking it for a coyote. The EA must also more adequately address concerns about depredation investigations. According to a review of FOIA documents obtained by Western Watersheds Project, there are a plethora of inaccuracies in the program’s depredation investigations. Here is but one example, of many, detailed by Greta Anderson, Deputy Director at Western Watersheds Project, from a report dated January 31, 2020\footnote{Depredation Report Form. Obtained by Western Watershed Project through a FOIA request. Last accessed 9/9/2021 and will be uploaded for reference. https://www.westernwatersheds.org/wp-content/uploads/2020/08/CC-1-31-19-3-1.pdf.}:

[T]he remains of a 2-day old calf became a “confirmed” wolf kill . . . . Less than ¼ of the carcass was remaining, and it had already been moved from the place where it was found. There is no photo showing the carcass on the landscape, only the remainder of a calf’s rear legs on the bed of a truck. Nonetheless, the investigators determined that it was eaten from rear end to head (the pattern consistent with wolves), despite having no head or torso or anything with which to determine the order of feeding. They found canine spreads and compression marks on the skin, neither of which proves the calf was alive if (or when) it was eaten by something with 40.4mm to 42.3mm canine teeth, dimensions that also could be attributed to feral dogs or mountain lions. It is important to note that there are also no photos of the compression spread alleged in the report. But rather than even consider it “probable” wolf kill, the investigators CONFIRMED it.

WS-New Mexico must adequately consider and explain the clear discrepancies in their depredation investigations and reporting.

WS-New Mexico must take a hard look at its past conduct, accidental kills, and depredation investigations when considering its environmental impacts on Mexican gray wolves. Simply continuing business as usual is not acceptable, especially considering the current legal landscape around Mexican gray wolves. WS-New Mexico must also further explain their own methodology for reducing incidental take. The EA states that WS-New Mexico has agreed to the following implementation measures including “WS shall coordinate WDM Program activities to reduce the likelihood of impact to the species by contacting the FWS-New Mexico Ecological Services Field Office (NMESFO), the FWS Mexican Wolf Recovery Program Coordinator, the Mexican Wolf Interagency Committee(s), the Mexican Wolf Interagency Field Team, and other appropriate Federal, State, and Tribal agencies prior to conducting WDM Program activities in Mexican wolf range.\footnote{EA at 246.

This statement raises substantial questions about interagency coordination. The EA should address: (1) how WS-New Mexico contacts these agencies; (2) whether WS-New Mexico calls for permission to conduct PDM or call merely to inform
NMESFO that PDM is occurring; (3) is there a form or protocol that informs and documents this “contact?”; and (4) how did WS-New Mexico determine its SOPs for Mexican gray wolves and what scientific evidence supports the SOPs? Each implementation measure listed in Section 3.6.4.14 of the EA must be fully explained; the information as presented is insufficient to allow the public to determine the extent of the impacts of WS-New Mexico’s PDM activities on Mexican gray wolves.

Additionally, the EA’s description of Wildlife Services’ ESA consultation history with USFWS is unclear and should be clarified in the final EA. Specifically, is the most recent Biological Assessment (“BA”) and referenced consultation with FWS for all potentially affected listed species from December 2014? The body of the EA only mentions the 2014 BA and 2014 Letter of Concurrence, but the List of References includes the following citation to a 2014 Biological Opinion (“BO”): U.S. Fish and Wildlife Service (2014). Biological Opinion Canada Lynx Mexican Wolf. U.S. Department of the Interior. Albuquerque, NM: 1-8.

The EA later refers to a 2011 BO for the Mexican gray wolf, which appears to have been based on information from a 2007 BA. Regardless of whether the last consultation for the Mexican gray wolf was completed in 2011 or 2014, the information is now outdated. WS-New Mexico must make all ESA consultation documents (BAs, BOs, and Letters of Concurrence) that WS-New Mexico is presently relying upon publicly available on its website for this EA.

WS-New Mexico should reinitiate consultation with USFWS over the impacts of its PDM program to the Mexican gray wolf, given the dire threats to genetic viability of the species. See 50 CFR §402.16 (requiring reinitiation of formal consultation when “new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered [in previous consultation documents]”). To the extent there is also new information about effects to jaguar and lynx, reinitiation of consultation would also be required for those listed species as well.

Further, in 2018, a U.S. District Court in Arizona ruled that the USFWS’ 2015 Mexican wolf management rule, 80 Fed. Reg. 2512 (January 16, 2015), violated the Endangered Species Act by failing to conserve the endangered Mexican gray wolf and not relying on the best available science in creation of the rule. Center for Biological Diversity, et al. v. Jewell, No. CV-15-00019-TUC-JGZ, 2018 WL 1586651 (D. Ariz. March 31, 2018). The invalidated 2015 management rule replaced a 1998 reintroduction rule that itself was revised as a consequence of litigation after the Service failed to meet its own demographic predictions for population growth. To consider an outdated BO from an agency that is currently in the process of revising its management rule pursuant to Court order is inadequate and insufficient and fails to take into account the current threats facing Mexican wolves. An updated consultation with USFWS, considering the rapidly evolving legal circumstances around Mexican gray wolf protections, in


in addition to biological changes in the population is crucial and necessary in order to fully assess the impact of PDM on this critically endangered species. WS-New Mexico must reinitiate formal consultation on all endangered carnivores that inhabit New Mexico.

The EA is also misleading in terms of the effects determinations from those prior consultations. For example, the EA should plainly state that formal consultation was required for Mexican gray wolf, Canada lynx, and jaguar as a result of “likely to adversely affect” (“LAA”) determinations, rather than just saying “not likely to jeopardize” given “jeopardy” determinations are made at the scale of the population as a whole. This characterization fails to acknowledge the fact that LAA determinations are another factor weighing in favor of preparing an EIS because the significance factors under NEPA may be based on potentially significant impacts to local populations of listed species. “A project need not jeopardize the continued existence of a threatened or endangered species to have a ‘significant’ effect on the environment.” Cascadia Wildlands v. U.S. Forest Serv., 937 F. Supp. 2d at 1282 (citing Klamath-Siskiyou Wildlands Ctr., 373 F. Supp. 2d at 1080) (citation and internal quotations omitted); see also Makua v. Rumsfeld, 163 F. Supp. 2d 1202, 1218 (D. Haw. 2001) (“A FONSI . . . must be based on a review of the potential for significant impact, including impact short of extinction. Clearly, there can be a significant impact on a species even if its existence is not jeopardized.”).

\textbf{ii. The EA Fails to Adequately Discuss Impact of PDM on other T&E species}

In addition to Mexican gray wolves, New Mexico boasts an array of ecologically and cultural significant threatened and endangered species. WS-New Mexico provides some discussion of these species without providing significant information about the impact of PDM on these species and their habitat. Considering the precarious place that these species inhabit in New Mexico – and the importance of these species to the people of that state – more detailed analysis is required.

First, the measures identified in the EA to protect Canada lynx are inadequate, both to protect resident lynx in New Mexico as well as the vulnerable lynx population in Colorado. This species is at risk from indiscriminate methods used by WS-New Mexico to target both bobcats and coyotes, including foot and neck snares and steel-jawed leghold traps. In particular, bobcats and Canada lynx, a threatened species, are morphologically similar and have overlapping ranges in New Mexico. Lynx may still be trapped by WS-New Mexico notwithstanding the restrictions on fish, fresh meat, and anise olfactory attractants and certain visual lures because lynx can be attracted to urine and other enticing or curiosity-evoking scents that WS-New Mexico may still use.\textsuperscript{202} The restrictions on pan-tension weights in the trapping and snaring of bears, wolves and mountain lions, in order to protect lynx, would not apply when WS-New Mexico seeks to trap and snare coyotes and bobcats; therefore, lynx are still likely to be trapped and snared. Furthermore, lynx do not just use the upper montane and subalpine areas that the EA describes as suitable habitat; they also can be found throughout an array of lower-elevation vegetation types as well, particularly (though hardly solely) during long-distance dispersals.\textsuperscript{203}

\textsuperscript{202} \textit{Id.}

With the potential for lynx to be found beyond 100 feet away from conifer forests, lynx will be vulnerable to M-44s and other poisons as well. Altogether, the protections for lynx are porous. Even a single lynx killed or injured by WS may affect genetic diversity and harm the species’ long-term persistence in the face of global warming and other threats, particularly if that individual would have otherwise helped to maintain the genetic viability of the Colorado population. Simply because the species does not have critical habitat in the state, does not mean WS-New Mexico should disregard their presence beyond Conifer forests.

Black-footed ferrets – another species brought to the brink of extinction by Wildlife Service’s predecessor agencies – are also imperiled by the agency’s activities in New Mexico through the use of M-44s, traps and snares, and through the killing of prairie dogs even in areas outside of established prairie dog towns. For long-term persistence, black-footed ferrets must be able to disperse and create new populations. WS-New Mexico’s activities jeopardize individual black-footed ferrets and this mustelid species’ overall recovery. WS-New Mexico has failed to analyze the impacts (direct, indirect, and cumulative) to black-footed ferret populations and black-footed ferret recovery from its predator control of prairie dogs, including how its predator control efforts impact existing and potential reintroduction sites needed for recovery, which it must do to comply with NEPA.

Case in point, the EA lacks any analysis of WS-New Mexico’s use of Weevil-Cide® and other poisons to destroy over 5,000 burrowing dens for Gunnison’s and black-tailed prairie dogs in 2020, alone, in addition to killing more than 2,100 individual prairie dogs. Black-footed ferrets rely on prairie dogs for their very survival – both as a food source and to use prairie dog burrows as dens for their own habitat. The mass destruction of individual prairie dogs and their habitat has a definite impact on the recovery of black-footed ferret populations in the state and is not adequately discussed in the EA.

In addition to being inhumane, as discussed above, Weevil-Cide poses a significant risk to non-target species. According to the applicator instructions for aluminum phosphide issued by the Environmental Protection Agency, “[t]his product is very highly toxic to wildlife. Non-target organisms exposed to phosphine gas will be killed.” Indeed, Wildlife Services has acknowledged that “[a] primary concern of the use of fumigants is nontarget species take” and reported that between FY11 and FY15, “WS annually averaged the known take of 54,096 target rodents and an estimated 2,333 vertebrate nontarget species with aluminum phosphide in 9 states.” The agency does not know the actual numbers of non-target deaths because it does not excavate dens after treatment. The clear risk posed by Weevil-Cide® to non-target species

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204 EA at 250.


207 Id. at 1.
necessitates analysis of the effects of, and reasonable alternatives to, its use.

Killing Gunnison’s and black-tailed prairie dogs and destroying their dens also affects other species beyond the black-footed ferret. For example, prairie dog destruction causes a reduction in prey base. This may affect the broad range of avian and mammalian predators that prey on prairie dogs or are dependent upon prairie dog colonies for habitat, such as badgers, coyotes, ferruginous hawks, golden eagles, prairie falcons, burrowing owls, prairie rattlesnakes, mountain plovers, and horned larks. In addition to serving as a prey base for dependent and associated species, prairie dogs provide vital ecosystem services that are compromised when they are killed en-masse. These ecosystem services include: increased groundwater recharge and water penetration, soil aeration, carbon sequestration, nutrient cycling, increased nitrogen content of soil and plants, creation of a diverse mosaic of grassland habitats, prevention of desertification, and fire breaks. Far from taking a “hard look” at the impacts of killing so many prairie dogs each year, the EA takes no look at all. The EA should meaningfully address this issue.

WS-New Mexico must consider state-listed threatened “predators,” like the Pacific marten. The Pacific marten, or pine marten as they are commonly known, have been threatened in New Mexico since 1975. Last year, New Mexico Game and Fish stated that “Pacific martens in New Mexico are vulnerable to habitat degradation or fragmentation through timber harvesting in mature/old-growth forests, removal of downed timber as part of fuels reduction projects or as firewood, and catastrophic wildfire within the species’ range. Catastrophic wildfire likely poses the greatest threat under present conditions in the state. Marten are also very susceptible to trapping, although there is currently no open season for this furbearer in New

209 Id.
Mexico. WS-New Mexico’s ongoing use of indiscriminate traps and poisons can have devastating impacts on a species that is already under tremendous threat from ongoing climate-related issues.

Further, WS-New Mexico must consider the impacts of their trapping program on this species whose range is described as “known only from the north-central mountains including the San Juan and Sangre de Cristo ranges. Reports of martens in the Jemez Mountains have not been substantiated, despite recent efforts including the use of camera traps. Habitat in New Mexico includes mature, high elevation spruce-fir (Picea-Abies) forests.” WS-New Mexico must consider mitigation measures within areas of Pacific marten habitat. New Mexico Game and Fish has indicated that they recently concluded a camera-trap study in the Sangre de Cristo Mountains in 2020; WS-New Mexico must consult with New Mexico Game and Fish on the results of this yet-to-be-published study and to confirm that mitigation measures are in place to protect the Pacific marten.

WS-New Mexico should also evaluate the implications of PDM operations on avian species protected under the Migratory Bird Treaty Act (“MBTA”), 16 U.S.C. §§ 703-712 ($709 omitted). The MBTA provides that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior. 50 C.F.R. § 10.13. Over 800 species are currently on the list of protected migratory birds. This is an important issue, given the number of birds WS-New Mexico kills each year, as well as WS-New Mexico’s use of lead ammunition, which negatively impacts many avian species, as discussed below.

