Wildlife Disservice: The USDA Wildlife Services' Inefficient and Inhumane Wildlife Damage Management Program

THE HUMANE SOCIETY
OF THE UNITED STATES

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EXECUTIVE SUMMARY

For more than a century, the U.S. Department of Agriculture's (USDA) Wildlife Services has held primary federal responsibility for addressing and resolving conflicts with wild animals that cause economic harm or threaten human or animal health and safety. Since practically its earliest days, Wildlife Services has shown a preference for lethal methods in resolving conflicts. Early in its existence, massive poisoning campaigns aimed at all predatory species constituted a literal war on wildlife from which this country and its environment are still recovering. Those campaigns killed millions of target and non-target animals, including endangered and threatened species, as well as cats, dogs, and other domestic animals. Today's Wildlife Services program continues to kill in the millions, sadly reflecting an organizational culture that continues to embrace lethal control as a primary practice in resolving human-wildlife conflicts.

This culture of killing is wrong, not only because wildlife professionals (some of them in the employ of Wildlife Services) have developed effective nonlethal techniques and approaches to dealing with wildlife problems, but because we as a society have raised the moral standards for wildlife control. Wildlife damage management has become a rigorous and focused field in which considerable effort is now directed at prevention and non-lethal conflict resolution. The public preference for non-lethal practices is increasingly heard and accepted, and even when a program might not be as humane as is desirable, it can be assessed and modified after action for future improvement.

There is a legitimate case to be made for a federal program that helps to solve wildlife conflicts, providing training and research on best practices with an emphasis on innovation and non-lethal solutions. But Wildlife Services in its current form is a relic of the past, exterminating wildlife as a government subsidy for private ranchers and other special interests, using inhumane and ineffective methods, while the U.S. taxpayers foot a large share of the bill. In many cases, the costs of killing animals even exceed the losses of ranchers, highlighting the government waste and inefficiency.

Wildlife Services should be a global leader in both the theory and practice of non-lethal wildlife damage management. It has both the resources and the opportunity to make such approaches a first priority and effort. Sadly, it seems determined to continue to follow outdated practices in which killing always seems the preferred choice. The American public will not tolerate cruel and inhumane practices and Wildlife Services should implement reforms to better reflect the views of the American public.

This report documents Wildlife Services' practices and identifies those for which reform is most urgently needed. It offers a series of concrete and achievable changes that will lead to a better and more responsible program, which will benefit the American public as well as animals.

1.0 INTRODUCTION & BACKGROUND

Wildlife Services is a program of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) that came into being at the turn of the twentieth century. It was, and continues to be, the only federal program whose mandate is to control or suppress wild animals rather than protect them. As such, its activities have always been controversial and objects of public scrutiny and criticism. History has shown much of that criticism to be warranted and this report is intended to document why that is so and what can be done about it.

The stated mission of Wildlife Services is to provide "Federal leadership and expertise to resolve wildlife conflicts to allow people and wildlife to coexist" (USDA Wildlife Services 2009a). Yet for more than a century this federal program has specialized in only one type of wildlife conflict resolution—killing. Many millions of animals from dozens of species, including endangered and threatened, target and non-target species, have fallen to the poisons, traps, and other lethal instruments this program employs. Its operations damage entire ecosystems by targeting keystone and umbrella species such as wolves, prairie dogs, and beavers and unbalance wildlife community structure by decimating entire populations of others, such as coyotes.

Most Americans do not even know Wildlife Services exists, much less that taxpayer dollars are used to support its lethal programs. This federal program paradoxically conducts cutting-edge research into better and more humane techniques in wildlife control while embracing outdated and inhumane approaches in its field operations. Wildlife Services is wholly out of touch with modern conservation values and lacks the transparency Americans demand of their government agencies. It has failed to keep pace with the American public's demand that wild animals, even when regarded as pests, should be dealt with humanely and that the welfare of wild animals be weighed as a first-order concern in any control programs.

Wildlife Services must undergo transformational change.

2.1 History

The federal program we now call Wildlife Services originated in 1885 in the Department of Agriculture (Henderson & Preble 1935). Initially intended to provide farmers with information about the economic value of birds to agricultural programs, the Bureau of Biological Survey (as it was then known) soon shifted to providing services controlling animals farmers regarded as "pests," such as crop-eating birds and sheep-eating coyotes (Greathouse 1907). In 1915 the program established a laboratory to mass produce poison bait to deploy against predators and rodents (Hall 1930, Robinson 2005). During the decades that followed, it increasingly focused on lethal control of species deemed injurious to domestic livestock, crops, and forest products (Bacon 2012, Hawthorne 2004).

As other federal agencies evolved and refocused their missions and services, Wildlife Services kept a pat hand, sometimes changing in superficial ways but never in its fundamental culture and approach. Criticisms of the poisoning of wild animals by the Bureau rose, with the American Society of Mammalogists (ASM) becoming especially outspoken in the years immediately preceding the passage of the federal Animal Damage Control Act ("Act") of 1931 (Hall 1930, Robinson 2005). The Act formally established the authority of Wildlife Services to control "injurious animal species" (46 Stat. 1468; 7 USC 426-426b). In 1940, the program was removed from USDA and put in a newly created Fish and Wildlife Service (FWS) within the Department of the Interior. In 1948, it was renamed the Branch of Predator and Rodent Control—a name that finally denoted the program's unarticulated ethos.

In the 1960s and '70s, two prestigious science panels recommended major changes to the program's indiscriminate use of poisons and other means to kill predators (Leopold et al. 1963, Cain et al. 1971). These recommendations, together with lawsuits and a groundswell of public opposition (e.g. Olsen 1971), resulted in a presidential order[1] that banned the use of poisons on federal lands or by federal programs (Curnow 1996). This effectively stopped Wildlife Services' use of strychnine, thallium sulfate, Compound 1080, sodium cyanide, and gas cartridges deployed against predators (Fagerstone et al. 2004), as well as anticoagulant rodenticides. Later administrations however, eased back those restrictions by allowing some uses of sodium cyanide in the mid-1970s[2] and ending in 1982 with revocation of the original order to where all previously banned poisons were again allowed[3], albeit subject to restrictions imposed by the U.S. Environmental Protection Agency under the Federal Insecticide, Rodenticide, and Fungicide Act (FIFRA).

In 1986, the program was transferred back to the USDA[4] at the behest of Congressional farm-state members concerned that FWS was too focused on conservation rather than livestock protection (Symms et al. 1985, U.S. Senate 1985). In 1997, the program returned to a name it had used while in FWS—Wildlife Services (Hawthorne 2004). While its name and place in the executive branch have changed repeatedly over the last century, the program's primary activity has remained static—the destruction of offending wild animals.

Wildlife Services employee assembling so-called "drop baits" containing strychnine. Millions of these baits and others with the toxicant Compound 1080 were dropped over vast areas prior to the 1972 Executive Order that stopped their use. Photo Credit: Dick Randall.

[1] Executive Order 11643 in 1972
[2] Executive Orders 11870 in 1975 and 11917 in 1976
[3] Executive Order 12342 in 1982
[4] Public Law 99-190

2.2 The Wildlife Services Program Today

Wildlife Services responds to requests for assistance with damage caused or threatened by wild animals to agricultural production, human health and safety, natural resources, and property. Many of the program's more than two thousand employees work from state offices to provide wildlife damage management services that include both lethal and nonlethal actions directed at a very wide range of species. The state offices are each headed by a state director and exist to deliver program services to customers. State directors enjoy considerable autonomy, being largely free from top-down direction, having independent authority to hire and fire, enter into cooperative service agreements (CSAs), and decide when and if to conduct environmental reviews (USDA APHIS 2012).

Cooperative service agreements allow state offices to provide for-fee services whereby customers pay for work that is subsidized by Wildlife Services' federal appropriations. Among its customers are agricultural producers, airports, property owners, private interest groups (including hunting associations), municipalities, counties, state wildlife agencies, and other federal agencies. State directors are allowed, and indeed incentivized by CSA money, to be entrepreneurial in marketing themselves to existing and potential customers.

In Fiscal Year (FY) 2012, state offices spent more than $112.5 million on field operations to deliver services to their customers. Of that amount, 52 percent[5] came from federal taxpayer dollars. The remainder came from non-federal customers (Figure 2.1), including other taxpayer dollars paid to Wildlife Services by counties and cities (USDA Wildlife Services 2012a). Wildlife Services' headquarters and regional offices are supported by federally appropriated dollars, with some remainder of federally appropriated money going to the state offices. The amount given to each state office is not allocated using any specific rationale but instead by "historic precedence" (USDA APHIS 2012: 11).

State directors may use federal funds to share costs with non-federal customers—clearly to the advantage of the customer. It was only recently that Wildlife Services articulated its first policy directing how state directors and program managers should enter into CSAs—even though these agreements have been used since 1987 (USDA Wildlife Services 2013a).

Wildlife Services kills millions of animals each year. In FY 2011, nearly four million animals were killed throughout the country and its territories (Figs. 2.2 and 2.3). These animals were:

Fig. 2.1 Distribution of Wildlife Services' Customers Agreements in FY2011 by Proportion of Dollar Value
(data source: USDA APHIS 2012)

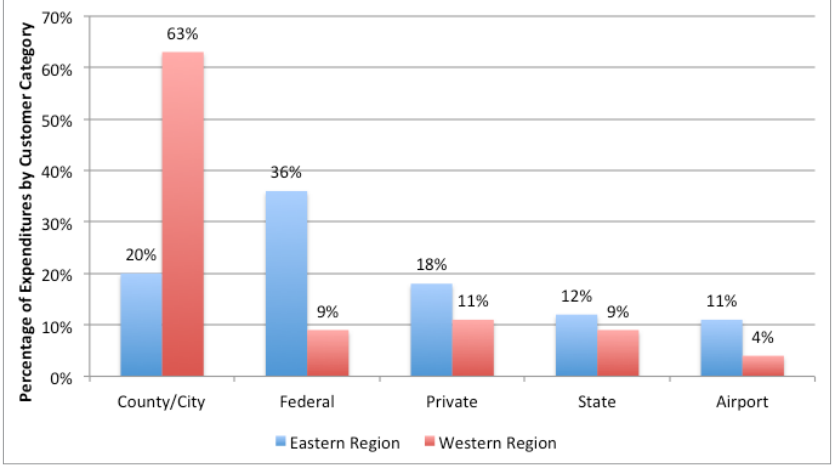
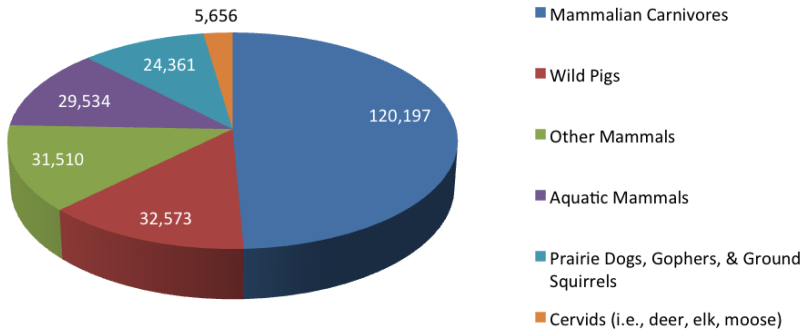


Fig. 2.2 Mammals Reported Killed by USDA Wildlife Services in FY2011

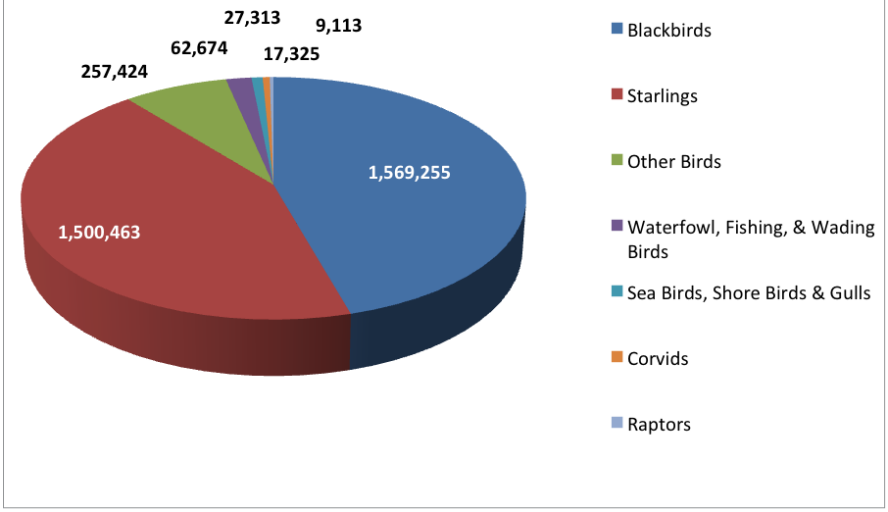


[5] 35 percent came from Wildlife Services' own federal appropriations and 17 percent from federal agency customers.

