

To Dept. of the Interior, Bureau of Land Management

PETITION TO BAN USE OF CYANIDE BOMBS



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

June 29, 2023

Authored By:

**Center for Biological Diversity
Predator Defense**

Via Email and U.S. Mail

June 29, 2023

The Honorable Deb Haaland
Secretary
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240
exsec@ios.doi.gov

Tracy Stone-Manning, Director
Bureau of Land Management
1849 C Street NW
Washington, DC 20240
tstonemanning@blm.gov

Brian St. George, Deputy Assistant Director
Resources and Planning
Bureau of Land Management
1849 C Street NW
Washington, DC 20240
bstgeorg@blm.gov

Dear Interior Secretary Haaland, BLM Director Stone-Manning, and BLM Deputy Assistant Director St. George:

The Center for Biological Diversity, Predator Defense and a coalition of 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 Bureau of Land Management (BLM).

As demonstrated by the Petition, M-44s cause injury and death of non-target wildlife, people, and companion animals. Indeed, the Interior Department, in a statement on a bill recently introduced before the U.S. Congress to ban M-44s on public lands, expressed concern “that these devices pose a risk of injury or death to unintended targets, including humans, pets, and threatened and endangered species.”¹

That bill – known as “Canyon’s Law” – was prompted by a horrific incident that occurred on BLM land in Pocatello, Idaho. In 2017, 14-year-old Canyon Mansfield was walking his dog on a hill behind his home when he encountered an M-44 and triggered it, thinking it was a sprinkler head. The device spewed toxic orange cyanide powder that

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

injured Canyon and killed his dog in front of him. Canyon is believed to have been spared death due to the wind's direction.

Sadly, this tragedy is only one of many that have occurred in the past and are likely to occur in the future if these dangerous devices remain in use. Posted signs warning the public about the placement of the devices cannot alleviate the risks because pets, wild animals, and young children do not understand such warning signs.

Moreover, numerous effective, alternative tools to address livestock conflicts exist, eliminating the need for M-44 sodium cyanide capsules 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.

The Interior Department and the BLM should not wait for another tragedy on their lands, nor should they wait on Congress to finally implement a ban on 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,

Collette L. Adkins
Director and Senior Attorney
Carnivore Conservation Program
Center for Biological Diversity
cadkins@biologicaldiversity.org

Brooks Fahy
Executive Director
Predator Defense
brooks@predatordefense.org

On behalf of the following co-petitioners:

Maggie Howell, Executive Director
Wolf Conservation Center
maggie@nywolf.org

Tara Thornton, Deputy Director
Endangered Species Coalition
tthornton@endangered.org

George Wuerthner, Executive Director
Public Lands Media
gwuerthner@gmail.com

Kirk Robinson, Executive Director
Western Wildlife Conservancy
kirk@westernwildlifeconservancy.org

Lynn Okita, Board Chair
Western Wildlife Outreach
lynn@westernwildlife.org

Julian Matthews, Coordinator
Nimiipuu Protecting the Environment
protectingnimiipuu@gmail.com

Dr. Anja Heister
Co-Founder and Board Member
Footloose Montana
info@footloosemontana.org

Kimberly Baker, Executive Director
Klamath Forest Alliance
klam_watch@yahoo.com

Thomas Wheeler, Executive Director
Environmental Protection Information
Center- EPIC
Tom@wildcalifornia.org

Nathan Varley, President
Bear Creek Council
editor@wolftracker.com

Dr. Donald A. Molde, Co-Founder
Nevada Wildlife Alliance
info@nvwildlifealliance.org

Rick Steiner, Founder/Director
Oasis Earth
richard.g.steiner@gmail.com

Lizzy Pennock, Carnivore Coexistence
Attorney
WildEarth Guardians
lpennock@wildearthguardians.org

Kristin Combs, Executive Director
Wyoming Wildlife Advocates
kristin@wyowild.org

Elizabeth Tyson, Programs Director
Born Free USA
liz@bornfreeusa.org

Nancy Warren, Executive Director
National Wolfwatcher Coalition
nancy@wolfwatcher.org

Melissa Amarello, Executive Director
Advocates for Snake Preservation
mel@snakepreservation.org

Allyson Jayne Flagg-Miller, Director
Oregon Cougar Action Team
orecat@yahoo.com

Kate Scott, Co-Founder
Madrean Archipelago Wildlife Center
madreanwildlife@gmail.com

Jonathan Way, Founder and Wildlife
Biologist
Eastern Coyote/Coywolf Research
easterncoyotereseach@yahoo.com

Kathryn Bricker, Executive Director
NoBearHuntNV.org

Trish Swain, Co-Founder
TrailSafe Nevada
info@trailsafe.org

Christine Canaly, Director
San Luis Valley Ecosystem Council
info@slvec.org

Claire Loeb Davis, President
Washington Wildlife First
cldavis@wawildlifefirst.org

Thomas Hollender, President
White Mountain Conservation League
twhollender@gmail.com