Wildlife Services has accidentally trapped numerous endangered species including Canada lynx and Mexican gray wolves through its activities across the country. This data should be disclosed in full and analyzed both at the national level and at the state level. WS-New Mexico cannot conclude that, under the preferred alternative, “WS-New Mexico has completed appropriate ESA consultations with USFWS to avoid jeopardy to Threatened and Endangered species including the Mexican wolf. WS-New Mexico is not likely to adversely affect any other Threatened and Endangered species or would have no effect. Effects are expected to continue to be minimal.” WS-New Mexico must look at the cumulative impacts on endangered, threatened and non-target species at the national scale that the program operates on.

E. WS-New Mexico must consider the impacts of lead.

The EA’s analysis is cursory and inadequate on the subject of lead poisoning, including the cumulative effect of WS-New Mexico’s use of lead in addition to other uses. The Canada lynx, Mexican gray wolf, black-footed ferret, aquatic species, as well as bald and golden eagles, are all imperiled through lead shot and other lead equipment used and discarded by Wildlife Services. Long-lived species are particularly susceptible to bioaccumulation of lead in bones, and

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219 Id.
220 Id.
repeated lead ingestion and accumulation in long-lived species can reduce bone mineralization, which could mean an increase in bone fragility. Gangoso et al. (2009) found unusually high levels of frequency of fractures and even leg amputations in an Egyptian vulture (*Neophron percnopterus*) population with high exposure to ingestion of lead ammunition.\(^{222}\)

The non-lethal effects of lead toxicosis may be difficult to recognize at a distance in free-ranging wild animals. Subtle neurological signs are easy to miss even in domesticated animals that can be physically examined. Wild animals that have died from or have been debilitated by lead poisoning may elude capture due to behavioral or physiological changes, or be removed from the population if lead exposure is associated with high levels of mortality.\(^{223}\)

Lead poisoning due to ingestion of spent shot or bullet fragments has had population-level effects for some bird species with low recruitment rates, depressed populations, or in recovery, such as the California condor, bald eagle, trumpeter swan, sandhill crane, and spectacled eider.\(^{224}\)

Bald eagles share some demographic and ecological factors with free-ranging condors that make them vulnerable to lead intoxication; they scavenge on carcasses, they are long-lived, they have low recruitment rates, and their numbers have been reduced in recent decades.\(^{225}\) Bald eagles that ingest lead shot embedded in the tissues or the intestinal tract of waterfowl demonstrate acute and chronic symptoms of lead poisoning.\(^{226}\) The experimental intoxication of bald eagles with lead shot conducted by Pattee et al. (1981) found that it took between 10 and 133 days (median 20 days) for mortality to occur. The range of time for lead shot retention in the stomach varied between 0.5 and 48 days. Mean lead levels in dead animals were 16.6 ppm (wet weight) in liver and 6.0 ppm (wet weight) in kidney.\(^{227}\) In a complementary study, Hoffmann et al. (1981) report mean blood lead levels in eagles dosed with 10 #4 lead shot (0.21g each) to be 80 µg/dl after 24 hours and 280 µg/dl after 72 hours.\(^{228}\) Mean blood lead levels as high as 270 µg/dl have been detected in apparently healthy free-ranging bald eagles but subclinical effects


may be difficult to document\textsuperscript{229}. Foreign bodies, including lead fragments, may be regurgitated by eagles so that fragments may not be detected in the gastrointestinal tract at the time of capture or blood tests, even if the fragments contributed substantially to elevated lead exposure levels prior to being ejected. Mateo et al. (2003) recognized the importance of accounting for this unique physiology in raptors and recommended collecting regurgitated pellets at raptor roosting sites to study the presence, frequency, seasonality and prey associated with the ingestion of lead shot.\textsuperscript{230}

The secondary poisoning of bald eagles by lead shot in crippled waterfowl was part of the impetus for the final decision to ban the use of lead for hunting waterfowl.\textsuperscript{231} Coon et al. (1969) reported that 7 percent of 45 bald eagle carcasses had high enough lead levels to be lethal.\textsuperscript{232} Kaiser et al. (1990) reported 9 percent of 158 bald eagle carcasses had elevated lead levels in the liver.\textsuperscript{233} In one study, 97 percent of bald eagles and 86 percent of golden eagles tested had elevated blood levels of lead.\textsuperscript{234}

Pattee and Hennes (1983) found that elevated lead levels in bald eagles corresponded well (89 percent) with late fall and winter waterfowl hunting seasons.\textsuperscript{235} According to the Wisconsin Department of Natural Resources, about 15 to 20 percent of all bald eagle deaths in that state are due to lead poisoning, usually from eating animals that were wounded with lead ammunition or from scavenging gut piles during and after the deer hunting season. Wisconsin lead poisoning cases in bald eagles begin to increase in October, peak in December and tail off in late winter, which coincides exactly with Wisconsin’s deer hunting seasons, suggesting hunter-crippled game and lead contaminated offal are the cause.\textsuperscript{236}

A 16-year review of lead levels in bald and golden eagles in Minnesota and Wisconsin by Kramer and Redig (1997) found that observed blood lead concentrations in both species declined following the ban on lead shot in waterfowl hunting, but there was no change in the prevalence of lead poisoning, attributable in part to continued availability of gut piles from hunter-killed deer. In that study, 21 percent (138/654) of eagles admitted to treatment centers had evidence of


lead poisoning, and only one had radiographic evidence of lead fragments in the gastro-intestinal tract.\(^{237}\) Other potential sources of lead, such as fish contaminated with lead fishing sinkers, and hunting activities not included in the lead shot ban were suggested as causes for the substantial number of cases reported during this time period. Clark and Scheuhammer (2003) found, not surprisingly, that upland game birds and mammals, the primary foods for many raptors, were more likely to contain lead shot than waterfowl 12 years after the ban on lead shot for waterfowl hunting.\(^{238}\) Lead shot from upland game hunting and lead bullet fragments from big game hunting and “varmint” shooting are a significant cause of continued lead toxicity for bald and golden eagles.\(^{239}\)

Golden and bald eagle feeding ecology and behaviors may expose them to some of the same factors that predispose condors to lead intoxication. In a study by Pattee et al. (1990) on the lead hazards within the California condor range, golden eagles were suggested as a model species to assess lead exposure in California condors because they are abundant in the condor range and they have been observed feeding on the same carcasses as condors. Between 1985 and 1986, 36 percent of the 162 golden eagles evaluated within the California condor range had elevated blood lead levels, and 2.5 percent had levels greater than 100ug/dl, indicative of clinical lead poisoning. This study also reported seasonal trends in lead levels in tissues of golden eagles within the California condor range which coincided with the deer hunting season.\(^{240}\)

Wildlife rehabilitators in Iowa began gathering lead poisoning information on bald eagles in 2004, analyzing blood, liver, or bone samples for 62 eagles. Thirty-nine eagles showed lead levels in their blood above 0.2 ppm or lead levels in their liver above 6 ppm, which could be lethal poisoning without chelation treatment. Seven eagles showed exposure levels of lead (between 0.1 ppm and 0.2 ppm in blood samples, between 1 ppm and 6 ppm in liver samples, and between 10 ppm and 20 ppm in bone). Several of the eagles admitted with traumatic injuries showed underlying lead exposure or poisoning. Over half of the eagles being admitted to Iowa wildlife rehabilitators have ingested lead. Behavioral observations, time-of-year data analysis, and x-ray information point to lead shrapnel left in slug-shot white-tailed deer (\textit{Odocoileus virginianus}) carcasses to be a source of this ingested lead.\(^{241}\)

Spring migrating eagles sampled in west-central Montana between 1983 and 1985

showed elevated blood-lead levels in 85 percent of 86 golden eagles and 97 percent of 37 bald eagles, with the source thought to be shot from waterfowl hunting and fragmented lead-core rifle bullets in ground squirrels. Domenech and Langner (2009) sampled blood from 42 golden eagles in Montana captured on migration during the fall of 2006 and 2007 and found that 58 percent had elevated blood-lead levels, attributed to ingestion of lead-tainted carcasses or offal piles. Of the eagles evaluated, 18 contained background lead levels of 0–10 µg/dL, 19 eagles were considered sub-clinically exposed at 10–60 µg/dL, two birds were clinically exposed (60–100 µg/dL), and three exhibited acute exposure of >100 µg/dL. Eagles with lower, but detectable blood lead levels may have had earlier exposure with the majority of the lead already deposited in other organs and bone.

Bedrosian and Craighead (2009) measured blood lead levels of 47 bald eagles and 16 golden eagles in the southern Yellowstone Ecosystem around Grand Teton National Park, Wyoming during and after large-game hunts for two years. They found a median blood lead level of 41.0 µg/dL (range = 3.2–523 µg/dL); 75 percent of all birds tested exhibited elevated lead levels (>20 µg/dL) and 14.3% exhibited levels associated with clinical poisoning (>100 µg/dL). The median blood lead levels for eagles during the hunting season was significantly higher than the non-hunting season (56.0 vs. 27.7 µg/dL, respectively; \( P = 0.01 \)). The magnitude of lead in the blood of Wyoming eagles is extremely high and likely results in the death of some individuals. Lead shot and other lead discharged into the environment by Wildlife Services must be analyzed in relation to these already-occurring effects.

Following the ban on lead shot for waterfowl hunting, bald eagles continue to acquire elevated levels of lead from deer shot by hunters. Spent lead from ammunition is present in field residues of white-tailed deer (Odocoileus virginianus). Cruz-Martinez et al. (2012) evaluated data from 1,277 bald eagles admitted for rehabilitation in Minnesota from January 1996 through December 2009. They found that 334 bald eagles (26 percent) had elevated lead levels, and detected significantly increased odds for elevated lead levels based on season (late fall and early winter) and in hunting zones.

Bedrosian et al. (2012) investigated the incidence of lead exposure in bald eagles in Wyoming during the big game hunting season, and found that eagles had significantly higher lead levels during the hunt. They found 24 percent of eagles tested had levels indicating at least clinical exposure (>60 ug/dL) during the hunt while no birds did during the non-hunting season.

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246 Id.
Franson and Russell (2014) evaluated demographic and pathologic characteristics in 484 bald eagles and 68 golden eagles diagnosed with lead poisoning at the U.S. Geological Survey National Wildlife Health Center in Wisconsin. They detected a distinct temporal trend in the collection date of lead poisoned bald eagle carcasses, corresponding with greater frequency during hunting season in late autumn and winter, than in spring and summer. Lead poisoning effects on eagles included emaciation, evidence of bile stasis, myocardial degeneration and necrosis, and renal tubular nephrosis and necrosis. They found ingested lead ammunition or fragments in 14.2 percent of bald eagles and 11.8 percent of golden eagles.

Ecke et al. (2017) correlated lead levels in the blood of golden eagles in Sweden with progression of the moose hunting season. Based on analyses of tracking data, they found that even sublethal lead concentrations in blood can likely negatively affect golden eagle movement behavior (flight height and movement rate). Lead levels in the liver of recovered post-mortem analyzed eagles also suggested that sublethal exposure increases the risk of mortality in eagles. Yaw et al. (2017) assessed 11 years (2004–2014) of bald eagle data from four wildlife rehabilitators in Iowa for the prevalence of elevated lead levels in blood or tissue samples. They found the highest blood lead levels in eagles during hunting season (October–January). Lethal effects from ingestion of lead shot by predatory and scavenging raptors feeding on hunter-killed carcasses have also been documented in red-tailed hawks (Buteo jamaicensis), northern goshawks (Accipiter gentilis), and great horned owls (Bubo virginianus).

Lead exposure and poisoning from ingesting spent lead shot has also been documented in many species of upland game birds such as chukar (Alectoris chukar), grey partridge (Perdix perdix), ring-necked pheasant (Phasianus colchicus), wild turkey (Meleagris gallopavo), scaled quail (Callipepla squamata), northern bobwhite (Colinus virginianus), American woodcock (Scolopax minor), ruffed grouse (Bonasa umbellus), and mourning dove (Zenaida macroura).

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Mourning doves are particularly at risk for lead poisoning because they frequent and feed in habitats with high concentrations of spent lead shot. Portions of the dove populations feeding on these sites ingest lead pellets, and shot ingestion by doves increases during the hunting season. Virtually all doves that ingest lead pellets succumb to the direct or indirect effects of lead poisoning. Kendall et al. (1996) identified increased susceptibility to cold as a mortality mechanism caused by lead toxicosis in doves.

Franson et al. (2009) evaluated lead exposure in 4,884 hunter-harvested mourning doves from Arizona, Georgia, Missouri, Oklahoma, Pennsylvania, South Carolina, and Tennessee. The frequency of ingested lead pellets in gizzards of doves in hunting areas where the use of lead shot was permitted was 2.5 percent. In areas where non-lead shot was required, 2.4 percent of mourning doves had ingested steel shot. Not surprisingly, doves in the areas requiring the use of non-lead shot had lower bone lead concentrations than those in areas allowing the use of lead shot. Schulz et al. (2006) calculated from comparing hunting statistics and population estimates that nearly as many doves are poisoned lethally by ingesting lead shotgun pellets (8.8 million to 15 million per year) as are shot by sport hunters on an annual basis (about 20 million).

