HARPER'S MAGAZINE

[Report]

The Rogue Agency

A USDA program that tortures dogs and kills endangered species

by **Christopher Ketcham**

One morning in the fall of 1980, Rex Shaddox got a call from his supervisor at the Uvalde, Texas, office of Animal Damage Control. Shaddox had worked for Animal Damage Control, which was then a branch of the U.S. Fish and Wildlife Service, for seventeen months. His job was to trap and kill wild carnivores, coyotes in particular, that were said to prey on the flocks of local sheep ranchers.

The supervisor, Charles Brown, told Shaddox to meet with his fellow agents at the city dump outside town. "We're gonna do some M-44 tests," Brown said. "With dogs." The M-44, a spring-loaded device that is planted in the ground and ejects sodium cyanide when set off, was among the weapons used by Animal Damage Control to kill coyotes.

When Shaddox arrived at the dump, he found Brown and several colleagues standing over a pit of stinking garbage. A truck from the Uvalde city pound pulled up. It contained abandoned dogs of various breeds. The pound officer removed a small collie from the truck, and Brown took it by the neck. The animal, docile and quiet, stared at its captors.

Illustrations by Danijel Žeželj

Brown brandished an M-44 cartridge. He forced the dog's mouth open and, with his thumb, released the trigger on the device. It sprayed a white dust of cyanide into the collie's mouth.

The dog howled. It convulsed. It coughed blood. It screamed in pain. The animals in the truck heard its wailing. They beat against their cages and cried out.

"All right," said Brown to his trappers. "See, this stuff may be out of date, but it still works." He opened a capsule of amyl nitrite under the collie's nose. Amyl nitrite is an immediate antidote to cyanide poisoning.

The collie heaved and wheezed. Brown then seized it and unleashed another M-44 dose. The dog screamed again. Shaddox started yelling, telling Brown to stop. Brown kicked the collie into the garbage pit.

"He and the other trappers thought it was funny," Shaddox told me. "It's convulsing and dying, and he's laughing. And this is what he's teaching his men. That was just a hell of a way to die. No sympathy, no feeling, no nothing. I'm no animal-rights guy. But heartless bastards is all they were. Right there, that's the culture. And these are federal employees. This is what your government is doing to animals."

Shaddox quit his job after a series of disputes with Brown over the incident in Uvalde. He went on to a long career in wildlife law enforcement, and spent not a small part of it investigating his former employer.

Over the years, Animal Damage Control has been known by many names. At its founding, in 1885, it was the Branch of Economic Ornithology. It became the Bureau of Biological Survey in 1905, and was known as the Division of Predatory Animal and Rodent Control in the 1920s. In 1985, the agency became a part of the U.S. Department of Agriculture, and in 1997, its name was changed from Animal Damage Control to Wildlife Services. The agency's purpose, however, has never changed. "The focus of a government trapper is protecting the livestock industry by killing predators," said Carter Niemeyer, a retired Wildlife Services agent. "Ranchers call us up, and the system kicks in, guns blazing."

Since 2000, Wildlife Services operatives have killed at least 2 million native mammals and 15 million native birds. Many of these animals are iconic in the American West and beloved by the public. Several are listed as endangered or threatened under the Endangered Species Act. In 2014, Wildlife Services killed 322 wolves, 61,702 coyotes, 2,930 foxes, 580 black bears, 796 bobcats, five golden eagles, and three bald eagles. The agency also killed tens of thousands of beavers, squirrels, and prairie dogs. The goal of this slaughter, according to the agency's literature, is to provide "federal leadership and expertise to resolve wildlife conflicts and create a balance that allows people and wildlife to coexist peacefully." The 1931 Animal Damage Control Act, the agency's enabling legislation, directs it to "conduct campaigns for the destruction or control" of any "animals injurious to agriculture."

By the time Niemeyer retired, in 2000, after twenty-five years at the agency, he had personally killed hundreds of coyotes and had overseen the deaths of thousands more. On some days, working in Montana, Niemeyer skinned ten coyotes an hour as helicopters hauled the heaped carcasses in from the backcountry. (The government sold the skins for revenue.) Wildlife Services gunned down coyotes from airplanes and helicopters. Its trappers used poison baits, cyanide traps, leghold traps, and neck snares. They hauled coyote pups from dens with lengths of barbed wire, strangled them, or clubbed them. Sometimes they set the animals on fire in the dens, or suffocated them with explosive cartridges of carbon monoxide. "We joked about using napalm," Niemeyer told me.

Despite the agency's efforts to wipe out coyotes, they returned in larger numbers. "During my career, it was decades of the same thing repeated to no effect," said Niemeyer. "I think the word for this behavior is 'insanity.' But Wildlife Services has not changed, because their activities are under the public radar, and no one knows how to reform them. Their program fits the western states' obsession with killing predators."

Peter DeFazio, a Democratic congressman from Oregon, has repeatedly called for a congressional investigation of Wildlife Services, describing it as a "rogue agency" that is "secretive" and "unaccountable." He said that he considers the

lethal control program a "wasteful subsidy" and has called the agency's practices "cruel and inhumane." DeFazio has proposed legislation to reduce government funding for lethal control, but Congress, under pressure from the livestock industry, rejected these attempts at reform.

"We have seen a host of credible leaked information from credible former employees about the inhumane practices," DeFazio told me recently. He said he has asked Wildlife Services for "detailed numbers about finances and operations, and they won't give us this information. I've served on the Homeland Security Committee, and Wildlife Services is more difficult to get information from than our intelligence agencies."

When I went to Idaho in June 2014 to document what Wildlife Services calls "control actions," I asked the agency if I could accompany its trappers in the field. I was told by a spokeswoman that this was not possible. She explained that "only wildlife-management professionals or persons directly involved are allowed on operations, in order to conduct a safe operation."

I called up Lynne Stone, a wildlife advocate who lives in Ketchum, Idaho, to ask about probable locations for control actions in the state that summer. Stone had cultivated sources — which she refused to disclose — who fed her this highly guarded information.

We met in a café in Hailey, ten miles south of Ketchum. Stone told me that the killing of wolves by Wildlife Services was "merciless and indiscriminate." In July 2012, for example, trappers discovered four wolf pups holed up in a culvert near Idaho City. The pups were killed immediately. The reason, according to Wildlife Services, was that a single sheep had been killed by one or several "offending" wolves from a pack in the area. "Wolves generally give birth around mid-April, so these four pups were likely just over three months old," Stone told me. "They were totally dependent on their pack to feed them. How can three-month-old pups be 'offending'?"

Stone had gotten word that a wolf named B450, a gray male that was the four hundred and fiftieth wolf to be radio-collared by the state's Department of Fish and Game, was on the move in the Sawtooth Valley, forty miles to the north. In 2009, B450 had survived the destruction of his father, mother, brothers, and sisters, who were alleged to have attacked livestock near the town of Stanley, Idaho, and were shot by Wildlife Services trappers in airplanes and helicopters. For two years, B450 had wandered central Idaho alone, but in the spring of 2012 he found a mate, who bore him three pups. They formed a new pack. It was likely, Stone told me, that B450's pack would encounter cattle and sheep grazing on the valley's lush summer grass, and that Wildlife Services would be called in if the wolves opted to prey on the ready meat.

A day after talking with Stone, I drove to the Sawtooth Valley with Natalie Ertz, the founder of WildLands Defense, a nonprofit that monitors wolf packs and their habitats. As we traveled on a dirt road near the headwaters of the Salmon River, Ertz listened on her radio monitor, hoping for a transmission from B450's collar. A storm blew in from the west, the temperature plummeted, and the sky shook with snow. "Wait," she said. She got out of the truck to inspect a frozen pile of scat in the road. It was the leaving of a coyote.

We drove on, and passed a man on a horse who was herding several dozen bleating sheep. "Tasty little meals for a wolf," Ertz said. She admitted that she didn't like ranchers. "It's not personal," she said. "It's that ranchers, as a means of doing business, get Wildlife Services to kill wolves for them."

That night we found a campsite on a benchland under tall pines. We set our tents and built a fire and listened again for the chirrup of B450 on the receiver. Ertz stood up and howled in the night, but no answer came. Not even the coyotes sang.