- Poisoned and gassed
- Shot from the ground and from aircraft
- Killed by body-gripping traps and choking snares
- Caught in traps and snares and killed when agents returned
- Caught in traps and snares and killed by injury and/or exposure before traps were attended to

In addition, in that same year, Wildlife Services also destroyed, poisoned, and/or gassed more than twenty-five thousand individual animal burrows, for which no estimate of targeted or non-targeted animal deaths could be reported. Given that many species of reptiles and amphibians, prairie dogs, gophers, coyote pups, ground squirrels, and numerous other animals take refuge inside burrows, it is probable that tens of thousands at least were killed in such actions.

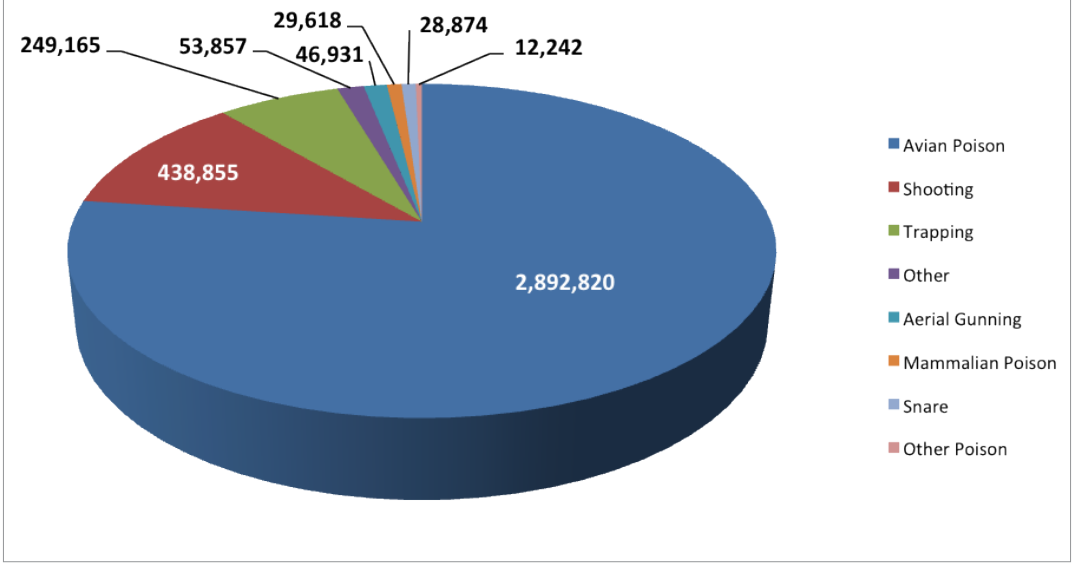
Fig. 2.3 Birds Reported Killed by USDA Wildlife Services in FY2011



The overwhelming majority of the animals killed by Wildlife Services in this one year (2.9 of the 4 million) were poisoned, nearly all (98.6 percent) victims being birds (Fig. 2.4). Tens of thousands of mammals were poisoned as well, including coyotes, prairie dogs, gophers, ground squirrels, and others.

Thousands of animals were shot, either from the ground or from aircraft (aerial gunning) in FY 2011. Wildlife Services uses aerial gunning to kill predators—mainly coyotes—and, increasingly, wild pigs. Additionally, hundreds of thousands of animals were trapped and tens of thousands were captured in snares. Whether caught in traps or snares intended to kill or intended to hold the animal until an agent returns, the fate of nearly all animals caught by such means is death.

Fig. 2.4 Number of Animals Reported Killed by USDA Wildlife Services in FY2011 by Type of Method



3.1 Lethal Methods Overview

Wildlife Services' most controversial and problematic activity is lethal control—killing wild animals to solve problems they might, or might not, be causing. The program includes, among other activities:

- Killing mammalian carnivores on public and private land
- Killing rodents on croplands
- Killing birds at confined animal feeding operations (CAFOs)
- Killing birds on and near airports
- Killing birds at aquaculture facilities
- Killing beavers on public and private land

Wildlife Services' lethal control operations are open-ended and go on year after year without delivering long-term solutions as much as giving Wildlife Services a sustainable source of income. Wildlife Services even preemptively kills wildlife, mostly tens of thousands of coyotes prior to lambing and calving seasons, year after year, to remove as many predators as possible before births take place on the range. This work is done despite volumes of scientific evidence that new coyotes replace those killed and that there are nonlethal ways to protect these young animals from predators (Fox and Papouchis 2005).

3.2 Non-target Animals Killed

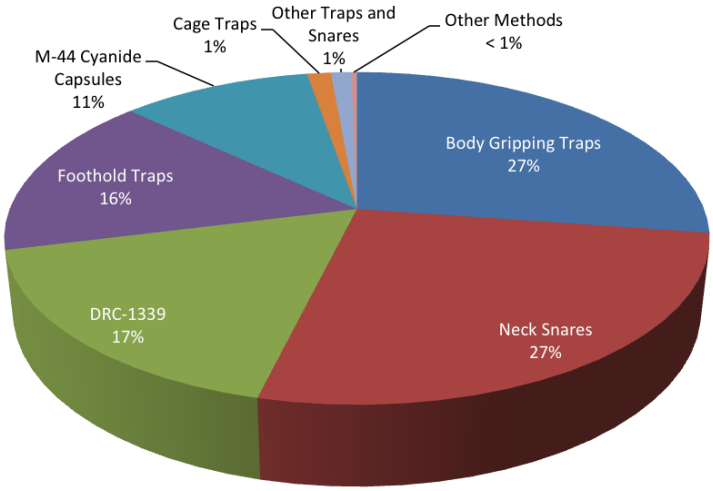
Wildlife Services kills thousands of non-target[6] animals annually. In large part this has to do with indiscriminate devices and practices being employed. Both wild and domestic animals are killed, including cats, dogs, cattle, goats, and pigs—nearly 5,000 in FY 2011 (Table 3.1). Among the native species falling victim are eagles, mountain lions, wolves, turtles, swift foxes, collared peccaries, American alligators, kit foxes, river otters, and pronghorns.

Just five of Wildlife Services control methods—body-gripping traps, neck snares, DRC-1339, foothold traps, and M-44 cyanide capsules—are responsible for nearly all of the deaths of non-target animals (Fig. 3.1). Non-target deaths are not proportional to each method's frequency of use, as reflected in the total numbers of animals killed. For example, about 7 percent of all non-targets were killed by traps but just one type of trap—body-gripping—killed 27 percent of those. So, these five methods

Table 3.1 Number of Non-target Animals Reported Killed by USDA Wildlife Services in FY 2011 by Category

Mammalian Carnivores	1,921
Other Mammals	1,705
Songbirds	698
Reptiles & Amphibians	350
Cervids (e.g. deer, elk, moose)	163
Waterfowl, Fishing, & Wading Birds	28
Wild Pigs	19
Others	81
Total	4,965

Fig. 3.1 Percentage of Non-target Animals Reported Killed by USDA Wildlife Services in FY 2012 by Method



[6] Animals who are killed when others are the intended targets.

are causing relatively much more non-target death than other methods based on the frequency of their use. Wildlife Services' actions have harmed family pets. When pets are harmed, it is typically because Wildlife Services set traps and M-44s close to paths, roadways, and property lines and fails to notify nearby residents and recreational users of public lands (see sidebar).

3.3 Lethal Methods Employed

The majority of animals killed by Wildlife Services are poisoned. This has been the program's go-to approach to resolving wildlife conflicts since the early 1900's and the one that has been most controversial and criticized. Avian and mammalian poisons, no matter how specific to their intended targets or quick their action, still cause unacceptable distress and suffering in their victims. None of the toxicants employed by Wildlife Services in the past or currently is accepted as causing a humane death by mainstream animal welfare and protection organizations.

Wildlife Services uses two poisons to specifically target mammalian carnivores—sodium cyanide in M-44 devices and a formulation of sodium fluoroacetate known as Compound 1080 in Livestock Protection Collars (LPC).[7] M-44s are spring-loaded ejector devices that propel sodium cyanide into the animal's mouth when the baited device is tugged. The resulting cyanide gas immediately causes seizure or coma (Woodward and Parker 2010, Blom and Connolly 2003). In addition to the thousands of animals intentionally killed each year by M-44s—more than 14,000 in FY 2012—M-44s kill non-target animals, including pets and endangered species, as well as injure human beings. Wildlife Services reported that M-44s killed 337 non-target victims in FY 2012 including:

- August 2011 in Gresham, Oregon: Maggie, the McCurtain family's 7-year-old Border collie, was killed by a Conibear trap set by Wildlife Services at a lake in a residential neighborhood. The trap was on neighborhood common property less than 50 feet from the McCurtain's fence—an area where the family's children regularly played. (Mortenson 2011)

- February 2011 in Texas: The Walker family's dog Bella was poisoned by an M-44 sodium cyanide device Wildlife Services placed less than 1,000 feet from their house and without notification to the family. Despite being notified of Bella's death, Wildlife Services reset the device twice in the following two weeks. In addition to the M-44 that killed Bella, an M-44 was placed on a roadway that the Walkers—including their 11- and 18-year old sons—used daily and at least four other M-44s were just 6 to 10 feet away and within plain sight of roadways. Dead coyotes were hung along the fence line of the road that the Walkers use to reach their home. The Walkers feel they were placed there by Wildlife Services to intimidate the family. (Predator Defense 2012)

- April 2010 in West Virginia: Charm, James and Carol Gardner's 11-year-old Siberian husky, was killed by an M-44 device Wildlife Services set on a neighboring farm. The Wildlife Services agent buried Charm without notifying the Gardners of her death despite the fact that she was wearing county dog tags and a rabies tag. Wildlife Services also stated in a letter to the Gardners that the agency had prior knowledge that domestic dogs frequented the property, but set the M-44s regardless. (Gardner 2010)

- February 2006 in Roosevelt, Utah: Samuel Pollock, a biologist for the U.S. Fish and Wildlife Service, was hunting on federal land with Jenna, his 2-year-old Labrador retriever, when she triggered an M-44 that had been illegally placed by Wildlife Services. The EPA's investigation of the case concluded that two use restrictions had been violated and led to the issuance of a Notice of Warning to Wildlife Services. (Stark 2008)

- April 2006 in Millard County, Utah: Max, Sharyn and Tony Aguiar's 2-year-old German shepherd, was killed when he triggered an M-44 on public land. The agency denied any wrongdoing and in a memo the Wildlife Services state director for Utah stated, "I have concerns about the government settling cases with dog owners because it is all too easy for someone to intentionally take a dog into an area posted with sign with the intention of getting the dog killed. I recommend against settling this claim." (Bodenchuk 2006, Associated Press 2006)

[7] In 2007, the EPA was petitioned to cancel registrations of sodium cyanide M-44s and Compound 1080 LPCs (Docket number EPA-HQ-OPP-2007-0944). The petitioners also requested that the EPA engage in a new consultation process with FWS under the Endangered Species Act because the existing biological opinion on wildlife toxicants (USFWS 1993) was nearly two decades old. In 2009, the EPA announced its negative decision on the cancellation petition (Edwards 2009). The following year, the EPA began a re-registration review of sodium cyanide M-44s and Compound 1080 LPCs, as periodically required by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which is still ongoing. In 2011, the EPA reinitiated consultation with FWS under the Endangered Species Act for an ecological risk assessment for endangered species that might be harmed by sodium cyanide. No new biological opinion has been issued.

