TO THE U.S. ENVIRONMENTAL PROTECTION AGENCY

PETITION TO CANCEL REGISTRATIONS OF M-44 CYANIDE CAPSULES (SODIUM CYANIDE)

EPA REGISTRATION NOS. 56228-15, 35978-1, 35975-2, 39508-1, 33858-2, 13808-8 & CA840006

Photo by Tom Koerner, USFWS.

AUGUST 2017

AUTHORED BY:

WILDEARTH GUARDIANS
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Via Electronic and Certified Mail

August 10, 2017

Mr. Scott Pruitt, Administrator
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Ms. Wendy Cleland-Hamnett, Acting Assistant Administrator
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Dear Administrator Pruitt, Acting Assistant Administrator Cleland-Hamnett, and Acting Director Keigwin,

WildEarth Guardians, the Center for Biological Diversity, and several other wildlife and animal protection organizations seek a ban on use of M-44 cyanide capsules (sodium cyanide) in the lower 48 states. Sodium cyanide is a highly toxic pesticide registered for restricted use under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. §§ 136 et seq.[1] Sodium cyanide is used in M-44 ejector devices — also known as "cyanide bombs" — to kill coyotes (*Canis latrans*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), and wild dogs suspected of preying on livestock.

Because of the dangers posed by sodium cyanide to wildlife and people, we hereby petition the U.S. Environmental Protection Agency (EPA), with respect to sodium cyanide registrations authorizing use in the lower 48 states, to: (1) Cancel all active and pending

[1] Petitioners request action be taken to cancel all active registrations for M-44 cyanide capsules (sodium cyanide) in the lower 48 states and hereinafter reference all active registrations collectively when using the term "sodium cyanide" or "M-44 devices," including EPA Registration No. 56228-15 (APHIS), EPA Registration No. 35978-1 (Wyoming), EPA Registration No. 35975-2 (Montana), EPA Registration No. 39508-1 (New Mexico), EPA Registration No. 33858-2 (Texas), EPA Registration No. 13808-8 (South Dakota), and EPA Registration No. CA840006 (Sodium Cyanide).

registrations for sodium cyanide pursuant to FIFRA § 136d(b); (2) Suspend all sodium cyanide registrations pending completion of cancellation proceedings pursuant to FIFRA § 136d(c)(1); (3) Invoke a stop order prohibiting all current and future use of sodium cyanide effective immediately pursuant to FIFRA §§ 136k, 136j(a)(2)(G); and (4) Initiate Special Review proceedings for all sodium cyanide registrations pursuant to 40 C.F.R. Part 154. Thank you for your consideration. We look forward to your timely response.

Respectfully submitted,

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TABLE OF CONTENTS

I. INTRODUCTION

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. § 136 et seq., provides the framework for federal regulation of pesticide use, sale, and distribution. The law is intended to prohibit the use of pesticides that cause unreasonable adverse effects on the environment.[2] The Administrator of the EPA is responsible for carrying out the mandates of the Act.[3] Pursuant to this obligation, the Administrator may limit the use of certain pesticides to prevent unreasonable adverse effects on the environment.[4]

M-44 cyanide capsules (containing a pesticide called sodium cyanide) are registered for restricted use under FIFRA (EPA Registration No's. 56228-15, 35978-1, 35975-2, 39508-1, 33858-2, 13808-8, and CA840006). 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). This Petition hereby requests that the Administrator use his authority to prohibit use of sodium cyanide in the lower 48 states pursuant to FIFRA and the Act's implementing regulations. With respect to the lower 48 states, we request the Administrator: (1) Cancel all active and pending registrations for sodium cyanide pursuant to FIFRA § 136d(b); (2) Suspend all sodium cyanide registrations pending completion of cancellation proceedings pursuant to FIFRA § 136d(c)(1); (3) Invoke a stop order prohibiting all current and future use of sodium cyanide effective immediately pursuant to FIFRA §§ 136k, 136j(a)(2)(G); and (4) Initiate Special Review proceedings for all sodium cyanide registrations pursuant to 40 C.F.R. Part 154.

M-44 Devices and Overview of Use

Sodium cyanide is the pesticide active ingredient used in M-44 devices, which are also known as "cyanide bombs." These devices are not actually bombs, however, because no explosives are used. Instead, an M-44 uses a spring-loaded device that is screwed or pushed into the ground. The device is topped with scented bait to lure animals (such as coyotes, foxes, and other canids) to bite. Once the animal's teeth clench on the bait, a spring shoots a pellet of sodium cyanide into the animal's mouth.

The sodium cyanide 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.[5] That quickly leads to central nervous system depression, cardiac arrest, and respiratory failure.[6]

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[2] 7 U.S.C. § 136a(a).
[3] 7 U.S.C. § 136(b).
[4] 7 U.S.C. §§ 136a(c)(5)-(6).
[5] 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"].
[6] *Id.* at II-73.

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 to humans.[7] 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.[8]

Wildlife Services and state agencies use M-44s in locales across the country to kill so-called "nuisance" wildlife, including coyotes, gray foxes and red foxes, and free-roaming dogs.[9] M-44s containing sodium cyanide are deployed primarily by Wildlife Services; however, the following states also have authority for their use: South Dakota, Montana, Wyoming, New Mexico, and Texas.[10] According to its 2015 and 2016 data, Wildlife Services uses M-44s in the following states: Colorado, Idaho, Montana, North Dakota, Nebraska, New Mexico, Nevada, Oklahoma, Oregon, Texas, Utah, Virginia, West Virginia and Wyoming.[11]

Impacts of M-44s 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. 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.