We listened again for the signal in the morning, hiking through the wet forest after the storm had passed and the weather had warmed. Nothing. "That's good," said Ertz. "Farther away he is from people, the better."

Two weeks later, on June 29, after we were gone from the Sawtooth Valley, a calf was allegedly killed by one wolf or several. The calf's owner called Wildlife Services, whose agents set traps to kill "all offending wolves" in the area. By July 2, a yearling called B647, the son of B450, was found near death in a trap and was killed by an agent. On July 9, a subadult female from the pack, B648, was shot by Wildlife Services. It required two more days to bait and catch B450 in a leghold trap. A Wildlife Services agent killed him too.

John Peavey is a third-generation rancher in central Idaho who runs 7,000 sheep on Flat Top ranch, which lies fifty miles south of the Sawtooth Valley, and on tens of thousands of acres of adjacent public lands. He served for two decades in the Idaho state senate and worked from a young age at Flat Top. During his time in political office, Peavey was known never to appear in public without a cowboy hat on his head.

I told him I was doing an investigation of Wildlife Services. "I suspect this will be an ugly article," he said. "But Wildlife Services is pretty vital to our making do. Predators are a big problem for ranchers in the West. It's our number-one problem. We can't survive without taking care of the predation."

Peavey told me that he loses at least 200 sheep a year to predators and regularly calls Wildlife Services to his aid. In May 2013, he said, he lost more than thirty sheep to wolves. "We were range-lambing, and the wolves come and scatter them to hell and breakfast. One little lamb, about ten minutes old, was killed by a wolf. Really tragic, it just makes you cry — a ten-minute life span." At Peavey's request, Wildlife Services used one of the agency's Piper Cub airplanes to track and shoot six wolves from a pack that was roaming near Flat Top ranch.

Peavey has attempted to use nonlethal methods to dissuade wolves from attacking his sheep on the range, but he claims that they have had little effect. "My guys are out blaring their radios and flashing their lights and smoking pots — that's a fifty-five-gallon drum where we build a fire — and we have big guard dogs, one-hundred-pound Pyrenees and Akbash, though wolves often kill our dogs. We've probably lost ten to twelve dogs over the last six years." His wife, Diane Josephy Peavey, who in recent years has read essays on Idaho public radio praising the virtues of ranching, told me, "It's a little hard to be where we are, with sheep, and watch them get slaughtered, and we're supposed to put the money in to coexist nonlethally. That's fine, but it's a huge expense. Coexistence means the wolves live and all the other animals die."

John Peavey told me that range-lambing — in which ewes give birth on open public lands rather than in protected sheds on private land — is the only way for ranchers to make a profit. Shed-lambing requires a lot of hay, at great cost. "Six hundred thousand dollars is probably not enough money to outfit a hay crew," he said. "Shed-lambing is too expensive. Our business model is to range-lamb when the weather is warm and the grass is growing. And when the wolves come in, it's incredibly disruptive. We're very vulnerable."

Carter Niemeyer, the retired Wildlife Services agent, said that Peavey's range-lambing operation is also expensive, but the cost gets shifted onto the federal government. "The history of John Peavey over the years has been that when he's out range-lambing, it's led to a lot of calls to Wildlife Services for the removal of wolves and coyotes," he said. "His range-lambing is a long way from home, out there in sagebrush. When the sheep are lambing, the herders aren't supposed to crowd them. You leave them alone. So you've got sheep strung out for miles, ripe for the picking. All you're doing is inviting attack. In some cases, when you put livestock way out there in the backcountry where it's beyond the capability of the owner to protect them, it's a form of animal cruelty. Do we continue to reward this bad behavior by bringing in gunships to kill predators that are simply reacting to lambs on the range as predators should and must react?"

Niemeyer said that it was galling to watch stockmen use public lands for forage while refusing to accept the real price of their business model. He told me about a former Wildlife Services agent who described sheep ranchers as "cry boys and cheap men" — because, as Niemeyer put it, "they're always whining and they're incredibly cheap, demanding the public pay their costs."

I asked him about Peavey's claim that predators are the number-one problem facing ranchers. The most recent reports from the National Agricultural Statistics Service, a branch of the USDA, suggest that stockmen annually lose almost 500,000 head to predators nationwide. The USDA data, however, is based on self-reporting by ranchers.

Niemeyer told me I should also look at the methods Wildlife Services used to confirm depredations. The agency was supposed to conduct its own due diligence of ranchers' reports, but the investigations were farcical. "A rancher calls up and says, 'Goddamn wolves killed twenty-eight of my stock,' but he can't prove a thing. And we say, 'All right, Charlie, we'll get 'em.' The trapper shows up to the site and toes the carcass of the animal with his boot. 'Yep. Wolf did it.' And that's the investigation. Of course a wolf did it — the rancher says so, which makes it the truth."

After Rex Shaddox left Wildlife Services, in 1980, he worked as an undercover narcotics cop in Texas and Colorado, an investigator for the Humane Society of the United States, and a wildlife-crimes detective with the Texas Parks and Wildlife Department, where he is still posted. He has continued to follow Wildlife Services' activities as a part of his current job. "If you're a wildlife cop," he told me, "you constantly hear about Wildlife Services doing bad things."

Between January 1990 and September 1991, Shaddox led an undercover investigation into the illegal distribution and use of a poison called Compound 1080 in Wyoming. The tasteless, odorless toxin has no known antidote. A single ounce can kill 200 adult humans, or 20,000 coyotes, or 70,000 house cats.

Stockpiles of the poison were supposed to have been destroyed or turned over to the Environmental Protection Agency after it was banned in 1972, but the State of Wyoming never complied with the destruction order. Instead, Wildlife Services, along with members of the Wyoming Wool Growers Association, the Wyoming Farm Bureau, and the state's Department of Agriculture, secretly sold Compound 1080 to ranchers for use in what Shaddox described as a conspiracy for "the illegal poisoning of wildlife, the illegal lacing of cadavers with poisons on public lands, and the illegal killing of endangered species." Not one government official implicated in the conspiracy went to jail. "Some of these guys got better jobs in Wildlife Services," Shaddox said.

Doug McKenna, who retired in 2012 after twenty-five years as a wildlife-crimes enforcement officer at the U.S. Fish and Wildlife Service, worked with Shaddox on the Wyoming investigation. I asked McKenna whether he thought Wildlife Services had reformed its ways. "I don't believe it for a minute," he said. "The agency still disregards federal and state environmental, wildlife-protection, and resource regulations."

He told me about an Arizona rancher named Jose Manterola, who, in 2002, had poisoned — accidentally, by his account — bald eagles that were roosting on the public-land allotments where he was running sheep. "We went to Wildlife Services and asked them for help with the investigation. The trappers told us, 'We can't talk to you because this guy is a client of ours.' I was shocked. We're a federal agency asking another federal agency for help in a criminal investigation, and we were stonewalled. We eventually prosecuted the rancher, and his federal grazing lease was revoked, but we got no help from Wildlife Services."

When domestic pets were accidentally killed by poisons that had been distributed by Wildlife Services, Shaddox told me, the motto was "Shoot, shovel, and shut up." Shaddox said that Charles Brown, the supervisor who poisoned the collie with M-44, ordered him to "cover up the killing of these nontarget dogs, to remove the collars and bury the dead animals, and make sure always to separate the collars and the bodies." (Brown, who is now the agency's eastern regional director, declined to comment for this article.)

I asked Shaddox whether he believed that Wildlife Services was acting extralegally today. "I know absolutely that it's still going on," he said. "I hear it from state and federal wildlife agents. I know absolutely that the cover-up of the illegal killing of domestic pets, the illegal poisoning of wildlife, and the illegal use of 1080 and M-44s is still going on."

Samuel Sanders, another former trapper I spoke with, worked for Wildlife Services in Nevada for seven years. He rose to the rank of supervisor before quitting in 2011. "Violating both federal and state law when it comes to the application of pesticides is encouraged by Wildlife Services," Sanders told me. Employees, he said, weren't properly certified for the use of poisons in the field. "The certification test was fixed so that employees always pass. The supervisor reads the answers off to employees."

