

**To the United States Department of Agriculture
United States Forest Service**

PETITION TO BAN USE OF M-44 CYANIDE BOMBS



Dead canid near posted M-44. Photo Credit: Wildlife Services

October 23, 2024

Authored By:

**Center for Biological Diversity
Predator Defense**

Via Email and U.S. Mail

October 23, 2024

The Honorable Tom Vilsack
Secretary, U.S. Dept. of Agriculture
1400 Independence Ave. S.W.
Washington, DC 20250

Randy Moore
Chief, U.S. Forest Service
1400 Independence Ave. SW
Washington, D.C. 20250

Dear Secretary Vilsack and Chief Moore,

The Center for Biological Diversity, Predator Defense, and a coalition of more than sixty other wildlife and animal protection organizations through this Petition seek a ban on use of M-44s, also known as “cyanide bombs,” on lands administered by the United States Forest Service (USFS). As demonstrated by the Petition, M-44s cause indiscriminate injury and death of nontarget wildlife, people, and companion animals.

The public safety issue remains paramount, as in 2017, an Idaho boy triggered a M-44 and only avoided death due to wind direction; his dog died a horrible death in front of him. Countless domestic dogs are killed by M-44s each year, but many are unreported, according to Wildlife Services whistleblowers.

In 2023 alone, Wildlife Services poisoned 6,543 animals using M-44 cyanide bombs, and 156 of these deaths were unintentional. Additionally, M-44s have killed wildlife listed under the Endangered Species Act (ESA) like grizzly bears, California condors, and gray wolves.

These facts show that M-44 devices are unselective and thus ineffective tools for targeted wildlife management. In addition, according to a former Wildlife Services district supervisor, many trappers no longer want to use M-44 devices, and some even refuse to do so.

Numerous effective, alternative tools to address livestock conflicts exist, eliminating the need for M-44s altogether. For example, guard animals can be deployed, herders and range riders can be employed, and livestock operators can change animal husbandry practices to lessen the risk of predation. Deterrents, such as sound- and light-emitting frightening devices, can also be used to scare away potential predators.

As you know, late last year the Bureau of Land Management (BLM) issued a ban prohibiting the use of sodium cyanide by federal predator control agents on all BLM-

managed lands. Earlier this year, Congressman Jared Huffman and 15 other Senators and members of Congress asked USFS to also ban the devices.

According to Secretary Vilsack's response, M-44s have not been deployed on national forests since 2021 and are currently prohibited via the 2024 Fiscal Appropriations bill. But the USFS has not mandated M-44 removal or promulgated a permanent ban. The USFS should fully ban these dangerous devices to protect wildlife and users of National Forest System lands from the unacceptable risks associated with M-44s.

The American people – and our wildlife and companion animals – deserve to be safe from poison on public lands. Thank you for considering our Petition, and we look forward to your timely response.

Respectfully submitted,

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I. SUMMARY OF REQUESTED ACTION

This Petition is filed pursuant to the Administrative Procedure Act, 5 U.S.C. § 553(e), and requests that the United States Department of Agriculture (USDA) and the U.S. Forest Service (USFS) use their legal authorities to prohibit use of M-44 sodium cyanide capsules on lands managed by the USFS to protect wildlife, public safety, recreational interests, and wilderness values.

II. OVERVIEW OF THE USE OF M-44 DEVICES

EPA's Registration of M-44

The U.S. Environmental Protection Agency (EPA) has registered M-44 sodium cyanide capsules for restricted use under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. §§ 136 et seq. Specifically, sodium cyanide is used in M-44 ejector devices to kill predators including coyotes (*Canis latrans*), red foxes (*Vulpes vulpes*), gray foxes (*Urocyon cinereoargenteus*), and wild dogs suspected of preying on livestock.¹

The EPA's most recent decision to re-register the poison – in 2019, on an interim basis – was met with intense public criticism. More than 99.9 percent of the more than 22,000 people who commented on the registration proposal² asked the EPA to ban M-44s, according to analysis from the Center for Biological Diversity and Western Environmental Law Center.³

Under FIFRA, users must comply with the pesticide labels, 7 U.S.C. § 136j(a)(2)(G), and the labels for registered sodium cyanide products require that users comply with the EPA's Use Restrictions.⁴ The Use Restrictions include measures such as buffers along roads, erection of signs, and mandatory applicator training.⁵

Wildlife Services, a program of the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), is a registered user of sodium cyanide (EPA Registrant No. 56228-15). Other registered users include the state agriculture departments of Wyoming (No. 35978-1), Montana (No. 35975-2), New Mexico (No. 39508-1), (No. 33858-2), and South Dakota (No. 13808-8).

¹ U.S. EPA, *Sodium Cyanide: Interim Registration Review Decision* (Case Number 8002) (Dec. 2019) [hereinafter "2019 Final Interim Reregistration Decision"].

² U.S. EPA, *Sodium Cyanide: Proposed Interim Registration Review Decision* (Case Number 8002) (Sept. 2018), <https://www.regulations.gov/document/EPA-HQ-OPP-2010-0752-0090>.

³ Center for Biological Diversity, *Analysis: Public Overwhelmingly Wants EPA Ban on Wildlife-killing "Cyanide Bombs"* (May 8, 2019), https://biologicaldiversity.org/w/news/press-releases/public-overwhelmingly-wants-ban-on-cyanide-bombs-2019-05-08/email_view/.

⁴ See, e.g., U.S. EPA, Label for M-44 Cyanide Capsules (EPA Registration No. 56228-15) (Aug. 23, 2023), https://www3.epa.gov/pesticides/chem_search/ppls/056228-00015-20230823.pdf.

⁵ 2019 Final Interim Reregistration Decision, Appendix A.

Sodium cyanide is the pesticide active ingredient used in M-44 devices, which are also known as “cyanide bombs.” These devices are not technically bombs because no explosives are used, but they do shoot a cloud of cyanide powder up to five feet in the air. To set up an M-44, a small pipe is driven into the ground and loaded with an ejector and a sodium cyanide capsule. The top of the ejector is wrapped with an absorbent material coated with scented bait to attract animals. When an animal pulls on this material, a spring ejects the sodium cyanide into their mouth and face.



The M-44 ejector device consists of a capsule holder, a small plastic container holding sodium cyanide, a spring-activated ejector, and a stake. Bilingual warning signs are required to mark their placement. Photo Credit: U.S. Dept. of Agriculture, Wildlife Services.

The sodium cyanide powder combines with available moisture, including saliva, to make hydrogen cyanide gas, which is readily absorbed by the lungs and poisons the animal by inactivating an enzyme essential to mammalian cellular respiration.⁶ That leads to central nervous system depression, cardiac arrest, and respiratory failure.⁷

Death from cyanide poisoning does not always come quickly, however. In a 2002 incident in Oregon, a family dog named Oberon died an agonizingly slow death eight hours after exposure to an M-44.⁸

According to the EPA, sodium cyanide is a Category 1 toxicant – the most acute, due to the imminent harm it poses to the environment and people.⁹ Sodium cyanide is highly

⁶ U.S. Fish & Wildlife Service, *Biological Opinion: Effects of 16 Vertebrate Control Agents on Endangered and Threatened Species* (1993), at II-73 [hereinafter “1993 BiOp”], <https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=94005XK5.txt>.

⁷ 1993 BiOp at II-73.

⁸ Letter from Brooks Fahy, Predator Defense, to Jason Suckow, USDA-APHIS-Wildlife Services, and David E. Williams, Oregon Wildlife Services (Sept. 13, 2018), at 1–2 [hereinafter “2018 Predator Defense Letter”], http://www.predatordefense.org/docs/m44_petition_letter_Oregon_9-13-18.pdf.

⁹ U.S. EPA, *Reregistration Eligibility Decision (R.E.D.) Facts: Sodium Cyanide* (1994), at 2, <https://archive.epa.gov/pesticides/reregistration/web/pdf/3086fact.pdf>.

soluble in water and highly toxic to most aquatic organisms, and as a result, M-44 capsules may not be used within 200 feet of water.¹⁰

Use of M-44s Subject to Restrictions and Bans by the BLM and Several States

According to a 2017 report from Wildlife Services, the program used M-44s to kill canids across 17 states with nearly 50 percent of the use in Texas.¹¹ Since then, Wildlife Services has stopped using them in several states.