In its 1994 Reregistration Eligibility Decision (RED) pertaining to the use of sodium cyanide capsules in M-44 units, 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 language determined by the FWS to be needed to protect endangered species likely to be jeopardized by use of M-44s.[12]

That analysis by FWS and EPA is decades old. Since then, M-44s have killed numerous non-target, federally protected endangered animals. Even when M-44s are used as intended to kill coyotes and other canids, harm to the environment can occur because of the important ecosystem roles played by these animals.

Availability of Viable Alternatives

The balance of interests clearly weighs in favor of prohibiting M-44s given the numerous viable alternatives to protect livestock from predation. For example, guard animals (including dogs, llamas, and donkeys) can be deployed, herders and range riders can

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[7] U.S. Environmental Protection Agency, Reregistration Eligibility Decision (R.E.D.) Facts: Sodium Cyanide (1994) *available at* https://archive.epa.gov/pesticides/reregistration/web/pdf/3086fact.pdf.
[8] 1993 BiOp at II-73.
[9] 1993 BiOp at II-73.
[10] 1993 BiOp at II-73.
[11] U.S. Dep't of Agriculture, Wildlife Services, *2016 Program Data Reports*, *available at* https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_reports/sa_pdrs/ct_pdr_home_2016; U.S. Dep't of Agriculture, Wildlife Services, *2015 Program Data Reports*, *available at* https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_reports/sa_pdrs/ct_pdr_home_2015.
[12] 1993 BiOp at II-74.

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.

In short, a number of viable alternative tools to address livestock conflicts exist, eliminating the need for M-44 sodium cyanide capsules altogether.

II. PETITIONERS

WILDEARTH GUARDIANS is a non-profit 501(c)(3) organization dedicated to protecting and restoring the wildlife, wild places, wild rivers, and health of the American West. Guardians has over 215,000 activists and members supporting their efforts to end government-funded programs of cruelty to native wildlife.

The CENTER FOR BIOLOGICAL DIVERSITY is a non-profit 501(c)(3) organization with over 48,500 active members and 1.3 million supporters. The Center and its members are concerned with the conservation of imperiled species and the effective implementation of the ESA. Recognizing that pesticides are one of the foremost threats to the earth's environment, biodiversity, and public health, the Center works to prevent and reduce the use of harmful pesticides and to promote sound conservation strategies.

ADVOCATES FOR THE WEST is a non-profit organization protecting and defending public lands, wildlife, watersheds and air through litigation and negotiation.

The ANIMAL LEGAL DEFENSE FUND's mission is to protect the lives and advance the interests of animals through the legal system.

BORN FREE USA, a non-profit 501(c)(3) organization, believes that every animal matters. Inspired by the Academy Award® winning film *Born Free*, the organization works locally, nationally, and internationally to end wild animal cruelty and suffering, and protect threatened wildlife. Born Free USA also operates one of the country's largest wildlife sanctuaries.

The ENDANGERED SPECIES COALITION is a 501(c)(3) organization working to stop the human-caused extinction of our nation's at-risk species, to protect and restore their habitats, and to guide these fragile populations along the road to recovery. The Coalition is a network of conservation, scientific, education, religious, sporting, outdoor recreation, business and community organizations — and more than 150,000 individual activists and supporters — all dedicated to protecting our nation's disappearing wildlife and last remaining wild places.

The HUMANE SOCIETY OF THE UNITED STATES ("The HSUS") is among the nation's largest animal protection organizations, headquartered in Washington, D.C. Since its establishment in 1954, The HSUS has worked to combat animal abuse and exploitation and promote the welfare of all animals. In particular, The HSUS works extensively to promote the conservation of native carnivores through research, public outreach and education, advocacy and litigation. The HSUS has long advocated humane,

non-lethal alternatives to cruel killing techniques including steel-jawed, leg-hold traps, strangling neck snares and the use of poisons such as sodium cyanide.

The INTERNATIONAL FUND FOR ANIMAL WELFARE's mission is to rescue and protect animals around the world. The organization rescues individuals, safeguards populations, and preserves habitat.

The NATURAL RESOURCES DEFENSE COUNCIL (NRDC) is an international nonprofit organization with more than 2 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment.

PREDATOR DEFENSE is a national non-profit advocacy organization working to protect native predators and end America's war on wildlife. Our efforts take us into the field, onto America's public lands, to Congress, and into courtrooms.

PROJECT COYOTE is a national non-profit organization and a North American coalition of wildlife educators, scientists, ranchers, and community leaders promoting coexistence between people and wildlife, and compassionate conservation through education, science, and advocacy.

PUBLIC EMPLOYEES FOR ENVIRONMENTAL RESPONSIBILITY (PEER) is a non-profit organization protecting public employees who protect our environment. PEER serves professionals who uphold environmental laws so that public servants may work as "anonymous activists," and their agencies must confront the message, not the messenger.

The SIERRA CLUB is one of America's largest and most influential environmental organizations, with more than 3 million members and supporters. In addition to helping people from all backgrounds explore nature and our outdoor heritage, the Sierra Club works to promote clean energy, safeguard the health of our communities, protect wildlife, and preserve our remaining wild places through grassroots activism, public education, lobbying, and legal action.