Shortly before he quit, Sanders filed a complaint against Wildlife Services in the federal Merit Systems Protection Board court, charging that his higher-ups retaliated against him for whistleblowing about the agency's violations of federal and state law. The judge dismissed the case on a technicality.

"Although many employees have witnessed some of their co-workers and even supervisors violate laws," Sanders told me, "they say nothing, fearing the retaliation they've witnessed when others have reported the violations. They think it will just stop happening after time, but it doesn't. They know the supervisors are aware of the violations. When an employee does report violations by W.S. employees or management, upper management does a token investigation to cover up the incident. Even the national leaders in D.C. have been made aware of this, and they do the same thing."

In 2012, a Wildlife Services trapper named Jamie Olson posted a series of graphic photos to Facebook that appeared to depict his dogs attacking and killing a coyote caught in a leg trap in Wyoming. He included portraits of himself smiling beside a coyote's mutilated cadaver. (Olson declined to comment for this article.)

In response to the photos, Peter DeFazio wrote a letter to Thomas Vilsack, the secretary of the USDA, requesting an audit of "the culture within Wildlife Services." His letter stated that Olson "may have apparently committed acts of animal cruelty" that violated the agency's directives about trapped wildlife. Those directives include instructions that trapped animals "be dispatched immediately" and that employees "exhibit a high level of respect and professionalism when taking an animal's life."

An internal investigation by Wildlife Services concluded that the trapped coyote was being used by Olson to train his dogs "how to 'posture' when confronting a trapped coyote." Shaddox scoffed at this account. "I've read the report and findings and looked at the photos. The dogs are absolutely attacking and killing the coyote in the series of pictures," he told me.

Olson was not fired or reprimanded for his treatment of the coyote. His behavior, according to Wildlife Services documents, "violated no existing rules."

In September 2014, I drove into Idaho's Salmon-Challis National Forest with Natalie Ertz's brother, Brian, who had spent many hundreds of hours tracking Wildlife Services trappers to document their kills. We had gotten information about a pending lethal-control action against a pack of wolves in Moyer Basin, a remote valley of the Yellowjacket Mountains, where Wildlife Services agents, according to our source, would be out prowling the sky in one of the Piper Cubs, a noisy yellow single-prop known as the Killer Bee.

We camped on a forested bluff overlooking the valley. We'd have a fine view of the airplane's kill zone. The landscape was splendid. The soft-contoured mountains faded in distant blue shrouds, the great forests of conifers sighed in the breeze, the autumn aspens glowed in the slant light of the afternoon sun, and the rich bottomlands were flooded behind beaver dams. "Prime wolf habitat," Ertz said.

A September storm erupted during the night and bent our tents, pelting us with rain and sleet, and soaking our sleeping bags. Ertz awoke before me, keeping his ear to the sky at dawn. But no Killer Bee.

Over breakfast he recounted the two days he'd spent in the spring of 2010 looking for members of the Buffalo Ridge wolf pack, which he heard had been targeted with a kill order. The pack had been seen near Squaw Creek, a tributary of the Salmon River that ran seventy-five miles south of Moyer Basin. Ertz arrived before the trappers, ascended through an aspen grove, and found where the pack was denning. The adults were on a hunt, and had left their pups behind. The afternoon was overcast, Ertz said, and threatening rain. Each time the thunder rumbled, the pups, young and innocent, howled in response, volleying their high-pitched cries in a kind of conversation with the sky. "It was one of the most profoundly wild experiences of my life," Ertz told me.

Ertz and I set out in his car, driving up and down rough dirt roads for several hours until at midday we found a flatbed Ford parked in a meadow next to a stream. The decals on the door said USDA, and a ramp attached to the bed suggested that it had carried an A.T.V. whose driver was off in the backcountry.

There was a warning on a fence post nearby:

> MECHANICAL DEVICES (TRAPS, SNARES, OR OTHER RESTRAINING DEVICES) HAVE BEEN PLACED IN THIS AREA TO CAPTURE ANIMALS CAUSING DAMAGE OR HARM. THESE DEVICES AND THE ANIMALS CAPTURED IN THEM ARE THE PROPERTY OF THE UNITED STATES GOVERNMENT.

The notice had been issued by Wildlife Services.

We waited. After two hours, an A.T.V. came trundling toward us, driven by a trapper in his thirties who wore a hooded sweatshirt and a trucker's cap. Strapped across the dashboard was a four-foot pole with a loop at its end. The loop is

meant to cinch around a wolf's neck so that an animal can be killed without close contact.

The trapper wouldn't give his name. I asked him about the trapping of wolves in Moyer Basin. "I'm not supposed to be talking to you," he said. "Talk to Todd Grimm" — referring to the Idaho state director of Wildlife Services.

Indicating the nearby sign, I asked what kinds of traps he was using, where they were located, and whether they posed a risk to the public. "Talk to Todd," he said. "That sign has warned you, and that's all I'm going to say."

When I asked for a phone interview with Wildlife Services, Lyndsay Cole, an assistant director of public affairs at the USDA, asked me to provide all my questions in writing. I submitted thirty-five questions related to specific points in this article and to Wildlife Services policy as a whole. Cole didn't answer the questions; instead, she emailed me a single-page statement with links to various public-relations documents the agency had put out. "Wildlife Services experts use a science-based Integrated Wildlife Damage Management (IWDM) decision-making model," the statement said. "Activities are conducted to minimize negative impacts to overall native wildlife populations." Cole eventually responded to questions sent by a fact-checker from this magazine. She stated, in part, "We aren't able to speculate on methods that may have been used against policy in the past," and called the examples of agency misbehavior "not representative." When I asked Wildlife Services if I could talk with Todd Grimm, the agency did not respond to the request.

Once, during Carter Niemeyer's time with Wildlife Services in Montana, a sheep rancher asked him whether coyotes killed for revenge. "Of course not," Niemeyer told him. "Why do you ask?" Wildlife Services had recently mounted an aerial-gunning campaign in the hills around the rancher's property to strike at coyotes before they could take sheep. The result of the cull, the perplexed rancher explained, was increased depredation.

Rob Wielgus, a wildlife ecologist at Washington State University, has an explanation for this paradox. In 2013, he examined data that showed that the hunting of adult male cougars led to more attacks on livestock by the remaining cat population. "Killing older resident cats resulted in a huge influx of teenage male cats," Wielgus told me. "The teenage males are the livestock depredators. The older cats were cops that kept the younger troublemakers out."

In 2014, Wielgus published a similar study of wolves and their attacks on livestock in Idaho, Wyoming, and Montana. He reviewed the number of wolves that were killed annually over twenty-five years and the number of depredations of livestock for each year, and declared that the livestock industry was "not going to be happy" with his conclusion: Kill more wolves, he said, and depredations on livestock increase.

Wielgus believes that lethal assaults on predators produce social chaos in their populations. "We've now seen this in grizzlies, black bears, cougars, leopards, and wolves. Social disruption is a huge negative effect. Why is the livestock lobby unhappy with this? Because they want to kill predators. They cannot believe the scientific evidence. They're convinced that the only good predator is a dead predator."

Niemeyer had told me to read the work of Robert Crabtree, an ecologist and the founder of the Yellowstone Ecological Research Center. Crabtree found that more coyote pups within a given litter survive if their numbers are culled. Not only are there more attacks on livestock following lethal control of coyotes — there are also more coyotes. Wildlife Services has killed nearly a million coyotes during the past decade, but the number of coyotes in the seventeen Western states today has remained the same.

"We keep family units broken up, leading to a lot of dispersal, a lot of subadult coyotes moving into other country after their families are broken, and younger coyotes breeding sooner than they would if they weren't thrown into being alone," Niemeyer said. "It's all very self-serving for the Wildlife Services program. You create steady work by steady persecution."