According to their 2023 program report, the program used M-44s in ten states: Colorado, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Texas, West Virginia, and Wyoming.¹²

A statewide ban on M-44s went into effect in Oregon in 2020, ORS § 498.048, prompted by outspoken M-44 survivors, physicians, veterinarians, scientists, law enforcement, and other affected parties.¹³ Additionally, Court victories led to temporary restrictions in Colorado, Wyoming, and Idaho.¹⁴ State pesticide regulators in Arizona have also prohibited use of M-44s on public lands.¹⁵

In response to this growing movement, BLM issued a ban prohibiting the use of sodium cyanide by APHIS-Wildlife Services on all BLM-managed lands – 245 million acres – in 2023.¹⁶ In the Information Bulletin on the ban, the agency wrote that the ban followed existing state-level bans and use-limitations and was prompted by recent non-target

¹⁰ 2019 Final Interim Reregistration Decision at 13, 21; *see also* USDA-APHIS, *Wildlife Services Directive WS 2.415 – M-44 Use and Restrictions* (Jan. 25, 2024) [hereinafter “2024 M-44 Use Restrictions”], https://www.aphis.usda.gov/wildlife_damage/directives/pdf/2.415.pdf.

¹¹ USDA-APHIS-Wildlife Services, *Chapter VII: The Use of Sodium Cyanide in Wildlife Damage Management*, in HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT FOR THE USE OF WILDLIFE DAMAGE MANAGEMENT METHODS BY USDA-APHIS-WILDLIFE SERVICES (May 2017), at i, 3 [hereinafter “2017 Risk Assessment”], <https://www.aphis.usda.gov/sites/default/files/7-sodium-cyanide-amended-peer-reviewed.pdf>.

¹² USDA-APHIS-Wildlife Services, *Program Data Report G – 2023, Animals Killed or Euthanized* [hereinafter “2023 PDR-G”], available at: <https://www.aphis.usda.gov/wildlife-services/publications/pdr>.

¹³ 2018 Predator Defense Letter at 1.

¹⁴ The following press releases from the Center for Biological Diversity discuss these legal wins: https://www.biologicaldiversity.org/news/press_releases/2017/wildlife-services-11-06-2017.php (Colorado); <https://biologicaldiversity.org/w/news/press-releases/court-oks-ban-wildlife-cyanide-poisoning-across-10-million-acres-wyoming-2019-08-12/> (Wyoming); <https://biologicaldiversity.org/w/news/press-releases/idaho-court-restricts-wolf-killing-bans-use-m-44-cyanide-bombs-2020-03-11/> (Idaho).

¹⁵ U.S. Fish and Wildlife Service, *Reinitiation of Consultation on the Environmental Protection Agency’s Registration of Sodium Cyanide (M-44) and Sodium Cyanide (insecticide fumigant for citrus)* (Dec. 28, 2021), at 8 [hereinafter “2021 Concurrence”], <https://www.regulations.gov/document/EPA-HQ-OPP-2010-0752-0210>

¹⁶ BLM & USDA-APHIS-Wildlife Services, *Master Memorandum of Understanding Between the U.S. Department of the Interior, Bureau of Land Management, and the U.S. Department of Agriculture, Animal and Plant Health Inspection Services, Wildlife Services* (BLM MOU #: HQ230-2023-05) (2023) [hereinafter “2023 BLM MOU”], https://www.blm.gov/sites/default/files/docs/2024-02/IB2024-024_att1.pdf.

incidents.¹⁷ Prior to the ban, M-44s were not used on Interior Department lands administered by the National Park Service, the U.S. Fish and Wildlife Service, or the Bureau of Reclamation.¹⁸

Proposed Congressional Ban on M-44s

Motivated by a string of tragic incidents involving M-44s, lawmakers have introduced a bill called “Canyon’s Law.”¹⁹ (These incidents, including one involving the namesake of the bill, are described in Section IV below.) Congress has thus far failed to pass this bill, and in the 118th Congress, the bill has been introduced into the Senate and the House of Representatives and referred to committees.²⁰

Language in the Fiscal Year 2024 joint explanatory statement, however, prohibits APHIS-Wildlife Services from using M-44s for Fiscal Year 2024. It provides:

The Secretary is prohibited from purchasing, deploying, or training third parties on the use of M-44 sodium cyanide ejector devices (“M-44s”), including any components or parts, or sodium fluoroacetate (“Compound 1080”), except for activities directly related to the removal of M-44s that have been placed on Federal, Tribal, State and private land.²¹

The proposed language for the Fiscal Year 2025 joint explanatory statement also prohibits APHIS-Wildlife Services from using M-44s for Fiscal Year 2025. It states:

None of the funds appropriated or otherwise made available by this or any other Act may be used to purchase, deploy, or train third parties on the use of M-44 sodium cyanide ejector devices (“M-44s”), including any components or parts, or sodium fluoroacetate (“Compound 1080”), except for activities directly related to the removal of M-44s that have been placed on Federal, Tribal, State and private land.²²

This directive does not impact the use of M-44s by state agricultural agencies, however.

¹⁷ BLM, *Discontinuing the Use of M-44 Devices that Deliver Sodium Cyanide from BLM-managed Public Lands* (IB 2024-024) (Feb. 24, 2024), <https://www.blm.gov/policy/ib-2024-024>.

¹⁸ U.S. Dept. of Interior, *Statement for the Record on H.R. 4951, Canyon’s Law* (July 21, 2022), at 1. [hereinafter “Interior Statement on Canyon’s Law”], <https://www.doi.gov/ocl/pending-legislation-37>.

¹⁹ Canyon’s Law, S. 1940, 118th Cong. (2023-2024), <https://www.congress.gov/bill/118th-congress/senate-bill/1940/text>.

²⁰ *Id.*

²¹ 118th Cong., Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2024 Congressional Directives, [https://docs.house.gov/billsthisweek/20240304/FY24%20Ag%20Conference%20JES%20scan%203.2.24%20\(1\).pdf](https://docs.house.gov/billsthisweek/20240304/FY24%20Ag%20Conference%20JES%20scan%203.2.24%20(1).pdf).

²² 118th Cong., S. 4690 (Report No. 118–193), Title VII, Sec. 766, at 124, https://www.appropriations.senate.gov/imo/media/doc/fy25_ag-fda_bill.pdf.

Numbers of Animals Killed by M-44s

The extent of M-44 use has varied over the years. Wildlife Services reported an annual average “known take” of 13,959 target canids and 362 nontarget animals with M-44s between 2011-2015.²³ Since then, Wildlife Services’ program data reports show approximately 6,000 to 7,500 animals killed annually with M-44s.

Most recently, in 2023, the program used M-44s to intentionally kill 6,148 coyotes, 238 gray foxes, and 35 red foxes; another 121 individuals, mostly foxes, were killed unintentionally that year.²⁴

III. APPROVAL AND USE OF M-44 DEVICES ON USFS LANDS

Although the BLM recently prohibited the use of these dangerous devices on the lands they manage, the USFS has not put bans in place. It appears that M-44s have not been used on National Forest System lands since 2021,²⁵ but USFS has authorized their use as recently as 2022.



Wildlife Services personnel setting an M-44 device.
Photo Credit: U.S. Dept. of Agriculture, Wildlife Services.

²³ 2017 Risk Assessment at i.

²⁴ 2023 PDR-G.

²⁵ Letter from Thomas J. Vilsack, Secretary, United States Department of Agriculture, to Jared Huffman, United States Representative (Apr. 18, 2024).

Forest Service Procedures to Approve Use of M-44s

In 2017, the USFS and Wildlife Services entered into a Memorandum of Understanding (MOU), which sets forth a formal process for coordination of its wildlife damage management program, including use of M-44s.²⁶ Pursuant to the MOU, state offices for Wildlife Services meet with their USFS counterparts to discuss planned wildlife damage management each year and to “consider all applicable non-lethal and lethal methodologies to resolve wildlife damage issues.”²⁷

Under the MOU, Wildlife Services must obtain advance approval from USFS for planned uses of pesticide using the Pesticide Use Proposal (form FS-2100-2); the MOU states that “[p]esticide shall not be used within any [National Forest System] area to control pests without prior concurrence of the U.S. Forest Service.”²⁸ A Pesticide Use Proposal covers a 12-month period of planned use that begins three months after submission.²⁹

The Forest Service Manual (FSM) Chapter 2650 provides detailed procedures for “Animal Damage Control,” which include the procedures for reviewing proposed pesticide uses.³⁰ Section 2150.47 of the FSM reiterates the need for other federal agencies, like Wildlife Services, to receive approval for chemical pest control programs.³¹ Additionally, the USFS may enter cooperative agreements with states to “formulate plans for securing and maintaining desirable populations of wildlife species” on National Forest System lands.³²

The USFS’s discretion to approve use of M-44s on the lands they manage is subject to the Use Restrictions established by the EPA:

The M-44 device must not be used (1) on Federal lands set aside for reactional use, (2) in areas where exposure to the public and family or pets is probable, (3) in prairie dog towns, or (4) in National or State Parks; National or State Monuments; federally-designated wilderness area; and wildlife refuge areas, except that the M-44 device may be used in the areas listed above in (4) only for the protection of Federally designated threatened or endangered species.³³

²⁶ USDA Forest Service & USDA Wildlife Services, *Memorandum of Understanding Between the USDA Animal & Plant Health Inspection Service, Wildlife Services, and the USDA, Forest Service National Forest System* (FS Agreement #: 17-SU-11132422-231) (2017) [hereinafter “2017 MOU”], https://www.umt.edu/media/wilderness/toolboxes/documents/fishWildlifeMgmt/APHIS_17-SU-11132422-231.pdf.