Dr. Robert Crabtree, Chief Scientist
Yellowstone Ecological Research Center
crabtree@yellowstoneresearch.org

Jenny DeSarro, Executive Director
Wyoming Untrapped
JennyD@WyomingUNtrapped.org

Camilla Fox, Executive Director
Project Coyote
cfox@projectcoyote.org

John Davis, Executive Director
The Rewilding Institute
john@rewilding.org

Alison Gallensky, Conservation
Geographer, Leadership Team
Rocky Mountain Wild
alison@rockymountainwild.org

Sherry Schenk, Leadership Team
Grand Junction Area Broadband- Great
Old Broads for Wilderness
sherryleeschenk@gmail.com

Betsy Klein, Founder
Plan B to Save Wolves
b@planb.foundation

Dr. Michelle L. Lute, Co-Executive
Director
Wildlife for All
michelle@wildlifeforall.us

Lee First, Twin Harbors Waterkeeper
Twin Harbors Waterkeeper
leefrider7@gmail.com,

Delia G. Malone, Chairperson
ColoradoWild
info@coloradowild.net

Kelly Nokes
Shared Earth Wildlife Attorney
Western Environmental Law Center
nokes@westernlaw.org

Mary Harris, Chair
Roaring Fork Audubon
smnharris@gmail.com

Cristina Hubbard, Executive Director
Forest Web
forestweb.cg@gmail.com

Chris Bachman, Conservation Director
Yaak Valley Forest Council
cbachman@yaakvalley.org

Erik Molvar, Executive Director
Western Watersheds Project
emolvar@westernwatersheds.org

Jennifer Rosado, Field Research
Technician
Maine Wolf Coalition
jennrosado67@gmail.com

Nicholas Cady, Legal Director
Cascadia Wildlands
nick@cascwild.org

Suzanne Asha Stone, Executive Director
The International Wildlife Coexistence
Network
Suzanne@wildlifecoexistence.org

Katie Cleary, President
Peace 4 Animals
katie@peace4animals.net

Clinton Nagel, President
Gallatin Wildlife Association
clint_nagel@yahoo.com

Jennifer Watson, Co-Leader
Great Old Broads for Wilderness
jiwatson54@gmail.com

Denise Boggs Director, Conservation
Congress
denise@conservationcongress-ca.org

Kim Wheeler, Executive Director
Red Wolf Coalition, Inc.
kwheeler@redwolves.com

Michael Garrity, Executive Director
Alliance for the Wild Rockies
wildrockies@gmail.com

Timothy Coleman, Executive Director
Kettle Range Conservation Group
tcoleman@kettlerange.org

Sally Paez, Staff Attorney
New Mexico Wilderness Alliance
sally@nmwild.org

Kari Gunderson, Wilderness Education
and Management Specialist
Montana Wilderness Education School
cnd2543@blackfoot.net

Nancy Ostlie, Volunteer Leader
Great Old Broads for Wilderness,
Bozeman Broadband
nancyostlie@gmail.com

Steph Taylor, President
Speak for Wolves
Info@SpeakforWolves.org

George Nickas, Executive Director
Wilderness Watch
gnickas@wildernesswatch.org

Michael Dotson, Executive Director
Klamath Siskiyou Wildlands Center
michael@kswild.org

Maureen Hackett, Founder
Howling For Wolves
hackett@howlingforwolves.org

R. Brent Lyles, Executive Director
Mountain Lion Foundation
blyles@mountainlion.org

Jim Miller, President
Friends of the Bitterroot
news@friendsofthebitterroot.net

Emma Helverson, Executive Director
Wild Fish Conservancy
emma@wildfishconservancy.org

Paula Ficara, Executive Director
Apex Protection Project
paula@apexprotectionproject.org

Wally Sykes, Co-Founder
Northeast Oregon Ecosystems
wally_sykes2000@yahoo.com

Mary Fleischmann, Leader
Central Oregon Bitter Brush Broads
Chapter/ Great Old Broads for
Wildernessmaryriverwoman@bendcable
.com

Danielle Moser, Wildlife Program
Manager
Oregon Wild
dm@oregonwild.org

Fred Starzyk, Government Affairs
The #RelistWolves Campaign
fstarzyk@starzykassociatesllc.com

Sally Compton, Executive Director
Think Wild
sally@thinkwildco.org

Bonnie Rice, National Wildlife
Campaign Manager
Sierra Club
bonnie.rice@sierraclub.org

KC York, President/Founder
Trap Free Montana, Inc.
info@trapfreemt.org

Nicholas Arrivo, Managing Attorney
The Humane Society of the United
States
narrivo@humanesociety.org

Beatrice M. Friedlander, President,
Board of Directors
Attorneys for Animals, Inc.
beefriedlander@yahoo.com

Christine Schadler, Director
New Hampshire Wildlife Coalition
nhcoyotes@gmail.com

Ericca Gandolfo, Policy Advisor
Animal Welfare Institute
ericca@awionline.org

Alicia Prygoski, Strategic Legislative
Affairs Manager
Animal Legal Defense Fund
aprygoski@aldf.org

Brianna DelDuca, Regulatory Specialist
Humane Society Legislative Fund
bmdelduca@hslf.org

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 Interior Department and the BLM use their legal authorities to prohibit use of M-44 sodium cyanide capsules on lands managed by the BLM.