In 1998, Peter DeFazio sponsored an amendment to reduce funding to Wildlife Services by $10 million, from a total budget of $50 million. The bill passed in the House by a vote of 229 to 193. Then the American Farm Bureau went into action, bombarding members with phone calls and faxes. House Republican Joe Skeen, a New Mexico stockman whose ranch had been visited ninety-nine times by Animal Damage Control agents between 1991 and 1996, led the assault on the amendment. Within twenty-four hours, the House took the unusual step of revoting the bill. Thirty-eight lawmakers switched their votes from yes to no. "I've seen such a revote happen perhaps a half-dozen times in twenty-one years in Congress," DeFazio told me.

In 2011, he tried again. He sponsored an amendment to the House agriculture appropriations bill to cut $11 million from Wildlife Services' budget. The amendment, which would have returned the money to the federal treasury for deficit reduction, was endorsed by Taxpayers for Common Sense, the Humane Society, and the Natural Resources

Defense Council. It was defeated.

In 2012, DeFazio introduced a bill called the Compound 1080 and Sodium Cyanide Elimination Act, which would have banned the deployment of sodium cyanide for predator control and the use of Compound 1080 for any purpose. The bill died in committee.

Jonathan Lovvorn, the chief counsel at the Humane Society of the United States, says that he has tried and failed to rein in Wildlife Services through the court system. The agency's statutory mandate "just says, 'Kill wildlife,' without any restrictions," he told me. "There really is no law to apply that might restrain the agency, even with a sympathetic judge."

Recently, I spoke on the phone with Brooks Fahy, the executive director of Predator Defense, a nonprofit group based in Oregon. Fahy has spent more than thirty years monitoring Wildlife Services. He doesn't see much hope. "The political power of livestock is too strong," he said. I asked Fahy about the Wildlife Services Reform Act, which DeFazio drafted but failed to propose in the last session. It would have banned aerial gunning, along with the use of neck and foot snares and M-44 cyanide devices, and mandated the housing of livestock behind barriers during lambing and calving season. It would have also required that "all available and viable nonlethal management and control methods" be attempted before lethal control is implemented. The nonlethal methods include electric fencing to shock and dissuade predators; "harassment and scaring devices," namely "pyrotechnics and noisemakers, trained dogs, effigies, electronic devices such as recorded distress calls"; and "lights such as spotlights, strobe lights, and lasers."

The bill itself was a compromise, fashioned to be politically acceptable to ranching interests by promoting the idea that livestock and predators can coexist on public lands. Fahy was skeptical. "We can have more fencing, sirens, and strobe lights," he said, "but at what cost to the ecosystem and the wildlife?" And in the end it may be, as John Peavey's experience suggests, that these measures will not work. Wolves, after all, were designed to eat sheep.

In the meantime, the lethal-control methods continue to bear unintended consequences. In 1998, Bill Guerra Addington, a third-generation Texan, tripped an antiquated M-44 that was designed to fire a .38 Special cartridge. He nearly lost his hand to the bullet. "I equate these predator-killing devices to land mines designed to kill people," he wrote in a letter to DeFazio. In 2003, Dennis Slaugh, a rockhound from Vernal, Utah, pulled at an M-44 out of curiosity and was sprayed in the face with white poison dust. He began vomiting and rushed to a hospital. The cyanide has lingered in his system and is slowly starving his body of oxygen.

Brooks Fahy said that he has received several hundred reports from pet owners about the disappearance of dogs and cats owing to what the owners claim were Wildlife Services activities. He told me the story of a pit bull named Bella, who was killed in Texas, in 2011, by an M-44 trap. The trap was placed less than a thousand feet from the doorstep of Angel and J. D. Walker, the dog's owners. According to Fahy, the trapper had received special permission from Wildlife Services to kill coyotes outside his normally assigned duty areas as a favor to his father, who leased ranchland adjacent to the Walkers' property. The Walkers found Bella dead ninety feet from the trap. Her mouth was bloody. She had vomited. "She had a horrible, weird smell, not just a death smell," said Angel.

The Walkers buried their dog, and the next day they complained to Michael J. Bodenchuk, the agency's Texas director. "He never responded to us at all," said Angel. The following week, the local trapper reset the M-44s that he had placed near the Walkers' house, including the one that had killed Bella. One afternoon, returning home from school with her sons, Angel found three freshly killed coyotes hung on the fence along the road, with wire tied around their necks. She considered it a message from Wildlife Services.

Christopher Ketcham is a fellow at MIT's Knight Science Journalism program. His most recent article for *Harper's Magazine,* "The Great Republican Land Heist," appeared in the February 2015 issue.

TAGS

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More from Christopher Ketcham

The killing agency: Wildlife Services' brutal methods leave a trail of animal death

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Published: Sunday, Apr. 29, 2012 - 12:00 am | Page 1A
Last Modified: Sunday, May. 20, 2012 - 1:11 pm

First of three parts

The day began with a drive across the desert, checking the snares he had placed in the sagebrush to catch coyotes.

Gary Strader, an employee of the U.S. Department of Agriculture, stepped out of his truck near a ravine in Nevada and found something he hadn't intended to kill.

There, strangled in a neck snare, was one of the most majestic birds in America, a federally protected golden eagle.

"I called my supervisor and said, 'I just caught a golden eagle and it's dead,' " said Strader. "He said, 'Did anybody see it?' I said, 'Geez, I don't think so.'

"He said, 'If you think nobody saw it, go get a shovel and bury it and don't say nothing to anybody.' "

"That bothered me," said Strader, whose job was terminated in 2009. "It wasn't right."

Strader's employer, a branch of the federal Department of Agriculture called Wildlife Services, has long specialized in killing animals that are deemed a threat to agriculture, the public and – more recently – the environment.

Since 2000, its employees have killed nearly a million coyotes, mostly in the West. They have destroyed millions of birds, from nonnative starlings to migratory shorebirds, along with a colorful menagerie of more than 300 other species, including black bears, beavers, porcupines, river otters, mountain lions and wolves.

And in most cases, they have officially revealed little or no detail about where the creatures were killed, or why. But a Bee investigation has found the agency's practices to be indiscriminate, at odds with science, inhumane and sometimes illegal.

The Bee's findings include:

• With steel traps, wire snares and poison, agency employees have accidentally killed more than 50,000 animals since 2000 that were not problems, including federally protected golden and bald eagles; more than 1,100 dogs, including family pets; and several species considered rare or imperiled by wildlife biologists.

• Since 1987, at least 18 employees and several members of the public have been exposed to cyanide when they triggered spring-loaded cartridges laced with poison meant to kill coyotes. They survived – but 10 people have died and many others have been injured in crashes during agency aerial gunning operations since 1979.

• A growing body of science has found the agency's war against predators, waged to protect livestock and big game, is altering ecosystems in ways that diminish biodiversity, degrade habitat and invite disease.

Sometimes wild animals must be destroyed – from bears that ransack mountain cabins to geese swirling over an airport runway. But because lethal control stirs strong emotions, Wildlife Services prefers to operate in the shadows.

"We pride ourselves on our ability to go in and get the job done quietly without many people knowing about it," said Dennis Orthmeyer, acting state director of Wildlife Services in California.

Basic facts are tightly guarded. "This information is Not intended for indiscriminate distribution!!!" wrote one Wildlife Services manager in an email to a municipal worker in Elk Grove about the number of beavers killed there.

And while even the military allows the media into the field, Wildlife Services does not. "If we accommodated your request, we would have to accommodate all requests," wrote Mark Jensen, director of Wildlife Services in Nevada, turning down a request by The Bee to observe its hunters and trappers in action.

"The public has every right to scrutinize what's going on," said Carter Niemeyer, a former Wildlife Services district manager who worked for the agency for 26 years and now believes much of the bloodletting is excessive, scientifically unsound and a waste of tax dollars.

"If you read the brochures, go on their website, they play down the lethal control, which they are heavily involved in, and show you this benign side," Niemeyer said. "It's smoke and mirrors. It's a killing business. And it ain't pretty.

"If the public knows this and they don't care, I'm not going to lose any sleep over it," Niemeyer said. "But they are entitled to know."

Agency officials say the criticism is misleading. "If we can use nonlethal control first, we usually do it," said William Clay, deputy administrator of Wildlife Services. "The problem is, generally when we get a call, it's because farmers and ranchers are having livestock killed immediately.