Bingham et al. (2009) documented ingestion of lead pellets by hunter-harvested chukars


in four counties in western Utah, finding ingested lead pellets in 8.74 percent of gizzards from 286 birds. Toxicology results show elevated concentrations of lead (>0.5 ppm, ranging from 0.7 to 42.6 ppm) in 50 bird livers (14 percent). The arid, rocky, and alkaline nature of chukar habitat reduces pellet settlement and dissolution, and the similar appearance of lead pellets to chukar food sources leads to ingestion of lead pellets by chukars.254

A number of gruiformes have been shown to ingest lead shot, including greater sandhill cranes (Grus canadensis tabida), American coots (Fulica americana), clapper rails (Rallus longirostris), king rails (Rallus elegans), Virginia rails (Rallus limicola), and sora (Porzana carolina).255

Scientists tested blood lead levels in 302 ravens that scavenged on hunter-killed large ungulates and their offal in and around Grand Teton National Park, Wyoming in 2004 and 2005. Blood-lead levels of ravens increased dramatically during the hunting season, roughly five times higher than the rest of the year, likely due to ravens consuming lead bullet fragments left behind in gut piles of hunted elk, deer and moose. Blood samples were taken during a 15-month period spanning two hunting seasons, from mid-September 2004 to mid-December 2005. Forty-seven percent of the ravens tested during the hunting season exhibited elevated blood lead levels (≥10 µg/dL) while only 2 percent tested during the non-hunting season exhibited elevated lead levels. Offal was the primary food source of ravens during the time of exposure. Craighead and Bedrosian (year) also identified unretrieved offal piles of hunter-killed game as a point source for lead contamination in the area. The substantial increases in blood-lead levels corresponded almost exactly with the open and close of hunting season. Just after the start of hunting season, blood-lead levels began to rise. Shortly after the end of hunting season, they returned to normal. Blood-lead levels showed a spike again in the late spring, when melting snow uncovered gut piles left from the previous hunting season. One hundred percent of the ravens at the study site fed on gut piles at some point throughout the hunting season and were exposed to lead.256

Craighead and Bedrosian (2009) collected an additional 237 blood samples from ravens in the same study area spanning an additional two hunting seasons. The samples had a median blood lead level of 10.0 µg/dL with a range of 2.7–51.7 µg/dL. The median blood lead level of 84 additional samples collected during the non-hunting season was only 2.2 µg/dL with a range of 0.0–19.3 µg/dL. Fifty percent of the hunting season samples had blood lead levels >10µg/dL,

Note: The citation numbers (254-256) have been added at the bottom of the text.
while only 3 percent were greater than 10µg/dL during the non-hunting season.\textsuperscript{257}

Craighead and Bedrosian also documented that the blood lead levels of ravens around Grand Teton dropped with increased use of non-lead ammunition by hunters on the National Elk Refuge and in Grand Teton National Park. In fall of 2009 researchers distributed 194 boxes of copper bullets to hunters with permits for the park and the refuge, captured 46 ravens (which typically scavenge the discarded gut piles) during hunting season and tested their blood for lead. An estimated 24 percent of hunters in the area used copper bullets in 2009, and there was a corresponding 28 percent drop in blood lead levels in ravens compared with what would have been expected.\textsuperscript{258}

Lead poisoning from ingested spent lead ammunition has been documented in several songbird species in the United States, including the white-throated sparrow (\textit{Zonotrichia albicollis}), dark-eyed junco (\textit{Junco hyemalis}), brown-headed cowbird (\textit{Molothrus atar}), yellow-rumped warbler (\textit{Dendroica coronata}), brown thrasher (\textit{Toxostoma rufum}) and blue-headed vireo (\textit{Vireo solitarius}).\textsuperscript{259} Ingestion of lead by carrion scavenging mammals, such as coyotes, black bears, wolves, and cougars feeding on so-called varmint carcasses, and gut piles and carcasses of big game during the hunting season has rarely been studied. Large carnivores such as black bears (\textit{Ursus americanus}), wolves (\textit{Canis lupis}) and coyotes (\textit{C. latrans}) scavenge to varying degrees on unguulate offal piles abandoned by hunters. Cougars (\textit{Puma concolor}) may periodically be exposed to lead at biologically significant levels because of the tendency to occasionally scavenge. Rogers et al. (2009) collected samples of liver, hair, blood, and feces from black and grizzly bears, wolves, coyotes and cougars in Grand Teton, Wyoming, and tested samples for the presence of lead. Their preliminary data showed that of 13 Grand Teton grizzly bears sampled during the hunting season, 46 percent showed elevated blood lead levels above 10 µg/dl, while 11 bears sampled outside of the hunting season had lead in their blood.\textsuperscript{260} The potential consequences for large mammalian scavengers are as yet unstudied.

Overall, the EA fails to adequately consider the impact of WS-New Mexico’s use of lead shot. Instead, it relies on conclusory statements that non-lead ammunition is “more expensive” and “not readily available for the wide variety of firearm types used in New Mexico.” It further discounts any potential harm by stating that APHIS-WS’ use of lead ammunition is a “small fraction of total lead contamination from many sources.”\textsuperscript{261} However, USFWS has stated that lead ammunition has serious impacts on scavenging raptors that should not be overlooked.\textsuperscript{262}

\begin{itemize}
\item \textsuperscript{257} \textit{Id.}
\item \textsuperscript{260} Rogers, T., B. Bedrosian, D. Craighead, H. Quigley, and K. Foresman. 2009. Lead Ingestion by Scavenging Mammalian Carnivores in the Yellowstone Ecosystem. Extended abstract in R.T.
\item \textsuperscript{261} EA at 170.
\end{itemize}
Wildlife Services’ rationale is both inadequate and inconsistent with science documenting the significant impacts on raptors and scavengers that ingest lead. Wildlife Services should not use lead shot, but if it elects to continue to do so, it must engage in an honest analysis of the effects of that lead shot on the environment. We request that WS-New Mexico adequately consider this important issue, rather than simply state that “WS is gravitating towards the use of non-lead ammunition as it becomes more available, and ecological impacts are reduced when carcasses are removed from the field.”

F. The EA fails to provide a detailed analysis of the adverse impact of PDM on recreation.

The EA fails to provide a detailed analysis of the adverse impact wildlife killing has on recreation. Predator damage management activities can have far-reaching impacts on recreation, both directly and indirectly, and can also have additional impacts depending on the method used by Wildlife Services to kill animals.

The degradation of recreation caused by aerial PDM overflights is not fully considered in this EA, with WS-New Mexico only considering its impacts on placement of live traps to recreationists. The alternative-specific analysis is also weak, and often incorrectly aggregates private and state lands while ignoring the real impact caused by WS-New Mexico’s wildlife killing activities on recreationists who value carnivores. Wildlife Services has killed innumerable wolves, coyotes, bears, foxes, and cougars in New Mexico over the life of its PDM program. Virtually every time it does so, it devastates local recreationists who enjoy viewing, photographing, and watching these species in the wild. It inflicts trauma on recreationists who happen to stumble upon WS-New Mexico’s activities, such as aerial gunning or viewing a trapped animal. These impacts are largely ignored in the EA. This is in error and the psychological impact on humans who witness these activities, including Post Traumatic Stress Disorder, should be fully evaluated.

The EA also fully disregards testimony on Senate Bill 32 in the New Mexico legislature. Prior to the bill’s passage, many New Mexicans testified to the cruelty and horror they have witnessed while recreating on public lands because of trapping and poisoning PDM activities. WS-New Mexico must consider trap victim stories and clearly explain the actions they will take to avoid causing future trauma to human recreationists and their pets.

G. The EA Fails to Conduct a Cost-Benefit Analysis of WS–New Mexico’s PDM Activities

The EA fails to include a cost-benefit analysis in violation of NEPA. It states “cost-

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263 EA at 302.
264 EA at 289.
265 EA at 126.
effectiveness is not the primary goal of APHIS-WS.” Not only is it outrageous that a taxpayer funded program does not consider the benefit gained by expenditure of those funds, it does not constitute a hard look and is unacceptable. The economic analysis must be present in the NEPA document. Agencies are required to ensure the professional integrity of all discussions and analyses in an environmental review, including economic analyses. There can be no hard look at costs and benefits unless all costs are disclosed. *Sierra Club v. Sigler*, 695 F.2d 957, 975–76 (5th Cir.1983).

As noted above, the EA ignored numerous relevant factors, such as how carnivores control rodents that compete with cattle for food, and the many environmental and economic benefits that flow from healthy carnivore populations. It fails to present the most basic information necessary for a coherent analysis, such as WS-New Mexico’s annual budget. It fails to discuss the significant subsidy that ranchers, whose cattle graze on public lands already receive, or the equity or fairness of providing federal wildlife killing as a further subsidy. The EA fails to consider the value of ecosystems services lost and non-consumptive use revenue (i.e., money spent by eco-tourists and wildlife watchers) lost by killing carnivores. Benefits are described as increases in cattle and calves sent to market, partially or wholly excluding meaningful analysis of whether PDM – particularly lethal methods – benefit the whole public.

More importantly, however, the cost-benefit analysis needs to focus on the cost-benefit to the public as a whole, including the non-consumptive public, and take into consideration the cost of the PDM program to the greater public, particularly considering the funding source of the program is largely from taxpayer dollars. The EA acknowledges this concern – recognizing that there is a cost to the public for PDM – but does little to sufficiently describe the benefit to those outside the agricultural sector. For example, the EA cites Bodenchuk et al. (2002), Shwiff and Bodenchuk (2004), and Shwiff et al. (2005) for primary types of considerations for conducting economic analyses of PDM. These considerations are entirely composed of agricultural benefits and fail to fully include the total and cumulative costs of livestock to the taxpayer and the climate. Meanwhile, WS-New Mexico has excluded the numerous studies which support the intrinsic benefits of wildlife and the positive economic and environmental impacts of wildlife left alive.

The cost-benefit analysis must place greater consideration on the cost-benefit of PDM to the public, as well as ecosystems and, as such, place greater consideration on management

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268 EA at 101.
269 By targeting carnivores, the Wildlife Services program acts as a subsidy for livestock producers in contravention of other federal expenditures; for example, the federal government spent more than $43 million since 1974 to recover the gray wolf. See B.J. Bergstrom et al., *License to Kill: Reforming Federal Wildlife Control to Restore Biodiversity and Ecosystem Function*, 7 CONSERV. LETTERS 131–42 (2013).
practices that are non-lethal in order to place less cost burden on those not within the agricultural sector.

H. The EA Fails to Adequately Consider Modern Wildlife Biology

Wildlife Services’ discussion of killing carnivores to increase the population of prey species suffers from several systemic deficiencies.275 WS-New Mexico states there is “increasing evidence that black bear and coyote predation can limit some ungulate populations, local short-term management of predators under proper conditions can be an important tool in meeting specific big game management objectives.”276 However, the only “increasing evidence” cited in the EA to justify this position is from the 1980s, so it hasn’t increased in over 40 years.277

Outdated scientific research is abundant throughout the EA. While the validity of a study is not solely defined by its age, the fields of ecology and conservation biology have rapidly expanded and evolved over the past several decades. The EA contains numerous studies from as far back as the 1940s to 1980s. The EA dismisses several potentially significant impacts on the quality of the human environment without detailed analysis. Rather than relying on the best available science, the EA relies heavily on dated studies that simply agree with WS-New Mexico’s proposed action. The program must not only acknowledge the growing amount of credible conflicting evidence, but it must publicly explain why the studies it cites may be more relevant than contemporary peer-reviewed research.

One notable deficiency is the failure to examine the positions of state fish and wildlife agencies and commissions, many of which, including those in New York, Illinois, Louisiana, Missouri, North Carolina, Pennsylvania, South Carolina, Vermont, West Virginia, and Wyoming, have concluded that reducing predator numbers will not enhance populations of ungulates, small game animals, and game birds.278 Specifically, the Pennsylvania Game Commission found: “[T]he agency finally accepted the reality that predator control does not work . . . . To pretend that predator control can return small game hunting to the state is a false prophecy.....[Predators] don’t compete with our hunters for game.”279 In a 2014 deer harvest report, the South Carolina Department of Natural Resources concluded that trying to control

275 EA at 84.
276 EA at 85.
277 Id.
coyotes to manage deer predation was ineffective. North Carolina researchers evaluated deer harvest numbers in South Carolina, North Carolina, Ohio, Florida, New Jersey, and New York and found that coyotes are not limiting deer numbers in those states, and that coyote removal programs do little to increase regional deer numbers. The West Virginia Department of Natural Resources has found: “[p]redator control of coyotes because of wildlife predation is unwarranted and unnecessary.” Regarding game birds, the North Carolina Wildlife Resources Commission found that coyotes actually benefit hunted bird species because they suppress populations of smaller predators and because “most coyote diet studies document low to no prevalence of wild turkey or other game birds in diets.” These findings must be evaluated by WS-New Mexico.

I. The EA’s Effects Analysis is Fundamentally Flawed

The EA’s effects analysis is also wholly inadequate because it dismisses the potential for any significant effect on the environment without considering or disclosing the site-specific environmental impacts of its activities. The EA does not consider the impacts of Wildlife Services’ actions on specific locations where they might occur. Instead, it relies on annual work plans for that site-specific analysis, but it doesn’t commit that any further NEPA analysis would occur with those work plans. It also claims that site-specific analysis will occur through its Wildlife Decision Model, a “thought process” that, contrary to the EA’s claims, does not meet NEPA’s standards for informing the public about the impacts of proposed agency actions before they occur. Wildlife Services cannot escape its obligation to provide quantified, detailed, information about the effects of its activities by relying on the bold, statewide generalizations in the EA, and without such information its cumulative effects analysis is also fatally flawed. Kern v. U.S. Bureau of Land Mgmt, 284 F.3d 1062, at 1075 (9th Cir. 2002).