II. M-44 DEVICES AND OVERVIEW OF THEIR USE

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.²

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 proposal³ asked the EPA to ban M-44s, according to analysis from the Center for Biological Diversity and Western Environmental Law Center.⁴

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.⁵ The Use Restrictions include measures such as buffers along roads, erection of signs, and mandatory applicator training.⁶

² U.S. EPA, *Sodium Cyanide: Interim Registration Review Decision*, Case Number 8002 (Dec. 2019), <https://downloads.regulations.gov/EPA-HQ-OPP-2010-0752-0207/content.pdf> [hereinafter “2019 Final Interim Reregistration Decision”].

³ 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>.

⁴ 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/.

⁵ See e.g., Label for EPA Registration No. 56228-15 (“Users of this product must follow all requirements of product labeling, including but not limited to, all Use Restrictions, Directions for Use, Precautionary Statements, first aid and antidotal measures, information on endangered species, requirements for posting warning signs, and Storage and Disposal instructions.”). See also the labels for EPA Registration No. 35975-2, EPA Registration No. 39508-1, EPA Registration No. 13808-8, EPA Registration No. 33858-2, and EPA Registration No. 35978-1.

⁶ 2019 Final Interim Reregistration Decision, Appendix A.

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 Wyoming Dept. of Agriculture (No. 35978-1), Montana Dept. of Agriculture (No. 35975-2), New Mexico Dept. of Agriculture (No. 39508-1), Texas Dept. of Agriculture (No. 33858-2), and South Dakota Dept. of Agriculture (No. 13808-8).

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.⁷ That leads to central nervous system depression, cardiac arrest, and respiratory failure.⁸

⁷ 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>.

⁸ 1993 BiOp at II-73.

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-44.⁹

Sodium cyanide is a Category 1 toxicant according to the EPA: the most acute, due to the imminent harm it poses to the environment and people.¹⁰ Sodium cyanide is highly 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.¹¹

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.¹² Since then, Wildlife Service has stopped using them in several states. 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 prohibited use of M-44s on public lands, and none have been used on private lands in the past five years.¹⁵

According to the most recent data compiled by Wildlife Services, Wildlife Services in 2022 used M-44s in ten states: Colorado, Montana, Nebraska, Nevada, New Mexico,

⁹ 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

¹⁰ 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>.

¹¹ 2019 Final Interim Reregistration Decision at 13, 21; *see also* USDA Animal & Plant Health Inspection Service, *WS Directive 2.415, M-44 Use and Restrictions* (May 14, 2020) [hereinafter “2020 M-44 Use Restrictions”],

https://www.aphis.usda.gov/wildlife_damage/directives/pdf/2.415.pdf.

¹² USDA Wildlife Services, *Human Health and Ecological Risk Assessment for the Use of Wildlife Damage Management Methods by APHIS-Wildlife Services* (May 2017), at i, 3 [hereinafter “2017 Risk Assessment”].

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. 2021), at 8 [hereinafter “2021 Concurrence”], <https://www.regulations.gov/document/EPA-HQ-OPP-2010-0752-0210>

North Dakota, Oklahoma, Texas, West Virginia, and Wyoming.¹⁶ Use remained the highest in Texas, according to that 2022 data.

The extent of M-44 use has varied over the years.¹⁷ The program in 2022 used M-44s to intentionally kill 5,514 coyotes, four feral or free-roaming dogs, 364 gray foxes, and 48 red foxes. Another 150 individuals, mostly foxes, were killed unintentionally that year.¹⁸

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

M-44s are not used on Interior Department lands administered by the National Park Service, the U.S. Fish and Wildlife Service, or the Bureau of Reclamation.¹⁹ The BLM is the only agency within the Interior Department that continues to use these dangerous devices.

The BLM and Wildlife Services have entered a Master Memorandum of Understanding (MOU), which sets forth a formal process for coordination of its wildlife damage management, including use of M-44s.²⁰ Pursuant to the 2020 MOU, state offices for Wildlife Services meet with their BLM counterparts to discuss planned wildlife damage management each year.

¹⁶ USDA Wildlife Services, *Program Data Report G – 2022, Animals Killed or Euthanized*, https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G_Report&p=2022:INDEX: [hereinafter “2022 PDR-G”].

¹⁷ Wildlife Services reported an annual average “known take” of 13,959 target canids and 362 nontarget animals with M-44s between 2011-2015. 2017 Risk Assessment at i. Since then, Wildlife Services’ program data reports show approximately 6,000 to 7,500 animals killed annually with M-44s.

¹⁸ 2022 PDR-G.

¹⁹ Interior Statement on Canyon’s Law at 1.