They are being killed daily. Our first response is to try to stop the killing and then implement nonlethal methods."

In March, two congressmen – Reps. John Campbell, R-Irvine, and Peter DeFazio, D-Ore. – introduced a bill that would ban one of Wildlife Services' most controversial killing tools: spring-loaded sodium cyanide cartridges that have killed tens of thousands of animals in recent years, along with Compound 1080 (sodium fluoroacetate), a less-commonly used poison.

"This is an ineffective, wasteful program that is largely unaccountable, lacks transparency and continues to rely on cruel and indiscriminate methods," said Camilla Fox, executive director of Project Coyote, a Bay Area nonprofit.

"If people knew how many animals are being killed at taxpayer expense – often on public lands – they would be shocked and horrified," Fox said.

The program's origins

Wildlife Services' roots reach back to 1915, when Congress – hoping to increase beef production for World War I – allocated $125,000 to exterminate wolves, starting in Nevada.

Popular among ranchers, the effort was expanded in 1931 when President Herbert Hoover signed a law authorizing the creation of a government agency – later named the Branch of Predator and Rodent Control – "to promulgate the best methods of eradication, suppression or bringing under control" a wide range of wildlife from mountain lions to prairie dogs.

Federal trappers pursued that mission with zeal. They dropped strychnine out of airplanes, shot eagles from helicopters, laced carcasses of dead animals with Compound 1080 – notorious for killing non-target species – and slaughtered coyotes, wolves, mountain lions and grizzly bears across the West.

Their efforts drew protest and calls for reform.

"The program of animal control … has become an end in itself and no longer is a balanced component of an overall scheme of wildlife husbandry and management," a panel of scientists wrote in a 1964 report to the U.S. secretary of Interior.

The report was followed by hearings, another critical federal review in 1971, unflattering press and an executive order by President Richard Nixon banning poison for federal predator control. "The time has come for man to make his peace with nature," Nixon said in a statement at the time.

President Gerald Ford later amended the order to allow the continued use of sodium cyanide.

The killing has continued on a broad scale. In 1999, the American Society of Mammalogists passed a resolution calling on the agency, renamed Wildlife Services in 1997, "to cease

indiscriminate, pre-emptive lethal control programs on federal, state and private lands." Today, the society is considering drafting a new resolution.

"It makes no sense to spend tens of millions of dollars to kill predators, especially in the way that it's done, to the extent that it's done, when it can have cascading effects through the ecosystem, unintended consequences and nontarget consequences," said Bradley Bergstrom, a professor of wildlife biology at Valdosta State University in Valdosta, Ga., and chairman of the society's conservation committee.

Clay, though, said his agency is more science-based and environmentally sensitive than ever. "We've increased the professionalism 100 percent," he said. "We've also emphasized research to more specifically take target animals. And we work very closely with the U.S. Fish and Wildlife Service and state wildlife agencies."

Elizabeth Copper, a Southern California biologist who has worked with Wildlife Services, agreed. She applauded the agency's work to protect the endangered California least tern from predators in the San Diego area.

"I know the reputation Wildlife Services has and it is particularly inappropriate for the people involved with this program," said Copper. "They work really hard with a focus for something that is in big trouble. And they've made a huge difference."

Unreported killings

But elsewhere, the agency's actions have stirred anger and concern from private citizens, scientists and state and federal fish and game officials.

In 2003, the Utah Division of Wildlife Resources received a tip that a golden eagle – one of the largest birds of prey in North America and a species protected by three federal laws, including the Migratory Bird Treaty Act – was struggling to free itself from a leg-hold trap in the remote Henry Mountains.

Roger Kerstetter – an investigator with the state wildlife division – found the trap, but no eagle. Nearby, though, he spotted feathers poking out of the sand.

"They turn out to be the neck feathers of a golden eagle. And one of them comes out with a .22 bullet attached to it," Kerstetter recalled.

On the trap was another clue. It was stamped: *Property of the U.S. Government.*

"At that point, we started doing our homework," he said.

The U.S. Fish and Wildlife Service also joined the investigation. In federal court two years later, a Wildlife Services trapper pleaded guilty to killing the eagle and paid a $2,000 fine.

"We never did find the bird," Kerstetter said. "He claimed he just buried it."

Nor did a record of the incident turn up in the agency's files.

"They are required to report the animals they take accidentally," Kerstetter said. "This eagle was never reported."

Strader, the former agency trapper who said he snared and buried an eagle in Nevada, is not surprised.

"That was not the only eagle I snared while working for Wildlife Services," he said. "I will not say how many. But the one (my supervisor) told me to bury was the first one, and I figured that was what was supposed to be done all the time, so that is what I did."

Overall, agency records show that 12 golden and bald eagles have been killed by mistake by agency traps, snares and cyanide poison since 2000 – a figure Strader believes is low.

"I would bet my house against a year-old doughnut there were more than 12 eagles taken, way more," said Strader. "You cannot set a trap, snare or (cyanide poison bait) in habitat occupied by eagles and not catch them on occasion."

Agency policy instructs trappers "to accurately and completely report all control activities." But Niemeyer, the retired Wildlife Services manager, said the policy is often ignored.

"Trappers felt that catching non-targets was a quick way to lose the tools of the trade and put Wildlife Services in a bad light," Niemeyer said.

Asked about the allegations, Deputy Administrator Clay said: "I certainly hope that is not the case. … We track those things so we know what kind of impact we are having on populations and the environment."

In all, more than 150 species have been killed by mistake by Wildlife Services traps, snares and cyanide poison since 2000, records show. A list could fill a field guide. Here are some examples:

Armadillos, badgers, great-horned owls, hog-nosed skunks, javelina, pronghorn antelope, porcupines, great blue herons, ruddy ducks, snapping turtles, turkey vultures, long-tailed weasels, marmots, mourning doves, red-tailed hawks, sandhill cranes and ringtails.

Many are off-limits to hunters and trappers. And some species, including swift foxes, kit foxes and river otter, are the focus of conservation and restoration efforts.

"The irony is state governments and the federal government are spending millions of dollars to preserve species and then … (you have) Wildlife Services out there killing the same animals," said Michael Mares, president of the American Society of Mammalogists. "It boggles the mind."

One critical loss occurred two years ago when a wolverine, one of the rarest mammals in America, stepped into a Wildlife Services leg-hold trap in Payette National Forest in Idaho. It was the third wolverine captured in agency traps since 2004 (the other two were released alive.)

"Shot wolverine due to bad foot," the trapper wrote in his field diary, which The Bee obtained through the Freedom of Information Act.

"Oh my God, that is unbelievable," said Wendy Keefover, a carnivore specialist with WildEarth Guardians, an environmental group in Colorado. "Wolverines are a highly endangered mammal. There are very few left. Each individual is important."

Wildlife Services spokesperson Lyndsay Cole said: "We were surprised at this unfortunate incident. As soon as it occurred, we again worked directly with Forest Service officials to take steps that would prevent similar incidents from occurring in the future."

And Clay, the deputy administrator, said traps, snares and cyanide are key tools that nearly always get the right species. "Overall, these methods are at least 95 percent effective," he said.

But environmentalists don't trust the data.

"There is an enormous amount of pressure not to report non-targets because it makes them look bad," said Stephanie Boyles Griffin, a wildlife scientist with the Humane Society of the United States.

Many scientists want the collateral damage to stop. "In times when fiscal constraint is demanded, we believe programs that carelessly kill rare species and indiscriminately kill a great diversity of non-target species should be defunded and discontinued," Mares wrote in a letter to Wildlife Services in March.

The family dog

Raccoons are most often killed by mistake, followed by river otters, porcupines, snapping turtles, javelina, striped skunks and muskrats. But there are other accidental victims that are often more keenly missed: dogs.

One was Maggie, a tail-wagging, toy-fetching border collie-Irish setter mix beloved by Denise and Doug McCurtain and their four children.

Last August, Maggie's spine was crushed when she stepped into a vise-like "body-grip" trap set by Wildlife Services near the family's suburban Oregon home to catch a nonnative rodent called a nutria.