Without site-specific information regarding project design, prey species populations, and local predator populations – WS-New Mexico cannot fully consider the environmental impacts of predator damage management on predator-prey dynamics. The broad, birds-eye discussion of science concerning predator-prey interactions does not provide any of the site-specific, local information necessary to assess whether predation is a threat to any local prey populations or whether predator killing is likely to increase populations of desired prey species. It does not describe any proposed project in adequate detail to determine which methods may be used, which predators may be targeted, which prey species may “benefit,” or even where the projects may occur. Any discussion of environmental effects associated with such ill-defined actions is no more than speculation. Wildlife Services has not taken the “hard look” required to ensure it has considered the environmental consequences of implementing such projects or informed the

281 Eugenia V. Bragina et al., Effects on white-tailed deer following eastern coyote colonization, 83 J. of Wildlife Mgmt. 916 (2019).
284 EA at 336.
285 EA at 455.
286 Id. at 46-61.
public of those consequences. Nevertheless, WS-New Mexico appears to believe that it could proceed with predator-killing to “protect” prey species without any further NEPA analysis.

IV. The EA Fails to Analyze Indirect and Cumulative Impacts, and Connected and Similar Actions from its Activities

In addition to direct impacts, an EA must analyze indirect and cumulative impacts. Cumulative impacts result from incremental impacts of the action when “added to other, past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such actions.” 40 C.F.R. § 1508.7; Utahns for Better Transp. v. U.S. Dep’t of Transp., 305 F.3d 1152, 1172-73 (10th Cir. 2002); Colorado Envtl. Coalition v. Dombeck, 185 F.3d 1162, 1176 (10th Cir. 1999). A federal agency must analyze multiple actions together in a single impact statement if they are “connected actions” or “cumulative actions.” 40 C.F.R. § 1508.25; see also Wilderness Workshop v. U.S. Bureau of Land Management, 531 F.3d 1220, 1229 (10th Cir. 2008), Klamath-Siskiyou Wildlands Center v. BLM, 387 F.3d 989, 998–99 (9th Cir. 2004). “The purpose of this requirement is to prevent an agency from dividing a project into multiple actions, each of which individually has an insignificant environmental impact, but which collectively have a substantial impact.” Great Basin Mine Watch v. Hankins, 456 F.3d 955, 969 (9th Cir. 2006); see also Utahns for Better Transp., 305 F.3d at 1182 (stating “NEPA instructs that significant cumulative impacts are not to be made to appear insignificant by breaking a project down into small component parts.”). This requirement extends with equal force to both EAs and EISs. Te-Moak Tribe v. U.S. Dep’t of the Interior, 608 F.3d 592, 603 (9th Cir. 2010).

Under NEPA, “[p]roposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement.” 40 C.F.R. § 1502.4(a). Courts determining the relationships between proposals “apply an ‘independent utility’ test to determine whether multiple actions are so connected as to mandate consideration in a single EIS. Wilderness Workshop, 531 F.3d at 1229 (citing Great Basin Mine Watch, 456 F.3d at 969). In applying the “independent utility” test, “projects that have ‘independent utility’ are not ‘connected actions’ under 40 C.F.R. § 1508.25 (a)(1)(iii).” Custer Cty Action Ass’n v. Garvey, 256 F.3d 1024, 1037 (10th Cir. 2001). In the absence of a “clear nexus” between proposals, it is not irrational to assume there is independent utility. Id. Agencies use the criteria for scope in § 1508.25 to determine which proposals should be addressed in a particular environmental analysis. 40 C.F.R. § 1502.4(a). Actions are “connected” if they “automatically trigger other actions which may require environmental impact statements; cannot or will not proceed unless other actions are taken previously or simultaneously; or are interdependent parts of a larger action and depend on the larger action for their justification.” Id. at § 1508.25(a)(1)(i– iii). “Similar actions” are those that “when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography.” 40 C.F.R. § 1508.25(a)(3). An agency should analyze similar actions together in the same environmental analysis when doing so is “the best way to assess adequately the[ir] combined impacts.” Id.

There are various indirect and cumulative impacts that the EA does not address. The EA fails to adequately analyze the cumulative effect of WS-New Mexico’s activities on the
populations of different species when added to the impact that private hunters and trappers have on populations. Questions the EA should address include: (1) how many coyotes, mountain lions, bears, bobcats, and other animals that may be directly or indirectly impacted by WS-New Mexico’s PDM program are killed or injured by private hunters and trappers, either deliberately or accidentally; (2) what is the cumulative impact on the environment of all these losses; (3) what is the impact of the demographic shift caused by continually killing coyotes and causing compensatory reproduction? Lists or tallies of impacts are not sufficient in a cumulative impact analysis. For example, “[a] calculation of the total number of acres to be harvested in the watershed is a necessary component of a cumulative effects analysis, but it is not a sufficient description of the actual environmental effects that can be expected from logging those acres.” Klamath-Siskiyou, 387 F.3d at 995 (emphasis added). Rather, the analysis must explain “how [] individual impacts might combine or synergistically interact with each other to affect the [] environment.” Id. at 994.

Furthermore, as discussed in several sections in this comment, the EA does not consider the impacts of the PDM program on wildlife on a regional scale. Wildlife that are targeted or accidentally harmed by WS-New Mexico’s activities do not have population boundaries that follow state lines. Rather, their populations and sub-populations occur at a regional scale. This is particularly true for imperiled and endangered species such as lynx, Mexican wolves, and other forest carnivores, like the Pacific marten.

The EA also fails to adequately evaluate the impacts of public lands grazing that the WS-New Mexico PDM program supports. If WS-New Mexico is essential to support livestock producers, as Wildlife Services has repeatedly claimed, then the significant impacts of public livestock grazing are, at a minimum, cumulative, and WS-New Mexico must analyze whether they are connected actions. The PDM program to protect livestock on public lands certainly would not proceed without public lands livestock grazing. They are interdependent parts of the larger action of raising livestock on public lands. Therefore, the EA must analyze the profound impacts of livestock grazing in the subject areas on soil, vegetation, weeds, and wildlife. Numerous studies highlight the array of ecological impact from public lands grazing. They highlight how livestock grazing greatly increases weed transport and spread, destroys microbiotic soil crusts, and accelerates soil erosion287; lowers biodiversity, lowers population densities for a wide variety of taxa, and disrupts ecosystem functions including nutrient cycling and succession288; harms native plants and promotes alien plant growth289; and reduces ground cover and herbaceous production290. Livestock grazing also requires a vast infrastructure of fences and water developments, with associated harmful impacts on wildlife, stream quality and quantity, and other resources.

Relatedly, the EA should also discuss how lethal PDM is related to detrimental grazing by domestic and wild ungulates in riparian areas. Beschta & Ripple (2006) determined that overgrazing of streamside vegetation “adversely affect[s] the quality and extent of habitats for a wide range of aquatic/terrestrial biota” in areas where wolves have been removed. Wildlife Services’ actions to remove predators likely affects the way in which cattle graze the land, and this must be addressed.

The EA also improperly failed to consider the cumulative, connected, and related impacts of WS-New Mexico’s programs to kill other species such as prairie dogs, snakes, rabbits and birds.291 The different animal-killing activities by WS are inextricably intertwined and WS-New Mexico cannot consider the cumulative impacts of killing “predators,” without considering the impacts of the other animals it kills annually. The removal of these species from this analysis is improper segmentation. These programs are operated out of the same office, by the same personnel, under the same budget, using the same planes, the same trapping and snaring equipment and poisons, for many of the same requesters, and often on the very same outings.

V. THE EA LACKS ADEQUATE BASELINE DATA TO SUPPORT A CREDIBLE ANALYSIS OF ENVIRONMENTAL EFFECTS TO LOCAL ECOSYSTEMS AND LOCAL PREDATOR POPULATIONS.

There is “no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA” without “establishing the baseline conditions.” Half Moon Bay Fishermen’s Mkgt. Ass’n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988). The environmental baseline is the foundation of the agency’s NEPA analysis, because it is against this information that environmental impacts are measured and evaluated; therefore, it is critical that the baseline be accurate and complete. Ctr. for Biol. Diversity v. BLM, 422 F.Supp.2d 1115, 1163 (N.D. Cal. 2006). Where an agency relies on incomplete or inaccurate data for affected resource conditions its assumptions concerning the environmental consequences of its proposed actions are arbitrary and capricious. See e.g., Or. Natural Desert Ass’n v. Jewell, 840 F.3d 562, 569-70 (9th Cir. 2016).

As discussed supra the EA improperly relies on statewide estimates of predator species such as bears, mountain lions, and coyotes, even when PDM work takes place in concentrated locations. As such, the EA improperly dilutes the impacts on local ecosystems of predator removal by relying on statewide population data even in instances when, for example, the EA explicitly notes that the removal is more concentrated in certain locations within the state (i.e. in the case of mountain lions as described above)292.

This failure to acknowledge New Mexico’s geographic diversity is fatal to conducting a sufficient analysis of the impact of PDM. The EA needs to not only analyze more accurate baseline data, but to do so on a more specific level that adequately considers the geographic differences and varying amounts of wildlife killing it conducts in each region of the state. Courts have already rejected broad scale agency analyses, including in the very same context advanced

292 EA at 63 & 123.
here. WWP v. APHIS-WS, 320 F. Supp. 3d at 1147-48; see also Cascadia Wildlands v. BLM, 2019 WL 4467008, at *7 (Sept. 18, 2019) (“An agency cannot minimize an activity’s environmental impact by adopting a broad scale analysis and marginalizing the activity’s site-specific impact.”) (citing Pac. Coast Fed’n of Fishermen’s Ass’n v. Nat’l Marine Fisheries Serv., 265 F.3d 1028, 1036 (9th Cir. 2001); Oregon Natural Resource Council v. Brong, 492 F.3d 1120, 1130 (9th Cir. 2007) (holding that the agency improperly diluted the effects of its proposed actions by averaging snag retention over too wide an area).

The EA does not estimate baseline predator populations in local areas where it actually conducts predator control, instead relying on broad averaging to minimize the effects of its actions. The coyote provides a striking example of why this approach is flawed. Wildlife Services kills on average about 3,103 coyotes each year statewide, but claims that this number is not causing adverse impacts when compared with the total coyote population in the state, which it has no estimate for. But this approach ignores the fact that Wildlife Services’ actions are not spread uniformly across the state; they occur in specific areas. Without understanding the number of coyotes that inhabit those areas, Wildlife Services risks extirpating coyotes locally, destabilizing the coyote population in ways known to exacerbate predation problems. This risk is particularly pronounced because Wildlife Services does not consider the effects of its actions when combined with other “take” by private individuals that may occur in the same geographic areas. Indeed, Wildlife Services even admits that its approach may kill off local coyote populations where more frequent PDM is performed, but other coyotes will reoccupy these areas; thus, there will be no long-term effects in these locations, and no effect on the statewide population.

Without judging the effects of its localized actions against baseline predator populations, Wildlife Services’ effects analysis is little more than fantasy and fabrication.

VI. WILDLIFE SERVICES MUST CONSIDER OTHER REASONABLE ALTERNATIVES IN DETAIL

Wildlife Services failed to consider all reasonable alternatives, in violation of NEPA. An agency’s duty to consider alternatives to the proposed action has been described as the “heart” of the NEPA process. 40 C.F.R. § 1502.14. Agencies are required to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(2)(E); see also 42 U.S.C. § 4332(2)(C)(iii). It is essential that NEPA documents contain “detailed and careful” analysis of the relative merits and demerits of the proposed action and proposed alternatives, a requirement which courts have characterized as the “linchpin” of the NEPA process. Natural Resources Defense Council, Inc. v. Callaway, 524 F.2d 79, 92 (2d Cir. 1975) (quoting Monroe Cnty. Conservation Soc’y, Inc. v. Volpe, 472 F.2d 693, 697-98 (2d Cir. 1972)). All reasonable alternatives must receive a “rigorous exploration and objective evaluation . . . particularly those that might enhance environmental quality or avoid some or all of the adverse environmental effects.” 40 C.F.R. § 1500.8(a)(4).

The purpose of NEPA’s alternatives requirement is to ensure agencies do not undertake

293 EA at 194.
294 EA at 450.
projects “without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.” *Envtl. Defense Fund, Inc. v. U.S. Army Corps of Engrs.*, 492 F.2d 1123, 1135 (5th Cir. 1974). The discussion of alternatives is intended to provide a “clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. § 1502.14. This requirement is critical to serving NEPA’s primary purposes of ensuring fully informed decisions and providing for meaningful public participation in environmental analyses and decision-making. See 40 C.F.R. § 1500.1(b), (c), *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1039 (9th Cir. 2008) (explaining that the NEPA analysis must identify multiple viable alternatives, so that an agency can make “a real, informed choice” from the spectrum of reasonable options).