The SOUTHWEST ENVIRONMENTAL CENTER works to protect and restore native wildlife and their habitats in the Southwest.

The WESTERN ENVIRONMENTAL LAW CENTER uses the full power of the law to defend and protect the American West's treasured landscapes, iconic wildlife, and rural communities.

WESTERN WATERSHEDS PROJECT is a non-profit environmental group working to protect and restore western watersheds and wildlife.

The mission of WILDLANDS NETWORK is to reconnect, restore and rewild North America so that the diversity of life can thrive. The organization envisions a world

where nature is unbroken, and where humans co-exist in harmony with the land and its wild inhabitants.

The WOLF CONSERVATION CENTER (WCC) is an environmental education organization committed to conserving wolf populations in North America through science-based education programming and participation in the federal Species Survival Plans for the critically endangered Mexican gray wolf and red wolf. Through wolves, the WCC teaches the broader message of conservation, ecological balance, and personal responsibility for improved stewardship of our World.

III. LEGAL BASIS FOR PETITIONING

Cancellation, suspension, issuance of a stop order, and initiation of a Special Review for all sodium cyanide registrations in the lower 48 is appropriate at this time pursuant to FIFRA and its implementing regulations.

First, cancellation of a pesticide's registration is warranted where the pesticide, "when used in accordance with widespread and commonly recognized practice, generally causes unreasonable adverse effects on the environment."[13] Here, the registration for sodium cyanide must be cancelled because, as documented below, its continued use is causing unreasonable adverse effects on the environment, members of the public, and non-targeted companion animals.

Second, suspension of a pesticide's registration is warranted under FIFRA § 136d(c)(1) when such action is necessary to prevent an imminent hazard[14] during the time required for cancellation.[15] Here, as documented below, the registration for sodium cyanide should be suspended pending cancellation proceedings to prevent an imminent hazard to the environment and protected species.

Third, a "stop sale, use, or removal" order pursuant to FIFRA § 136k is appropriate when a registered pesticide is being used in an unlawful manner.[16] As documented below, evidence suggests that sodium cyanide — a restricted use pesticide — is being used in

[13] 7 U.S.C. § 136d(b); *see also id.* § 136(bb) (providing that "[t]he term 'unreasonable adverse effects on the environment' means (1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide ….").
[14] 7 U.S.C. § 136(l) ("The term 'imminent hazard' means a situation which exists when the continued use of a pesticide during the time required for cancellation proceeding would be likely to result in unreasonable adverse effects on the environment or will involve unreasonable hazard to the survival of species declared endangered or threatened by the Secretary pursuant to the Endangered Species Act of 1973 [16 U.S.C. 1531 et seq.].").
[15] 7 U.S.C. §136d(c)(1) ("If the Administrator determines that action is necessary to prevent an imminent hazard during the time required for cancellation … the Administrator may, by order, suspend the registration of the pesticide immediately.").
[16] 7 U.S.C. § 136k(a) ("Whenever any pesticide or device is found by the Administrator in any State and there is reason to believe on the basis of inspection or tests that such pesticide or device is in violation of any of the provisions of this chapter … or when the registration of the pesticide has been canceled by a final order or has been suspended, the Administrator may issue a written or printed 'stop sale, use, or removal' order to any person who owns, controls, or has custody of such pesticide or device ….").

violation of the pesticide's use restrictions, and thereby, its labeling requirements, which is unlawful under FIFRA § 136j(a)(2)(G).[17]

Fourth, the Administrator may initiate a Special Review pursuant to 40 C.F.R Part 154 when one or more of the risk criteria of 40 C.F.R § 154.7 are met.[18] As evidenced below, the Administrator may find that multiple risk criteria triggering such Special Review for sodium cyanide registrations are present.[19] For example, continued sodium cyanide use: "[m]ay pose a risk of serious acute injury to humans or domestic animals[;]" "[m]ay pose a risk to the continued existence of any endangered or threatened species designated by the Secretary of the Interior or the Secretary of Commerce under the Endangered Species Act of 1973, as amended[;]" and "[m]ay otherwise pose a risk to humans or to the environment which is of sufficient magnitude to merit a determination whether the use of the pesticide product offers offsetting social, economic, and environmental benefits that justify initial or continued registration."[20]

IV. FACTUAL AND SCIENTIFIC SUPPORT FOR PETITION

M-44 Use has Unreasonable Adverse Impacts on the Environment and Presents an Imminent Hazard

Evidence exists that past and present uses of sodium cyanide have unreasonable adverse impacts upon the environment and present an imminent hazard, as those terms are defined by FIFRA and the Act's implementing regulations.[21] M-44 use causes harm to non-target wildlife, federally protected threatened and endangered species, and people and companion animals. The harms caused by M-44 use are not outweighed by the benefits of continued use because viable alternatives exist.

Impacts to Non-target Wildlife

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[17] 7 U.S.C. § 136j(a)(2) (G)("It shall be unlawful for any person — … to use any registered pesticide in a manner inconsistent with its labeling.").

[18] *See* 40 C.F.R. § 154.1 ("The purpose of the Special Review process is to help the Agency determine whether to initiate procedures to cancel, deny, or reclassify registration of a pesticide product because uses of that product may cause unreasonable adverse effects on the environment, in accordance with sections 3(c)(6) and 6 of [FIFRA]. The process is intended to ensure that the Agency assesses risks that may be posed by pesticides and the benefits of use of those pesticides, in an open and responsive manner.").