²⁰ BLM and USDA Wildlife Services, *Master Memorandum of Understanding*, APHIS MOU #: 20-7100-0454-MU (2020), <https://downloads.regulations.gov/APHIS-2021-0001-0007/content.pdf> [hereinafter “2020 MOU”].



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

Under the MOU, Wildlife Services also provides “a chemical application notification to the local BLM Field and/or District Office prior to use of U.S. Environmental Protection Agency (EPA) restricted-use pesticides such as DRC-1339 and M44s.”²¹ The MOU requires that the BLM respond within 72 hours to the notification and identify any issues with the planned chemical application. Wildlife Services and the BLM review the status of submitted or anticipated chemical applications at the annual meetings. The BLM may also enter cooperative agreements with states to govern “animal damage management.” 43 C.F.R. § 24.6.

Additionally, BLM Manual Section 6830 provides detailed procedures for “Animal Damage Control.”²² According to that manual, BLM State Directors may authorize Wildlife Services use of M-44s on the public lands subject to the restrictions established by the EPA. This authority may be redelegated to District Managers. The BLM Manual provides:

If a chemical is involved, the proposal must be sent to the W0-230 on a Pesticide Use Proposal (see BLM Manual Section 9011). After this WO review, the chemical control project must be incorporated into the ADC plan. The BLM must be notified each time chemical toxicants are used to enable it to answer any questions regarding the use of such toxicants in the

²¹ 2020 MOU at 5.

²² BLM, *Animal Damage Control*, BLM MANUAL § 6830 (Aug. 1988), <https://www.blm.gov/sites/blm.gov/files/6830.pdf>.

target area.²³

BLM Manual Section 9011 reiterates the need for other federal agencies, like Wildlife Services, to receive approval for chemical pest control programs.²⁴ It provides:

If the control work is accomplished by another Federal Agency, that agency must provide information for submission of a Pesticide Use Proposal (PUP) (see Illustration 1 in H-9011-1, Pesticide Use Proposal) and receive the approval of the Authorized BLM official.... Those agencies, lessees, cooperators, and other authorized land users may be subject to punitive measures by failure to submit such proposals. Upon completion of an application of a pesticide, a Pesticide Application Record must be completed within 24 hours (See Illustration in H-9011-1). This record must be kept for 10 years in project files.

BLM policies require environmental analysis prior to authorization of chemical pest control, such as the sodium cyanide used in M-44s. For example, the BLM Handbook provides that the agency must “[w]eigh the benefits of control against the negative environmental, economic, and social ramifications that may incur.”²⁵

To understand BLM’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 BLM headquarters, as well as several BLM districts, including the Wyoming state office, New Mexico state office, and Carlsbad field office. The Center requested:

From January 1, 2017 to the date the BLM conducts this search, the copies of approved “Pesticide Use Proposals” for use of M-44s or sodium cyanide, and all signed decision records prepared pursuant to the National Environmental Policy Act (“NEPA”) or the Endangered Species Act (“ESA”) for use of sodium cyanide on BLM administered lands.²⁶

²³ *Id.* at § 6830.45(F)(3). The BLM’s Pesticide Use Proposal form is available here: <https://www.blm.gov/sites/blm.gov/files/documents/files/BLM%20PUP%20Form%20Final.pdf>.

²⁴ BLM, *Chemical Pest Control*, BLM MANUAL § 9011 (Nov. 1992), <https://www.ntc.blm.gov/krc/uploads/1122/9011%20-%20Chemical%20Pest%20Control%20Manual.doc>. See also BLM, *Chemical Pest Control*, BLM MANUAL § H-9011-1 (May 1988), <https://www.ntc.blm.gov/krc/uploads/1122/H-9011-1%20-%20Chemical%20Pest%20Control%20Handbook.doc> [hereinafter “H-9011-1”].

²⁵ H-9011-1 at I-1.

²⁶ The Center’s three requests for records under FOIA and the BLM’s two responses are on file with C. Adkins.

Although the Center has not yet received a response to its request to headquarters, the three district/field offices issued “no records” responses.

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

M-44s put people and companion animals unnecessarily at 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.²⁷ The contents of one M-44 sodium cyanide capsule weigh 0.97 g with 91.06% active ingredient or 0.88 g sodium cyanide.²⁸

According to analysis by Wildlife Services, from 1984 to 2015, 42 people were exposed to sodium cyanide.²⁹ 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.³⁰ 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.³¹
- 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.³²
- 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.

²⁷ 2017 Risk Assessment at 14.

²⁸ *Id.* at 22.

²⁹ *Id.* at 23.

³⁰ *Id.*

³¹ 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

³² 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 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.³³ His death certificate indicates that cyanide poisoning from an M-44 contributed to his death in 2018.³⁴
- 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.³⁵

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

³³ Letter from Dorothy Slaugh, Vernal, Utah, to Congressman Peter DeFazio, Or. (Dec. 6, 2006), https://www.predatordefense.org/docs/m44_letter_Slaugh_DeFazio.pdf.