- 27 domestic dogs
- 2 gray wolves
- 140 foxes
- 114 raccoons
- 31 opossums
- Pigs, skunks, woodchucks, a black bear, a bobcat, and a crow

Wildlife Services agent setting a Coyote Getter, predecessor to M-44s, prior to 1972. Photo Credit: Dick Randall

Compound 1080 is placed in a collar worn by sheep and goats (Livestock Protection Collar or LPC) so that an attacking coyote ingests a lethal dose. Compound 1080 causes vomiting and convulsions (among other painful and distressing symptoms) and death from cardiac failure or respiratory arrest (Sherley 2007, U.S. EPA 1995b). Poisoned animals suffer for hours before succumbing (Eason et al. 2011). One livestock protection collar contains enough Compound 1080 to kill up to six 150-pound men (USDA Wildlife Services 1998).

Wildlife Services kills millions of birds with DRC-1339, a slow-acting poison used on blackbirds, starlings, pigeons, crows, ravens, magpies, and gulls. The poison is mixed with food preferred by the targeted birds—bread, grain, poultry feed, and even French fries and eggs—then put out where the birds feed. Much of this poisoning is targeted to kill birds around dairies and confined animal feeding operations (CAFOs) to keep them out of animal feed. DRC-1339 kills by damaging the kidneys and heart so that poisoned birds die slowly, usually over a period of one to three days depending on their body size. DRC-1339 can poison non-target scavenging birds including owls, eagles, and peregrine falcons (U.S. EPA 1995a). Because DRC-1339 is slow-acting and poisoned birds are difficult or impossible to retrieve, Wildlife Services uses models to estimate mortality (Johnston et al. 2005). Therefore, the millions of targeted and non-targeted birds reported killed are, at best, estimates.

Wildlife Services also uses anticoagulant poisons and burrow fumigants to kill animals such as rodents, gophers, ground squirrels, prairie dogs, woodchucks, and coyote pups. These animals are all targeted in burrow systems, but killed for different reasons. Some eat forage that farmers want for their cattle and sheep, others dig burrows on rangeland, and coyotes are targeted as animals whose parents might kill a cow or sheep to feed them. Animals dying from anticoagulant poisoning may be scavenged by raptors and mammalian carnivores, including threatened and endangered species, who are then poisoned in turn. If not directly fatal, exposure to anticoagulants can compromise the immune system and contribute to other life-threatening conditions or causing illness in animals such as bobcats and mountain lions (Riley et al. 2007). Fumigants are completely nonselective, killing any animal that happens to be in a treated burrow. Wildlife Services does not report the numbers of either target or non-target animals killed by burrow fumigants.

Wildlife Services agents shooting predators. Photo Credit: Dick Randall

Wildlife Services kills animals using shotguns, air rifles, handguns, and rifles. Some species, such as coyotes, are lured into range by calls. Others, such as deer, are lured in by bait. Still others, such as cougars and bears, are chased by hounds until treed, then shot.

Wildlife Services also shoots wild animals from aircraft. Aerial gunning, according to Wildlife Services, is "mostly species-selective" (USDA Wildlife Services 2013b: B-7) but indiscriminate in that it does not specifically target individual animals causing damage. Instead, Wildlife Services attempts to kill all animals of the targeted species (overwhelmingly coyotes) within the area where damage has occurred or where they expect damage to occur in the future. Aerial gunning results in suffering and lingering deaths for animals wounded but not instantly killed.

Wildlife Services helicopter with dead coyotes killed during aerial gunning operation. Photo Credit: Dick Randall

Wildlife Services sets traps and snares targeting a wide variety of animals. Body-crushing traps kill with powerful springs that drive bars intended to crush an animal's body. These devices are unselective in that they can be tripped by any animal encountering them. They are very often ineffective in delivering an immediately fatal blow (IAFWA 1997). Foot-hold traps and snares hold animals until the Wildlife Services agent returns—hours or even days later—to kill the animals by shooting or another method. These devices hold animals by a foot, leg, or other body part and cannot avoid causing considerable pain and distress as animals struggle to escape. The number of non-targeted animals caught in foot-hold traps and snares is in the thousands annually and includes a wide range of domestic and wild species.[8] Cage-type traps also hold animals and, while they may seem less inhumane, also cause distress and injury as the animals break teeth and injure themselves trying to work their way out.

The suffering inherent in the use of traps and snares is greatly worsened when animals are left without food, water, or protection from the elements or predation by other animals. Some states and localities have minimum trap-check standards and Wildlife Services requires its agents to abide by these (USDA Wildlife Services 2009c). However, such standards are not established in all states and Wildlife Services may be exempted from state requirements by state statute, as for example in Nevada.

Wildlife Services agent holding leg-hold trap preparing to reset after removing dead coyote. Photo Credit: Dick Randall

There are documented instances to show Wildlife Services has left animals in traps and snares for extended periods. For example, an eye-witness report about a snaring program at Oregon State University in Corvallis documented three animals, including a deer fawn whose "body was desiccated, the skin hardened onto the skeleton," indicating snares set for coyotes had not been checked for a very long period (Robertson 2012). This occurred in a developed area where the Wildlife Services agent had ready access, yet did not return to check the snares. In another instance, the Nevada Department of Wildlife documents on mountain lions killed between

[8] In FY 2012, 1,476 unintended animals were caught in foothold traps, including four cats, a dog, over 400 river otters, nearly 300 raccoons, and more than 260 turtles, among others. Traps unintentionally killed animals as varied as alligators, badgers, bears, bluebirds, deer, ducks, foxes, mountain lions, hawks, herons, skunks, and turkeys, among others. In the same year, 866 non-target animals were taken in snares, including 23 dogs, 4 cats, and a long list of wild species from armadillos to vultures.

2008 and 2013 showed that Wildlife Services agents failed to return to check traps and snares. One lion carcass was partially mummified and was estimated to have been left in a snare for a minimum of six months. Another was in a snare for four days prior to removal. In a letter to the Director of the Nevada Department of Wildlife, Molde (2014) noted, "Most carcasses were so desiccated as to be unsuitable for providing any biological information."[9]

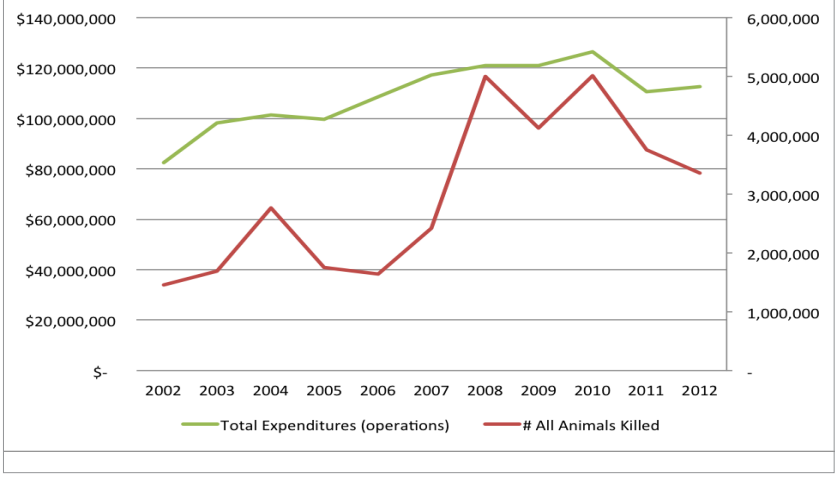
3.4 Preference for Lethal Methods

Review of Wildlife Services annual data tables (where it reports the numbers of animals killed and controlled by method of control) demonstrates Wildlife Services' clear preference for lethal control even in situations in which nonlethal control could be used effectively. Some examples of the preference in Wildlife Services' program include:

- Over a decade[10], Wildlife Services agents killed more than 1.173 million mammalian carnivores but only freed or dispersed 118,408—about one tenth as many as it killed. During that period, the program killed 99.6 percent of the coyotes it controlled.
- Wildlife Services kills tens of thousands of beavers but the program reported no use of nonlethal flow devices or culvert protection methods in the last ten years, even though these proven technologies abate flooding, allow wetlands to perform valuable ecological functions, and provide cost-effective solutions to solving conflicts with beavers (Lisle 2003, Boyles & Savitsky 2008).
- Wildlife Services' National Wildlife Research Center (NWRC) researched and developed a contraceptive drug for birds, nicarbazin, which was registered with the EPA to reduce flock size of resident Canada geese in urban and suburban areas. However, Wildlife Services never used this approach to resolve conflicts with geese, and instead captures and kills them when they are flightless during the annual molt.[11]
- Nicarbazin has also been registered for pigeons, but Wildlife Services has never used to control any population of those, even those found at airports where all methods of hazard reduction are mandated but reported using toxicants against pigeons.
- Figure 3.2 shows that as Wildlife Services increased expenditures, it translated into killing more animals. And when cooperator funds declined sharply (27 percent) between 2010 and 2011, the number of animals killed also declined sharply (25 percent), suggesting that money and killing move in lock-step.

Except for dispersing birds, Wildlife Services infrequently implements prevention methods. Wildlife Services claims that customers often unsuccessfully attempt nonlethal methods before they contact Wildlife Services, but does not report how often this occurs or what methods customers report they have tried. Further, there is no information about whether the most appropriate and effective methods were tried, whether those methods were properly implemented, or the outcome of any attempts at nonlethal control.

Fig. 3.2 USDA Wildlife Services Number of Animals Killed and Expenditures on Field Operations by Fiscal Year



[9] Nevada Department of Wildlife requires reporting on mountain lions, but not on most species and, therefore, has no records on the condition of the many animals of other species captured and killed by traps and snares by Wildlife Services. Nor is such detailed reporting required by other state wildlife agencies. These reports on mountain lions in Nevada are rare examples of specific data confirming anecdotal reports that Wildlife Services agents do not check traps and snares in a timely manner—reports that suggest this problem occurs regardless of target species and in many locations.

[10] From FY 2002 through 2011, inclusive

[11] Nearly 25,000 Canada geese were killed by Wildlife Services in FY 2012.

3.5 Decision-making Process Inappropriately Favors Lethal Control

The numbers cited above (sections 2 and 3) represent the accumulation of many individual Wildlife Services decisions that favored lethal control actions. Wildlife Services agents are directed to follow a simple linear decision-making process (USDA Wildlife Services 2008). In putting this process into action, Wildlife Services appears to promote prevention and the use of nonlethal wildlife control methods, but the language in its policy directives on this is vague and expressed as preference rather than requirement.[12] A U.S. General Accounting Office report (1995), however, noted that Wildlife Services rarely tried nonlethal approaches in many situations where they had been proven.[13]

Wildlife Services has not updated or revised its decision-making process in the nearly two decades since it published its Wildlife Decision Model as part of its now-outdated Programmatic Environmental Impact Statement (PEIS) (USDA APHIS 1997). Meanwhile, a considerable body of evidence has emerged to identify new approaches and advances in the science of wildlife damage management (e.g. Braysher 1993, Hone 1996, 2007, Eggleston et al. 2003, Littin & Mellor 2005, Mason & Littin 2003, Meerberg et al. 2008, Cowan & Wharburton 2011). Wildlife Services has failed to remain current with the field by integrating new findings and information into their management guidelines and standards.