"How in the heck can a government agent put a dangerous trap out in a residential neighborhood?" Denise McCurtain said. "It's absolutely disgusting."

The family has filed a claim for damages.

"Never once did anyone come to us and apologize," she said. "It was like they pretended it didn't happen."

On average, eight dogs a month have been killed by mistake by Wildlife Services since 2000, records show. Some believe that figure is low, including Rex Shaddox, a former agency trapper in Texas.

"We were actually told not to report dogs we killed because it would have a detrimental effect on us getting funded," said Shaddox, who worked for the agency in 1979-80 when it was called Animal Damage Control.

"If we were working on a ranch and killing dogs coming in from town, we didn't report those," said Shaddox, 56. "We buried them and got the collars and threw them away. That's how we were taught to do it."

Clay, the agency deputy administrator, said:

"We've got policies that instruct employees that they need to accurately report everything they take. Anybody that's in violation is dealt with immediately."

Two years ago, a dog wearing a collar with a rabies tag disappeared in West Virginia. Its worried owners, James and Carol Gardner, contacted the state police. Only then did they learn that Charm, their 11-year-old husky, had been killed and buried by a Wildlife Services trapper trying to poison predators with a spring-loaded "M-44" cyanide cartridge.

"We were not notified," said Carol Gardner. "We were very, very, very upset."

"It's terrible," said James, 71. "I think it's a sin. Our tax dollars are paying for this. It should be mandatory that people are notified."

Charm, he added, was not just a pet – she was "a member of the family."

A few days later, he received a letter from Christopher Croson, the agency's state director.

"I must apologize for my employee's failure to recognize that a pet owner could be identified using a rabies tag number," Croson wrote. "This was a most disturbing lack of judgment."

Today, the Gardners watch for missing-dog notices and call the owners when they see one.

"We notify them that, hey, maybe you'd better call the USDA and see if they buried a dog with your description," Carol Gardner said. And she added: "Some day it's going to be a human being, instead of a dog."

Injuries to people

There have already been close calls. Over the past 25 years, at least 18 employees and several private citizens have been injured by M-44 cyanide cartridges. Here are a few examples from agency records.

From 1987: "We will never know but it is very likely the fact that (the employee) was carrying his antidote kit … may have saved his life.

From 1999: "The cyanide hit the left forearm of the employee, causing (it) to scatter, with some cyanide hitting his face. He started to cough and felt muscle tightness in the back of his neck. The employee used two amyl nitrate antidote capsules. … He used two more amyl nitrate capsules on the way to the clinic. The clinic doctor administered oxygen and two more amyl nitrate capsules. The employee was air-flighted."

From 2007: "The individual kicked or stepped on the M-44 devices and cyanide was ejected into his eyes. Individual reported that his eyes were irritated and burning."

Agency officials downplay the risk. "Although use of M-44 devices has resulted in some human exposure reports, most involved program staff and minor or short-term symptoms," said Carol Bannerman, a Wildlife Services spokeswoman.

"A majority of exposures to members of the public resulted from the involved individual's disregard of warning and trespass signs or intentional tampering with the devices," she added.

In 2003, Dennis Slaugh, 69, was hunting for rocks and fossils in Utah when he spotted what he thought was a surveyor's stake. Curious, he bent down to have a look.

"I just kind of brushed it and it blew up in my face and put cyanide all over me," said Slaugh, a retired county heavy equipment operator. "I was instantly sick. I was so sick I was throwing up."

Later, he recovered the M-44, which is engraved with the words, *U.S. Government.* Slaugh believes it was set by Wildlife Services. The agency denies responsibility.

"If it is stamped 'U.S. Government,' it is probably the property of Wildlife Services," Bannerman said. But she added, "Wildlife Services did not have any M-44 devices set out in the area. … No information or review suggests the validity of the claim. No device had been set there for more than 10 days. An investigation conducted by EPA in 2008 did not find any wrongdoing by Wildlife Services."

Slaugh said he has not been the same since. "The cyanide hooks to your red blood cells and starves you of oxygen. I can feel that more and more all the time," he said. "I'm getting real short of breath. I went to the hospital the other day, and they are thinking about putting me on oxygen."

"It's awful to put poison out there where people can get it," he added. "Lots of people's pets have got (killed). One woman lost her dog a half-mile from where I was at."

M-44s were banned in California by Proposition 4 in 1998, but Wildlife Services still uses them on American Indian land in Mendocino County.

"Over the past five years, there has been no unintentional take," said Larry Hawkins, the agency's California spokesman.

"I'm deeply shocked," said Fox, who pushed for the M-44 ban as a coordinator with the Animal Protection Institute. "They are a rogue agency that believes they are above the law and can employ their lethal wares wherever they want – regardless of state law."

Poisoning predators with cyanide is not the agency's only risky practice. Killing coyotes from low-flying planes and helicopters is, too.

Since 1989, several employees have been injured in crashes and 10 people have died, including two in Utah in 2007, one of them a good friend of Strader, the former agency trapper.

"I went to the funeral," Strader said. "He was just a real nice guy, funny, joking around all the time. And he got killed for what? To kill a stinking coyote. It don't make sense.

"We ain't threatened by coyotes so much that we've got to lose peoples' lives over it," Strader said.

Concern across California

Other agency records obtained through the Freedom of Information Act reveal for the first time just where the agency kills wildlife, intentionally and accidentally, across California. And in many of those locations, there is conflict and concern.

Inyo County, in the eastern Sierra, is where two Wildlife Services hunters – working under contract with the California Department of Fish and Game – have been tracking and shooting mountain lions to protect an endangered species: the Sierra Nevada bighorn sheep.

Becky Pierce, a mountain lion biologist with the state, said the effort has been marred by unnecessary killing, including, in 2009, when a Wildlife Services hunter shot a female mountain lion with kittens.

"They got left to starve, waiting for mom to come back," she said. "I'm not saying we don't sometimes have to remove lions if they are (preying) on sheep. But everything should be done in a humane manner. And that isn't humane."

Tom Stephenson, who directs the sheep recovery effort for Fish and Game, declined to comment. But Andrew Hughan, a department spokesman, said the kittens may have survived.

"To say that a female lion was taken and her cubs left to die is completely subjective. They are resourceful creatures," Hughan said.

Pierce, who has studied lions for two decades, disagreed. "They were relying on the mother for milk. It would be a miracle if any of them survived," she said.

In March 2011, two more mountain lion kittens, just days old, were mauled to death in the Sierra when a Wildlife Services hunter's dogs raced out of control and pounced on them. Their mother was then shot, too.

"We all want to see bighorn sheep protected," said Karen Schambach, California field director for Public Employees for Environmental Responsibility. "What gives me the greatest angst is how inhumane some of this stuff is. For Wildlife Services to allow dogs to go tear newborn kittens apart is outrageous."

Hawkins, the agency's California spokesman, called the incident "a regrettable outcome over which our specialist had no control."

No mammal draws more agency lethal force in California and the West than the coyote. Records show that most are killed in rural regions, such as Lassen, Modoc and Kern counties, where they are considered a threat to livestock.

"It's a very valuable program," said Joe Moreo, agricultural commissioner in Modoc County. "We have very good trappers up here, and we're fortunate we have them."

But coyotes are also killed where people like to hear their howls and yips, including Alpine County, south of Lake Tahoe.

Since 2007, Wildlife Services has killed more than 120 coyotes in Alpine County.

"Coyotes are part of our magical landscape," said John Brissenden, a former county supervisor who manages Sorensen's Resort along the west fork of the Carson River. "Our primary motivator for people coming here is the wildlife and the outdoors. That's what our business is built on. It's what Alpine County's commerce is built on. To take that away makes no sense."

Many coyotes were killed in the middle of winter, when they are easier to spot and shoot, including 15 in February 2010. Hawkins, the agency spokesman, said the animals were killed "in the protection of livestock." Asked where – public land or private? – Hawkins said he didn't know.

Brissenden would like some answers.

"We are 97 percent state- and federal-owned," he said. "There is very little grazing here. To have a federal agency eliminate these animals without public review is astonishing and appalling."