Federal courts have consistently held that an agency’s failure to consider a reasonable alternative is fatal to an agency’s NEPA analysis. See, e.g., *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 814 (9th Cir. 1999) (“A ‘viable but unexamined alternative renders [the] environmental impact statement inadequate.’”) (quoting *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985)); *W. Watersheds Project v. Abbey*, 719 F.3d 1035, 1049-1053 (9th Cir. 2013) (“The existence of a viable but unexamined alternative renders an [EA] inadequate.”). If the action agency rejects an alternative from consideration, it must explain why a particular option is not feasible and was therefore eliminated from further consideration. 40 C.F.R. § 1502.14(a). The courts will scrutinize this explanation to ensure that the reasons given are adequately supported by the record. See *Muckleshoot Indian Tribe*, 177 F.3d at 813-15; *Idaho Conserv. League v. Mumma*, 956 F.2d 1508, 1522 (9th Cir. 1992) (while agencies can use criteria to determine which options to fully evaluate, those criteria are subject to judicial review); *Citizens for a Better Henderson*, 768 F.2d at 1057.

A. The Discussion of the Proposed Alternatives Is Flawed Because it Presumes Necessity of Lethal PDM

The EA provides an inadequate set of alternatives: (1) continue the current PDM program (no action/proposed action); (2) provide both lethal and non-lethal technical PDM assistance and non-lethal operational assistance; (3) provide non-lethal PDM assistance before recommending or applying lethal assistance; (4) provide PDM lethal assistance only to protect human or pet health or safety and/or protect threatened or endangered species; and (5) conduct no WS-New Mexico PDM activities.295 WS-New Mexico has provided fundamentally flawed alternatives within the EA, maintaining the assumption that lethal PDM is still necessary in each alternative. WS-New Mexico’s definition of “reasonable” is subjective and “determined in the field by the WS-New Mexico employee in coordination with the cooperator.”296

First, the EA fails to describe its current program in adequate detail, making it impossible for the public to understand or evaluate the full scope of the action or its impacts. It only provides extremely broad, region-wide generalizations. For example, it states it will conduct PDM on private, federal, state, tribal and county and municipal lands and properties in Montana, including rural, urban, suburban, natural, and commercial areas.297 These generalizations are not

295 EA at 115-31.
296 EA at 130.
297 EA at 14.
particularly helpful or accurate, as the EA states on numerous occasions that WS-New Mexico must retain flexibility to respond to unplanned actions in unknown areas.

Likewise, the EA claims that WS-New Mexico personnel can determine for each PDM issue what method or combination of methods is most appropriate and effective using the APHIS-WS Decision Model. The Decision Model, however, is only referenced in an extraordinarily vague way and no detail whatsoever is given as to how success is evaluated, how often, or what the results have been in the past. In fact, a similar EA prepared by WS-Washington states, “the Decision Model is not a written documented process for each incident, but rather a mental problem-solving process.”298 How can WS-New Mexico and the public evaluate the efficacy of the Decision Model if it is not even something that is ever written down or assessed outside of an employee’s head? Furthermore, the EA provides no detail on how often WS-New Mexico is likely to employ various methods in the future other than to state that it anticipates PDM levels to remain the same.

Next, the descriptions and analyses of alternatives 2-5 are inadequate, with the EA treating them like little more than straw men. While the inclusion of Alternatives 3 and 4 shows a slight departure from the overwhelming assumption that WS-New Mexico-initiated lethal PDM is still necessary, the alternatives still fail to adequately analyze the use of non-lethal methods. Instead, the EA merely pays lip-service to the idea of WS-New Mexico not using lethal removal. In each analysis of the alternatives, the EA repeats an iteration of the supposition that without WS-New Mexico performing a continuation of current management, lethal removal by private entities is sure to increase, and will increase in a less precise manner. This flawed assumption that lethal PDM “would likely” occur by other actors, regardless of whether the WS-New Mexico acted is used to erroneously conclude that alternatives 2-5 would be ineffective.

WS-New Mexico fails to analyze the more probable outcome that the non-lethal management programs would work. It ignores research and reports showing that non-lethal methods are effective,299 as discussed in greater detail in Section VII.B. Again, the EA ignores studies indicating that non-lethal programs are more effective than lethal control, and that lethal control can increase predation. Additionally, the EA fails to analyze the fact that the current program of providing lethal control could incentivize ranchers to not take actions to prevent predation. It fails to analyze the phenomena that ranchers may even allow livestock to be killed on purpose in order to have carnivores killed, as admitted by one ranch hand.300 It also fails to address equitable management of carnivores for the public. These omissions represent a deep, institutional bias towards lethal control and a failure of the EA to analyze an appropriate range of alternatives.

B. The EA Inadequately Considers and Improperly Dismisses Multiple Reasonable Alternatives

299 See, e.g., Gehring et al., 2011; Davidson-Nelson & Gehring, 2010; Gehring et al., 2010.
Section 2.5 of the EA identifies various reasonable alternatives and, after a cursory analysis of each, summarily dismisses them. This section also fails to identify and discuss multiple reasonable alternatives that WS-New Mexico should have considered. Specifically, we request that WS-New Mexico provide further evaluation of the alternatives identified in Sections 2.5.3 (only non-lethal PDM) and 2.5.12 (only non-lead ammunition). In addition, we request the evaluation of at least three additional alternatives that were not considered in the EA, as discussed further below.

First, the EA must more fully consider the alternative identified in Section 2.5.3: use of “only non-lethal technical assistance and non-lethal operational assistance.” The EA’s discussion of this alternative is inadequate. WS summarily rejects this alternative by reasoning, “[i]f the requester had taken all reasonable non-lethal actions and the problem still persists,” then WS-New Mexico should be able to provide lethal assistance. However, it is likely rare, if ever, that a requestor has attempted all reasonable non-lethal methods before contacting WS-New Mexico. For example, according to the EA, only 3.1 percent of cattle producers in Montana use exclusion fencing—a tool that has repeatedly proven effective to protect cattle. See, e.g., Young et al. (2018). Similarly, only 4.4 percent of cattle producers and 6.5 percent of sheep producers use “fright/harassment tactics”—despite the wide range and availability of such measures. See, e.g., Shivik (2006). Many requestors may not even be aware of these tools. WS-New Mexico could play an important role in educating, advising, and assisting these landowners about the availability and effectiveness of such methods. WS-New Mexico has demonstrated leadership within Wildlife Services in its use of non-lethal measures, such as fladry, electric fencing, and range riders. As discussed in Wildlife Services’ own reporting, these measures work. WS-New Mexico should consider the extensive scientific literature on the importance of robust populations of native carnivores to the functioning of healthy ecosystems.

Additionally, WS-New Mexico should consider the scientific literature, also discussed infra, Section VII.C, demonstrating a global scientific consensus that lethal predator control is unlikely to prevent future losses of livestock. The scientific literature also shows there is a high probability that lethal control measures will exacerbate the situation by inducing increases in

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301 EA at 155-70.
302 EA at 157, 160
303 EA at 157.
304 EA at 157.
305 EA at 67, Table 1.7.
307 EA at 67, Table 1.7.
livestock losses after removal of wolves, mountain lions, bears, or coyotes.

We ask for a detailed consideration of an alternative that would replace lethal PDM with only effective, non-lethal strategies to resolves human-wildlife conflicts, except as necessary to address an immediate risk to human health or safety. This type of program was adopted by WS-California and Humboldt County in May 2020, and we request that WS-New Mexico address why the terms of this agreement are not viable for implementation in New Mexico.311

Second, the EA must more fully consider Section 2.5.12: use of non-lead ammunition. The EA’s discussion of this alternative is also inadequate. WS dismisses this alternative because it claims, without support, that “it is not readily available for the wide variety of firearm types used in Montana and elsewhere, in the appropriate calibers,” and because it is more expensive.312 These claims are refuted by Thomas (2012), which states:

Lead-free bullets are made in 36 calibers and 51 rifle cartridge designations. . . . There is no major difference in the retail price of equivalent lead-free and lead-core ammunition for most popular calibers. Lead-free ammunition has set bench-mark standards for accuracy, lethality, and safety. Given the demonstrated wide product availability, comparable prices, and the effectiveness of high-quality lead-free ammunition, it is possible to phase out the use of lead hunting ammunition world-wide . . . .313

WS-New Mexico does not identify the firearm types for which lead-free ammunition is unavailable, or explain which lead-free ammunition options are “more expensive,” or how much more expensive they are. It does not provide any comparisons or analysis. Yet, the use of lead ammunition is a serious concern. As discussed above, lead ammunition also poses serious risks to human, wildlife, and environmental health. The use of lead ammunition is a reasonable alternative that WS-New Mexico must evaluate in detail.

In addition, the EA must consider at least four additional reasonable alternatives: (1) one or more alternatives that restrict certain methods used in PDM activities; (2) an alternative prohibiting lethal wildlife PDM operations on all public lands; (3) an alternative prohibiting lethal wildlife PDM operations on wilderness and wilderness study areas; and (4) one or more alternatives prohibiting the lethal control of apex predators. Failure to evaluate these reasonable alternatives renders the EA legally deficient under NEPA.

First, regarding alternatives that restrict certain methods used in integrated wildlife damage management activities, we ask that WS-New Mexico consider one or more alternatives that would prohibit one or more of the following six methods from being used in field operations: (1) foot and neck snares; (2) padded and unpadded steel-jawed leghold traps; (3) body-crushing traps such as Conibear, quick-kill, and snap traps; (4) chemicals used in denning

311 See Amendment 1 to the Cooperative Service Agreement (CSA) between Humboldt County (Cooperator) and United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Wildlife Services (WS) (May 5, 2020) (attached).
312 EA at 162.
operations; (5) aerial gunning; and (6) M-44s. These methods represent the cruelest and most indiscriminate lethal methods currently used by WS-New Mexico, as discussed in detail in Section VII.C, and traps, snares and poisons have been banned in New Mexico on public lands due in part to these factors. The fact that WS-New Mexico has not even considered not using these tools on private lands, particularly in light of passage of Roxy’s Law, indicates a clear failure of thorough analysis.

Second, we ask that WS-New Mexico consider an alternative that would prevent the agency from conducting lethal wildlife damage management operations on all public lands. The use of lethal methods on public lands creates a high likelihood of conflict with outdoor recreationists, including hikers, mountain bikers, wildlife watchers, and their companion animals. As discussed above, many lethal methods pose a serious risk of harming humans, especially young children, as well as companion animals, and many recreationists would be distressed to witness wildlife caught in a trap or snare. The EA points out that a relatively small percentage of the agency’s PDM occurs on public lands—e.g., “only 1.4% of coyote take by M-44s has occurred on public lands.” Thus, it would be reasonable for the agency to consider in more detail ending PDM activities on public lands altogether.

Third, we ask for consideration of an alternative that would prevent WS-New Mexico from conducting lethal PDM operations in wilderness and wilderness study areas. For a complete discussion of our concerns on this issue, please see Section IX. The EA indicates that there is a “low likelihood and duration of work in WAs and WSAs.” Thus, as with other public lands, it would be reasonable for the agency to provide a detailed analysis of ending PDM activities in these areas altogether.

Finally, we ask for consideration of an alternative that would require the exclusive use of nonlethal methods for damage management operations targeting apex predators, including coyotes, mountain lions, grizzly bears, black bears, and wolves. As discussed in detail in Section VII.A, when evaluating this alternative, WS-New Mexico should consider the extensive body of scientific literature on the importance of robust populations of native carnivores to the functioning of healthy ecosystems. Additionally, WS-New Mexico should consider the significant body of scientific, peer-reviewed literature, discussed directly below, demonstrating that lethal predator control is unlikely to prevent future losses of livestock, and may in fact exacerbate the situation.

These errors fundamentally tainted WS-New Mexico’s ability to perform a fair analysis of the true impacts of its wildlife killing program and to “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. § 1502.14. The program’s failure to analyze any alternative in which the killing of carnivores is actually reduced on the ground shows deep, institutional bias towards lethal control.