[19] 40 C.F.R. § 154.7.

[20] 40 C.F.R. §§ 154.7 (1), (3), (4), (6).

[21] 7 U.S.C. § 136(bb) (providing that "[t]he term 'unreasonable adverse effects on the environment' means (1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide …."); 7 U.S.C. § 136(l) ("The term 'imminent hazard' means a situation which exists when the continued use of a pesticide during the time required for cancellation proceeding would be likely to result in unreasonable adverse effects on the environment or will involve unreasonable hazard to the survival of species declared endangered or threatened by the Secretary pursuant to the Endangered Species Act of 1973 [16 U.S.C. 1531 et seq.]."). *See also Environmental Defense Fund, Inc. v. EPA*, 510 F. 2d 1292, 1297 (D.C. Cir. 1975) (upholding EPA suspension and cancellation order for aldrin and dieldrin and stating: "We have cautioned that the term 'imminent hazard' is not limited to a concept of crisis. 'It is enough if there is a substantial likelihood that serious harm will be experienced during the year or two required in any realized projection of the administrative process.'" (citing *Defense Fund, Inc. v. EPA*, 465 F.2d 528, 540 (D.C. Cir. 1972)).

M-44s are indiscriminate killers that are responsible for the deaths of thousands of non-target animals.

The U.S. Department of Agriculture's Animal Damage Control program (predecessor to APHIS-Wildlife Services) recorded 103,255 animals killed by M-44's between 1976 and 1986, including 4,868 non-target animals (approximately 5% of all animals killed).[22] Non-target species identified as having been killed by M-44s included grizzly bear, black bear, mountain lion, badger, kit and swift fox, bobcat, ringtail cat, feral cat, skunk, opossum, raccoon, Russian boar, feral hog, javelin, beaver, porcupine, nutria, rabbit, vulture, raven, crow, and hawk.[23] In addition, a California condor was found dead near the vicinity of an M-44 in 1986.[24]

A review of the Ecological Incident Information System in 2010 shows 45 terrestrial non-target animal incidents resulting from M-44 use from 1983-2009. The database records mortality for 26 birds, 15 dogs, ten wolves, three foxes, and two bears.[25]

According to Wildlife Services' most recent available data, from 2010-2016, over 2,600 animals were unintentionally taken by M-44s. For example, during that time period, Wildlife Services killed 882 non-target animals in Texas, 635 in Virginia, 336 in West Virginia, 315 in New Mexico, and 283 in Oklahoma.[26]

Wildlife Services' 2016 data shows that 321 animals were unintentionally killed by M-44s *in that year alone*.[27] Included among the non-targeted animals killed in 2016 were: 101 gray fox, 61 red fox, 57 raccoons, one black bear, one fisher, and seven domestic animals (such as family dogs). Such verified deaths almost certainly underestimate the total number of non-target species impacted because the likelihood of locating the carcass of a non-target species is small, especially with respect to small birds and small mammals.

More recently, in February 2017, a wolf died in northeastern Oregon from an M-44 used by Wildlife Services to target coyotes. In March 2017, in two separate incidents, M-44s temporarily blinded a child and killed three family dogs in front of their families in Idaho and Wyoming.

Impacts to Threatened and Endangered Species

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[22] 1993 BiOp at II-74.
[23] *Id.*
[24] *Id.*
[25] Memorandum dated Sept. 20, 2010 from Valerie Wood, Biologist at the Environmental Fate and Effects Division of EPA, to Kathryn Jakob, Chemical Review Manager at EPA with attached draft "Problem Formulation for the Ecological Risk Assessment, of Sodium Cyanide (M-44)" at 12.
[26] U.S. Dep't of Agriculture, Wildlife Services, *2016 Program Data Reports*, *available at* https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_reports/sa_pdrs/ct_pdr_home_2016 (last visited July 21, 2017).
[27] U.S. Dep't of Agriculture, Wildlife Services, *Program Data Report G – 2016 Animals Dispersed/Killed or Euthanized/Removed or Destroyed/Freed*, *available at* https://www.aphis.usda.gov/wildlife_damage/pdr/PDR-G_Report.php?fy=2016&fld=KILLED_EUTH&fld_val=0 (last visited June 5, 2017).

M-44s also put federally protected threatened and endangered species at greater risk. Registered use of M-44s has unintentionally killed a threatened grizzly bear, endangered California condors, wolves and other species protected under the Endangered Species Act (ESA). M-44s placed in the habitat of Canada lynx, a threatened species under the ESA, or in the habitat of wolverine, a candidate species for ESA protection, further place these imperiled species at risk of extinction.

Specifically, according to documents received by the Center pursuant to the Freedom of Information Act, 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. 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. Two years later, in March of 2003, another wolf died in an undisclosed location. 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 wolves died from M-44s in Idaho near Riggins. In December of 2008, an endangered wolf was killed from an M-44 north of Cokeville, Wyoming, in Lincoln County. In May of 2013, a federally protected bald eagle died from an M-44 in Richland County, North Dakota.[28]

The number of federally-protected animals killed by M-44s are likely under-represented 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 other animals could be discovered but not reported.