³⁴ 2018 Predator Defense Letter, Attachment 1, https://predatordefense.org/docs/m44_death_certificate_Dennis_Slaugh.pdf.

³⁵ 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.³⁶

- 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.³⁷
- 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 burning sensation, watery eye, and blurred vision.³⁸

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.³⁹ The boy watched his yellow Labrador retriever Kasey convulse and die within minutes of the device being activated. This incident sparked a public outcry,⁴⁰ leading to a statewide moratorium across Idaho and the introduction of federal legislation to ban the devices on public lands nationwide.

³⁶ 2020 M-44 Use Restrictions, Attachment 1, at 1.

³⁷ Incident reports and other documentation are on file with author Collette Adkins.

³⁸ 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>.

³⁹ 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>.

⁴⁰ 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 the BLM 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.”⁴¹ (That placement also violated a November 2016 pledge by Wildlife Services in Idaho not to use M-44s on public land in Idaho.⁴²). As for the requirement for conspicuous warning signs,⁴³ Canyon Mansfield has explained: “No signs like these were near the cyanide bomb that took my dog away from me.”⁴⁴

Nor did Wildlife Services notify local medical professionals of their intended use of M-44s, as the Use Restrictions require.⁴⁵ 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.”⁴⁶

⁴¹ 2020 M-44 Use Restrictions at 3.

⁴² 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/>.

⁴³ 2020 M-44 Use Restrictions at 11.

⁴⁴ Canyon Mansfield, *My Best Friend, Kasey*, PREDATOR DEFENSE (Mar. 20, 2017), https://www.predatordefense.org/docs/m44s_canyons_story.pdf.

⁴⁵ 2020 M-44 Use Restrictions at 11.

⁴⁶ 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->

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.⁴⁷ 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.

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.”⁴⁸

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 might sometimes attract people wishing to read the sign and then further investigate, bringing them closer to the dangerous devices.

In 2022 alone, Wildlife Services admitted to killing six dogs with M-44s, including two killed unintentionally.⁴⁹ 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.⁵⁰ 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.⁵¹

[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 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.

⁴⁷ 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.

⁴⁸ Kelsey Dayton, *Cyanide bomb kills two Casper dogs*, WYOFILE (Mar. 31, 2017),

<http://www.wyofile.com/column/cyanide-bomb-kills-two-casper-dogs/>.

⁴⁹ 2022 PDR-G

⁵⁰ 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.

⁵¹ Predator Defense, *Help Us Ban M-44 “Cyanide Bombs,”*

<https://www.predatordefense.org/m44s.htm> (last accessed May 31, 2023); *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.

Moreover, such deaths have too often occurred on public lands managed by the BLM. For example, a family dog named Max died after triggering a M-44 on BLM land 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.⁵²

Predator Defense has summarized dozens of incidents, between 1990 and 2018, where people or pets have been poisoned by M-44s.⁵³ 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.⁵⁴

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.⁵⁵ For that reason, FWS placed additional restrictions on use of M-44s to try to reduce the risk to wildlife protected under the Endangered Species Act (ESA).

In its 1994 Reregistration Eligibility Decision (RED) pertaining to the use of sodium cyanide capsules in M-44 ejectors, the EPA concluded that the M-44 did not pose unreasonable risks to humans or the environment if used in accordance with the 26 Use Restrictions listed on the label, plus additional language determined by the FWS to be needed to protect endangered species likely to be jeopardized by use of M-44s.⁵⁶

On December 21, 2021, after changes were subsequently made to the EPA's action in the form of label changes containing additional restrictions, 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.⁵⁷

⁵² 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.

⁵³ 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.

⁵⁴ Predator Defense, *Should our great outdoors be laced with land mines?* (2023), http://www.predatordefense.org/docs/m44_slide_show.pdf

⁵⁵ 1993 BiOp at II-72

⁵⁶ *Id.*

⁵⁷ 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>.

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 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.⁵⁸

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.⁵⁹ 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.⁶⁰

⁵⁸ 2021 Concurrence at 9.

⁵⁹ *Id.* at 12.

⁶⁰ *Id.* at 3-4.

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 incidents involving endangered wildlife in a risk assessment completed in 2018,⁶¹ and the Center received documentation of numerous incidents from a record request under FOIA.⁶² 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-44.⁶³
- In 1995, an endangered wolf in the panhandle of Idaho died from an M-44 set for coyotes.
- 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.⁶⁴ As just one additional example, a protected wolf was killed in 2017 by an M-44 device in northeastern Oregon.⁶⁵

⁶¹ 2017 Risk Assessment, Appendix A.

⁶² Incident reports and other documentation are on file with author Collette Adkins.

⁶³ 1993 BiOp at II-74.

⁶⁴ 2017 Risk Assessment at 3.

⁶⁵ 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.