For example, in contrast to Wildlife Services' linear decision model in which it is not possible to objectively address the welfare consequences of a program or action, the Australian Government has developed a decision matrix approach that accounts for the welfare consequences (humaneness) of devices and techniques as well as killing methods (Sharp & Saunders 2008, 2011). Such assessments apply objective criteria that allow practitioners to choose the most humane methods available, even when animals are subject to lethal control. This approach has been tested in field applications and its value demonstrated in real world management approaches (Baker et al. 2012).

3.6 Inappropriate Subsidies for Private Interests

Some of Wildlife Services' activities, such as efforts to prevent bird strikes at airports or programs aimed at controlling the spread of rabies, benefit the general public. Others primarily benefit private interests and are inappropriate subsidies. For example:

- Killing predators to benefit private agriculture and big game management interests
- Poisoning prodigious numbers of birds at CAFOs and prairie dogs on rangeland to benefit the livestock industry
- Killing cormorants, great blue herons, and other birds for the benefit of aquaculture operations
- Killing black bears and beavers at the behest of the timber industry
- Killing Canada geese and American coots on golf courses to benefit course operators

To illustrate the magnitude of these programs:

- Over a ten-year period[14] Wildlife Services spent more than $543 million in federal funds with more than $213 million of those spent on behalf of agricultural producers who are private businesses

[12] Specifically, when selecting methods staff are instructed that "preference is given to nonlethal methods when practical and effective" (USDA Wildlife Services 2009b) and that staff are to use the Decision Model "with preference given to nonlethal methods when practical and effective" (USDA Wildlife Services 2010a).
[13] For example: fladry to protect cattle from wolves (Shivik et al. 2003), shed lambing to protect new-born sheep from coyotes (Andelt 1996, Treves and Karanth 2003, Sacks and Neale 2002), and flow devices to prevent flooding and protect culverts from beaver damming activity (Boyles & Savitsky 2008, Lisle 2003).
[14] FY 2002 through FY 2011, inclusive

- Some of the remaining $330 million in federal funds spent during that ten-year period were used on behalf of non-agricultural private interests including timber producers, hunters, outfitters, and private property owners [15]
- In one year, FY 2013, Wildlife Services spent more than $57 million in federal funds on animal damage management activities
- Wildlife Services spend millions killing animals from aircraft—just one management methods—to benefit livestock producers (see sidebar)

3.7 Ineffective and Economically Inefficient Programs

Wildlife Services typically focuses on the effectiveness of individual methods (e.g., how effectively and efficiently specific methods kill coyotes) rather than the effectiveness of overall programs (e.g., how effectively and efficiently a program reduces and

In January 2011, The HSUS submitted a Freedom of Information Act (FOIA) request for records concerning Wildlife Services' aerial gunning operations in five western states. Analysis of the documents provided in response to this request yielded strong support that Wildlife Services operations provide a substantial subsidy for private interests. These examples are limited to aerial gunning because of the limits of the FOIA request, but aerial gunning is not the only activity were Wildlife Services provides subsidy to private entities.

In Idaho, Wildlife Services and the Idaho Wool Growers Association (IWGA) had a CSA under which Wildlife Services leased an IWGA-owned aircraft with a stated value of $115,000. Wildlife Services paid IWGA to use that aircraft to kill carnivores on IWGA members' property. In the two years covered by the FOIA request, Wildlife Services paid IWGA nearly $110,000 for use of this aircraft. If this CSA continues, it appears Wildlife Services will soon have paid IWGA more money for the use of this aircraft than its declared value.

In aerial gunning operations, hundreds of dollars—sometimes even thousands—can be spent for each animal killed, and amounts add up quickly. Analysis of the FOIA response revealed that in FY 2009, Wildlife Services in Wyoming spent over $1 million to kill thousands of animals from aircraft to benefit livestock producers. In the calendar years 2009 and 2010, Wildlife Services in Nevada spent over half a million dollars each year killing coyotes from aircraft to benefit livestock producers.

While Wildlife Services uses both fixed-wing aircraft and helicopter to kill animals, killing animals from helicopters is particularly expensive. Costs of operation from helicopters ranged from over $700 per hour to about $1,000 per hour over the time period covered in the FOIA documents. For example, use of just one of several contracted helicopters in Wyoming totaled nearly $100,000 per year (Table 3.2). The cost to kill animals of different species varies from hundreds to thousands of dollars for each individual animal.

Table 3.2 Wyoming USDA Wildlife Services Use of Sky Aviation Ranger (N20WY) Helicopter January 1, 2009 to January 26, 2011

Species	Number of Animals Killed	Flight Hours	Cost	Cost per Animal Killed
Coyotes	511	151.2	$124,438	$244
Wolves, Gray/Timber	26	37.9	$31,192	$1,200
Bear, Grizzly	1	3.8	$3,127	$3,127
Total	539	239.1	$196,779	$365

Killing grizzly bears and wolves from helicopters is especially expensive. As shown in Table 3.2, the cost to kill one grizzly bear was reported to be more than $3,000. In other documents obtained by the FOIA request, Wyoming Wildlife Services reported using a contracted helicopter for 64 hours, plus spending 7.8 hours of "ferry" time, presumably in transit to and from the site, to kill a single grizzly. Based on other information obtained by the FOIA request, use of that helicopter cost approximately $800 per hour. Therefore, killing one grizzly bear may have cost more than $50,000. No information was provided on what justified this expenditure. In Idaho, Wildlife Services spent an average of $2,175 for each wolf killed from fixed-wing aircraft. When the program used helicopters, Wildlife Services spent an average of $27,405 to kill each wolf.

In Nevada, Wildlife Services spent 121.9 hours in the air and killed 884 coyotes on just one property during the period covered by the FOIA. While the cost of this activity was not reported, analysis of the FOIA material found that the costs of aerial gunning per coyote killed ranged from $53 from fixed wing aircrafts in Idaho to $333 from helicopters in Nevada. Therefore, the cost of killing coyotes on this single property during this period could have ranged from nearly $47,000 to $221,000.

[15] Wildlife Services does not report expenditures in a way that allows work on behalf of non-agricultural private interest to be separated from work that serves a broader public interest.

prevents livestock losses). An effective program-level approach would focus on a variety of elements (e.g., proactive and preventative measures, exclusion where possible, frightening and repelling agents, the use of domestic guard animals for livestock protection) and only move to lethal control as a last resort—for example, when specific problem animals had been identified and could not be deterred from killing livestock. All too often Wildlife Services choses the lethal approach first, sometimes in large-scale programs that remove carnivores indiscriminately in the hopes of reaching the few actually responsible for livestock damages (Michell et al. 2004). Conservation biologists often refer to this predator management strategy as the "sledgehammer" approach (Logan & Sweanor 2001, Stolzenburg 2006).

As one example, from the material received in response to its FOIA request (see sidebar), The HSUS calculated that in Idaho, more than 38 percent of the coyotes killed by aerial gunning had not committed predation on domestic livestock and Wildlife Services knew this when it killed them. In fact, more than two thousand coyotes killed during the period covered by the FOIA were killed pre-emptively to "sterilize" the landscape.

Elsewhere, Berger (2006) found that despite Wildlife Services killing five million predators,[16] this had little effect on sheep businesses. Eighty-five percent of U.S. sheep producers went bankrupt during the time period studied. It did not matter if coyotes, the most important livestock predator, were present or not. In fact, two different geographic areas—one where coyotes existed and one where they were absent—experienced identical declines in the sheep industry because of unfavorable market conditions, not from predator-caused losses (Berger 2006). Research indicates that killing predators indiscriminately can lead to increased rates of immigration of others, introduce new diseases, and increase female fecundity and juvenile survival (Antone 2008, Baker et al. 2008). And recent experience in Montana suggests it may not impact the number of sheep killed by predators. In 2011, a funding shortfall reduced the amount of time Wildlife Services spent killing coyotes by two months, but rather than an increase in predation on sheep, the number of sheep killed by coyotes was lower than expected (Cole 2012a).

In a review of Wildlife Services' economic analyses for predator management, Loomis concluded that "…lethal control is partly justified by economic analyses that are often incomplete, and sometimes incorrect" (2012: 4). To date, there has never been an independent benefit-cost analysis of Wildlife Services' activities (U.S. General Accounting Office 2001). While most federal agencies have formal guidelines for economic analysis, Wildlife Services does not. For programs without their own, The U.S. Office of Management and Budget (OMB) offers federal agencies general guidelines[17] that Wildlife Services could employ, but does not.

For federal programs, economic analyses must take into account costs and benefits to the society as a whole—not just those applicable to private interests (U.S. OMB 1992). Yet Wildlife Services' economic analyses focus on the financial value to private businesses (livestock's value to livestock producers, for example) and leave out any consideration of the value of wildlife and of poison- and trap-free public lands (for example) to non-consumptive uses. More than 70 million Americans spend $55 billion and generate over $100 million in total economic activity on non-consumptive uses of wildlife in native habitats, especially on federal public lands (Leonard 2008, USFWS 2012). In Wildlife Services' economic analyses, any such values carnivores might bring are omitted entirely (Loomis 2012). The flaws identified by Loomis (2012) tend to "substantially overstate the benefit-cost ratio," thus making lethal control appear much more economically beneficial than would likely be the case were the analyses conducted properly.

Wildlife Services spends significant resources on lethal predator control operations but does not appear to evaluate those costs relative to the value livestock producers actually lose to predators. For example, Nevada Wildlife Services and its cooperators

[16] Between 1939 and 1998, at a cost of 1.6 billion dollars
[17] President's Memorandum 2009, Executive Order 13576 2011.

spent $2.2 million in FY 2010 to address damages that totaled only $61,875, and that would only have been $123,000 to $183,000 if no action were taken, according to Wildlife Services' projections of the worst-case scenario (Nevada Wildlife Services 2010-2011, USDA Wildlife Services 2010b).

For the national livestock industry as a whole, predation is not a significant cause of business failure or economic loss. Further, livestock losses are unevenly distributed and localized. "A small proportion of producers absorb high losses, whereas the vast majority of producers sustain less serious economic damage" (U.S. GAO 2001: 36). Livestock losses are variable not only between producers, but for the same producer over time (Baker et al. 2008). In other words, few, if any, livestock producers are significantly affected by predation over time.

Every five years the USDA National Agricultural Statistics Service (NASS) compiles nationwide cattle inventory and loss numbers. The most recent compilation (May 2011) shows that of the 94 million head of cattle produced in the U.S. in 2010, very few (220,000 or 0.23 percent) were reported by producers to have been killed by predators. More cattle (3.8 million or 4.04 percent) were lost due to adverse weather, health problems, and theft (USDA NASS 2011).

The same holds true for sheep. In 2009, producers reported that predators killed 4 percent (247,200) of the 5.7 million sheep produced in the U.S. But 7 percent (387,300) were lost to disease, theft, and other causes (USDA NASS 2010). In fact, despite six decades of lethal predator control that killed more than 5 million predators, there is very little evidence that lethal predator control programs actually benefit sheep producers (Berger 2006).