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314 EA at 166.
315 EA at 167.
Additionally, WS-New Mexico must fully consider the below:

Livestock Losses Should be an Accepted Cost of Doing Business

This option is contextualized with an ambiguous threshold of livestock loss that must be met before PDM is initiated.\(^{316}\) It does not even consider that all livestock losses on public land should be the cost of doing business on public property. It quickly dismisses the assertion with the heavily biased, and subjective, conclusion that livestock producers should be the ones deciding whether loss levels are acceptable or not. WS-New Mexico receives requests for assistance when the operator has reached their tolerance level for damage or worries about safety and health, as well as in circumstances where the threat of damage is foreseeable and preventable. This tolerance level differs among different people and entities, and at different times.\(^{317}\)

Use of Only Non-lethal Direct Assistance by WS-New Mexico

WS-New Mexico refuses to consider, in detail, the possibility of using only non-lethal direct assistance as an alternative.\(^{318}\) The program writes this off by stating that it is considered in Alternative 2; however, Alternative 2 still includes lethal control. This is a fatal flaw within the EA. Therefore, fully considering this alternative in detail \emph{not} be redundant and would instead be “reasonable, logical, [and] professional,” contrary to WS-New Mexico’s assertions.\(^{319}\)

WS-New Mexico Prohibited from Operating on Federal Lands

WS-New Mexico dismissed this issue stating, “USFS and BLM recognize the importance of effective PDM actions on lands under their jurisdiction. USFS and BLM maintain MOUs with APHIS-WS at the national level. These MOUs provide for direct requests from livestock permittees or state agencies to the respective APHIS-WS state agency for preventive and corrective assistance.”\(^{320}\) Wildlife Services again justifies action because of MOUs when considering “No PDM within any Designated Wilderness Areas (WAs) or Wilderness Study Areas (WSAs).” The agency does not explain why the relevant MOU provisions are necessary or reasonable, or why they could not be revised. This excuse does not justify failing to fully explore no operations on federal lands. \emph{See also, Senate Bill 32}.\(^{321}\)

WS-New Mexico operates under the biased assumption that if there is “no WS-New Mexico involvement in PDM activities,” another entity “such as NMDGF, NMDA, property owners, commercial PDM companies, NMDGF-authorized pilots, and NMDGF volunteers” would need to kill wild animals.\(^{322}\) It ignores the science that non-lethal solutions work.\(^{323}\) It

\(^{316}\) EA at 109.
\(^{317}\) EA at 110.
\(^{318}\) EA at 167.
\(^{319}\) Id.
\(^{320}\) EA at 175.
\(^{321}\) Id at 100.
\(^{322}\) EA at 131.
\(^{323}\) T. M. Gehring, K. C. VerCauteren, and A. C. Cellar, Good Fences Make Good Neighbors: Implementation of Electric Fencing for Establishing Effective Livestock-Protection Dogs, 5 Human-Wildlife Interact. 106–11
ignores the science that demonstrates that non-lethal programs can be more effective than lethal control, and that lethal control may actually serve to increase predation.\textsuperscript{324} It ignores the numerous non-lethal wildlife management techniques that exist and have been demonstrated to be effective.\textsuperscript{325} It completely fails to analyze the fact that the current program of providing lethal control for free incentivizes ranchers to not take actions to prevent predation (although it makes this argument to undermine compensation programs). It fails to analyze the phenomena that ranchers may even allow livestock to get killed on purpose in order to have carnivores killed, as admitted by a rancher.\textsuperscript{326} It also fails to address equitable management of carnivores for the public.

VII. PURPOSE AND NEED IS UNJUSTIFIED

The EA fails to justify a purpose and need for the proposed action. The EA attempts to justify the PDM program’s importance by stating that it supports wealthy industries, with New Mexico’s agricultural sector generating $2.5 billion in annual sales in 2016, with livestock products generating 76 percent of this revenue at $1.9 billion.\textsuperscript{327} This justification is inadequate because it fails to break out the industries it actually assists. For example, within the livestock industry, WS primarily services the livestock grazing component. This is a small fraction of the livestock industry as a whole. Grazing across vast acreage is far less profitable than other livestock industry components like dairies and feedlots. WS-New Mexico does not disclose the percentage of livestock producers that actually benefit from its PDM program, or the economic importance of grazing livestock.

The EA attempts to claim that predator impacts on the industry are great. To support this, the EA cites to national statistics of livestock losses, without evaluating the impacts of predators on livestock in New Mexico. This is inapprosite. WS-New Mexico must discuss the need for its PDM program in New Mexico specifically. The EA fails to acknowledge that predator losses are a miniscule, negligible fraction of total livestock industry losses. For example, it states that “adult sheep losses ranged from 1.4% to 8.4%, lamb losses ranged from 6.3% to 29.3% (Shwiff and Bodenchuk 2004)” due to predators.\textsuperscript{253} Again, the EA demonstrates that the losses to predators are negligible and vary, especially at the national level. The EA fails to explain why such a negligible fraction of losses and number of producers impacted presents a need for action, and whether and why such limited damages justify the program.


\textsuperscript{327} EA at 64.
The EA also fails to consider the true costs of the PDM program because it does not adequately address the positive value of predators. The EA provides only a cursory mention of the contributions of recreation, tourism, and other wildlife-related industries to the economy of New Mexico, often mistakenly groups hunting and non-consumptive recreation together, and fails to compare those benefits to the cost of grazing. The economic impacts of actions against predators is relevant to the proposed action here, and must be evaluated.

The EA fails to consider that coyotes are valuable, even to ranchers, because they reduce forage competition by eating animals, such as jackrabbits, that compete with cattle for food. Eight jackrabbits are estimated to eat as much as one sheep and 41 jackrabbits as much as one cow.328 Coyotes prey heavily on jackrabbits.329 By some estimates, jackrabbits are their primary prey in the Western United States. Although coyotes prefer fresh meat, they will scavenge when the opportunity presents itself. It has been estimated that, excluding the insects, fruit and grass eaten, the coyote requires 600 g of food daily, or 250 kg annually.330 A black tailed jackrabbit weighs between 1.4 and 2.7 kg. Conservatively that is about 90 rabbits per year. A coyote is then saving forage for at least two cattle per year. Local markets estimate cattle as selling for between $800 to $2,200. The EA should consider this financial impact, and a similar impact for sheep.

The additional justifications given for the PDM program are likewise misleading, unsupported, and incomplete. The EA fails to provide how much Wildlife Services expended in responding to such losses, individually or overall. In other words, it failed to do a cost-benefit analysis – not for the rancher, but for the public. For example, will WS-New Mexico spend $1,000 in responding to the loss of a $100 lamb? That is important information for the public to know in evaluating whether the agency’s actions make fiscal sense, and whether there is a true need for the proposed action, and whether and why such damages justify a program of control.

VIII. THE EA FAILS TO ADDRESS WHETHER WILDLIFE SERVICES’ CURRENT PDM PROGRAM AND THE PROPOSED ACTION ARE CONSISTENT WITH GOVERNING FEDERAL LAND MANAGEMENT PLANS

All of Wildlife Services’ activities on National Forest lands and BLM-managed lands must be consistent with applicable governing land use plans, as required by both the National Forest Management Act (“NFMA”) and the Federal Lands and Policy Management Act (“FLPMA”). 43 U.S.C. §§ 1712, 1732 (FLPMA); 16 U.S.C. § 1604(i) (NFMA), 43 C.F.R. §§ 1610.0-5, 1610.5-3(a), (b); 36 C.F.R. § 219.15(d). Nowhere in this EA does Wildlife Services address how its activities are consistent with specific directives of the relevant U.S. Forest Service Land and Resource Management Plans (“LRMPs”) or BLM Resource Management Plans (“RMPs”).

Wildlife Services conducts its wildlife killing on public lands under the purported authority of very general Memoranda of Understandings ("MOUs") with the BLM and U.S. Forest Service. To provide site-specific authorization, Wildlife Services claims that it conducts annual meetings and prepares "Annual Work Plans" ("AWPs") with applicable BLM and Forest Service units. But these AWP meetings are not open to the public and do not involve any NEPA analysis. Consequently, Wildlife Services has failed to evaluate and publicly disclose how its activities meet the consistency provisions of NFMA and FLPMA.

IX. WILDLIFE SERVICES’ PROPOSAL TO CONDUCT WILDLIFE DAMAGE MANAGEMENT IN CONGRESSIONALLY DESIGNATED WILDERNESS AREAS CONTRAVENES THE WILDERNESS ACT AND FAILS TO CONSIDER IMPACTS TO SPECIAL AREAS

The EA fails to adequately consider the impacts of conducting its PDM activities on New Mexico’s spectacular Wilderness Areas ("WAs"), Wilderness Study Areas ("WSAs"), Areas of Critical Environmental Concern ("ACECs") and other protected areas. In addition, the EA fails to ensure that the public is informed about activities which might be conducted in these areas so that the public may evaluate whether proposed activities are consistent with the specific legislative mandates and management plans governing management of these areas. Without more site-specific analysis, Wildlife Services cannot ensure compliance with guiding legislation including but not limited to National Environmental Policy Act, the National Forest Management Act, the Federal Lands Policy and Management Act, the Wilderness Act and others.

The Wilderness Act provides for a National Wilderness Preservation System to ensure that humans do not occupy or modify all lands within the country, leaving no lands designated for “preservation and protection of their natural condition.” 16 U.S.C. § 1131(a). Wilderness Areas must be administered in a manner that will leave them “unimpaired for future use and enjoyment as wilderness,” and that will provide for “the protection of these areas” and “the preservation of their wilderness character.” Id. The definition of “wilderness” is an area where the community of life is “untrammeled” by man and retains its primeval character and influence, and which is “protected and managed so as to preserve its natural conditions.” 16 U.S.C. § 1131(c). These are areas affected primarily by the forces of nature that have outstanding opportunities for solitude or a primitive type of recreation. Id. Agencies administering WAs are “responsible for preserving the wilderness character of the area.” 16 U.S.C. § 1133(b); 36 C.F.R. § 293.2.

Nevertheless, Wildlife Services here apparently plans to carry out its “predator damage management” activities in WAs and WSAs.331 The EA does not explain how any predator control that alters the natural and untrammeled conditions of wilderness by killing native predators is consistent with the specific statutory mandates governing each wilderness in New Mexico.332 Instead, it boldly assumes that because “[t]he Wilderness Act does not prohibit [Wildlife Damage Management] within designated wilderness,” it allows it.333 This is not so, and Wildlife Services has not disclosed how the actions it plans to conduct and methods it plans

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331 EA at 123.
332 EA at 325.
333 Id.
to use are consistent (or not consistent) with the mandate to preserve natural, untrammeled, and undeveloped conditions imposed by the Act, or any additional mandates imposed by each WA’s establishing legislation. Indeed, Wildlife Services does not rule out conducting “preventive” controls – which do not target specific offending predators and instead broadly target potentially-offending predators – in Wilderness. Such actions would not comply with the Wilderness Act and Wildlife Services provides no basis for its conclusion that they are permissible in WAs.

Building on the erroneous premise that the Wilderness Act permits predator control, the EA next assumes that Wildlife Services may carry out predator control in Wilderness without any additional NEPA analysis. Wildlife Services cannot simply foist its responsibility to comply with NEPA when carrying out actions in Wilderness areas and other lands to be managed for their wilderness qualities on the Forest Service and BLM without additional NEPA analysis.

An EA is not adequate to support actions in Wilderness in any case because any potential effects to Wilderness require an EIS. 40 C.F.R.§ 1508.27(b)(3); see also WWP v. USDA APHIS Wildlife Servs., 320 F. Supp. 3d at 1150 (holding Wildlife Services’ intention to conduct activities in Wilderness and/or Wilderness Study Areas warranted an EIS). Moreover, the EA does not analyze whether actions in Wilderness are consistent with individual wilderness management mandates, consider site- specific information about predator populations or other environmental conditions, or describe projected actions in wilderness areas in any detail. Any action in Wilderness would warrant an independent NEPA analysis given the deficiencies of the EA.

The EA must consider how the PDM program will affect each individual Wilderness in New Mexico: Aldo Leopold Wilderness, Apache Kid Wilderness, Bandelier Wilderness, Bisti/De-Na-Zin Wilderness, Blue Range Wilderness, Bosque del Apache Wilderness, Capitan Mountains Wilderness, Carlsbad Caverns Wilderness, Cebolla Wilderness, Chama River Canyon Wilderness Columbine-Hondo Wilderness, Cruces Basin Wilderness, Dome Wilderness, Gila Wilderness, Latir Peak Wilderness, Manzano Mountain Wilderness, Ojito Wilderness, Pecos Wilderness, Sabinoso Wilderness, Salt Creek Wilderness, San Pedro Parks Wilderness, Sandia Mountain Wilderness, West Malpais Wilderness, Wheeler Peak Wilderness, and the White Mountain Wilderness. The EA must disclose in detail environmental impacts including but not limited to, the effects of killing Mexican wolves and coyotes to benefit domestic livestock on wilderness character. Moreover, the EA must analyze in detail how any activities proposed in wilderness will comply with the statutory mandates, regulations, policy guidance, wilderness management plans, and land use plans governing each wilderness in New Mexico. Any reliance on Annual Work Plans is insufficient to comply with NEPA’s substantive requirements; the plans are completed without any public process and are insufficient to inform the public about impacts of Wildlife Services’ activities on wilderness character. Wildlife Services may not rely on future work plans to ensure its activities comply with legislative mandates, including NEPA. The importance of predators in Wilderness cannot be overstated. Both the Bureau of Land Management and Forest Service Manuals recognize the importance of predators and the importance of natural processes in determining wildlife populations. WS-New Mexico is required to more fully evaluate the impact of its PDM program on Wilderness.
WS-New Mexico is also required to more fully evaluate the impact of its PDM program on WSAs. Bureau of Land Management WSAs are governed by the Interim Management Policy for Lands under Wilderness Review (“IMP”) and Manual 6330.334 Both of these documents restrict predator killing. The IMP provides that: “Animal damage control activities may be permitted as long as the activity is directed at a single offending animal, it will not diminish wilderness values of the WSA, and it will not jeopardize the continued presence of other animals of the same species or any other species in the area.” Shooting of animals from aircraft is only allowed where specifically authorized. To comply with governing law, all impacts from Wildlife Services’ activities must be compared to baseline levels of disturbance present in each WSA when it was designated, on all of the relevant resources the WSA was designated to protect. See GYC v. Timchak, No. CV-06-04-E-BLV, 2006 WL 3386731 (D. Idaho Nov. 21, 2006) (agency action authorizing heli-skiing in WSA violated Wyoming Wilderness Act, NEPA, and NFMA because agency did not compare authorized levels to levels when WSA was designated). If WS-New Mexico proceeds with PDM activities in WSAs without this analysis, then it will be violating laws including, but not limited to, NEPA, NFMA, FLPMA, the Wilderness Act, and others.