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

While deaths of endangered wildlife are infrequent, the EPA has estimated that almost half of the deaths from M-44s may be nontarget animals like raccoons, foxes, and opossums.⁶⁶

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.⁶⁷

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.⁶⁸

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.⁶⁹

VII. AVAILABILITY OF ALTERNATIVES TO M-44 DEVICES

M-44s are indiscriminate killing devices that are not needed in modern wildlife management because ample viable alternatives currently exist. Indeed, the Interior Department has 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.”⁷⁰ The Interior Department further explained in its statement on “Canyon’s Law” that it has “no technical objections” to a ban on M-44s on public lands.⁷¹

⁶⁶ 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> [hereinafter “2018 Draft Risk Assessment”].

⁶⁷ 2018 Draft Risk Assessment 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.*

⁶⁸ USDA Wildlife Services, *2022 Program Data Reports G*, available at https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_reports/sa_pdrs/pdr-reports-2022 (last visited May 30, 2023) [hereinafter “2022 Program Data Reports”].

⁶⁹ 1993 BiOp at II-74.

⁷⁰ Interior Statement on Canyon’s Law at 1.

⁷¹ *Id.*

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;⁷² Lance et al. 2010;⁷³ Bergstrom 2017;⁷⁴ Stone et al. 2017⁷⁵).

Moreover, numerous scientific studies seriously call into question the efficacy of lethal predator control (e.g., Berger 2006;⁷⁶ Harper et al. 2008;⁷⁷ Musiani et al. 2003;⁷⁸ Treves et al. 2016;⁷⁹ Miller et al. 2016;⁸⁰ van Eden et al. 2018;⁸¹ Ekland et al. 2017;⁸² Lennox et

⁷² John A. Shivik et al., *Nonlethal Techniques for Managing Predation: Primary and Secondary Repellents*, 17 CONSERV. BIOL. 1531–1537 (2003), <http://wscinfof.dreamhosters.com/wp-content/uploads/SHIVAKNon-Lethal.pdf>.

⁷³ 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), https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2257&context=icwdm_usdan_wrc.

⁷⁴ Bradley J. Bergstrom, *Carnivore conservation: shifting the paradigm from control to coexistence*, 98 J. MAMMAL. 1–6 (2017), https://www.researchgate.net/publication/312118535_Carnivore_conservation_Shifting_the_paradigm_from_control_to_coexistence.

⁷⁵ Suzanne A. Stone et al., *Adaptive use of nonlethal strategies for minimizing wolf-sheep conflict in Idaho*, 98 J. MAMMAL. 33–44 (2017), https://www.researchgate.net/publication/313875763_Adaptive_use_of_nonlethal_strategies_for_minimizing_Wolf-sheep_conflict_in_Idaho

⁷⁶ Kim Murray Berger, *Carnivore-Livestock Conflicts: Effects of Subsidized Predator Control and Economic Correlates on the Sheep Industry*, 20 CONSERV. BIOL. 751–761 (2006), <https://conbio.onlinelibrary.wiley.com/doi/10.1111/j.1523-1739.2006.00336.x>

⁷⁷ Elizabeth K. Harper et al., *Effectiveness of Lethal, Directed Wolf-Depredation Control in Minnesota*, 72 J. WILDL. MANAGE. 778–84 (2008), <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1096&context=usgsnpwrc>

⁷⁸ 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), https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1616&context=icwdm_usdan_wrc

⁷⁹ Adrian Treves et al., *Predator control should not be a shot in the dark*, 14 FRONT. ECOL. ENVIRON. 380–388 (2016), https://faculty.nelson.wisc.edu/treves/pubs/Treves_Krofel_McManus.pdf

⁸⁰ Jennifer R. B. Miller et al., *Effectiveness of contemporary techniques for reducing livestock depredations by large carnivores*, 40 WILDL. SOC. BULL. 806–815 (2016), <https://wildlife.onlinelibrary.wiley.com/doi/abs/10.1002/wsb.720>.

⁸¹ Lily M. van Eeden et al., *Carnivore conservation needs evidence-based livestock protection*, 16 PLOS BIOL. e2005577 (2018), <https://doi.org/10.1371/journal.pbio.2005577>

al. 2018;⁸³ Elbroch and Treves 2023⁸⁴). For example, in a study based upon a review of 25 years of livestock depredation data, Wielgus and Peebles (2014)⁸⁵ found that with increased predator persecution, livestock losses *increased* in the following year. Additionally, Treves et al. (2016),⁸⁶ 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.⁸⁷ 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.⁸⁸

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 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

⁸² Ann Eklund et al., *Limited evidence on the effectiveness of interventions to reduce livestock predation by large carnivores*, 7 SCI. REP. 2097 (2017), <https://www.nature.com/articles/s41598-017-02323-w>

⁸³ Robert J. Lennox et al., *Evaluating the efficacy of predator removal in a conflict-prone world*, 224 BIOL. CONSERV. 277–289 (2018), https://www.researchgate.net/publication/325857871_Evaluating_the_efficacy_of_predator_removal_in_a_conflict-prone_world

⁸⁴ 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>.