3.8 Outdated and Inadequate NEPA Compliance

The National Environmental Policy Act[18] (NEPA) requires federal agencies to examine the decisions they propose on major federal actions so as to be publicly transparent and environmentally informed. Implementing regulations specify how agencies must comply with NEPA, including the requirement for agencies to examine new and ***continuing*** actions (20 C.F.R. § 1508.18(a), emphasis added). Wildlife Services' last Final Programmatic Environmental Impact Statement (PEIS) was issued in April 1994, but was based on activities that occurred in the 1988 fiscal year. The scientific studies it relied on were completed in the 1970s and 1980s. The PEIS was revised with only modest changes in October 1997. The adequacy of Wildlife Services' PEIS has been challenged but with no relevant consequences.

The PEIS would be outdated by any measure of the lifetime of such documentation, but this is especially the case here given major changes in the orientation and focus of Wildlife Service's programs. The types of animals killed have changed, new and different species are being killed, and the relative numbers of animals of different types has changed (Table 3.3).

- The number of species killed has more than tripled.
- Impacts for many species now being killed were not analyzed in the PEIS.
- For several types of animals, there has been a significant increase in numbers killed.[19]

Table 3.3. Animals Reported Killed by USDA Wildlife Services by Category in FY 1988 and FY 2011
Data Sources: FY 1988 data: USDA APHIS 1997, FY 2011 data: USDA Wildlife Services 2012b.

Category of Animals	Number Killed in FY 1988	Number Killed in FY 2011
Blackbirds & Corvids	3,688,072	739,947
Starlings	1,012,242	1,500,463
Prairie Dogs, Gophers, & Ground Squirrels	124,487	24,361*
Mammalian Carnivores	104,832	120,197
Aquatic Mammals	9,198	29,534
Songbirds	8,788	1,096,678
Waterfowl, Fishing, & Wading Birds	6,965	62,674
Other Mammals	4,272	31,510
Other Birds	470	7,379
Wild Pigs	410	32,573
Raptors	366	9,113
Cervids	186	5,656
Reptiles & Amphibians	87	25,191
Sea Birds, Shore Birds, & Gulls	62	27,313
Fish & Other Aquatic Species	1	39,755

*Wildlife Services reported estimated number of individual animals killed in poisoned and fumigated burrows in FY 1988 but did not report estimated number killed in FY 2011. FY 2011 data report the number of dens poisoned, fumigated, and manually excavated.

[18] 42 U.S.C. §§ 4321-4370e

[19] For example, a hundred-fold increase in the number of songbirds killed.

The nature of the Wildlife Services program has changed significantly since the 1994 PEIS. At the time of the PEIS, Wildlife Services devoted 85 percent of its resources to agricultural damage, where recently[20] it devoted just 37 percent. The size of the program has increased significantly as well, with overall expenditures more than 300 percent greater now, while expenditures for human health and safety have increased more than 2500 percent, natural resources more than 2000 percent, and property damage that much as well.

NEPA imposes on all federal agencies a continuing duty to supplement existing EISs in response to "…significant new circumstances or information relevant to environmental concerns and bearing on the proposed action and its impacts"[21] and Wildlife Services is derelict in meeting this requirement. Wildlife Services' programmatic environmental compliance does not take into account up-to-date science, including research conducted by its own National Wildlife Research Center (NWRC) that is specific to its own mission. According to its website[22], NWRC scientists have produced 2,485 publications from 1990 to 2011 none of which are integrated into a new PEIS as they should. Importantly, academic scientists and working wildlife professionals outside Wildlife Services have added volumes to the state of knowledge on wildlife damage management in the last two decades, information that badly needs to be acknowledged and used in their programmatic approach.

This failing cannot be compensated for by Environmental Assessments (EAs) that Wildlife Services issues for parts of its program in individual states. These assessments do not adequately address all of the programs within those states. Operations in 28 states are impacting species—including species lethally controlled—not covered by EAs. Many of these EAs are a decade or more old—56 documents are at least 10 years old, and several date to the 1990s. Like the PEIS, these older EAs do not reflect significant changes in operations and science, leaving significant areas of Wildlife Services program activities with outdated NEPA analysis at both the programmatic and state level.

Significantly missing from the patchwork of Environmental Assessments that Wildlife Services currently relies upon to be in compliance with NEPA is the analysis of cumulative impacts[23]. NEPA specifically prohibits federal agencies from avoiding to address significance "…by terming an action temporary or by breaking it down into small component parts."[24] Wildlife Services incremental environmental analyses of the impacts of its wildlife damage management programs at the state and district levels is precisely what NEPA seeks to guard against and should not be tolerated.

3.9 Program Lacks Transparency and Public Accountability

Government activities should be transparent, participatory, and collaborative. Executive departments and agencies are required to take steps to create a more open government and USDA is among those committed to the principles of open government (Orszag 2009, Smith 2011). Therefore, Wildlife Services, as a part of USDA, is obligated to operate transparently.

The public has shown little support for a federal role in the killing of wildlife (Reiter et al. 1999), and efforts to understand and incorporate people's attitudes, values, and beliefs about wildlife control into planning and programs are increasingly recognized as important (Gill 1996, Perry & Perry 2008). Despite this, Wildlife Services allows special interests and private individuals to contract for services that often are at odds with values of affected communities and other stakeholders and thereby fails to be accountable to the public.

[20] FY 2011

[21] 40 C.F.R. § 1509(c)(1)(ii)

[22] Accessed May 12, 2014: http://www.aphis.usda.gov/wps/portal/aphis/ourfocus/wildlifedamage?1dmy&urile=wcm%3apath%3a%2Faphis_content_library%2Fsa_our_focus%2Fsa_wildlife_damage%2Fsa_landing_page%2Fsa_spotlights%2Fct_nwrc_home_delete2

[23] 40 C.F.R. § 1508.8(b)

[24] 40 C.F.R. § 1508.27(b)(7)

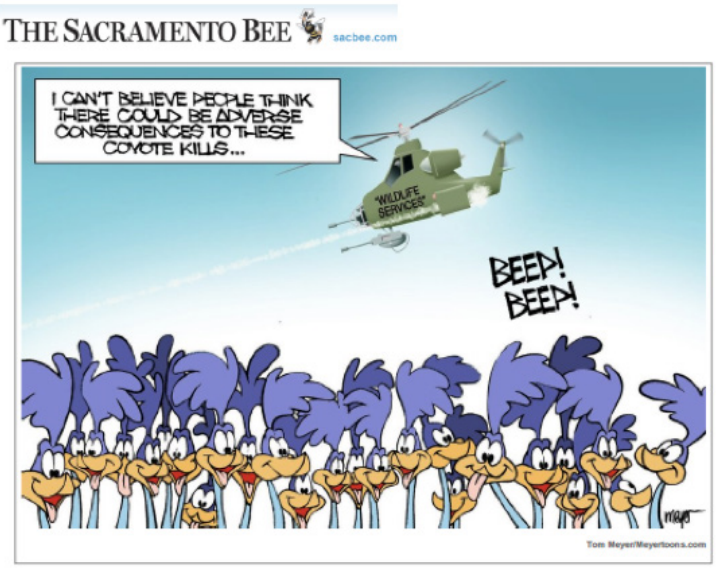
People in communities where Wildlife Services is working are often uninformed (e.g. Donero 2011, Murray 2009) even though they and their pets may be at risk because Wildlife Services sets traps and M-44s close to paths, roadways, and property lines. CSAs leave the responsibility of informing neighbors and the local community about control activities to the customers, who often fail to do so. When customers do notify neighbors, the information distributed is often inadequate (Gardner 2010). Unsurprisingly, these and other shortcomings of Wildlife Services communications with the public have led in recent years to negative perception of the program. This is exemplified in recent revelations about employee misconduct and insensitivity to both wild and domestic animals (see sidebar).

In April 2012, the Sacramento Bee published a series of exposé articles on Wildlife Services that revealed brutal and inhumane methodologies, fiscal irresponsibility, and environmental damage resulting from its programs to lethally control wildlife (Knudson 2012b, 2012c, 2012d). The Bee editorialized in May 2012 against Wildlife Services continuing business as usual (Sacramento Bee 2012a, 2012b) and several follow-up articles appeared during the rest of 2012 (Knudson 2012e, 2012f, 2012g, 2012h, 2012i). The blogosphere and social media picked up and spread the stories widely (see, for example, Bekoff 2012b, Davis 2012a and 2012b, Change.org 2012, Maughan 2012). In 2013 and 2014, additional writers published pieces decrying Wildlife Services' lethal practices including an editorial calling for reform in the New York Times (see, for example, Corbin 2013, Nichols 2013a and 2013b, NY Times Editorial Board 2013, Clark 2014, Fears 2014).

In response to this negative media attention, Wildlife Services has made defensive public statements that repeat the inaccurate assertion that only those animals causing damage are targeted for lethal control, and has sought to redirect public attention to other aspects of their programs (Shea 2013, 2014). Wildlife Services has given no public indication that it intends to undertake an internal examination or consider real reform despite the rather scathing indictments of misconduct in the newspaper coverage.

In 2012, photos that appeared to show dogs attacking live coyotes in leg-hold traps were discovered posted on a Wyoming Wildlife Services employee's Facebook page, in a folder labeled "work," as well as on other websites (Knudson 2012a, Liss & Fox 2012, Cole 2012b, Bekoff 2012a). The employee's sole public statement about the revelation made it clear that his only concern was that he had allowed his Facebook posts to be seen (Frank 2012). An internal investigation was opened, but Wildlife Services declined to share the outcome citing vague legal requirements for employee actions. Stakeholders have challenged the right of a federal program to withhold such information, especially when the employee's name and basic facts are already publically known (Todd 2013). The individual involved is still employed by Wyoming Wildlife Services and no disciplinary action has been announced.

Hard on the heels of the public outrage over this incident, an Arizona Wildlife Services employee was arrested in January 2013 for felony animal cruelty after his neighbor's dog Zoey was found trapped in his unfenced front yard. Police found Zoey covered in blood with her legs entangled in two traps, which had been set near a decomposing animal head apparently left as bait. The veterinarian who treated her said that Zoey lost 17 teeth and part of her jawbone trying to gnaw her way out of the trap. The Wildlife Services agent was on duty when he set the traps in his yard (Rose 2013). He has since resigned and the outcome of the animal cruelty prosecution is pending.



Editorial cartoon by Tom Meyers in The Sacramento Bee, May 6, 2012.
Tom Meyer/meyertoons.com

Wildlife Services also fails to be completely transparent to Congress. In April 2011, four members of Congress asked Wildlife Services for specific information on budget allocations[25]. APHIS' response to the Congressional inquiry failed to provide significant parts of the information requested (Parham 2011), citing, for example, that of the $59 million spent on animal damage management, that spent on lethal predator control was unknown. In part, this was attributable to the nature of the program's accounting practices. The Program Assessment and Accountability (PAA) unit of APHIS conducted a review of the Wildlife Services program, noting in their report that the autonomy of state-level offices meant that each used separate accounting, billing, and cost recuperation practices. This lack of cohesion and oversight made financial data tracking unavailable on a national level (USDA APHIS 2012).

Additionally, while top Wildlife Services officials believed that states held $24 million in program support accounts, PAA reviewers could only find $12 million. Wildlife Services' state offices inappropriately co-mingled federal appropriations with other funds in these accounts that may have lacked legitimate purpose (USDA APHIS 2012). PAA found accounting practices that violated federal laws because Wildlife Services' accounting was un-reconcilable and appeared to profit from its customers (USDA APHIS 2012). The PAA review further found that in some circumstances, Wildlife Services recouped only 20 percent of costs; in others, more than 100 percent and some state offices collected more funds than they spent on services.