The incidents detailed here do not include other protected non-endangered wildlife, such as state-listed or "special concern" species, killed by M-44s. As just one additional example, a protected[29] wolf died in 2017 from an M-44 device in northeastern Oregon.[30]

Threats to People and Companion Animals

Sodium cyanide is a Category 1 toxicant because it is highly lethal to people and domestic animals in addition to native wildlife. M-44s put people and their companion animals unnecessarily at risk of being severely injured, or even killed.

In one tragic incident in March of 2017, a 14-year old boy was poisoned when he unsuspectingly tugged on an M-44 device while hiking behind his home in Idaho.[31] The boy watched in horror as his golden retriever convulsed and died within only minutes of the

[28] Incident reports and other documentation are on file with author Collette Adkins and included with this petition.
[29] Wolves throughout the State of Oregon are considered "a special status game mammal, protected by the Oregon Wolf Plan." Oregon Dep't of Fish & Wildlife, *Frequently Asked Questions about Wolves in Oregon*, http://www.dfw.state.or.us/Wolves/faq.asp (last visited Aug. 9, 2017).
[30] Oregon Dep't of Fish & Wildlife, *Press Release: Wolf Dies in Unintentional Take in Northeast Oregon* (Mar. 2, 2017) http://www.dfw.state.or.us/news/2017/03_mar/030217.asp.
[31] 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.

device being activated. This incident sparked a public outcry,[32] led to a statewide moratorium, and the introduction of federal legislation[33] to ban the devices from further use nationwide. Sadly, this tragic incident is only one of many that have occurred in the past and are likely to occur in the future if the devices remain in use.

In another recent incident, in March of 2017, M-44s killed two family dogs while the family hiked together on a prairie on public lands in Wyoming.[34] 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 and when they hugged and kissed their beloved dying pets.

In 2016 alone, Wildlife Services admitted to unintentionally killing seven domestic animals with M-44s.[35] In addition, in 2016, Wildlife Services reported unintentionally killing 22 dogs that were classified as feral, free-ranging or hybrids. Many of these dogs were likely family dogs running off-leash. As of June, at least three domestic dogs were killed by M-44s in 2017.[36] Appendix B, which is attached, provides a list — compiled by Wildlife Services — of dogs unintentionally killed by M-44s.

A number of employees and unsuspecting members of the public have also been put at risk from sodium cyanide's toxic effects. The Center received documentation of several such incidents in response to a request under the Freedom of Information Act. For example, 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 2007, a person spraying for mosquitoes accidentally stepped on a M-44 device and sodium cyanide sprayed into his eyes causing burning and irritation, as well as disorientation. He received emergency medical assistance, and several others, including a county sheriff, came to the scene and had to shower because of exposure 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.[37]

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[32] 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.
[33] *See* Press Release: Rep. Peter DeFazio Introduces Legislation to Ban Lethal Poisons Compound 1080, Sodium Cyanide from Predator Control (Mar. 30, 2017) http://defazio.house.gov/media-center/press-releases/rep-peter-defazio-introduces-legislation-to-ban-lethal-poisons-compound.
[34] http://www.predatordefense.org/features/m44_WY_Amy_dogs.htm
[35] U.S. Dep't of Agriculture, Wildlife Services, *Program Data Report G – 2016 Animals Dispersed/Killed or Euthanized/Removed or Destroyed/Freed*, *available at* https://www.aphis.usda.gov/wildlife_damage/pdr/PDR-G_Report.php?fy=2016&fld=KILLED_EUTH&fld_val=0 (last visited June 5, 2017).
[36] 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.
[37] Incident reports and other documentation are on file with author Collette Adkins and included with this petition.

Other reports of incidents have been gathered by the co-petitioning non-profit organizations, Predator Defense and The Humane Society of the United States. Dozens of these incidents are listed in Appendix A (attached). For example, 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. His wife explains that he suffered for many years and had his life cut short because of the encounter.[38] Another incident involved a woman who was exposed to sodium cyanide after trying to resuscitate her dog, who died from an M-44 set on her land without her permission.[39] 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. Another incident involves a rancher who 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 set on his property without his permission.[40] 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.

Several other reported incidents include pesticide applicators, which carry antidotes in case of sodium cyanide exposure. For example, 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 capsule hit his face and eye. 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. 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. After tasting the poison, he administered the antidote and went to the hospital for medical attention.[41]

Alternatives to Sodium Cyanide

M-44s are indiscriminate killing devices that are not needed in modern wildlife management because ample viable alternatives currently exist.

Numerous, proven effective and nonlethal methods of reducing conflicts with coyotes and other canids exist. For example, electric fences (that can be solar powered for use in remote areas), fladry (flags tied to ropes or fences), guard animals, range riders, strobe

[38] https://www.predatordefense.org/docs/m44_letter_Slaugh_DeFazio.pdf
[39] https://www.predatordefense.org/docs/m44_letter_Kingsley_DeFazio_01-09-07.pdf
[40] https://www.predatordefense.org/docs/m44_letter_Guerro_DeFazio.pdf
[41] Incident reports and other documentation are on file with author Collette Adkins and included with this petition.

lights and noisemakers can be used in lieu of M-44s to effectively deter coyotes and other so-called "problem wildlife" from disturbing livestock. Indeed, numerous studies have demonstrated the effectiveness of nonlethal methods to protect livestock from predators (e.g. Shivik et al. 2003[42]; Lance et al. 2010[43]).