⁸⁵ Robert B. Wielgus & Kaylie A. Peebles, *Effects of Wolf Mortality on Livestock Depredations*, 9 PLOS ONE e113505 (2014), <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0113505>.

⁸⁶ Treves et al., *Predator control*, 14 FRONT. ECOL. ENVIRONMENT 380-388 (2016).

⁸⁷ See e.g., Letter from Dr. Robert Crabtree, Yellowstone Ecological Research Center (May 17, 2023), available at 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).

⁸⁸ *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) http://digitalcommons.unl.edu/icwdm_wdmconfproc/131;

cycles, the spread of disease or invasive species, and more (e.g. Beschta and Ripple 2009,⁸⁹ Levi et al. 2012,⁹⁰ Bergstrom et al. 2013;⁹¹ Bergstrom 2017⁹²).

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 2022, Wildlife Services reportedly killed over 56,000 coyotes, and just 5,514 of them were killed using M-44s.⁹³ In short, given the alternatives to M-44s, their continued use is unjustified.

X. LEGAL AUTHORITY TO GRANT PETITION

The Federal Land Policy and Management Act

The BLM manages more than 245 million acres of public lands, roughly one-tenth of the Nation's landmass. The BLM's stewardship of these lands is guided by the Federal Land Policy and Management Act of 1976 ("FLPMA"), 43 U.S.C. §§ 1701–1785. FLPMA is the BLM's organic act, and it establishes the agency's mission to manage public lands. As explained below, FLPMA provides the BLM 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, 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

⁸⁹ 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), <https://www.sciencedirect.com/science/article/abs/pii/S0006320709002584>

⁹⁰ Taal Levi et al., *Deer, predators, and the emergence of Lyme disease*, 109 PNAS 10942–10947 (2012), https://www.researchgate.net/publication/227343689_Deer_Predators_and_the_Emergence_of_Lyme_Disease

⁹¹ Bradley J. Bergstrom et al., *License to Kill: Reforming Federal Wildlife Control to Restore Biodiversity and Ecosystem Function*, 7 CONSERV. LETT. 131–142 (2014), <https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/conl.12045>

⁹² Bergstrom, *Carnivore conservation*, 98 J. MAMMAL. 1–6 (2017).

⁹³ 2022 Program Data Reports.

and domestic animals; and that will provide for outdoor recreation and human occupancy and use.” *Id.* § 1701(a)(8).

Department of the Interior (“DOI”) regulations expand on this policy, and 43 C.F.R. § 24.1(b) specifically provides that DOI policy and actions must protect wildlife on public lands: “The Secretary of the Interior reaffirms that fish and wildlife must be maintained for their ecological, cultural, educational, historical, aesthetic, scientific, recreational, economic, and social values to the people of the United States, and that these resources are held in public trust by the Federal and State governments for the benefit of present and future generations of Americans.” 43 C.F.R. § 24.1(b).

The use of M-44s to kill coyotes and other canid predators on BLM lands undermines several resources and values that FLPMA and DOI regulations explicitly authorize the BLM to safeguard, such as wildlife habitat, outdoor recreation, and wildlife itself. As evidenced above, M-44s have injured people recreating on BLM 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 raccoons, as well as non-target species of foxes, opossums, and skunks. Because people and their pets are unsafe while recreating on BLM lands, the FLPMA policy that public lands “provide for outdoor recreation and human . . . use” is thwarted. 43 U.S.C. § 1701(a)(8). 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 BLM lands is contrary to the policy of FLPMA and Interior Department 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.” *Id.* § 1701(a)(7). The Act further mandates that the Secretary, through the BLM, “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.” *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.” *Id.* § 1702(c). The BLM manages public lands for many diverse uses including outdoor recreation, watershed protection, fish and wildlife, livestock grazing, timber harvesting, mineral production, occupancy, and natural scenic, scientific, and historical values like wilderness preservation. *Id.*; 43 C.F.R. § 2420.1. BLM multiple use land management regulations further specify that public lands should be retained by the Federal Government and managed for multiple uses if classifying the land as such “[f]urther[s] the objectives of Federal natural resource legislation directed, among other things towards . . . [p]rovision of needed recreation, conservation, and scenic areas and open space and assurance of adequate outdoor recreation resources for present and future generations of Americans.” 43 C.F.R. § 2420.2(b)(5).

Everything the BLM does must comport with the Act’s command to manage public lands for multiple uses. Ongoing 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.

BLM grazing regulations further support the argument that FLPMA authorizes the Secretary to promulgate a rule banning the use of M-44s on BLM land. Part 4100 of the BLM grazing regulations outlines the objectives of the regulations, which include, among other things, promoting healthy sustainable rangeland ecosystems, and establishing efficient and effective administration of grazing of public rangelands. 43 C.F.R. § 4100.0-2(a). Additionally, the regulations require that their objectives “be realized in a manner consistent with . . . multiple use, . . . environmental values, [and] economic and other objectives stated in the . . . Federal Land Policy and Management Act of 1976.” 43 C.F.R. § 4100.0-2(b). 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.