• Slideshow: Gallery: Wildlife agency misfires
• Data Center: See California kills by Wildlife Services
• Interactive graphic: Animals killed by Wildlife Services nationwide
• Long struggles in leg-hold device make for gruesome deaths
• Federal agency kills 7,800 animals by mistake in steel body-grip traps
• Documents: Wildlife mysteries revealed

• Videos: Target and non-target animals often suffer
• Chat live replay with reporter Tom Knudson

Editor's note: This story has been updated to clarify the chemical makeup of Compound 1080, and to more accurately indicate the time period of casualties incurred in aerial gunning crashes.

• Read more articles by Tom Knudson

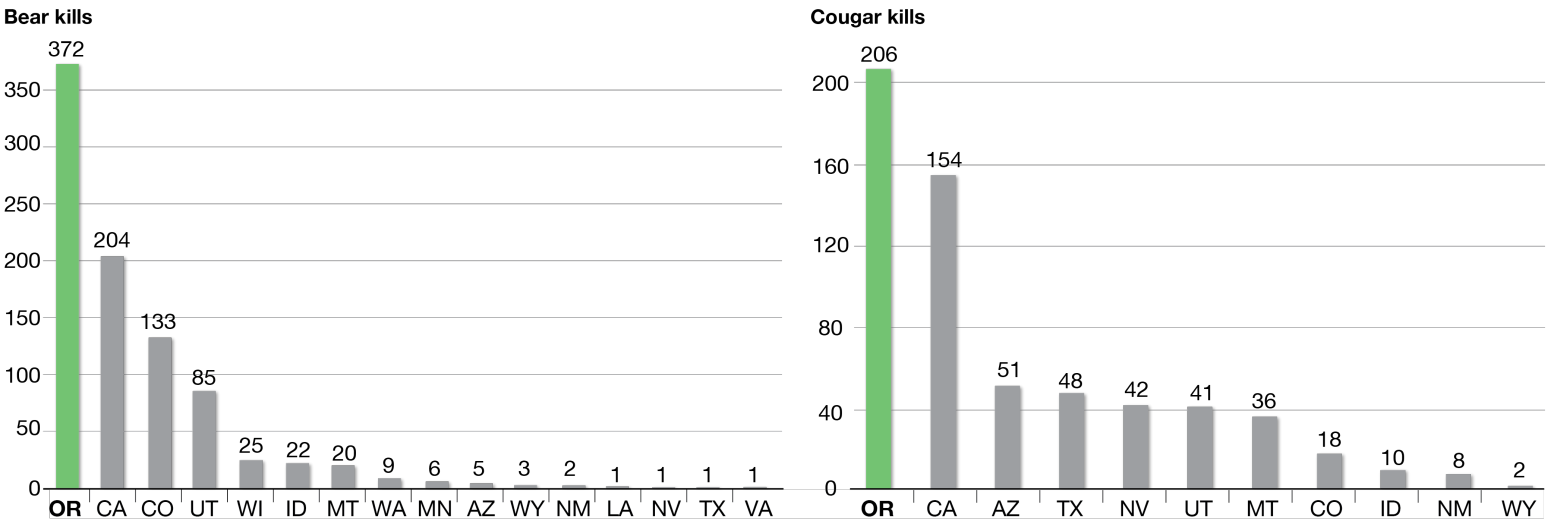
Animals killed by USDA Wildlife Services

The U.S. Department of Agriculture's Wildlife Services crews operate around the country to trap and kill animals of all shapes and sizes. The agency is hired by private landowners, companies and the state of Oregon in some cases, to trap, kill or shoo away animals.

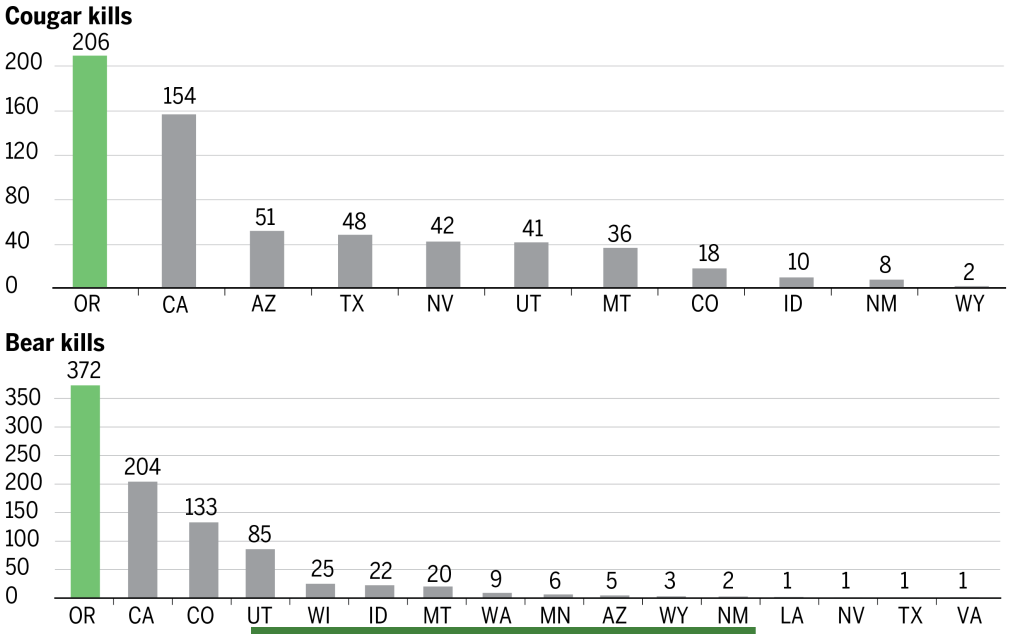
MORE: Read the full story

CORRECTION: This page includes 120,000 animal deaths inadvertently omitted from the original, bringing the new national total to just over 6 million.

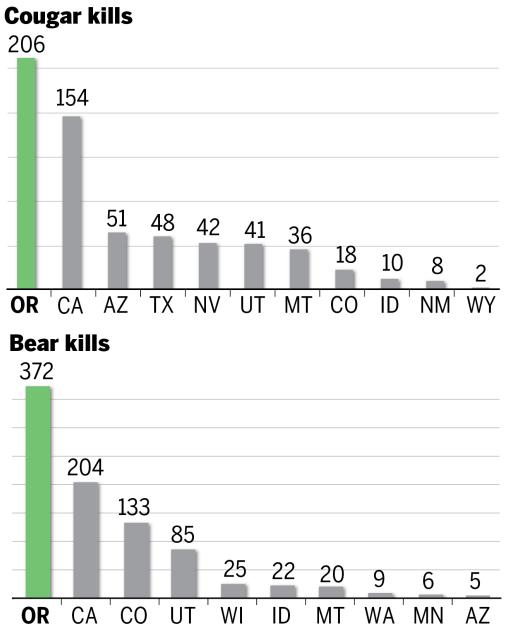
Big game animals are killed in Oregon more than any other state, 2015-2016



Big game animals are killed in Oregon more than any other state, 2015-'16



Big game animals are killed in Oregon more than any other state, 2015-2016



NATIONAL

Killing Coyotes Is Not As Effective As Once Thought, Researchers Say

June 14, 2019 · 9:22 AM ET

MELODIE EDWARDS

FROM WYOMING PUBLIC RADIO

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A coyote runs down the road in Wyoming's Yellowstone National Park. In 2018, more than 68,000 coyotes were killed in the U.S., including 5,600 just in Wyoming, under an Agriculture Department program.

Karen Bleier/AFP/Getty Images

In a rugged canyon in southern Wyoming, a helicopter drops nets over a pair of coyotes. They're bound, blindfolded and flown to a landing station. There, University of Wyoming researchers place them on a mat. The animals stay calm and still while technicians figure out their weight, age, sex and other measurements. Graduate student Katey Huggler fits the coyotes with tracking collars.

"What really is most important to us is that GPS data," says Huggler, who's the lead on this project. What that data has been showing is, boy, do coyotes roam. Huggler is amazed at one young female that wandered long distances.

"It was like 110 miles as the crow flies, turned around, came back three days later," she says. "[Coyotes] are moving fast, but they're also moving really far."