²⁷ *Id.* at 2.

²⁸ *Id.* at 3.

²⁹ *Id.*

³⁰ FSM § 2650 (effective May 4, 1995), <https://www.fs.usda.gov/about-agency/regulations-policies/manual/2650-animal-damage-management>.

³¹ FSM § 2150.47 (effective Mar. 19, 2013), <https://www.fs.usda.gov/about-agency/regulations-policies/manual/2150-pesticide-use-management-and-coordination>.

³² 36 C.F.R. § 241.2.

³³ 2024 M-44 Use Restrictions at 5.

Use and Approval of M-44s on Lands Managed by the Forest Service

To better understand the USFS's authorization and analysis of M-44 use on its lands, the Center for Biological Diversity sent requests under the Freedom of Information Act (FOIA), 5 U.S.C. § 552, to the USFS. The Center requested:

From January 1, 2014, to the date the Forest Service conducts this search, the records in the Forest Service's national database of pesticide use information that were generated in connection to the use of sodium cyanide on Forest Service administered lands; copies of approved "Pesticide Use Proposals" and any associated signed decision document prepared pursuant to the National Environmental Policy Act, 42 U.S.C. §§ 4231- 4370 ("NEPA") for use of sodium cyanide on Forest Service administered lands; [and] a summary report of use of sodium cyanide on Forest Service administered lands in the last two years.³⁴

USFS found no records responsive to that request. That response indicates that no USFS approvals of M-44s have occurred since 2014.

However, the Center for Biological Diversity also requested "annual reports of 'wildlife damage management' from APHIS-Wildlife Services from the last two years."³⁵ In response to this request, USFS provided Wildlife Damage Management Plans from 2014-2022. Those records indicate that the North Dakota Prairie Grasslands, the Northern Region (Region 1) Regional Office, and APHIS-Wildlife Services North Dakota develop a Wildlife Damage Management Work Plan and Pesticide Use Proposal for M-44 devices on annual basis.³⁶

Therefore, it is on our understanding that M-44 devices are approved for use within areas of Region 1 of the National Forest System. Our FOIA request produced no other records showing Pesticide Use Proposals for other regions.

The most recent Pesticide Use Proposal for Region 1 indicates that the specific targets for M-44 devices within the North Dakota Prairie Grasslands are coyote and red fox.³⁷ It also states that "[i]n very rare circumstances, there may be large gas cartridges (sodium nitrate) used in the same area as M-44 devices during denning season."³⁸ M-44 use is reserved for conflicts between predators and cattle.³⁹

³⁴ Letter from David Lytle, Director, Forest Management, Rangelands Management and Vegetation Ecology to Ann K. Brown, Open Government Coordinator, Center for Biological Diversity (File Code 6270: 2020-FS-WO-00940-F) (April 8, 2022).

³⁵ *Id.*

³⁶ U.S. Forest Service & USDA-APHIS-Wildlife Services, *2022 Wildlife Damage Management (WDM) Work Plan and 2021 WDM Summary for the Dakota Prairie Grasslands* (2022) [hereinafter "2022 WDM Plan"].

³⁷ USDA Forest Service Region 1, Pesticide Use Proposal (File Code FS-2100-0002) (February 25, 2021).

³⁸ *Id.* at 1.

³⁹ 2022 WDM Plan.

According to work plans for the North Dakota Prairie Grasslands, M-44 use resulted in the death of 37 coyotes and 1 red fox between 2014 and 2017.⁴⁰ These deaths occurred on adjacent private land, but the M-44 devices were installed by Wildlife Services personnel and approved for use under the Pesticide Use Proposal.

In summary, use of M-44s appears to be minimal on National Forest System lands. Indeed, in a letter to Congressman Jared Huffman in April 2024, Secretary Vilsack asserted that “APHIS has not deployed M-44 devices on NFS lands since 2021.”⁴¹

IV. IMPACTS TO PEOPLE AND COMPANION ANIMALS FROM M-44 DEVICES

M-44s put people and companion animals at unnecessary risk of being severely injured, or even killed. Scientists have estimated that a lethal dose of sodium cyanide for a person weighing approximately 150 pounds is just 0.2 grams.⁴² The contents of one M-44 sodium cyanide capsule weigh 0.97 g with 91.06% active ingredient or 0.88 g sodium cyanide, which far exceeds the lethal dose.⁴³

According to analysis by Wildlife Services, from 1984 to 2015, 42 people were exposed to sodium cyanide.⁴⁴ Of those exposures, 25 involved Wildlife Services employees and 17 involved the public. While no people died immediately after exposure, most incidents required medical treatment with symptoms ranging from chest pains, dizziness, and blisters.⁴⁵ For example:

- In 1994, an Oregon woman was exposed to sodium cyanide after trying to resuscitate her dog Ruby, who died from an M-44 set on her land without her permission. She immediately tasted the poison in her mouth and then felt disorientated. Over the next several months she experienced tingling in her arms and insomnia.⁴⁶
- In 1998, a Texas rancher pulled on what he thought to be just a pipe sticking out of the ground, but was actually an M-44 device that Wildlife Services had set on his property without his permission. When the device exploded, it badly cut and burned his hand. He experienced pain in his hand for several months during the slow healing process.⁴⁷

⁴⁰ *Id.*

⁴¹ Letter from Thomas J. Vilsack, Secretary, U.S. Department of Agriculture, to Jared Huffman, United States Representative (Apr. 18, 2024).

⁴² 2017 Risk Assessment at 14.

⁴³ *Id.* at 22.

⁴⁴ *Id.* at 23.

⁴⁵ *Id.*

⁴⁶ Letter from Amanda Kingsley, Port Townsend, Wash., to Congressman Peter DeFazio, Or. (Jan. 9, 2007), https://www.predatordefense.org/docs/m44_letter_Kingsley_DeFazio_01-09-07.pdf

⁴⁷ Letter from Bill Guerra Addington, Sierra Blanca, Tex., to Congressman Peter DeFazio, Or. (Feb. 11, 2008), https://www.predatordefense.org/docs/m44_letter_Guerro_DeFazio.pdf

- 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. He tasted the poison in his mouth and his wife drove him to the hospital, where he received medical attention.
- 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.
- In May of 2003, an M-44 device exploded and harmed a man who was rock hounding in Uintah County, Utah. His family did not know what hit him because of the lack of warning signs in the area. He immediately experienced disorientation and was unable to speak, and he suffered permanent disability.⁴⁸ His death certificate indicates that cyanide poisoning from an M-44 contributed to his death in 2018.⁴⁹
- In May of 2007, a person spraying for mosquitoes accidentally stepped on a M-44 device. Sodium cyanide sprayed into his eyes, causing burning and irritation, as well as disorientation. He received emergency medical assistance, and several other people, including a county sheriff, came to the scene and were exposed to sodium cyanide.
- In February of 2011, a border patrol agent in Kinney County, Texas, kicked and then tugged at an unknown object, which turned out to be a M-44. The device exploded in his gloved hands, and he called an ambulance, which brought him to the hospital for medical attention.⁵⁰

Several other reported incidents include pesticide applicators, who carry antidotes in case of sodium cyanide exposure:

- In May 2001, an applicator accidentally triggered the device. He experienced temporary blindness in one eye, as well as blisters on his tongue and lips, and went to the emergency room to receive medical attention.
- In January 2002, an applicator tried to cover an M-44 with a concrete block because he knew of hunting dogs in the area. He accidentally triggered the device, and the sodium cyanide powder sprayed him in the face. He flushed his eyes and went to the hospital for medical attention.
- In March 2002, an applicator accidentally triggered an M-44 when he reached into a bucket in his vehicle that held the assembled device. He experienced burning of his eyes and could taste the poison in his mouth, and he drove himself to the emergency room, where he received medical assistance. This incident likely

⁴⁸ Letter from Dorothy Slaugh, Vernal, Utah, to Congressman Peter DeFazio, Or. (Dec. 6, 2006), https://www.predatordefense.org/docs/m44_letter_Slaugh_DeFazio.pdf.