WS-New Mexico is also required to more fully evaluate the impact of its PDM program on ACECs. ACECs are “areas within public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.” 43 U.S.C. § 1702(a). They are designated through land-use planning processes to protect values deemed “relevant” and “important.” Relevant values may be, a significant historic, cultural, or scenic value, a fish and wildlife resource, a natural process or system, or a natural hazard. 43 C.F.R. § 1610.7-2(a)(1). Relevant values are also important where they are “of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern.” 43 C.F.R. § 1610.7-2(a)(2). WS-New Mexico must explain how any PDM it conducts in ACECs will protect the relevant and important values. It must also explain how its PDM program is consistent with land-use plans and other mandates governing ACECs.

For similar reasons, WS-New Mexico has also failed to demonstrate compliance with NEPA and legislative mandates governing other special places, including but not limited to National Recreation Areas, National Conservation Areas, National Monuments, National Historic and Scenic Routes and Trails, and Wild and Scenic Rivers. WS-New Mexico must inform the public how its PDM program complies with the mandates governing management of these areas and how it will protect the special values for which they were established. WS-New Mexico may not rely on annual work plan meetings with land managers, which take place behind closed doors without public involvement, to comply with both NEPA’s environmental analysis and public disclosure requirements.

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X. KILLING NATIVE WILDLIFE FOR THE PURPORTED BENEFIT OF OTHER WILDLIFE EXCEEDS THE AGENCY’S STATUTORY AUTHORITY

APHIS-Wildlife Services may only act within the bounds of its statutory authority, here the Animal Damage Control Act (“ADCA”), which restricts Wildlife Services to conducting activities regarding “injurious” animal species. 7 U.S.C. § 8351. To act within its statutory mandate under the ADCA, Wildlife Services must make a finding that the species intended to be targeted are “injurious.” See Friends of Animals v. Clay, No. 13-cv-7293(JG), 2014 WL 4966122, at n. 4 (E.D.N.Y. Oct. 3, 2014). WS-New Mexico has not established that the predators to be targeted by its activities are injurious. Here, for example, WS-New Mexico states that PDM could be initiated to target predatory species that prey on ferrets or are considered a disease threat. Potential impacts of WS-New Mexico’s involvement with PDM to assist federal and state agencies with the THREATENED AND ENDANGERED species listed above and their associated damage management in New Mexico are evaluated independently of this EA.335 Wildlife Services must discuss and fully disclose their impacts on all species and must review why lethal action could be justified to benefit THREATENED AND ENDANGERED species.

Furthermore, recent research suggests the environmental crime of illegal wildlife-killing is promoted by government programs of wildlife-killing because would-be poachers feel either they are helping the government control over-abundant wildlife or because would-be poachers feel there is no enforcement during such periods of government wildlife-killing.336

XI. KILLING NATIVE WILDLIFE ON PUBLIC LANDS VIOLATES THE PUBLIC TRUST DOCTRINE

The U.S. Supreme Court has recognized that the public trust doctrine imposes on states a duty “to enact such laws as will best preserve the subject of the trust [i.e., wildlife] and secure its beneficial use in the future to the people of the state.” Geer v. Connecticut, 161 U.S. 519, 534 (1896). In Geer, the Court noted that the state was obligated to exercise its power over wildlife “for the benefit of the people, and not as a prerogative for the advantage of the government as distinct from the people or for the benefit of private individuals as distinguished from the public good.” Id. at 529; see also Ctr. for Biological Diversity, Inc. v. FPL Group, Inc., 83 Cal. Rptr. 3d 588, 599 (Cal. Ct. App. 2008) (holding “it is clear that the public trust doctrine encompasses the protection of undomesticated birds and wildlife.”).

Although Geer was overturned by Hughes v. Oklahoma, 441 U.S. 322 (1979), the Hughes court upheld the public trust duty when striking down the state’s authority to regulate interstate commerce in wild fish. Prior to that, in Illinois Central Railroad v. Illinois, 146 U.S. 387 (1892), the Court declared the public trust permanent and encompassing materials in water, land, and in between, and that the duty of the trustee was to protect those from substantial impairment whether by grant, contract, or conveyance in perpetuity, which built on the declaration in Martin v. Waddell, 41 U.S. 367 (1842) that the trust was held in all elements of nature for the public of the United States, both current and future. In 1894, the Court in Shively

335 EA at 32.
& Bowlby, 152 U.S. 1, clarified this extended to public lands and United States v. Burlington Northern Railroad, 710 F. Supp. 1286 (District Court Neb.), allowed the government to claim damages from private actors who killed wildlife. Under the well-established public trust doctrine, Wildlife Services is a governmental trustee. As such, it has an affirmative duty to protect wildlife trust resources as a public asset, for the benefit of current and future generations, especially against private entities like livestock owners seeking to destroy those assets. See Sax (1970); Treves et al. (2018). In addition to the federal government, the state government also acts as trustee and as such has a similar duty to protect wildlife (the trust asset) for the public (the beneficiary). A Nebraska court explained this trust relationship in United States v. Burlington Northern Railroad, 710 F. Supp. 1286 (D. Neb. 1989), and held that “[i]n view of this trust position, and its accompanying obligations, it appears that the United States, much like the States . . . can maintain an action to recover damages to its public lands and the natural resources within them” which encompassed “destroyed wildlife” at issue in the case. The state and the federal government should exercise their trust powers in New Mexico to protect the wildlife resource for future generations.

Moreover, public attitudes have shifted dramatically in recent times; the majority of Americans now favor protecting native wildlife over speculative protections for private economic interests. Simply put, killing native wildlife – a public trust resource – especially on publicly owned lands, for the perceived economic benefit of a handful of private livestock producers, fails the government’s public trust obligations. The EA fails to consider the public trust in predator damage management.

XII. WILDLIFE SERVICES’ ANALYSIS OF THE MARIN COUNTY, CALIFORNIA NON-LETHAL PROGRAM IS BIASED AND FLAWED

The EA attempts to discredit non-lethal management programs by attacking Marin County California’s lack of an indemnity program. However, indemnity programs have not been shown to work in reducing human-wildlife conflict or overall costs and they do not increase reported satisfaction or tolerance for the presence of wildlife (e.g., Treves et al. 2009, which is also cited in this EA; also Bangs et al 2005, Naughton-Treves 2003, Nyhus et al 2005, Sommers et al 2010). Peer-reviewed science has repeatedly indicated that investment in preventative measures and programs such as ‘pay-for-presence’ of predators are much more effective at reduction of conflict, costs and negative perceptions among producers (Bautista et al 2019, Macon 2020). The Marin County Livestock Protection Program (“Marin Program”) is tailored to the needs of local producers who requested prevention over indemnity as the EA notes. Additionally, former Marin County Agricultural Commissioner Stacy Carlsen has stated that the reason for the cessation of the indemnification program was because producers requested more funds focused on non-lethal conflict mitigation methods rather than compensation.

The Marin Program is appropriate to its context and should be considered for application in New Mexico. Federal taxpayers have repeatedly made clear that they do not want to pay for activities that do not benefit the public good. By contrast, Wildlife Services uses taxpayer dollars for activities intended to benefit private interests but which are shown by the best available science to be ineffective and destructive of public goods (in this case wildlife and their contributions to ecosystem health and function). The desires of taxpayers in New Mexico and across the country are evidenced through public testimony in every state where PDM activities have been conducted in the past decade as well as by numerous in California and New Mexico that have voted to cancel their contracts with Wildlife Services (Bergstrom et al. 2013, Macon 2020). Thus, comparing the costs of the Marin program to Wildlife Services’ operations is fallacious because Wildlife Services operations do not account for the externalities of destroying public goods at the behest of private interests with no demonstrable benefits.

The EA states, “The national policy of using taxpayer dollars for subsidizing private or commercial profit, such as for protecting livestock from predators on private or public lands is established by Congress through statutes . . . . As wildlife belongs to the American public and is managed for many uses and values by tax-supported state and federal agencies, it is national policy that some of the resolution of damage caused by those same species is also publicly supported.” To uphold public trust responsibilities to both aforementioned national policies, only demonstrably effective mitigation efforts should be conducted to protect livestock from predators. Yet, Wildlife Services does not implement demonstrably effective mitigation efforts, instead relying heavily on non-selective lethal control methods shown to be ineffective at best and sometimes actually counterproductive to reducing conflict (Bergstrom et al. 2013, Conner et al. 1998, Sillero-Zubri and Laurenson 2001).

The EA also acknowledges that “[t]his tolerance level [for the presence of predators] differs among different people and entities, and at different times.” Low to zero tolerance is not an adequate reason to take a life on either ethical grounds or under most U.S. laws and regulations. The EA presents no logical argument for why such a liberalized killing agenda should be allowed on “a case-by-case basis”, especially in light of the lack of scientific evidence that doing so would even achieve the purported goals of APHIS-WS.

We include the following text as comments from Dr. Adrian Treves, who analyzed the sole citation (Larson 2006) upon which the EA and others have heavily relied in critiquing the Marin program.

This section on Marin County’s Program poses several major shortcomings that prompted me to conduct a thorough review.

**Part A. Why does the DEIR cite only one source?**

To begin, the DEIR is incomplete and one-sided because it contains citations to a single source (Larson 2006) but ignores at least half a dozen other published documents on the specific

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341 EA at 110.
342 EA at 110.
343 Id.
topic, without any explanation of the omission.


I can only see one scientific rationale for inclusion of only Larson 2006 -- If it were the only reliable evidence – but even then, a single sentence citing the others and explaining why they were excluded from the review would be transparent and defensible. Outright omission raises flags about objectivity, transparency, and scientific integrity in general.

A simple Google Scholar search for (keywords "Marin County" agriculture predator sheep livestock wildlife) turns up at least a dozen articles, so the inclusion of only one in the DEIR is puzzling. I am particularly concerned about the omission of the lengthy and detailed fieldwork and archival work presented with full references and detailed methods in Fox, CH. 2007. Analysis of the Marin County Strategic Plan for Protection of Livestock and Wildlife: An alternative to traditional predator control. Prescott College AZ, Master’s thesis. (I served on the thesis committee for the latter, so I am familiar with the work and can vouch for it meeting my standards for Masters-level research. I also serve on the Science Advisory Board for Project Coyote founded by C. Fox. I declare no financial or other conflict of interest.)

Furthermore, Larson 2006 cites Fox’s earlier work (3 citations) so the drafters of the DEIR should have been aware that another professional had investigated Marin County on the same topic. Therefore, a simple error of omission seems unlikely.

I consider it possible that those who drafted the DEIR were aware of Fox 2007 but opted to omit it because it is a Master’s thesis (i.e., not anonymously peer-reviewed by a scientific journal). I rejected this possibility for two reasons:

- The DEIR has already used a large body of evidence that is weaker than a Master’s thesis. Anecdote and personal communications were used in reviewing the HREC experience. It would appear that all sources of information should be summarized, reviewed and weighed for the value it brings in scientific terms to the DEIR.
- Also, Larson 2006 appears to me to be open to the same criticism, i.e., not anonymously and independently peer-reviewed by a scientific journal). The paper comes from conference proceedings which do not have a specified peer review policy, or guidelines on ethical conduct of research and publishing, or an impact factor, which are all signs of reputable scientific journals. Furthermore, the publisher employed both the author and editor at one time or another, so the necessary independence of review for this article was not met either.

My point is only that I cannot see a difference between the standards of publication for Larson 2006 and Fox 2007, as a peer reviewer for >100 scientific articles in >50 journals since 1993. Because I previously reviewed and criticized Fox 2007 (not as a peer but as a committee member for her Master’s thesis), I will also review Larson 2006 below and use my review to
address the DEIR, given Larson 2006 is the sole source of information in the DEIR. In conducting the peer review of Larson 2006, I followed the guidelines and recommendations of the National Academies on scientific integrity available here: NASEM 2017. Fostering Integrity in Research. The National Academies Press, Washington, DC. Given my review is not anonymous, I cite my own work below for my convenience and that of the DEIR because all my work is freely available at my website here: http://faculty.nelson.wisc.edu/treves/publications.php. Please also note I restrict citations to top ten international peer-reviewed scientific journals relating to predators, conservation or science generally.

Part B. My review of the published version of Larson 2006

Beginning with sentence 1 and throughout the text of Larson 2006, the author makes assertions without methods or citation to evidence. Several such unsubstantiated assertions are notable.

The very first sentence states, “Predation, particularly by coyotes (Canis latrans), has been an increasing problem for the sheep producers on California’s northern coast.” (no citation). I’d like the drafters of the DEIR to be aware of recent work on “Myths and assumptions about human-wildlife conflict and coexistence.” by Treves A, Santiago-Ávila FJ. 2019. Conservation Biology in press. And a recent survey of evidence across wildlife management agencies of North America that has exposed problems with ‘fact by assertion’: “Distinguishing science from ‘fact by assertion’ in natural resource management.” by Artelle KA, Reynolds JD, A. T, Walsh JC, C. PP, Darimont CT. 2018. Science Advances 4:eaao0167.