Moreover, numerous scientific studies seriously call into question the efficacy of lethal predator control (e.g., Berger 2006[44], Harper et al. 2008[45]; Musiani et al. 2003[46]). For example, in a study based upon a review of 25 years of livestock depredation data, Wielgus and Peebles (2014)[47] found that with increased predator persecution, livestock losses *increased* in the following year. Additionally, Treves et al. (2016),[48] 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.[49] Specifically, younger pairs begin to breed and juvenile males move in to fill the gap. Increasing the number of juvenile males in a destabilized population increases the likelihood of predation on wild ungulates and on livestock.[50]

While we do not condone — nor does the science support — 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 more effective alternatives to M-44s are available. Firearms can be used with relatively minimal risk to people and non-targets as long as the shooter makes a positive identification before shooting. Traps, such as cage traps, can be used with specifications to reduce non-target

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[42] Shivik, J. A., A. Treves, and P. Callahan. 2003. *Nonlethal techniques for managing predation: Primary and secondary repellents*. CONSERVATION BIOLOGY 17: 1531-1537, *available at* http://wscinof.dreamhosters.com/wp-content/uploads/SHIVAKNon-Lethal.pdf.

[43] Lance, N.J., S.W. Breck, C. Sime, P. Callahan, and J.A. Shivik. 2010. *Biological, technical, and social aspects of applying electrified fladry for livestock protection from wolves* (*Canis lupus*). WILDLIFE RESEARCH 37: 708-714, http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2257&context=icwdm_usdanwrc.

[44] Berger, K.M. 2006. *Carnivore-Livestock Conflicts: Effects of Subsidized Predator Control and Economic Correlates on the Sheep Industry*. CONSERVATION BIOLOGY 20: 751-761.

[45] Harper, E.K., W.J. Paul, and D.L. Mech, et al. 2008. *Effectiveness of lethal, directed wolf-depredation control in Minnesota*. JOURNAL OF WILDLIFE MANAGEMENT 72: 778–84.

[46] Musiani, M., C. Mamo, L. Boitani, C. Callaghan, C. C. Gates, L. Mattei, E. Visalberghi, S. Breck, and G. Volpi. 2003. *Wolf depredation trends and the use of fladry barriers to protect livestock in western North America.* CONSERVATION BIOLOGY 17: 1538-1547, http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1616&context=icwdm_usdanwrc.

[47] Wielgus, R. and K. Peebles. 2014. *Effects of Wolf Mortality on Livestock Depredations*. PLOS ONE 9: e113505, http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0113505.

[48] Treves, A., M. Krofel, J. McManus. 2016. *Predator control should not be a shot in the dark*. FRONTIERS IN ECOLOGY AND THE ENVIRONMENT 14: 380-388, *available at* http://faculty.nelson.wisc.edu/treves/pubs/Treves_Krofel_McManus.pdf.

[49] *See e.g.*, Letter from Dr. Robert Crabtree, Yellowstone Ecological Research Center (Revised Draft June 21, 2012), *available at* http://www.predatordefense.org/docs/coyotes_letter_Dr_Crabtree_06-21-12.pdf (presenting research showing that indiscriminate killing of coyotes results in population booms with consequent increases in livestock and wild ungulate predation).

[50] *Id.*

capture, and as long as 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 more effective for capturing coyotes and other canids. For example, in 2015, Wildlife Services reportedly killed 68,905 coyotes. Wildlife Services killed just 18.7 percent of these coyotes using M-44s. Using the more effective — and more selective — technique of shooting coyotes with firearms, Wildlife Services killed 27,181 coyotes in 2015. That's nearly 40 percent of the total number of coyotes killed that year.[51] In short, given the alternatives to M-44s, continued M-44 use is economically unjustified.

Ecological Benefits of Conserving Predators Targeted by M-44s

Prohibiting the use of M-44s would benefit the health of ecosystems and native wildlife populations altogether. Carnivores targeted by M-44s, such as coyotes and foxes, play an essential role in maintaining healthy ecosystems. Predator species modulate prey populations and increase the health of those populations. The presence of carnivores on the landscape increases the biological diversity and overall functionality of ecosystems. Indeed, numerous studies analyze how carnivore removal, in particular, can cause a wide range of unanticipated 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 and Ripple 2009[52]; Levi et al. 2012[53]; Bergstrom et al. 2013[54]; Bergstrom 2017[55]).

Mesopredator species, like coyotes, are essential to maintaining ecological balance. Coyotes play a keystone role in the American West's native ecosystems by preying upon smaller carnivores such as skunks, foxes, and raccoons.[56] This predation indirectly benefits the prey of smaller carnivores. For instance, the resulting decreased nest predation by smaller carnivores increases ground-nesting birds like the imperiled greater sage grouse.[57] Coyotes also increase the diversity of rodent species by increasing the competition amongst smaller carnivores.[58]

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[51] U.S. Dep't of Agriculture, Wildlife Services, *2016 Program Data Reports*, *available at* https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_reports/sa_pdrs/ct_pdr_home_2016 (last visited July 21, 2017).

[52] Beschta, R.L., and W.J. Ripple. 2009. *Large predators and trophic cascades in terrestrial ecosystems of the western United States*. BIOL. CONSERV. 142(11): 2401–2414.

[53] Levi, T., A.M. Kilpatrick, M. Mangel, and C.C. Wilmers. 2012. *Deer, predators, and the emergence of Lyme disease*. PROC NATL ACAD SCI 109(27): 10942–10947.