⁴⁹ 2018 Predator Defense Letter, Attachment 1, https://predatordefense.org/docs/m44_death_certificate_Dennis_Slaugh.pdf.

⁵⁰ The Center received documentation of several such incidents in response to a request under FOIA. Incident reports and other documentation are on file with author Collette Adkins.

occurred because he was not properly trained in the safe handling of the devices, as the EPA's Use Restrictions require.⁵¹

- In April 2005, an applicator accidentally triggered the device while installing it and administered the antidote.
- In January 2007, an applicator working on behalf of Wildlife Services in Oklahoma triggered an M-44. He experienced eye irritation and disorientation but was able to administer the antidote and drive himself to the hospital.
- In November 2008, an applicator accidentally triggered the device, and the sodium cyanide capsule hit him in the face. He tasted the poison, administered the antidote, and went to the hospital for medical attention.⁵²
- In 2017, an applicator accidentally triggered the device in Leakey, Texas. He flushed his exposed eye and went to an emergency room. His symptoms included a burning sensation, watery eye, and blurred vision.⁵³

Perhaps the most infamous case of exposure to an M-44 occurred on BLM lands in March of 2017. A 14-year-old boy named Canyon Mansfield and his dog Kasey were poisoned when Canyon unsuspectingly tugged on an M-44 device while hiking just 300 yards behind his home in Pocatello, Idaho.⁵⁴ The boy watched his yellow Labrador retriever Kasey convulse and die within minutes of the device being activated. This incident sparked a public outcry,⁵⁵ leading to a statewide moratorium across Idaho and the introduction of federal legislation to ban the devices on public lands nationwide.

⁵¹ 2024 M-44 Use Restrictions, Attachment 1, at 1.

⁵² Incident reports and other documentation are on file with author Collette Adkins.

⁵³ U.S. EPA, *Sodium Cyanide: Tier I Update Review of Human Incidents and Epidemiology for Draft Risk Assessment* (Aug. 23, 2018), at 4, <https://www.regulations.gov/document/EPA-HQ-OPP-2010-0752-0205>.

⁵⁴ Cristina Corbin, *USDA Must Rethink Cyanide Bombs That Injured Boy, Killed Pets, Lawmaker Says*, FOX NEWS U.S. (Mar. 21, 2017), <http://www.foxnews.com/us/2017/03/21/usda-must-rethink-cyanide-bombs-that-injured-boy-killed-pets-lawmaker-says.html>.

⁵⁵ Sarah V. Schweig, *Family's Dog Was Just Killed By This Tool — And the U.S. Government Put It There*, THE DODO (Mar. 20, 2017), <https://www.thedodo.com/usda-m44-kills-idaho-dog-2322197701.html>; see also Jimmy Tobias, *The secretive government agency planting 'cyanide bombs' across the US*, THE GUARDIAN (June 26, 2020), www.theguardian.com/environment/2020/jun/26/cyanide-bombs-wildfire-services-idaho.



M-44 cyanide capsule, chewed.
Photo Credit: U.S. Dept. of Agriculture, Wildlife Services

The Pocatello incident demonstrates that federal agencies cannot rely on compliance with the EPA’s Use Restrictions to ensure public safety. It cannot be disputed that the M-44 that harmed Canyon Mansfield was placed in an area “where exposure to the public and family or pets is probable.”⁵⁶ That placement also violated a November 2016 pledge by Wildlife Services in Idaho not to use M-44s on public lands in the state.⁵⁷ As for the requirement for conspicuous warning signs,⁵⁸ Canyon Mansfield has explained: “No signs like these were near the cyanide bomb that took my dog away from me.”⁵⁹

Nor did Wildlife Services notify local medical professionals of their intended use of M-44s, as the Use Restrictions require.⁶⁰ Canyon Mansfield’s father, Mark Mansfield, explains: “We didn’t know anything about it. No neighborhood notifications, and our local authorities didn’t know anything about them ... The sheriff deputies who went up there didn’t even know what a cyanide bomb was.”⁶¹

⁵⁶ 2024 M-44 Use Restrictions at 5.

⁵⁷ Elizabeth Suggs, ‘Cyanide Bomb’ that killed dog, poisoned owner placed illegally by Wildlife Services (Mar. 21, 2017), FOX 13 SALT LAKE CITY, <http://fox13now.com/2017/03/21/cyanide-bomb-that-killed-dog-owner-placed-illegally-by-wildlife-services/>.

⁵⁸ 2024 M-44 Use Restrictions at 15.

⁵⁹ Canyon Mansfield, *My Best Friend, Kasey*, PREDATOR DEFENSE (Mar. 20, 2017), https://www.predatordefense.org/docs/m44s_canyons_story.pdf.

⁶⁰ 2024 M-44 Use Restrictions at 16.

⁶¹ Dave Urbanski, *Cyanide device explodes, killing family’s dog. They can’t believe who planted it behind their home*, BLAZE MEDIA (Mar. 21, 2017), <http://www.theblaze.com/news/2017/03/21/cyanide-device-explodes-killing-familys-dog-they-cant-believe-who-planted-it-behind-their-home/>. The Center requested, under FOIA, copies of written materials serving as proof that the required notifications to medical professionals were made in Idaho. Responsive records indicate that Wildlife Services notified Idaho

In another incident, also in March of 2017, M-44s killed two family dogs (Molly and Abby) while the family hiked together on what they understood to be public lands in Wyoming.⁶² That incident not only put the dogs at risk, but also the family members who were exposed to sodium cyanide when they tried to save the dogs by washing them in a creek as they died. Alarming, the children also kissed the dying dogs on the face.

The Wyoming incident shows the ineffectiveness of the requirement to place warning signs. A media report provides that a “few days after the dogs died in Wyoming, [a member of the family] returned to the area, looking for signs they might have missed to warn them of the cyanide traps. He didn’t see any.”⁶³

Moreover, even if Wildlife Services consistently posted signs, as the EPA requires, they cannot prevent nontarget poisoning of animals or others unaware of the written warning. Additionally, signage has attracted curious people wishing to read the signs and then further investigate, bringing them closer to the dangerous devices. There have even been cases where people have tried to remove M-44 devices.

In 2022 alone, Wildlife Services admitted to killing six dogs with M-44s, including two killed unintentionally.⁶⁴ Going back 25 years, data from Wildlife Services shows that as many as 63 domestic dogs have been killed unintentionally – in a single year – with M-44s.⁶⁵ If intentional and unintentional deaths of dogs are combined, as many as 267 dogs were killed by the devices in a single year. Many of these deaths were family dogs running off-leash, and Predator Defense has compiled numerous heart-wrenching stories of families grieving their beloved companions.⁶⁶

Moreover, such deaths have too often occurred on public lands. For example, a family dog named Max died after triggering a M-44 near Fillmore, Utah. The Utah state director of Wildlife Services explained that BLM did not prohibit use of such toxicants, and that placement of the device in that area was left to the discretion of the Wildlife Services agent because BLM failed to identify that area as important to recreationists.⁶⁷

hospitals after the Pocatello incident, in July 2017, and that Wildlife Services has not made these notifications on an annual basis, as the most recent previous notification to Idaho hospitals occurred in 2013.

⁶² Predator Defense, *Wyoming Families Out for Pleasant Walk Lose Two Dogs to M-44 “Cyanide Bomb”* (Mar. 2017), http://www.predatordefense.org/features/m44_WY_Amy_dogs.htm.

⁶³ Kelsey Dayton, *Cyanide bomb kills two Casper dogs*, WYOFILE (Mar. 31, 2017), <http://www.wyofile.com/column/cyanide-bomb-kills-two-casper-dogs/>.

⁶⁴ USDA-APHIS-Wildlife Services, *Program Data Report G – 2022, Animals Killed or Euthanized* [hereinafter “2022 PDR-G”], available at: <https://www.aphis.usda.gov/wildlife-services/publications/pdr/2022>.