The same paragraph stated “coyote-caused losses are one of the main reasons for producers going out of the sheep business (Larson and Salmon 1988).” I have not read the cited work by Larson but that same year in 2006 this claim was debunked at a national and regional level by Berger KM. 2006. Carnivore-livestock conflicts: Effects of subsidized predator control and economic correlates on the sheep industry. Conservation Biology 20:751-761 (available at https://www.predatordefense.org/docs/coyotes_article_WCS_Berger_sheep_econ_2006.pdf ). That paper showed the main reason for decline of the sheep industry was decreasing value of wool in markets and lower demand by examining the sheep industry in regions with and without coyotes. Therefore, to be accurate and precise, Larson should specify where, when, and how many producers. Furthermore, the single citation for the claim is published in the same conference proceedings. Indeed, the majority of citations to authored work (not archives and anonymous databases) in Larson 2006 are to herself or to colleagues including the editors of the conference proceedings. Ideally, scientific evidence is based on independent review and scholarship, otherwise the endeavor perpetuates beliefs from one set of authors, which can propagate errors and individual presuppositions or biases.

An example of bias includes, “However, it became apparent that the program’s funding could not pay for all losses that occurred... “. It is notable because of its vagueness about how it became apparent, to whom, and how the inference was drawn that a change in compensation policy reflected excessive claims or excessive losses. The author has made an unsubstantiated inference that is prejudicial.
By page 2, the author is reporting ostensible facts about the program she proposes to evaluate scientifically prior to giving the reader any methods. An introduction in a scientific paper should not present new evidence until the Methods have been presented. The section of the paper entitled “Program Results” appears before any methods have been presented. This is highly irregular in scholarly work. There is no way to evaluate the veracity of the data presented.

Reproducibility (can a study be replicated from its complete and transparent description of methods) is a hallmark of the scientific method so subsequent investigators can replicate findings. Because Larson (2006) does not describe her methods, the work is not reproducible. It is not scientific therefore.

Furthermore, the legitimacy of Larson 2006 as evidence is questionable because of ethical concerns about research on human subjects.

Larson appears to have spoken to Marin County officials, to farmers in Marin County, and reviewed data collected by University of California and WS CA on farmer complaints. For example,

- “However, during the past decade, the number of producers has declined and some producers have reduced their flock size (Anita Sauber, Marin Co. Dept. of Agriculture, pers. commun.).” (Larson 2006, p. 295, emphasis added). Why wasn’t a data sharing or collaborative agreement acknowledged?

- “During the first year, the Marin County Agricultural Commissioner’s staff and University of California Cooperative Extension (UCCE) personnel randomly verified losses.” (no citation). The latter statement indicates that Larson had access to data collected on farms and about farmers husbandry and compensation payments (mentioned throughout Larson 2006). How was farmer privacy protected?
- Table 1 in Larson 2006 presents data from W CA. How did Larson obtain these data? Note that a state and federal cooperative agreement has implications for both institutions under federal law pertaining to the False Claims Act, as I summarize further below.
- Table 1 – 3, p. 1 – 32 in the DEIR footnote 4 states that Larson 2006 had “communications with ranchers”. Larson 2006 also reports on interviews with Marin County residents. Where is the permit number for research on human subjects?

I would have expected Larson 2006 to contain a statement acknowledging the data sharing agreement with the County and with WS CA. Moreover, I would have expected a statement about permissions to conduct research on humans for publication because Larson published statements made by anonymous farmers and hunters and reports conversations with farmers, indicating she had addresses or phone numbers of research subjects to ask sensitive questions about compensation payments and poaching. The human subjects research Larson conducted raises questions about the ethical oversight of the research.

Researchers and the journals that publish their work have an ethical obligation to present evidence that research protocols were reviewed by an Institutional Review Board for
protection of Human Subjects prior to starting research and that the final product adhered to the approved protocol. This is also a legal obligation under federal law that carries penalties for institutions found to be non-compliant. Perhaps UC Cooperative Extension agents are exempt from protections for Human Subjects under state law? Does this apply to federal laws governing research on human subjects? In my opinion, the UC IRB would not have exempted this research from ethical review because Larson was asking sensitive questions about personal finances of farmers and sensitive questions about illegal killing of wildlife. Regardless of the legal issues, the apparent lack of permits should concern the editors and publishers of the conference proceedings. Therefore, I recommend complete retraction of the article on ethical grounds, in addition to the unscientific nature of the reporting.

Part C. The DEIR section reproducing Larson 2006

The reliance of the DEIR on Larson 2006 raises three serious concerns:

1. The entire section of the DEIR on Marin County is unscientific because of its reliance on a single unscientific source as I describe above. I recommend removing it until a proper scientific review of evidence is completed.

2. Apparently, Table 1 in Larson 2006 was reprinted in the DEIR, but not in its original published form. If the DEIR version of the Table was reprinted identically from an unpublished document (note the incomplete citation Larson, Stephanie 2006. The Marin County Predator Management Program: Will It Save the Sheep Industry. Approved for Print), then the discrepancy between the latter and the public version (Larson 2006) that I have reviewed raises additional questions.

3. The DEIR presents a significantly different version of data reported in Larson 2006 (compare Table 1 in Larson 2006 to Table 1-3 p. 1-32 in the DEIR below). The effect of the change in the table in the DEIR is to convey greater certainty about the data than in the original Larson 2006 Table. Three of the footnotes relate to self-reported losses and some that were undocumented and replaces them with claims about methods that are not substantiated in Larson 2006. At this point, as a peer reviewer for a reputable journal, I would have raised concerns about the appearance of fabrication in the DEIR. Fabrication or falsification of evidence supported by federal grants for the original research, subsequent grant proposals, or official reports might place the institutions involved in legal jeopardy under the federal False Claims Act. Therefore, I recommend oversight by all the institutions named in Larson 2006 and this section of the DEIR.
previous and current predator management programs.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Adult Sheep Killed</th>
<th>Lambs Killed</th>
<th>Total Head Killed</th>
<th>Coyotes Taken</th>
<th>Non-Targets Taken</th>
<th>Cost to County</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995/96*</td>
<td>22</td>
<td>117</td>
<td>139</td>
<td>27 *</td>
<td>0 *</td>
<td>$12,420</td>
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<tr>
<td>1996/97*</td>
<td>34</td>
<td>77</td>
<td>111</td>
<td>32 *</td>
<td>7 *</td>
<td>13,518</td>
</tr>
<tr>
<td>1997/98*</td>
<td>45</td>
<td>141</td>
<td>186</td>
<td>21 *</td>
<td>7 *</td>
<td>13,128</td>
</tr>
<tr>
<td>1998/99*</td>
<td>90</td>
<td>243</td>
<td>333</td>
<td>17 *</td>
<td>5 *</td>
<td>38,526</td>
</tr>
<tr>
<td>1999/00*</td>
<td>43</td>
<td>137</td>
<td>180</td>
<td>14 *</td>
<td>0 *</td>
<td>28,560</td>
</tr>
<tr>
<td>2000/01**</td>
<td>44 *</td>
<td>614 *</td>
<td>658</td>
<td>2 *</td>
<td>0 *</td>
<td>43,181</td>
</tr>
<tr>
<td>2001/02**</td>
<td>97 *</td>
<td>236 *</td>
<td>~40 *</td>
<td>?</td>
<td>$43,181</td>
<td></td>
</tr>
<tr>
<td>2002/03**</td>
<td>158 *</td>
<td>149 *</td>
<td>~70 *</td>
<td>?</td>
<td>57,598</td>
<td></td>
</tr>
<tr>
<td>2003/04**</td>
<td>165 *</td>
<td>165 *</td>
<td>~100 *</td>
<td>?</td>
<td>44,132</td>
<td></td>
</tr>
<tr>
<td>2004/05**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>39,800</td>
<td></td>
</tr>
<tr>
<td>2005/06**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>39,797</td>
<td></td>
</tr>
</tbody>
</table>

* Federal Fiscal Year Oct. 1 - Sept. 30
** County Fiscal Year Jul. 1 - Jun. 30
a documented plus reported to WS
b reported to WS, not documented
c reported by ranchers to County
d estimated (see text)

Table 1-3
Estimated Livestock Losses, Coyotes Taken, and Cost to County

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Total Livestock Lost (Sheep and/or Lambs)</th>
<th>Coyotes Taken</th>
<th>Cost to County ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995/961</td>
<td>139</td>
<td>27</td>
<td>12,420</td>
</tr>
<tr>
<td>1996/971</td>
<td>111</td>
<td>32</td>
<td>13,518</td>
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<td>1997/981</td>
<td>186</td>
<td>21</td>
<td>13,128</td>
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<tr>
<td>1998/991</td>
<td>333</td>
<td>17</td>
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<td>1999/001</td>
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<td>2</td>
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<tr>
<td>2001/022</td>
<td>97</td>
<td>~404</td>
<td>43,181</td>
</tr>
<tr>
<td>2002/032</td>
<td>236</td>
<td>~504</td>
<td>57,598</td>
</tr>
<tr>
<td>2003/042</td>
<td>158</td>
<td>~504</td>
<td>44,132</td>
</tr>
<tr>
<td>2004/052</td>
<td>149</td>
<td>~704</td>
<td>39,800</td>
</tr>
<tr>
<td>2005/062</td>
<td>165</td>
<td>~100a</td>
<td>39,797</td>
</tr>
</tbody>
</table>

1 Federal Fiscal Year Oct. 1 to Sept. 30
2 County Fiscal Year Jul. 1 to Jun. 30
3 Author posits that public discourse surrounding wildlife damage management within the County may have led to an increase in reported livestock losses.
4 Estimated based on author's research and communications with ranchers.


Literature Cited Specific to Marin County Review:

XIII. WS-NEW MEXICO FAILS TO FULLY CONSIDER SENATE BILL 32 AND FAILS TO CONSIDER REQUESTS FOR NON-LETHAL ASSISTANCE IN NEW MEXICO

WS-New Mexico’s consideration of Senate Bill 32, the “Wildlife Conservation and Public Safety Act”344 (SB-32) is inadequate in considering the legislation’s impacts on Wildlife Services’ operations. Rather than be “leaders” for coexistence, WS-New Mexico assumes that without traps they will still need to kill more animals by other legal means.345 This bias for killing is reiterated throughout the EA. Even with non-lethal traps, WS-New Mexico intends to euthanize the majority of animals, rather than releasing them.346 Sadly, WS-New Mexico has a history of refusing to consider wildlife conflict resolution that does not involve the reckless

345 EA at 126.
346 Id.
killing of New Mexico’s native wild animals. When asked by Grant and Doña Ana counties, in New Mexico, to stop using leg-hold traps and M-44’s, WS-New Mexico would not consider it, despite having additional funding from the federal government for non-lethal work. WS-New Mexico has consistently proven that it prefers indiscriminate and ineffective wildlife management, both on the ground and within the analysis of this EA, over more effective non-lethal tools.

WS-New Mexico briefly addresses four ways that it intends to comply with SB-32, then simply pastes the full text of the legislation within the EA. Wildlife Services must fully consider SB-32, including the very rare circumstances that would provide exemption from this legislation. WS-New Mexico must also consider all expert testimony on SB-32 received by the House Energy, Environment and Natural Resources Committee. Further, WS-New Mexico must consider the injuries to New Mexico wildlife by traps, which can include broken bones, severed tendons, deep cuts, dislocated joints, and broken teeth.

WS-New Mexico must also consider the scientific and public safety conditions that created the need for legislation to ban lethal traps on public lands. A full report, “Trapping in New Mexico,” was published in 2020 prior to the passage of SB-32, and must be considered by WS-New Mexico within this EA. This report explicitly discusses the impacts of trapping, including trapping on private lands, in New Mexico. The cited report analyzes environmental, scientific, social and safety aspects of trapping within the state. It reveals that endangered wild animals, like Mexican wolves, can be vulnerable to traps on private lands. WS-New Mexico must fully consider this report and its findings.

Not using lethal traps, including on private lands, was not even considered by WS-New

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351 EA at 157, Table 2.4.3.4.

352 EA at 162.


354 “Injuries to New Mexico Wildlife Caught in Leghold Traps.” Robert Harrison, Ph.D, University of New Mexico. December, 2020. [https://mail.google.com/mail/u/0/#inbox/FMfcgzGkbDZKrPjBmKcxpdQQZcTnxbQbh?projector=1&messagePartId=0.8](https://mail.google.com/mail/u/0/#inbox/FMfcgzGkbDZKrPjBmKcxpdQQZcTnxbQbh?projector=1&messagePartId=0.8).


358 Id.
Mexico as an option. WS-New Mexico must fully consider not using lethal traps in the state, or justify the continued use of this unselective tool on private land. WS-New Mexico must consider the full scientific, cumulative and public safety impacts of trapping on private lands. Threatened and endangered carnivores, like Mexican wolves and Pacific martens,\textsuperscript{359} are vulnerable to traps and do not see the invisible boundary between public and private land. WS-New Mexico must fully consider a true non-lethal alternative and take a requisite hard look at this issue.

XIV. CONCLUSION

In sum, we request that WS-New Mexico develop a full EIS for its PDM activities in the state. Based upon the numerous flaws and lack of information detailed above, the EA provided for public comment does not include sufficient environmental analysis and fails to take the requisite hard look at numerous issues. WS-New Mexico must make itself accountable to the public and provide its constituents with the necessary information to show the program has taken a hard look at the environmental impacts of its actions. Thank you for considering our concerns.

Sincerely,

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