Wildlife Services employees are required to report all wildlife damage management activities including methods employed and resources protected (USDA Wildlife Services 2013c). Field staff are required to file weekly computerized reports that detail the methods used, where, and under what CSA. But once collected, this information is not available at the national level to Wildlife Services managers, Congress, or the public. Further, former Wildlife Services employees state that Wildlife Services agents routinely fail to include all non-target animals killed in their reports, especially non-target threatened and endangered species. Reportedly, this lack of documentation is encouraged by supervisors (Niemeyer 2010, NRDC 2013, Predator Defense 2014).

3.10 Wildlife Service Program Runs Afoul of Science

The media, public, and Congress have not been alone in criticizing Wildlife Services programs. The program has long been subject to serious scrutiny and criticism from academics and wildlife professionals, such as The American Society of Mammalogists (ASM). In 1930 and again in 1999, ASM asked Wildlife Services to recognize the important ecological value of native mammalian carnivores; cease indiscriminant, preemptive, lethal control programs; and focus on nonlethal control, compensatory measures, and sound animal husbandry (Adams 1930, Goldman 1930, Mares 2012). ASM labels Wildlife Services' lethal control of native mammals as "wasteful and often counterproductive," saying that "both target and non-target lethal control by [Wildlife Services] often works at cross-purposes to taxpayer-supported efforts by other state and federal agencies to conserve and enhance the very same species that Wildlife Services kills" (Mares 2012). Wildlife Services has not addressed ASM's recommendations in any meaningful way.

Research by conservation scientists is increasingly questioning the removal of large numbers of carnivores from our public lands, as Wildlife Services often does. Such removals may have a significant detrimental impact on biological diversity and community structure in the very places where federal and state agencies are restoring and conserving ecosystems (Henke & Bryant 1999, Rathnaswamy & Warren 1998). In its Strategic Plan, one of the goals Wildlife Services espouses is to safeguard the health of animals, plants, and ***ecosystems*** [emphasis added] (USDA Wildlife Services 2013d). However, many victims of Wildlife Services lethal control are important to their ecosystems, especially keystone species such as prairie dogs and beavers and top carnivores such as coyotes and wolves. Conservation biologists warn that a number of serious negative consequences can result from reducing populations of keystone species including ecosystems with less biodiversity and more susceptible to

[25] Campbell et al. 2011: "Given that the costs of these programs are borne in part by American taxpayers, it is imperative that Congress understand how federal tax dollars are being spent."

invasive species, destabilization of populations of other species, and loss of ecosystem services that benefit people (Bergstrom et al. 2013).

One specific example of Wildlife Services' problems with contemporary science is the absence of established protocols to make determinations about the cause of livestock deaths (Niemeyer 2010, Green 2012). The consequence of this is that field agents may assign livestock deaths to wolves based upon little or no evidence. As a result, Wildlife Services conducts high levels of wolf persecution, especially in New Mexico, Arizona, Idaho, Montana, and Wyoming. Oregon state wildlife officials recently criticized Wildlife Services' conduct in this regard (Profita 2011).

In contrast, the FWS relies on science-based protocols for making determinations to assign livestock losses to endangered Mexican wolves (Roy and Dorrance 1976). In the Northern Rocky Mountains, the FWS similarly verified livestock losses regarding gray wolves in the past. The number of livestock losses the FWS attributed to wolves was far lower than the number reported to USDA by livestock producers. For example in 2011, the FWS verified 75 cattle deaths due to wolves in Idaho (USFWS 2011), while producers reported 2,561 losses to USDA's National Agricultural Service (USDA NASS 2011). Wildlife Services cites the producer-reported number of losses to argue the need for their program activities against carnivores.

Wildlife Services has conducted a war on our nation's wildlife for more than a century. This war has taken millions of animals, many of them non-target wildlife blameless in causing injury or harm to humans or their interests, as well as cats, dogs, and other domestic animals. The environmental harm this program has done has been truly significant, but is only slowly being revealed. Its methods have often been cruel, and it has failed to keep pace with the rest of the world in improving these, reducing the need for their use, or finding less harmful alternative. Its organizational structure gives state offices considerable autonomy in a field where top-down control is essential to avoid questionable practices. Its accounting practices are suspect and opaque. The costs of the program outweigh its benefits. While it relies upon tax revenues to conduct its work, its services often go to a small number of special interests including many conducting industrial operations such as public lands grazers, CAFOs, industrial timber operators, and commercial fish farms. While it tries to avoid public review and accountability, in recent years Wildlife Services has received increasing scrutiny from stakeholders, the media, and the public.

Wildlife Services must undergo major reform. In the past, scientists and others have taken issue with the negative impacts of Wildlife Services lethal control practices and repeatedly put forward recommendations for change. Public outcry over massive poisoning campaigns peaked in the 1970s after decades of reckless and indiscriminate campaigns aimed at landscape-level depopulations. Still, the culture of killing continues to provoke criticism today. Wildlife Services must undergo transformational change to come into alignment with mainstream American values.

4.1. End the Use of Inhumane Management Techniques

Some of the methods Wildlife Services relies on—poisons, aerial gunning, traps, and snares—are inherently inhumane. Yet Wildlife Services continues to rely on them where less inhumane, often nonlethal methods could resolve conflicts between people and wildlife. While Wildlife Services must evaluate animal welfare impacts of its control methods (see Section 4.3, below), use of these most inhumane and indiscriminate management techniques need to be ended expeditiously. When lethal control is needed, the program should use the most humane and selective methods possible. The numerous preventative and nonlethal methods available, and reasonable strategies that need to be followed to ensure their efficacy, should be substituted whenever possible.

These reforms, which could be implemented administratively or by legislative mandate, should include:

- An immediate end to the use of sodium cyanide in M-44s and Compound 1080 in Livestock Protection Collars
- An end to the use of DRC-1339 within five years
- A phase-out of all other poisons and toxicants
- An immediate end to pre-emptive, indiscriminate aerial gunning
- A phase-out of the most cruel traps and snares, as determined by an appropriate welfare assessment tool (see Section 4.3 below) over a five-year period

4.2 Transfer Wildlife Services Back to the Department of Interior

Wildlife programs belong in wildlife agencies. The balkanization of federal wildlife programs between the Departments of Agriculture and Interior will continue to cause internal conflict, confusion of authority, and imprecision in defining mission and goals that will be wasteful and often duplicative of services. If Department of Interior programs pursue goals that may be in conflict with those of Wildlife Services, as they often do, then those problems should be resolved through internal channels, not across departments.

The Wildlife Services program today is different from that which Congress transferred to USDA nearly 30 years ago. At that time it was essentially a service program to agricultural producers; now it devotes only about a third of its resources to agricultural programs making it a poor fit in the Department of Agriculture. Meanwhile, its impact on wildlife is significant and should be integrated with other federal wildlife programs in the Department of Interior.

Returning Wildlife Services to the Department of Interior would improve communication and the exchanges of information. Uniting administrative oversight of all federal wildlife activities would improve the ability to evaluate programs. Because DOI has a culture of wildlife protection and conservation, Wildlife Services would be able to become a more holistic program advancing co-existence, as called for in its mission statement, and ecosystem health, as stated in its Strategic Plan. Rather than acting as an arm of the livestock industry, a Wildlife Services program within the Department of the Interior could take a more balanced approach to wildlife conflicts, and have better consultation and coordination with other wildlife professionals working to protect endangered and threatened species and public lands.

An important part of this reorganization concept and one that could happen immediately with good results would be to reassign the National Wildlife Research Center (NWRC) to the U.S. Geological Survey's science division. The effort to bring all research grade scientists in Interior into one agency in the early 1990's was well intentioned and far-sighted, if not well executed (Pulliam 1998a, 1998b). Those scientists are now centralized within USGS, resulting in better and more efficient research and science coordination among the Interior agencies. The NWRC stands as an outlier with respect to federal science focused on wildlife, and this can be remedied by this transfer.

To implement this reform, Congress should:

- Return Wildlife Services to the Department of Interior
- Consolidate wildlife science by relocating the NWRC to USGS in Interior

4.3. Adopt an Assessment Tool for Animal Welfare

The science of wildlife damage management has advanced significantly in the last two decades, nowhere more than in the actual measurement and quantification of animals' welfare status (e.g. Broom 1991, Mason & Littin 2003, Iossa et al. 2007, Sharp & Saunders 2008, 2011). Despite this, animal welfare is rarely, if ever, considered a first-order concern in wildlife damage management (Schmidt 1989a,1989b), and especially in Wildlife Services programs. Wildlife Services' existing simplistic decision-making model glosses over welfare concerns. Of particular value in assessing welfare are the matrix assessments described by Sharp and Saunders (2008, 2011). Wildlife Services should adopt this approach for all control decisions, especially decisions on the use of lethal control. Further, it should conduct a sweeping review and analysis of all of the science that has emerged in recent times to better focus and improve wildlife damage management as a discipline and ensure that its own programs are reorganized and refocused to be consistent with leading standards and practices in that field.

To implement this reform, Wildlife Services should:

- Review and analyze existing models, with outside expert review and input
- Issue a revised Policy Directive replacing its existing simplistic decision-making model with one that explicitly incorporates animal welfare
- Provide training to all field operations staff on implementing the new model

4.4. Prepare a New Programmatic Environmental Impact Statement

The Programmatic Environmental Impact Statement (PEIS) of 1994, the core compliance documentation in which Wildlife Services identifies its various activities and addresses their environmental impacts, is completely out of date. It does not analyze the Wildlife Services program as it operates today nor does it take into account the current science that bears on the program. While Wildlife Services has attempted to remain current in reviewing its programs through state-level, species- or topic-limited Environmental Assessments (EAs), many of these are also out of date, leave large gaps in coverage, fail to adequately address cumulative impacts, and do not address the broader programmatic issues that guide all aspects of program operations.

Wildlife Services should complete a new Programmatic EIS that includes:

- Full analysis of the impacts on the physical and human environment of the entire Wildlife Services program as it operates today
- Full consideration and accounting of the value of the animals Wildlife Services kills with respect to environmental services, ecosystem health, and human interests and needs, including value to people who are not Wildlife Services customers
- Full analysis of the ecological and social consequences of program activities with special attention to predator control programs and activities that impact keystone species
- Full analysis of the cumulative impacts of all activities, including required analysis of the reasonably foreseeable future

4.5. Adopt a Conservation Mandate

Wildlife Services often kills large numbers of animals, kills or disrupts the presence of apex predators, kills or disrupts the presence of keystone species such as beavers and prairie dogs, and kills non-target species that are endangered and threatened with extinction. The program works in contravention of other significant federal environmental programs such as those for protection of threatened and endangered species, conservation of migratory birds, protection of eagles, and protection of the environment (including the wild animals living there) from poisons and toxicants. Conservation biologists warn effects of such programs on ecological communities may be significant and negative (Bergstrom et al. 2013). Wildlife Services disrupts and impoverishes ecological communities with no attempt to understand or weigh the value of these communities.

Wildlife Services should make the health and integrity of ecological communities a priority and should:

- Take into account the potential for predator control to result in trophic cascades (e.g. Pace et al. 1999) in making decisions to undertake control and, if control is deemed necessary, in selecting appropriate methods
- Take into account the potential for predator control to result in mesopredator release[26] (i.e., an increase in the number of mid-sized predators such as raccoons and foxes when top predator species are absent)
- Conduct benefit-cost analyses according to appropriate standards and including the ecological services and ecosystem benefits of predators and keystone species on the landscape and use these analyses to inform control decision.
- Take into account the potential loss of biodiversity and other healthy ecosystem attributes caused by its control programs including predator control and actions against keystone species in decisions to undertake control, and if control is necessary, in selecting methods of control and, most importantly, take actions that diminish adverse effects.