⁶⁵ Predator Defense, *USDA Wildlife Services Yearly Summary Statistics of Domestic Dog Killings by M-44s* (Sept. 13, 2018), https://www.predatordefense.org/docs/m44_WS_dog_killings_yearly_statistics.pdf.

⁶⁶ Predator Defense, *Help Us Ban M-44 “Cyanide Bombs,”* <https://www.predatordefense.org/m44s.htm> (last accessed October 11, 2024); see, e.g., Predator Defense, *Federal Trapper Targeted and Killed Dog According to Texas Dept. of Ag* (June 18, 2012), https://www.predatordefense.org/m44s_bella.htm.

⁶⁷ Memo from Michael Bodenchuk, Utah State Director of Wildlife Services, to Barbara Knotz (June 21, 2006), http://www.predatordefense.org/docs/m44_memo_WS_Max_06-21-06.pdf.

Predator Defense has summarized dozens of incidents between 1990 and 2018 where people or pets have been poisoned by M-44s.⁶⁸ As an additional example, in 2000, an Oregon family lost their German shepherd dog Buddy to one of six M-44s set on a Christmas tree farm adjacent to their home, where children frequently played.⁶⁹

The incidents described above occurred primarily on BLM lands; however, because M-44 use is authorized on USFS lands, these tragic situations could occur on USFS lands if the agency does not act.

V. IMPACTS OF M-44 DEVICES ON ENDANGERED WILDLIFE

In a 1993 Biological Opinion that analyzed the impacts of sodium cyanide on endangered wildlife, the U.S. Fish and Wildlife Service (FWS) found that any carrion-feeding animal able to activate the M-44 device is at risk of poisoning.⁷⁰

On December 21, 2021, after EPA imposed additional restrictions on use of M-44s, the EPA made determinations of “may affect, not likely to adversely affect” for 21 listed species of birds, mammals, and reptiles and nine designated critical habitats that may be affected by use of sodium cyanide in M-44 devices.⁷¹

In response to litigation brought by the Center and others, the FWS completed reinitiated consultation on EPA’s effects determination for M-44s. The FWS added a Use Restriction to help protect listed wildlife:

The M-44 devices must only be used in areas where either 1) Federally endangered or threatened species under the Endangered Species Act (“endangered or threatened species”) are not expected to be exposed to the devices or the pesticide contained in the devices, or 2) where site- and/or species-specific measures have been prepared by or in coordination with the U.S. Fish and Wildlife Service (“Service”) that will avoid endangered or threatened species’ exposure to such devices or the pesticide contained in them. At the time of application, each applicator must have in their possession a list of threatened and endangered species (“species list”), not more than 3 months old, from the Service that may be present within the area in which M-44 devices are to be deployed. Species lists and Service points of contact are available through the Information, Planning and Consultation (IPaC) website (<https://ecos.fws.gov/ipac/>). To procure an official species list, the geographic area in which M-44 devices are to be

⁶⁸ Predator Defense, *Featured Incidents of Pet Killings and Human Poisonings Caused by M-44s* (Sept. 13, 2018), https://www.predatordefense.org/docs/m44_incidents_pet_killings_human_poisonings.pdf.

⁶⁹ Predator Defense, *Should our great outdoors be laced with land mines?* (2023), http://www.predatordefense.org/docs/m44_slide_show.pdf

⁷⁰ 1993 BiOp at II-72

⁷¹ U.S. EPA, *Sodium Cyanide and Sodium Fluoroacetate: Effects Determinations for Federally Listed Species for Registration Review* (Dec. 21, 2021), <https://www.regulations.gov/document/EPA-HQ-OPP-2010-0752-0212>.

deployed must be entered into IPaC. Each applicator must ensure that one of the following conditions are met: 1) there are no endangered or threatened species shown on the species list for the area in which M-44 devices are to be deployed that can trigger the device or can scavenge on carcasses impacted by the device; or 2) if endangered and threatened species capable of triggering the device or scavenging on carcasses impacted by the device are shown on the species list, the applicator must also have in their possession written documentation of any appropriate site- and/or species-specific measures that avoid exposure and are prepared by or developed in coordination with the Service.⁷²

With the addition of that Use Restriction, FWS concurred with the EPA's "may affect, not likely to adversely affect" determination for use of M-44s on listed species.⁷³ Here is the list of affected species:

- Birds: Gunnison sage grouse, northern aplomado falcon, whooping crane, California condor, Eskimo curlew, Mexican spotted owl;
- Mammals: Sonoran pronghorn, Mexican wolf, Utah prairie dog, Carolina northern flying squirrel, Gulf Coast jaguarundi, ocelot, Canada lynx, black-footed ferret, jaguar, woodland caribou, Mt. Graham red squirrel, northern Idaho ground squirrel, grizzly bear; and
- Reptiles: Desert tortoise.⁷⁴

Petitioners do not know whether any listed species have been harmed by M-44s since the implementation of the FWS's additional Use Restriction in 2021. Prior to that restriction, registered use of M-44s unintentionally killed a threatened grizzly bear, endangered California condors, endangered wolves, and other species protected under the ESA.

The EPA summarized numerous M-44 incidents involving endangered wildlife in a risk assessment completed in 2018,⁷⁵ and the Center received documentation of numerous incidents from a record request under FOIA.⁷⁶ Here are a few examples:

- In 1978, a threatened grizzly bear in Montana died from an M-44.
- In 1983, an endangered California condor died from an M-44 in Kern County, California, and in 1986, a California condor was found dead near the vicinity of an M-44.⁷⁷
- In 1995, an endangered wolf in the panhandle of Idaho died from an M-44 set for coyotes.

⁷² 2021 Concurrence at 9.

⁷³ *Id.* at 12.

⁷⁴ *Id.* at 3-4.

⁷⁵ 2017 Risk Assessment, Appendix A.

⁷⁶ Incident reports and other documentation are on file with author Collette Adkins.

⁷⁷ 1993 BiOp at II-74.

- In March of 2001, an endangered wolf died from an M-44 in South Dakota.
- In March of 2005, a bald eagle, protected under the ESA at that time, died from an M-44 in McHenry County, North Dakota.
- In January of 2007, two endangered wolves died from M-44s in Idaho near Riggins.
- In December of 2008, an endangered wolf was killed by an M-44 north of Cokeville in Lincoln County, Wyoming.

The amount of federally protected animals killed by M-44s is likely underrepresented here, as these incidents only reflect deaths reported to the EPA. Many killed animals are likely never discovered, as they can die some distance from the M-44 device and some can be scavenged upon, and other animals could be discovered but not reported.

The incidents listed above also do not include protected non-endangered wildlife, such as state-listed or “special concern” species, killed by M-44s. Indeed, from 2011-2015, Wildlife Services reported killing 3 gray wolves, 1 bald eagle, and 2 golden eagles with M-44s.⁷⁸ As just one additional example, a protected wolf was killed in 2017 by an M-44 device in northeastern Oregon.⁷⁹

VI. IMPACTS OF M-44 DEVICES ON OTHER NON-TARGET WILDLIFE

While deaths of endangered wildlife are likely infrequent, the EPA has estimated that almost half of the deaths from M-44s may be nontarget animals like raccoons, foxes, and opossums.⁸⁰

In a 2017 report, Wildlife Services reported that over 24,059 M-44 devices were fired in 17 states between 2011 and 2015. The accidental mortalities verified for this period numbered 362 non-target animals of 26 species. These included 114 racoons, 34 Virginia opossums, 21 striped skunks, 19 swift foxes, and 10 kit foxes among the total counts of unintended mortalities.⁸¹

Most recently, Wildlife Services’ use of M-44s in 2022 unintentionally killed two feral or free-roaming dogs, 112 gray foxes, 16 red foxes, one Virginia opossum, 20 raccoons, and one striped skunk.⁸²

⁷⁸ 2017 Risk Assessment at 3.

⁷⁹ Oregon Dep’t of Fish & Wildlife, ODFW News Releases, *Wolf Dies in Unintentional Take in Northeast Oregon* (Mar. 2, 2017) https://www.dfw.state.or.us/news/2017/03_mar/030217.asp.

⁸⁰ U.S. EPA, *Draft Risk Assessment to Support the Registration Review of Sodium Cyanide* (Sept. 11, 2018), at 4, <https://www.regulations.gov/document/EPA-HQ-OPP-2010-0752-0094>.

⁸¹ *Id.* at 12. A 2018 review of the Incident Data System (IDS), maintained by the EPA’s Office of Pesticide Programs indicated 114 reported ecological incidents associated with the use of M-44 capsules from 1978 to 2017. *Id.* at 11. These incidents represent just a subset of deaths of nontargets, as users need only report “major” incidents to the EPA that involved deaths of five or more animals. *Id.*

⁸² 2022 PDR-G.