[54] Bergstrom, B.J., L.C. Arias, A.D. Davidson, A.W. Ferguson, L.A. Randa, and S.R. Sheffield. 2014. *License to kill: reforming federal wildlife control to restore biodiversity and ecosystem function*. CONSERVATION LETTERS.

[55] Bergstrom, B.J. 2017. *Carnivore conservation: shifting the paradigm from control to coexistence*. J. MAMMAL. 98 (1): 1-6.

[56] Crooks, K.R. and M.E. Soule. 1999. *Mesopredator Release and Avifaunal Extinctions in a Fragmented System*. 400 J. NATURE 563–566; Henke, S.E. and F. C. Bryant. 1999. *Effects of Coyote Removal of the Faunal Community in Western Texas*. 63 J. WILDLIFE MGMT. 1066–1081.

[57] Mezquida, E.T. et. al. 2006. *Sage-Grouse and Indirect Interactions: Potential Implications of Coyote Control on Sage-Grouse Populations*. 108 J. CONDOR 747–759.

[58] Ripple, W.J. and R. L. Beschta. 2006. *Linking a Cougar Decline, Trophic Cascade, and Catastrophic Regime Shift in Zion National Park*. 133 J. BIOLOGICAL CONSERVATION 397–408.

In summary, the harms associated with continued use of M-44 sodium cyanide devices far outweigh the benefits of that use.

M-44s are Being Used Illegally, In Violation of Labeling Requirements and FIFRA

The labels[59] for registered sodium cyanide products require that users comply with all twenty-six use restrictions outlined in the Use Restriction Bulletin.[60] Even though FIFRA requires strict adherence to pesticide labels,[61] numerous incidents involving accidental exposure to sodium cyanide show that the registered users do not consistently abide by a number of these use restrictions.

The recent incidents in Idaho and Wyoming provide ample evidence demonstrating how registered users are violating the label requirements and other use restrictions when placing M-44s. The incident in Pocatello, Idaho involved an illegally-placed M-44 that injured a teen-aged boy, killed his dog and exposed several family members to sodium cyanide. Media reports and written accounts from the family demonstrate violations of the following use restrictions:

- "The M-44 device shall not be used: (1) in areas within national forests or other Federal lands set aside for recreational use, (2) areas where exposure to the public and family and pets is probable, (3) in prairie dog towns, or (4) except for the protection of Federally designated threatened or endangered species, in National or State Parks; National or State Monuments; federally designated wilderness areas; and wildlife refuge areas";[62]
- "Bilingual warning signs in English and Spanish shall be used in all areas containing M-44 devices . . . Main entrances or commonly used access points to areas in which M-44 devices are set shall be posted with warning signs to alert the public to the toxic nature of the cyanide and to the danger to pets. Signs shall be inspected weekly to ensure their continued presence and ensure that they are conspicuous and legible . . . An elevated sign shall be placed within 25 feet of each individual M-44 device warning persons not to handle the device"; and[63]
- "In all areas where the use of the M-44 device is anticipated, local medical people shall be notified of the intended use. This notification may be made through a poison control center, local medical society, the Public Health

[59] *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.
[60] U.S. Dep't of Agriculture, Animal & Plant Health Inspection Service, *WS Directive 2.415, M-44 Use and Restrictions* (revised June 15, 2017) [hereinafter "M-44 Use Restrictions"] *available at* https://www.aphis.usda.gov/wildlife_damage/directives/2.415_m44_use%26restrictions.pdf.
[61] 7 U.S.C. § 136j(a)(2)(G).
[62] M-44 Use Restrictions at 3.
[63] *Id.* at 10–11.

> Service, or directly to a doctor or hospital. They shall be advised of the antidotal and first-aid measures required for treatment of cyanide poisoning. It shall be the responsibility of the supervisor to perform this function."[64]

It cannot be disputed that the M-44 was placed in an "area[] where exposure to the public and family and pets is probable." Fourteen-year-old Canyon Mansfield was walking the family Labrador, Casey, on a hill just 300 yards behind their home on public land managed by the Bureau of Land Management (BLM) in the outskirts of Pocatello, Idaho.[65] (That placement also violated a November 2016 pledge by Wildlife Services in Idaho not to use M-44s on public land in Idaho.[66])

As for the requirement for conspicuous warning signs, Dan Argyle, a captain in the Bannock County Sheriff's Office, told National Geographic that "no warning signs were observed at the scene . . . ."[67] And Canyon Mansfield explains: "No signs like these were near the cyanide bomb that took my dog away from me."[68]

It has been reported that Wildlife Services made no notifications of the intended use of M-44s to local medical professionals.[69] Canyon Mansfield's father, Dr. 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." The Center requested, under the Freedom of Information Act, 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 prior notification to Idaho hospitals occurred in 2013.