Lastly, the Secretary of the Interior has the authority, under FLPMA, to promulgate implementing regulations necessary “to carry out the purposes” of the Act. 43 U.S.C. § 1740; *see also* 43 C.F.R. § 24.4(c). Furthermore, Section 303 of FLPMA authorizes the BLM to promulgate and enforce regulations and establishes the penalties for violations of the regulations. 43 U.S.C. § 1733; *see also* 18 U.S.C. § 3571. 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-44s use undermines each of these stated purposes, FLPMA provides the Secretary the authority to promulgate a rule banning the use of M-44s on BLM land.

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. 16 U.S.C. § 1531(b). The Act’s stated purpose is to provide a means and program to conserve threatened and endangered species and their ecosystems. *Id.* 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].” *Id.* § 1531(c)(1). 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.” *Id.* § 1532(3).

Prior to the FWS’s implementation of additional M-44 use restrictions in 2021, M-44 use on BLM-managed public lands caused the deaths of a threatened grizzly bear,

endangered California condors, endangered wolves, and other species protected under the ESA. The number of ESA-protected animals killed by M-44s on BLM land (birds, in particular) is likely underrepresented, as the current data on M-44 related kills only reflects that which is reported to the EPA. The use of M-44s and the resultant deaths of threatened and endangered species are inconsistent with the ESA's charge that the BLM, as a federal agency, must seek to conserve endangered and threatened species and protect the environments upon which they depend.

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." *Id.* § 1536(a)(1). Courts have held that this mandate requires the agency to "do far more than merely avoid the elimination of protected species."⁹⁴ Rather, it imposes an "affirmative duty to increase [their] population."⁹⁵ Section 7(a)(1) also dictates that the Secretary of the Interior "shall review" programs administered by the Interior Department and utilize those programs in furtherance of the purposes of the ESA. *Id.*; see 50 C.F.R. § 402.01 (2023).

The BLM's authorization of and acquiescence to M-44 use on its lands is counter to the agency's affirmative duty to conserve threatened and endangered species, as dictated by ESA Section 7(a)(1). 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 does not only fail to conserve protected species, but it also leads to their deaths.

Lastly, to protect endangered fish and wildlife species, Section 9 of the ESA prohibits "taking" them.⁹⁶ 16 U.S.C. § 1538(a)(1)(b). 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. *Id.* § 1532(19); see 50 C.F.R. § 17.3. Unless the U.S. Fish and Wildlife Service has authorized such taking, the BLM's ongoing authorization or use of M-44s that kills or injures endangered wildlife would violate Section 9 of the ESA. 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 BLM-managed public lands.

⁹⁴ *Def. 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).

⁹⁵ *Def. of Wildlife*, 428 F. Supp. at 170.

⁹⁶ 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).

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.⁹⁷ 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.”⁹⁸ 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.⁹⁹

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. 16 U.S.C. § 668(a). The BGEPA broadly proscribes the taking or killing of eagles “at any time or in any manner.” *Id.* 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.” *Id.* § 668c; 50 C.F.R. § 22.6. 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.” 50 C.F.R. § 22.6.

Under the BGEPA, the Secretary of the Interior may grant permits for bald and golden eagle takes for scientific, exhibition, or tribal religious purposes, or if necessary to protect wildlife or agricultural or other interests in a particular locality. 16 U.S.C. § 668a. Regulations detail the parameters of eagle take permits under the BGEPA. 50 C.F.R. §§ 22.50–22.90.

Between the years of 2005 and 2015, at least two bald eagles and two golden eagles were killed by M-44 use on BLM-managed 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 BLM’s use of M-44 devices on BLM-managed public lands have resulted in

⁹⁷ *United States v. Wilgus*, 638 F.3d 1274, 1277–1278 (10th Cir. 2011); *see generally* 16 U.S.C. § 668.

⁹⁸ Enacting Clause, June 8, 1940, c. 278, § 1 (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.*

⁹⁹ *See* Joint resolution to provide protection for the golden eagle, Pub. L. No. 87-884, 76 Stat. 1246 (1962), <https://www.govinfo.gov/content/pkg/STATUTE-76/pdf/STATUTE-76-Pg1246.pdf>.

unpermitted takes of bald and golden eagles protected under the BGEPA, warranting the Secretary to promulgate a ban of M-44 use on BLM lands.

XI. PROPOSED REGULATORY LANGUAGE

The Petition requests a rule that would ban use of M-44s on BLM lands in service of FLPMA's policies and multiple-use mandate. 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 BLM 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 BLM 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 43 CFR Part 2090 (Special Laws and Rules), 43 CFR Part 4100 (Grazing Administration) or elsewhere in the Code of Federal Regulations.

XII. CONCLUSION

For all the reasons explained in this Petition, the Interior Department and the BLM 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/tuzec9mornt7js5r6bl0o5lqexqzick>