[26] sensu Crooks & Sole 1999

4.6. Require a Documented Formal Process to Determine Need for Control and Ensure Nonlethal Control is a Preferred Practice

The existing decision-making process in Wildlife Services is decentralized to the point of impracticality. It needs to be replaced with one that increases transparency, guarantees nonlethal control is used wherever feasible, and follows standard protocols that ensure that best practices are not only routinely used, but are adaptively improved upon. Standardized protocols, as for example one used to determine the specific cause of any livestock mortality, would engage the collective thinking of program personnel, experts from other agencies, academics, nonprofits, and the public in stakeholder input to produce guidance that conforms to the highest scientific standards and public acceptability.

A documented process open to public review and input should be used to establish a minimum prescriptive approach that establishes (Hadidian 2010):

- That a clear need to act is identified (justification)
- The benefits from proposed action will be realistic (achievability)
- The methods to be employed will reliably achieve benefits (effectiveness)
- The approach will be targeted (specificity)
- The methods will consider animal welfare (humaneness)
- The consequences of taking action will be known (evaluation)
- That benefits be maintained in a manner that minimizes the need for future action (follow-up)

Wildlife Services already employs SOPs at airports that meet some of these objectives. The existing process there for wildlife hazard assessment and management establishes that airport sponsors and managers:

- Assess the risk and magnitude of wildlife strikes at their airport
- Develop a Wildlife Hazard Management Plan based on that assessment
- Implement and periodically evaluate the plan
- Make changes to airport operations and to habitat attracting wildlife to prevent strikes (Cleary & Dolbeer 2005)

Other countries, notably Australia and New Zealand, approach wildlife damage management and control from similar perspectives and incorporate many elements of best practice that Wildlife Services should engage and employ.

4.7. Remove the Financial Incentive to Kill

Wildlife Services state offices collect fees from customers for providing wildlife damage control services. State offices act entrepreneurially to develop markets for their services and to market services, just as private businesses do—in fact, sometimes competing with private businesses. State offices may favor specific, lethal actions because those actions bring fees into a budget dependent on these entrepreneurial schemes. Wildlife Services state offices can create self-funded programs supported by customer fees, insulated from higher levels in the organization. This situation reinforces "bureaucratic capture" (Langenau 1982) by fee-paying customers.

Wildlife Services agents rounded up and killed 80 wild Canada geese and goslings from a suburban neighborhood in Delafield, Wisconsin, in 2011 but did not attempt to limit goslings hatched by simple egg treatment prior to killing the geese. Photo Credit: Jim Pfiel

A federal government program should not be providing services that do not provide broad public benefit. However, Wildlife Services programs frequently benefit only private entities.

To remedy the perverse financial incentives for Wildlife Services to use lethal control, reform of Wildlife Services' funding structure is required including:

- Remove the sources of the incentive to kill—customer fees. End the CSA system that distorts Wildlife Services actions towards satisfying customers and selling work.
- End Wildlife Services activity that does not provide broad public benefits, i.e., direct assistance that benefits private interests

4.8 Conclusion

These seven points proposed could work together synergistically to build a Wildlife Services program that truly enables co-existence between people and wildlife and supports ecosystem health. Such a reformed Wildlife Services program would:

- Use the most humane and effective control methods with an emphasis on prevention of conflicts
- Assess its methods for animal welfare impacts and use the outcome of those assessments in selecting and improving methods
- Fulfills its obligations under NEPA to fully analyze the impacts of its program activities
- Embody a conservation mandate that makes the health of ecological communities a priority
- Use a documented public decision-making process to decide if control is needed and to ensure nonlethal control truly is preferred
- Be transparent and open to stakeholders and the public
- Provide broad public benefits and not subsidize private interests

We look forward to such a Wildlife Services program.

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Addendum—Wildlife Disservice: the USDA Wildlife Services' Inefficient and Inhumane Wildlife Damage Management Program

THE HUMANE SOCIETY
OF THE UNITED STATES

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For more than a century, the U.S. Department of Agriculture's (USDA) Wildlife Services program has held primary federal responsibility for addressing and resolving conflicts with wild animals that cause economic harm or threaten human or animal health and safety. However, in reality, Wildlife Services has waged a war on our nation's wildlife, killing millions of wild animals—many of them unintended targets, including endangered species and pets. While it relies upon tax revenues, the program's services often benefit only a small number of special interests including public lands grazers, industrial timber operators, and commercial fish farmers. Although it seeks to avoid public review, Wildlife Services must be held accountable to the American public.

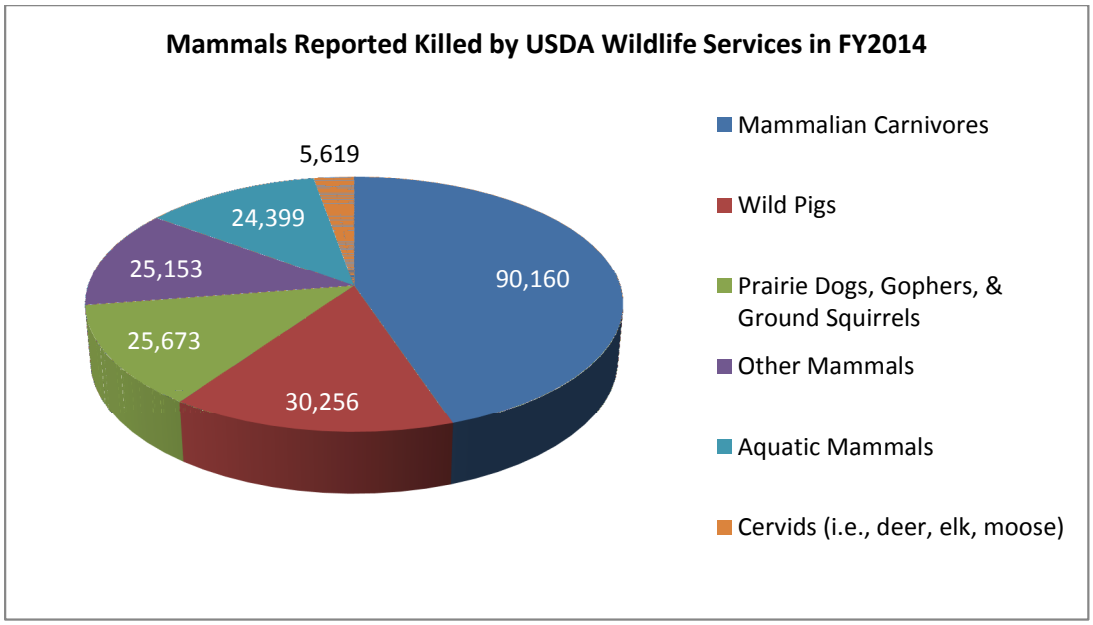
Wildlife Disservice: The USDA Wildlife Services' Inefficient and Inhumane Wildlife Damage Management Program documents Wildlife Services' practices and identifies those for which reform is most urgently needed. It offers a series of concrete and achievable changes that will lead to a better and more responsible program. This addendum serves to reflect data from fiscal year (FY) 2014—to date, the most current available that was not released until after the analysis for *Wildlife Disservice* had been completed. USDA Wildlife Services releases program data reports that document program activities during each fiscal year. These reports are usually made available sometime in the following fiscal year although some years' reports have been delayed beyond that time. Examining the data in these reports each year is vital to understanding the program's activities and changes in those activities both from year to year and over the long term in order to hold Wildlife Services accountable for their actions.

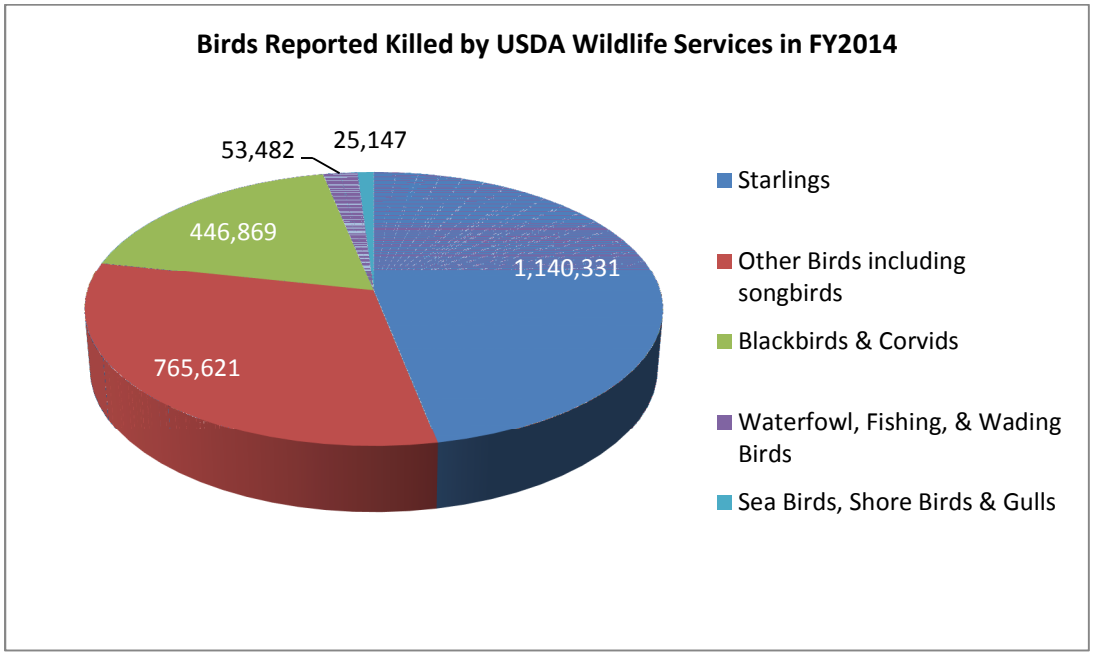
The Wildlife Services Program Today

In Fiscal Year (FY) 2014, Wildlife Services state offices spent more than $127 million on field operations to deliver services to their customers. Of that amount, 52 percent[1] came from federal taxpayer dollars.[2]

Wildlife Services kills millions of animals each year. In FY 2014, more than 2.7 million animals were killed throughout the country and its territories.[3]

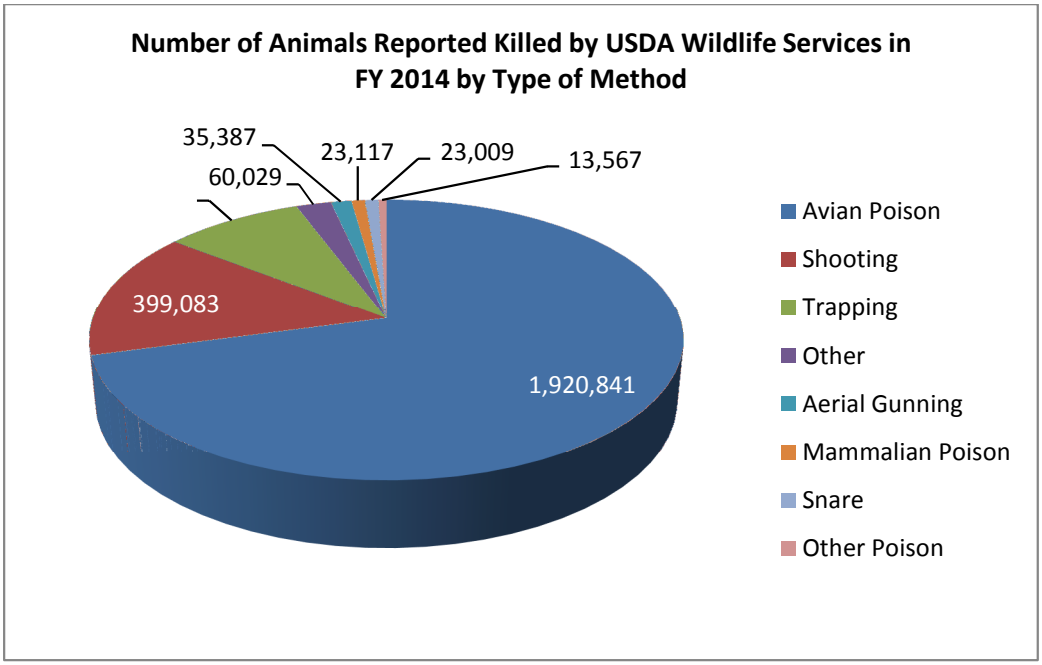
[1] 35 percent came from Wildlife Services' own federal appropriations and 17 percent from other federal agency customers such as the Department of Defense and the U.S. Forest Service (USDA Wildlife Services 2014a).
[2] Addendum to *Wildlife Disservice* data, Section 2.2, Page 5.
[3] Addendum to *Wildlife Disservice* data, Section 2.2, Page 5.