The incident north of Casper, Wyoming that killed two family dogs also demonstrates a violation of the requirement for warning signs.[70] A media report provides that a "few days after the dogs died in Wyoming, Daniel Helfrick returned to the area, looking for signs they might have missed to warn them of the cyanide traps. He didn't see any."[71] A personal account of the tragic incident by one of the involved family members provides further evidence that no signs were posted.[72]

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[64] *Id.* at 12.
[65] http://news.nationalgeographic.com/2017/04/wildlife-watch-wildlife-services-cyanide-idaho-predator-control/.
[66] http://fox13now.com/2017/03/21/cyanide-bomb-that-killed-dog-owner-placed-illegally-by-wildlife-services/.
[67] http://news.nationalgeographic.com/2017/04/wildlife-watch-wildlife-services-cyanide-idaho-predator-control/.
[68] https://www.predatordefense.org/docs/m44s_canyons_story.pdf.
[69] http://www.theblaze.com/news/2017/03/21/cyanide-device-explodes-killing-familys-dog-they-cant-believe-who-planted-it-behind-their-home/.
[70] http://www.wyofile.com/column/cyanide-bomb-kills-two-casper-dogs/.
[71] http://www.wyofile.com/column/cyanide-bomb-kills-two-casper-dogs/.
[72] https://www.predatordefense.org/features/m44_WY_Amy_dogs.htm.

In addition, the March 2002 incident, where an applicator was injured when he reached into a bucket of assembled M-44s, likely occurred because he was not properly trained in the safe handling of the devices.[73]

Risk Criteria Triggering Initiation of a Special Review Are Present

FIFRA's implementing regulations at 40 C.F.R. Part 154 authorize the Administrator to initiate a Special Review of a registered pesticide if any one of the risk criteria outlined in 40 C.F.R. Part 154.7 are met.[74] In relevant part, such risk criteria include the following:

1. The Administrator finds the registered pesticide "[m]ay pose a risk of serious or acute injury to humans or domestic animals";[75]
2. The Administrator finds the registered pesticide "[m]ay result in residues in the environment of nontarget organisms at levels which equal or exceed concentrations acutely or chronically toxic to such organisms, or at levels which produce adverse reproductive effects in such organisms";[76]
3. The Administrator finds the registered pesticide "[m]ay pose a risk to the continued existence of any endangered or threatened species designated by the Secretary of the Interior or the Secretary of Commerce under the Endangered Species Act of 1973, as amended";[77]
4. The Administrator finds the registered pesticide "[m]ay result in the destruction or other adverse modification of any habitat designated by the Secretary of the Interior or the Secretary of Commerce under the Endangered Species Act as a critical habitat for an endangered or threatened species";[78] and/or
5. The Administrator finds the registered pesticide "[m]ay otherwise pose a risk to humans or to the environment which is of sufficient magnitude to merit a determination whether the use of the pesticide product offers offsetting social, economic, and environmental benefits that justify . . . continued registration."[79]

As demonstrated throughout this Petition — and further elaborated upon below — several of these risk criteria are met by use of M-44s.

M-44s Pose Risk of Serious or Acute Injury to Humans and Domestic Animals

As explained above and demonstrated by several recent incidents involving injury to people and their companion animals, M-44s pose a risk of serious injury – and even death – to humans and domestic animals, including family dogs. For this reason alone, a Special Review should be initiated.

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[73] M-44 Use Restrictions at 1.
[74] *See* 40 C.F.R. § 154.1 ("The purpose of the Special Review process is to help the Agency determine whether to initiate procedures to cancel, deny, or reclassify registration of a pesticide product because uses of that product may cause unreasonable adverse effects on the environment, in accordance with sections 3(c)(6) and 6 of [FIFRA]. The process is intended to ensure that the Agency assesses risks that may be posed by pesticides and the benefits of use of those pesticides, in an open and responsive manner.").
[75] 40 C.F.R. § 154.7(a)(1).
[76] 40 C.F.R. § 154.7(a)(3).
[77] 40 C.F.R. § 154.7(a)(4).
[78] 40 C.F.R. § 154.7(a)(5).
[79] 40 C.F.R. § 154.7(a)(6).

M-44s Pose Harmful Risks to Protected Species

As indicated above, M-44s have killed federally protected threatened and endangered species, including a grizzly bear, wolves, and a California condor, among other ESA-protected imperiled animals. These deaths also compel initiation of a Special Review.

M-44s Pose Other Risks to Humans and the Environment Meriting Further Consideration

The Administrator may initiate a Special Review at his discretion if the registered pesticide poses any other risk to humans and the environment warranting such review. In combination with the other risk criteria, the dangers posed to unsuspecting members of the public and non-targeted wildlife are of sufficient magnitude to warrant such review for M-44 sodium cyanide capsules. Specifically, those incidents involving harm to people that do not rise to the level of "serious or acute injury" are worthy of consideration in a Special Review, especially considering that these incidents occur routinely. The deaths of thousands of non-target animals from M-44s also weigh in favor of initiating a Special Review.

V. CONCLUSION

In sum, pursuant to FIFRA, 7 U.S.C. § 136d(b), the Administrator should cancel all registrations for M-44 cyanide capsules (sodium cyanide) because the pesticide presents an unreasonable adverse impact to the environment. Further, pursuant to FIFRA § 136d(c)(1), the Administrator should suspend all sodium cyanide registrations pending cancellation proceedings because an imminent hazard exists. The Administrator should also issue a stop order, pursuant to FIFRA §§ 136k, 136j(a)(2)(G), because registered users, including Wildlife Services, are using sodium cyanide, a restricted use pesticide, in violation of the product's labeling requirements, and thereby, in violation of the law. Finally, the Administrator should initiate a Special Review proceeding for all sodium cyanide registrations because multiple risk criteria of 40 C.F.R § 154 are met.

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