Again, such verified deaths almost certainly underestimate the total number of non-target species impacted because the likelihood of locating the carcasses can be small, especially in dense cover. According to the FWS, bird deaths from M-44s are underreported because birds leave the vicinity of an M-44 device within a few seconds of triggering the ejector.⁸³

VII. AVAILABILITY OF ALTERNATIVES TO M-44 DEVICES

Due to the indiscriminate nature of M-44 devices and the hazards they present, many Wildlife Services trappers do not want to use them. A former Wildlife Services trapper, who spent decades supervising employees who used M-44s, explains he could not sleep at night if he had an M-44 out. Many other employees expressed concern to him about their safety.⁸⁴

Not only are M-44s inappropriate for use in modern wildlife management because they are indiscriminate killing devices, but they are not needed because ample viable alternatives exist. Indeed, before adopting a ban on M-44 devices on BLM-managed lands, the Interior Department explained that if M-44s were banned, it would “utilize[e] other allowable tools in efforts to address depredation of livestock and special status species and mitigate damage caused by, and to, wildlife species.”⁸⁵

Numerous nonlethal methods of reducing conflicts with coyotes and other canids exist. For example, fladry (flags tied to ropes or fences), guard animals, range riders, strobe lights, and noisemakers can be used in lieu of M-44s to effectively deter coyotes and other so-called “problem wildlife” from disturbing livestock. Numerous studies have demonstrated the effectiveness of nonlethal methods to protect livestock from predators (e.g., Shivik et al. 2003;⁸⁶ Lance et al. 2010;⁸⁷ Bergstrom 2017;⁸⁸ Stone et al. 2017⁸⁹).

⁸³ 1993 BiOp at II-74.

⁸⁴ Letter to Brooks Fahy, Predator Defense, from Carter Niemeyer, retired District Supervisor, USDA Wildlife Services, Montana, urging ban of M-44s on public lands (Jan. 6, 2024), https://www.predatordefense.org/docs/m44_letter_Niemeyer_01-06-2024.pdf..

⁸⁵ Interior Statement on Canyon’s Law at 1.

⁸⁶ John A. Shivik et al., *Nonlethal Techniques for Managing Predation: Primary and Secondary Repellents*, 17 CONSERV. BIOL. 1531–1537 (2003), available at: https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1266&context=icwdm_usdanwrc.

⁸⁷ N.J. Lance et al., *Biological, technical, and social aspects of applying electrified fladry for livestock protection from wolves (Canis lupus)*, 37 WILDL. RES. 708–714 (2010), available at: https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2257&context=icwdm_usdanwrc.

⁸⁸ Bradley J. Bergstrom, *Carnivore conservation: shifting the paradigm from control to coexistence*, 98 J. MAMMAL. 1–6 (2017), available at: https://www.researchgate.net/publication/312118535_Carnivore_conservation_Shifting_the_paradigm_from_control_to_coexistence.

⁸⁹ Suzanne A. Stone et al., *Adaptive use of nonlethal strategies for minimizing wolf-sheep conflict in Idaho*, 98 J. MAMMAL. 33–44 (2017), available at: https://www.researchgate.net/publication/313875763_Adaptive_use_of_nonlethal_strategies_for_minimizing_Wolf-sheep_conflict_in_Idaho.

Moreover, numerous scientific studies seriously call into question the efficacy of lethal predator control (e.g., Berger 2006;⁹⁰ Harper et al. 2008;⁹¹ Musiani et al. 2003;⁹² Treves et al. 2016;⁹³ Miller et al. 2016;⁹⁴ van Eden et al. 2018;⁹⁵ Ekland et al. 2017;⁹⁶ Lennox et al. 2018;⁹⁷ Elbroch & Treves 2023⁹⁸). For example, in a study based upon a review of 25 years of livestock depredation data, Wielgus and Peebles (2014)⁹⁹ found that with increased predator persecution, livestock losses *increased* in the following year. Additionally, Treves et al. (2016),¹⁰⁰ a meta-review of 24 studies, showed little or no scientific support for the efficacy of killing predators to protect livestock. Just as many livestock are likely to die, or in some cases even more, after predators are killed.

Scientists explain that indiscriminate killing of coyotes disrupts the stability and equilibrium of their social structure, triggering compensatory breeding and an increase in the coyote population.¹⁰¹ For example, juvenile males move in to fill the gaps created by removals of older coyotes; this destabilizes the population and increases the likelihood of predation on livestock.¹⁰²

Moreover, carnivores targeted by M-44s, such as coyotes and foxes, play an essential role in maintaining healthy ecosystems by modulating the numbers of prey populations and

⁹⁰ Kim Murray Berger, *Carnivore-Livestock Conflicts: Effects of Subsidized Predator Control and Economic Correlates on the Sheep Industry*, 20 CONSERV. BIOL. 751–761 (2006).

⁹¹ Elizabeth K. Harper et al., *Effectiveness of Lethal, Directed Wolf-Depredation Control in Minnesota*, 72 J. WILDL. MANAGE. 778–784 (2008), available at: <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1096&context=usgsnpwrc>.

⁹² Marco Musiani et al., *Wolf Depredation Trends and the Use of Fladry Barriers to Protect Livestock in Western North America*, 17 CONSERV. BIOL. 1538–1547 (2003), available at: https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1616&context=icwdm_usdanwrc.

⁹³ Adrian Treves et al., *Predator control should not be a shot in the dark*, 14 FRONT. ECOL. ENVIRON. 380–388 (2016), available at: https://faculty.nelson.wisc.edu/treves/pubs/Treves_Krofel_McManus.pdf.

⁹⁴ Jennifer R. B. Miller et al., *Effectiveness of contemporary techniques for reducing livestock depredations by large carnivores*, 40 WILDL. SOC. BULL. 806–815 (2016).

⁹⁵ Lily M. van Eeden et al., *Carnivore conservation needs evidence-based livestock protection*, 16 PLOS BIOL. e2005577 (2018), available at: <https://doi.org/10.1371/journal.pbio.2005577>.

⁹⁶ Ann Ekland et al., *Limited evidence on the effectiveness of interventions to reduce livestock predation by large carnivores*, 7 SCI. REP. 2097 (2017), available at: <https://www.nature.com/articles/s41598-017-02323-w>.

⁹⁷ Robert J. Lennox et al., *Evaluating the efficacy of predator removal in a conflict-prone world*, 224 BIOL. CONSERV. 277–289 (2018), available at: https://www.researchgate.net/publication/325857871_Evaluating_the_efficacy_of_predator_removal_in_a_conflict-prone_world

⁹⁸ L. Mark Elbroch & Adrian Treves, *Why might removing carnivores maintain or increase risks for domestic animals?* 283 BIOL. CONSERV. 110106 (2023), <https://doi.org/10.1016/j.biocon.2023.110106>.

⁹⁹ Robert B. Wielgus & Kaylie A. Peebles, *Effects of Wolf Mortality on Livestock Depredations*, 9 PLOS ONE e113505 (2014), available at: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0113505>.

¹⁰⁰ Treves et al. (2016) 380–388.

¹⁰¹ See e.g., Letter from Dr. Robert Crabtree, Yellowstone Ecological Research Center (May 17, 2023), http://www.predatordefense.org/docs/coyotes_Crabtree_letter_5-17-2023.pdf (presenting research showing that indiscriminate killing of coyotes results in population booms with consequent increases in livestock and wild ungulate predation).

¹⁰² *Id.*; see also Eric Gese, *Demographic and Spatial Responses of Coyotes to Changes in Food and Exploitation*, in PROCEEDINGS OF THE 11TH WILDLIFE DAMAGE MANAGEMENT CONFERENCE 131 (D.L. Nolte & K.A. Fagerstone eds., 2005) available at: http://digitalcommons.unl.edu/icwdm_wdmconfproc/131.

increasing the health of those populations. Indeed, numerous studies analyze how carnivore removal can cause a wide range of unanticipated, harmful impacts that are often profound, including on native plant communities, wildfire and biogeochemical cycles, the spread of disease or invasive species, and more (e.g., Beschta & Ripple 2009;¹⁰³ Levi et al. 2012;¹⁰⁴ Bergstrom et al. 2013;¹⁰⁵ Bergstrom 2017¹⁰⁶).