The overwhelming majority of animals killed by Wildlife Services in FY 2014 (nearly 2 million of the more than 2.7 million) were poisoned, and 98 percent of the victims were birds. Tens of thousands of mammals were poisoned as well, including coyotes, prairie dogs, gophers, ground squirrels, and others.[4]

[4] Addendum to *Wildlife Disservice* data, Section 2.2, Page 6.



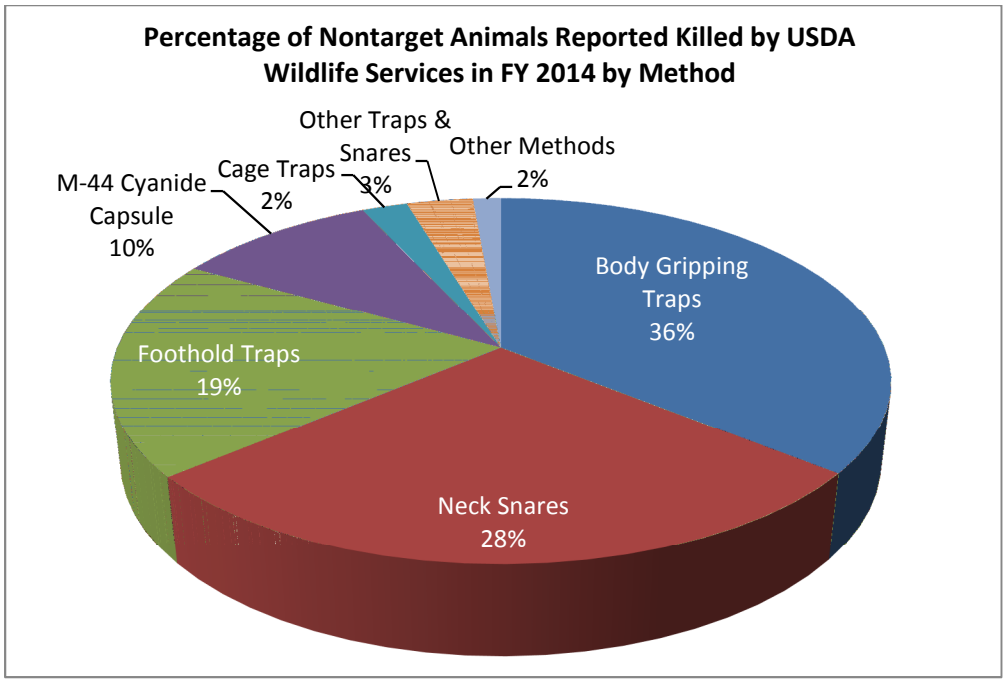
Non-target Animals Killed

Wildlife Services kills thousands of non-target animals annually. In large part this has to do with indiscriminate devices and practices being employed. Both wild and domestic animals are killed, including cats, dogs, cattle, goats, and pigs—nearly 2,500 in FY 2014.[5]

Number of Non-target Animals Reported Killed by USDA Wildlife Services in FY 2014	
Mammalian Carnivores	1,342
Other Mammals	561
Reptiles & Amphibians	213
Cervids (i.e., deer, elk, moose)	108
Songbirds	92
Waterfowl, Fishing, & Wading Birds	64
Wild Pigs	8
Others	50
Total	2,438

Just four of Wildlife Services' control methods—body-gripping traps, neck snares, foothold traps, and M-44 cyanide capsules—are responsible for nearly all (93 percent) of the deaths of non-target animals. Non-target deaths are not proportional to each method's frequency of use, as reflected in the total numbers of animals killed. For example, less than 9 percent of all animals (target and non-target) were killed by traps but just one type of trap—body-gripping—killed 36 percent of non-target animals. These four methods are causing relatively much more non-target death than other methods based on the frequency of their use.[6]

[5] Addendum to *Wildlife Disservice* data, Table 3.2, Page 7.
[6] Addendum to *Wildlife Disservice* data, Section 3.2, Page 7.



Lethal Methods Employed

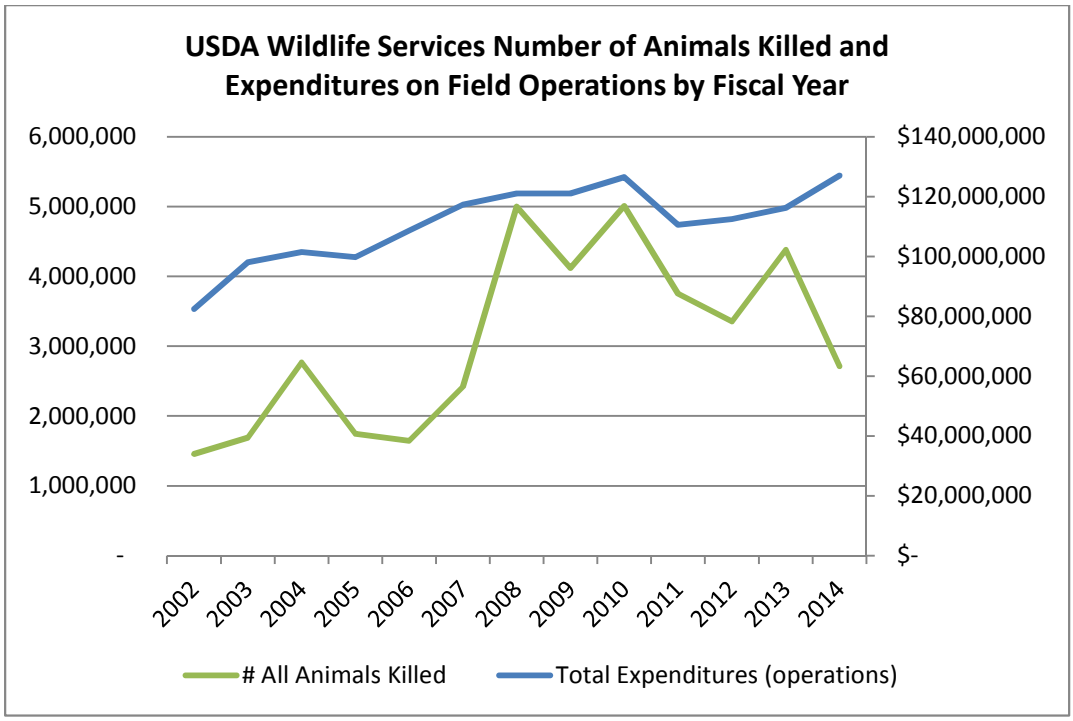
Wildlife Services uses two poisons to specifically target mammalian carnivores—sodium cyanide in M-44 devices and a formulation of sodium fluoroacetate known as Compound 1080 in Livestock Protection Collars (LPC). In addition to the thousands of animals intentionally killed each year by M-44s—more than 12,000 in FY 2014—M-44s kill non-target animals, including pets and endangered species, as well as injure human beings. Wildlife Services reported that M-44s killed 243 non-target victims in FY 2014 including:

- 16 domestic dogs
- 100 foxes
- 67 raccoons
- 25 opossums
- 3 black bears
- Skunks, eagles, ravens, pigs, unidentified domestic animals, a domestic cat, and a collared peccary[7]

Preference for Lethal Methods

In most of the years from 2002 through 2014, when Wildlife Services increased expenditures, it translated into killing more animals.[8]

[7] Addendum to *Wildlife Disservice* data, Page 8.
[8] Addendum to *Wildlife Disservice* data, Page 11.



Inappropriate Subsidies for Private Interests

Some Wildlife Services' activities, such as efforts to prevent bird strikes at airports or programs aimed at controlling the spread of rabies, benefit the general public. Others primarily benefit private interests and are inappropriate subsidies. In FY 2014, Wildlife Services spent more than $66 million in federal funds on animal damage management activities benefiting private interests. [9]

- Over a ten-year period[10] Wildlife Services spent $581 million in federal funds with nearly $212 million of those spent on behalf of agricultural producers who are private businesses
- Some of the remaining nearly $370 million in federal funds spent during that ten-year period were used on behalf of non-agricultural private interests including timber producers, hunters, outfitters, and private property owners[11]

Outdated and Inadequate NEPA Coverage Continues

The Programmatic Environmental Impact Statement (PEIS), issued in 1994 but based on activities that occurred in the 1988 fiscal year, would be outdated by any measure of the lifetime of such documentation, but this is especially the case here given major changes in the orientation and focus of Wildlife Services' programs. The types of animals killed have changed, new and different species are being killed, and the relative numbers of animals of different types has changed).[12]

[9] Addendum to *Wildlife Disservice* data, Pages 12-13.
[10] FY 2005 through FY 2014, inclusive
[11] Wildlife Services does not report expenditures in a way that allows work on behalf of non-agricultural private interest to be separated from work that serves a broader public interest.
[12] Addendum to *Wildlife Disservice* data, Page 15.

Animals Reported Killed by USDA Wildlife Services by Category[13]		
Category of Animals	Number Killed in FY 1988	Number Killed in FY 2014
Blackbirds & Corvids	3,688,072	446,869
Starlings	1,012,242	1,140,331
Prairie Dogs, Gophers, & Ground Squirrels	124,487	25,673*
Mammalian Carnivores	104,832	90,160
Aquatic Mammals	9,198	24,399
Songbirds	8,788	725,384
Waterfowl, Fishing, & Wading Birds	6,965	53,482
Other Mammals	4,272	25,153
Other Birds	470	13,237
Wild Pigs	410	30,256
Raptors	366	7,216
Cervids	186	5,619
Reptiles & Amphibians	87	24,383
Sea Birds, Shore Birds, & Gulls	62	25,147
Fish & Other Aquatic Species	1	49,425
*Wildlife Services reported estimated number of individual animals killed in poisoned and fumigated burrows in FY 1988 but did not report estimated number killed in FY 2014.		

References

USDA Wildlife Services. 2014a. Wildlife Services—Fiscal Year 2014 Federal and Cooperative Funding by Resource Category.

USDA Wildlife Services. 2014b. Table G. Animals Taken by Wildlife Services—FY 2014.

[13] 1988 data source: USDA APHIS. 1997. Animal Damage Control Program Final Environmental Impact Statement. Issued April 1994, Revised October. 2014 data source: USDA Wildlife Services 2014b.

About The HSUS

The HSUS is the nation's largest and most powerful animal protection organization—backed by 11 million Americans, or one in every 28. Established in 1954, The HSUS seeks a humane and sustainable world for all animals, including people. We are America's mainstream force against cruelty, exploitation and neglect, and also the nation's most trusted voice extolling the human-animal bond.

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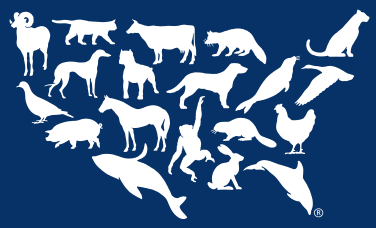

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