While Petitioners do not condone the use of lethal techniques to control predators, even if Wildlife Services and state agencies insist on using lethal methods to target coyotes and other canids, more selective and effective alternatives to M-44s are available. Firearms can be used with relatively minimal risk to people and non-targets if the shooter makes a positive identification before shooting. Traps, such as cage traps, can be used with specifications to reduce non-target capture, and if traps are frequently checked (at least once every 24-hours), non-target animals may often be released without lethal injuries.

An analysis of Wildlife Services' own data demonstrates that alternatives to M-44s are widely used for killing coyotes and other canids. For example, in 2023, Wildlife Services reportedly killed over 68,500 coyotes, and just 6,148 of them were killed using M-44s.¹⁰⁷ In short, given the alternatives to M-44s, their continued use is unjustified.

VIII. LEGAL AUTHORITY TO GRANT PETITION

The Federal Land Policy and Management Act of 1976 (FLPMA), the National Forest Management Act (NFMA), the Multiple Use Sustained Yield Act (MUSY), the Endangered Species Act (ESA), and USFS regulations provide authority to regulate the use of M-44s on USFS-managed lands.

The Federal Land Policy and Management Act

The USFS manages 193 million acres of public lands in the form of national forests and grasslands. The USFS's stewardship of these lands is guided by FLPMA, 43 U.S.C. §§ 1701–1785. As explained below, FLPMA provides the USFS with ample authority and direction to ban M-44s to protect wildlife, outdoor recreation, and other resources and values.

Section 102(a)(8) of FLPMA states that it is the policy of the United States that “the public lands be managed in a manner that will protect the quality of scientific, scenic,

¹⁰³ Robert L. Beschta & William J. Ripple, *Large predators and trophic cascades in terrestrial ecosystems of the western United States*. 142 BIOL. CONSERV. 2401–2414 (2009), available at: <https://www.sciencedirect.com/science/article/abs/pii/S0006320709002584>.

¹⁰⁴ Taal Levi et al., *Deer, predators, and the emergence of Lyme disease*, 109 PNAS 10942–10947 (2012), available at: https://www.researchgate.net/publication/227343689_Deer_Predators_and_the_Emergence_of_Lyme_Disease.

¹⁰⁵ Bradley J. Bergstrom et al., *License to Kill: Reforming Federal Wildlife Control to Restore Biodiversity and Ecosystem Function*, 7 CONSERV. LETT. 131–142 (2014), available at: <https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/conl.12045>.

¹⁰⁶ Bergstrom (2017) 1–6.

¹⁰⁷ 2023 PDR-G.

historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.”¹⁰⁸

USDA regulations expand on this policy – 36 C.F.R. § 219.10 provides that when developing plan components for “integrated resource management” on National Forest System lands, the responsible official shall consider wildlife species and habitat as well as “recreation settings and opportunities.”¹⁰⁹ Regulations also provide that plans for resource management shall consider “reasonably foreseeable risks to ecological sustainability.”¹¹⁰

The use of M-44s to kill coyotes and other canid predators on USFS lands undermines several resources and values that FLPMA and USDA regulations explicitly authorize the USFS to safeguard, such as wildlife and outdoor recreation.

As evidenced above, M-44s have injured people recreating on public lands, including children, and killed their companion animals, such as family dogs. Additionally, M-44s have indiscriminately killed wildlife listed as threatened or endangered under the ESA like grizzly bears, condors, and wolves, and non-target wildlife like racoons, foxes, opossums, and skunks. Because people and their pets would be unsafe while recreating on USFS lands if M-44s were used, the FLPMA policy that public lands “provide for outdoor recreation and human ... use” would be thwarted were M-44s to be used on USFS lands, as they are currently authorized.¹¹¹

Likewise, because endangered, threatened, and non-target wildlife are inadvertently killed on public lands by M-44 use, the FLPMA policy that public lands provide habitat for wildlife, and the regulatory mandate that wildlife be maintained for their ecological value, is deeply undercut. The irreversible harm that results from M-44 use on public lands is contrary to the policy of FLPMA and USDA regulations and disproportionate to the minimal benefits of the devices.

Another one of FLPMA’s foundational policies is that public land management “be on the basis of multiple use and sustained yield unless otherwise specified by law.”¹¹² The Act further mandates that the Secretary, through the USFS, “manage the public lands under principles of multiple use and sustained yield” unless the land “has been dedicated to specific uses according to any other provisions of law.”¹¹³

¹⁰⁸ 43 U.S.C. § 1701(a)(8).

¹⁰⁹ 36 C.F.R. § 219.10(a)(1).

¹¹⁰ *Id.* § 219.10(a)(7).

¹¹¹ 43 U.S.C. § 1701(a)(8).

¹¹² 43 U.S.C. § 1701(a)(7)

¹¹³ *Id.* § 1732(a)

The term “multiple use” means, among other things, “the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people.”¹¹⁴ The USFS manages public lands for many diverse uses including outdoor recreation, watershed protection, fish and wildlife, livestock grazing, timber harvesting, and natural scenic, scientific, historical values, and wilderness preservation.¹¹⁵

Everything the USFS does must comport with the Act’s command to manage public lands for multiple uses. Use of M-44s on public lands is contrary to FLPMA’s tenant of multiple use, as it prioritizes livestock grazing to the exclusion of recreation, fish and wildlife habitat, and the natural scenic value of public lands. In short, because these dangerous devices cannot be placed in areas used by people and wildlife without risk of injury or death, their use defies the multiple use mandate, in violation of FLPMA.

Lastly, the Secretary of Agriculture has the authority, under FLPMA, to promulgate implementing regulations necessary “to carry out the purposes” of the Act.¹¹⁶ Furthermore, Section 303 of FLPMA authorizes the USFS to promulgate and enforce regulations, and establishes the penalties for violations of the regulations.¹¹⁷ Because the established purposes of FLPMA are, among other things, to manage public lands in a way that protects the lands’ ecology, provide habitat for wildlife, and provide spaces for outdoor recreation and use, and M-44 use undermines each of these stated purposes, FLPMA provides the Secretary the authority to promulgate a rule banning the use of M-44s on USFS land.

The National Forest Management Act and Multiple Use Sustained Yield Act

The use of M-44s is inconsistent with the National Forest Management Act (NFMA) and the Multiple Use Sustained Yield Act (MUSY).

NFMA charges the USFS with providing for a “diversity of plant and animal communities.”¹¹⁸ Additionally, MUSY directs USFS to manage the national forests “so that they are utilized in the combination that will best meet the needs of the American people.”¹¹⁹

Pursuant to these statutory responsibilities, the Forest Service has adopted numerous policies in the Forest Service Manual. In direction specific to animal damage management, the Manual requires that “National Forest System resources” “be adequately protected during animal damage management activities authorized by the states and conducted by the states”¹²⁰

¹¹⁴ *Id.* § 1702(c)

¹¹⁵ *Id.*; 36 C.F.R. § 219.10

¹¹⁶ 43 U.S.C. § 1740

¹¹⁷ *Id.* § 1733; *see also* 18 U.S.C. § 3571

¹¹⁸ 16 U.S.C. § 1604(g)(3)(b)

¹¹⁹ *Id.* § 531(a)

¹²⁰ FSM § 2650.3.

Additionally, the USFS, through the Forest Service Manual, has developed a policy to “[r]egulate [national forest] uses to the extent necessary to provide for user and public safety, ... minimize conflict and maximize responsible use.”¹²¹ The USFS has established objectives to “[a]ddress public safety through utilization of appropriate risk management approaches.”¹²² As the Manual acknowledges, these and other statutes also grant the USFS the “authority to manage wildlife” on NFS lands.¹²³

Accordingly, under MUSY’s and NFMA’s mandates and related USFS policy, the Forest Service is required to ensure that national forests may be utilized for wildlife and recreation and that public safety is promoted through risk management methods.

Additionally, USFS regulations require management consistent with direction in forest plans.¹²⁴ The regulations require that each plan contribute to the recovery of federally listed threatened and endangered species and maintain viable populations of existing native and desired non-native vertebrate species on the forest.¹²⁵

Further, USFS regulations also require integrated resource management for multiple uses in forest planning.¹²⁶ Specifically, forest plans must contain components that consider aesthetic values, ecosystem services, fish and wildlife species, habitat and habitat connectivity, recreation setting and opportunities, and wilderness, among others.

As explained in this Petition, predator control using M-44s harms wildlife conservation. It also has the potential to harm recreational opportunities by creating a serious risk to companion animals and users of National Forest System lands. Moreover, M-44 use and signage disrupts the natural character of these lands. These problems appear to conflict with standards and guidelines for wildlife, recreation, and aesthetic values.

Numerous other safer methods exist to address conflicts between predators and livestock, and thus a M-44 ban would help fulfill the multiple use mandate by allowing grazing and other values to coexist on public lands. As the Forest Service Handbook (FSH) states: “[a]voidance of ... unnecessary risk or accident is good risk management.”¹²⁷

¹²¹ FSM § 2350.3 (effective Mar. 31, 2022), available at: https://www.fs.usda.gov/im/directives/fsm/2300/wo_2350-Amend%202022-1_updated.docx.

¹²² FSM § 2302 (effective Dec. 9, 2013), available at: https://www.fs.usda.gov/im/directives/fsm/2300/2300_zero_code.doc.

¹²³ FSM § 2601.1 (effective Oct. 22, 1991), available at: https://www.fs.usda.gov/im/directives/fsm/2600/2600_zero_code.txt. Considering such authority and responsibility, the court has found that “administration” of public lands “includes wildlife management.” *Alaska v. Andrus*, 429 F. Supp. 958, 962 (D. Ala. 1977). Thus, when a wolf-hunting program threatened a caribou herd on BLM land, the court held that FLPMA granted this agency “the power to halt the wolf hunt.” *Id.*

¹²⁴ 36 C.F.R. § 219.15.

¹²⁵ 36 C.F.R. § 219.9(b) (2012); 36 C.F.R. § 219.19 (1982).

¹²⁶ 36 C.F.R. § 19.10(a) (2012).

¹²⁷ FSH § 2109.14_20 - Pesticide-Use Management and Coordination Handbook, Chapter 20 - Risk Assessment, at 13.

The Endangered Species Act

In 1973, Congress enacted the Endangered Species Act to protect threatened and endangered species, as well as the ecosystems upon which they depend.¹²⁸ The Act's stated purpose is to provide a means and program to conserve threatened and endangered species and their ecosystems.¹²⁹ Furthermore, the ESA establishes the policy that "all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of [the Act]."¹³⁰ Under the ESA, "conserve" means "to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary."¹³¹

Additionally, Section 7(a)(1) of the ESA confers an affirmative duty on all federal agencies to conserve all species listed as threatened or endangered. To do so, the ESA mandates that federal agencies "utilize their authorities in furtherance of the purposes" of the ESA "by carrying out programs for the conservation of endangered species and threatened species."¹³² Courts have held that this mandate requires the agency to "do far more than merely avoid the elimination of protected species."¹³³ Rather, it imposes an "affirmative duty to increase [their] population."¹³⁴

The USFS authorization of and acquiescence to M-44 use on its lands is counter to the agency's duty to conserve threatened and endangered species. Because of the devices' indiscriminate nature, their use has led to the death of threatened and endangered species, in contravention of the Act's directive that all federal agencies further the purposes of the ESA by conducting programs that conserve protected species. M-44 use not only fails to conserve protected species, but also leads to their deaths.

Lastly, to protect endangered fish and wildlife species, Section 9 of the ESA prohibits "taking" them.¹³⁵ Under the ESA, "take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in such conduct.¹³⁶ Unless the FWS has authorized such taking, the USFS's ongoing authorization and potential use of M-44s that kill or injure endangered wildlife would violate Section 9 of the ESA.¹³⁷

¹²⁸ 16 U.S.C. § 1531(b).

¹²⁹ *Id.*

¹³⁰ *Id.* § 1531(c)(1).

¹³¹ *Id.* § 1532(3).

¹³² *Id.* § 1536(a)(1).

¹³³ *Defs. of Wildlife v. Andrus*, 428 F. Supp. 167, 170 (D.D.C. 1977); *see also Sierra Club v. Glickman*, 156 F.3d 606, 618 (5th Cir. 1998) (finding that ESA section 7(a)(1) required the U.S. Department of Agriculture to develop its own conservation program for listed species dependent on the Edwards aquifer).

¹³⁴ *Defs. of Wildlife*, 428 F. Supp. at 170.

¹³⁵ 16 U.S.C. § 1538(a)(1)(b). Note that for species that are listed as threatened rather than endangered, the FWS may, but is not required to, extend this take prohibition to the species. 16 U.S.C. § 1533(d).

¹³⁶ *Id.* § 1532(19); *see* 50 C.F.R. § 17.3.

¹³⁷ 16 U.S.C. § 1538(a)(1).

In sum, the Endangered Species Act provides ample authority for the Secretary to promulgate a rule banning the use of M-44s on USFS-managed public lands.

The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) is one of the cornerstones of our nation’s efforts to protect and preserve bald and golden eagles.¹³⁸ Congress enacted the original Bald Eagle Protection Act to protect the bald eagle from extinction due to its national symbolic value of “American ideals of freedom,” as well as its “biological interest.”¹³⁹ The golden eagle was later included in the Eagle Act due to severe declines in its population and its agricultural value in controlling rodent populations.¹⁴⁰

The BGEPA prohibits the take, possession, sale, purchase, barter, transport, export, or import of any bald or golden eagle, or part, nest, or egg thereof.¹⁴¹ The BGEPA broadly proscribes the taking or killing of eagles “at any time or in any manner.”¹⁴² The BGEPA articulates a non-exhaustive list of possible meanings for its take prohibition, including “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.”¹⁴³ Under BGEPA implementing regulations, “disturb” means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”¹⁴⁴

Between the years of 2005 and 2015, at least two bald eagles and two golden eagles were killed by M-44 use on public lands. Because these figures only reflect eagle deaths that have been reported to the EPA, and because bird deaths from M-44 poisoning are thought to be particularly underreported because affected birds usually leave the M-44 site immediately after coming into contact with the ejector, the number of bald and golden eagles killed by M-44s on public lands is likely to be much higher. Overall, the use of M-44 devices on public lands have resulted in unpermitted takes of bald and golden eagles protected under the BGEPA, further warranting the Secretary to promulgate a ban of M-44 use on USFS lands.

¹³⁸ *United States v. Wilgus*, 638 F.3d 1274, 1277–1278 (10th Cir. 2011); *see generally* 16 U.S.C. § 668.

¹³⁹ BGEPA Enacting Clause, Ch. 278 § 1 (June 8, 1940) (Statement of Sen. Gruening: “Whereas the Continental Congress in 1782 adopted the bald eagle as the national symbol; and [...] the bald eagle thus became the symbolic representation of a new nation under a new government in a new world; and [...] the bald eagle is no longer a mere bird of biological interest but a symbol of the American ideals of freedom; ...”). *Id.*

¹⁴⁰ *See* Joint Resolution to Provide Protection for the Golden Eagle, Pub. L. No. 87-884, 76 Stat. 1246 (1962), available at: <https://www.govinfo.gov/content/pkg/STATUTE-76/pdf/STATUTE-76-Pg1246.pdf>.

¹⁴¹ 16 U.S.C. § 668(a).

¹⁴² *Id.*

¹⁴³ *Id.* § 668c; 50 C.F.R. § 22.6.

¹⁴⁴ 50 C.F.R. § 22.6.

IX. PROPOSED REGULATORY LANGUAGE

The Petition requests a rule that would ban use of M-44s on USFS lands. Here is proposed regulatory language for Petition's requested rulemaking:

(a) In General.—Preparing, placing, installing, setting, deploying, or otherwise using an M-44 device on land under the administrative jurisdiction of the USFS is prohibited.

(b) Removal.—Not later than 30 days after promulgation of this regulation, any Federal, State, or county agency that has prepared, placed, installed, set, or deployed an M-44 device on USFS land shall remove each such M-44 device from that land.

(c) Definitions.—The term “M-44 device” means a device designed to propel sodium cyanide when triggered by an animal. It includes any device that may be commonly known as an “M-44 ejector device” or an “M-44 predator control device” or a “cyanide bomb.”

This language could be appropriately included in 36 CFR Part 241 (Fish and Wildlife), 36 CFR Part 222 (Range Management), or elsewhere in the Code of Federal Regulations.

X. CONCLUSION

For all the reasons explained in this Petition, the USFS should ban use of M-44s on the lands they manage. These dangerous devices pose intolerable risks of poisoning people, family pets, endangered species, and other nontarget animals. With numerous effective alternatives for addressing conflicts with wildlife, federal agencies must finally stop littering America's wild places with cruel and unnecessary M-44s.

Copies of the materials supporting this Petition are available at this link:
<https://diversity.box.com/s/tuzec9mornt7js5r6bl0o5lqexqizck>