Huggler says all that roaming changes during the short window when mule deer fawns are born, showing that coyotes are indeed targeting them. Mule deer populations around the West are down — 31% since 1991 — and some people blame coyotes. It stands to reason that killing some coyotes could help improve mule deer numbers, but University of Wyoming wildlife professor Kevin Monteith points out if you wipe out a pack of coyotes, it leaves a hole in the habitat, and nature dislikes a vacuum.

The federal government kills thousands of coyotes every year to keep them from preying on livestock and big game. But some wildlife biologists say killing coyotes isn't actually the best way to control them.

"The next day you just have an exchange of animals that come right back in and fill that place," Monteith says.

In fact, some studies show that if you kill off a lot of coyotes, they breed even more.

"Oftentimes, coyote control programs have been implemented, and in some or many instances, the effects were negligible," Monteith says.

University of Wyoming professor Kevin Monteith takes measurements on a young male coyote.

Melodie Edwards/Wyoming Public Media

Yet these conclusions haven't affected the high number of coyotes killed by Wildlife Services, the little-known program run by the U.S. Department of Agriculture to conduct such lethal control. In 2018, the agency killed more than 68,000 coyotes in the U.S., 5,600 just in Wyoming. But some wildlife advocacy groups wonder why coyotes are being trapped, shot and poisoned when the science doesn't necessarily show it works.

"This is something we've been working on at a national scale, really trying to transform Wildlife Services," says Collette Adkins of the Center for Biological Diversity, a wildlife advocacy group that's filed numerous lawsuits to force Wildlife Services to include the most recent science on predator control in their plans.

"Like in Wyoming, which is relying on science primarily from the '70s, the '80s, maybe

the early '90s, that just isn't OK," Adkins says. "When it's a couple decades old, they need to take another look."

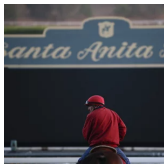
> “
>
> You just have an exchange of animals that come right back in and fill that place.
>
> Kevin Monteith, University of Wyoming

And more and more judges agree: California, Arizona and Idaho all are now required to change their plans to include more nonlethal approaches, and Adkins hopes Wyoming will be next.

Tayler LaSharr (left) talks classmate Brittany Wagler through how to release a male coyote. The orange paint on his head is to let helicopter technicians know he's already been collared.

Melodie Edwards/Wyoming Public Media

"In this last decade, we have seen this growing body of literature that points to the effectiveness of nonlethal methods. For example, using guard dogs or fencing or frightening devices."



SPORTS

Santa Anita Park Resists Call To Suspend Racing After 2 More Horses Die

WORLD

Canada Bans Keeping Whales And Dolphins In Captivity

But Rod Merrell with Wildlife Services in Wyoming says, "We've used noisemakers and sirens, and they work for a period of time, and then the coyotes realize they're not going to get hurt."

Merrell says, based on his 23 years in the field, killing the coyotes does still work best to stop them from preying on livestock and big game.

But the researchers in the canyon say they're interested in taking a new approach — studying coyotes' behavior when they're alive.

After the two coyotes are weighed and collared, it's time to release them into the wild. Researcher Tayler LaSharr is teaching a classmate how to do that.

"When I'm ready and you say you're ready to go you'll, like, take your hands back and push him. They run really fast. You ready?"

The two researchers remove the animal's restraints at the same moment and the coyote springs away from their hands. He looks back, confused at his freedom, and then he's gone.

coyotes wildlife wyoming

Original Draft: 11/4/97

Revised Draft: 6/21/12

Dear Interested Person or Party:

The following is a scientific opinion letter requested by Brooks Fahy, Executive Director of Predator Defense. This letter outlines a response to the general question "What effect does reduction of coyotes (older than 6 months) have on the remaining population?" This question is central to the repeated claim that reduction (mortality) of adult coyotes from human control practices lessens predation on domestic sheep or game animals such as mule deer or antelope. Before I cover the three basic biological responses by coyote populations to reduction (described below), it is important to understand the type of "predator reduction" or "coyote control" in question. Most reduction programs, often referred to as control practices, are indiscriminate in nature, meaning the individuals removed (coyotes are killed not relocated) are probably not the offending individuals. Research (mostly funded and conducted by USDA Wildlife Services) has shown that offending individuals are most often breeding adults provisioning their pups. Breeding adult coyotes are very difficult to target and can be rapidly replaced (another pack member takes over their role). Even if some offending individuals are removed, there is great likelihood that the responses described below will take place anyway. Although removal of offending individuals may temporarily alleviate predation rates on the protected species, the alleviation is usually short-term and has long-term side-effects that can result in increased predation rates and increasingly ineffective control activities.

It cannot be over-emphasized how powerfully coyote populations compensate for population reductions. Such density dependent responses to exploitation (human-caused mortality) are common in mammals and present in all territorial populations at or near habitat saturation. Both evolutionary biology and the results of research (e.g., recently completed 20 year study in Yellowstone National Park before and after gray wolf reintroduction) indicate that the basis of their *demographic and behavioral* resiliency is embedded in their evolutionary history. Coyotes evolved, and learned to coexist, in the presence of gray wolves—a dominant competitor and natural enemy that overlapped the historic range of coyotes in North America. Prior to widespread human persecution starting in the mid-nineteenth century, wolves have provided a constant selection factor inflicting mortality, competition, and numerous other sub-lethal effects.

Collectively, these intense selective pressures by wolves resulted in a species that exists in a relatively constant state of colonization with many specialized adaptations. These demographic and behavioral adaptations are numerous and diverse and allow coyote populations to easily

overcome the relatively mild effects of human control practices which are short-term and intermittent compared to sustained presence of wolves, from every month to many thousands of years.

Demographic compensation

The following demographic responses are based on published research, results of preliminary analysis of coyote study populations subjected to various levels of reduction or exploitation, and the work I have conducted with coyote populations in three study areas over the past 28 years in Washington (an unexploited population, not subject to human control or mortality), California (exploited), and Wyoming (unexploited then wolf mortality after reintroduction).

There is little, if any, scientific basis to justify control (reduction) programs that indiscriminately target adult coyotes. Wildlife Services often points out the lack of academic research demonstrating effectiveness. However, as with any federal action, the burden of proof is upon them to demonstrate both the biological and economical effectiveness of their proposed control activities. In fact, the mechanisms described below suggest that widespread control (even selective control) increases immigration, reproduction, and survival of remaining coyotes. It has been reported that sustained reduction of coyote numbers can only be accomplished if over 70% of the individuals are removed (exploited) on a sustained basis. Review of field research and modeling exercises (including my own) indicates that even with intensive control efforts, this level is rarely, if ever, achieved. A thorough review and synthesis of coyote ecology and demography can be found in a recent book chapter (see Crabtree and Sheldon 1999).

(1) Actual reduction in the density (and number of coyotes) does occur and is primarily a function of lower pack size for one year (betas, yearlings, and 6 month old pups are killed more often than reproducing adults or alphas). However, this reduction is compensated for in a wide variety of ways. First off, immediate immigration occurs in the reduction area by lone animals or from spatial shifts by surrounding social groups. At exploitation rates below 70%, the reproducing alpha males and females are replaced (seldom in the same year but always in the succeeding year). This is the expected response by most territorial species with surplus (non-breeding) adults. Their primary objective is to find a temporal opening, defend and exploit the food resources in that social group, pair-bond and breed.

(2) Human control resulting in density reduction results in a smaller social group size which increases the food per coyote ratio within the territory. The food or prey surplus is biologically transformed into somewhat larger litter sizes and almost always much higher litter survival rates (which are low in unexploited populations). Review of literature indicates that the increase in litter size at birth is not as great as was previously reported by Knowlton (1972). In addition to increased food availability for fast-growing pups, the surplus food improves the nutritional condition of breeding and associate adults, which translates in higher pup birth weights and higher pup survival. Alpha male coyotes and associate adults in the pack help feed the pups.

(3) Density reduction allows the pups that normally die during the summer months in populations with low to no mortality, to survive. Exploitation causing higher pup survival is fundamentally a function of the general mammalian reproductive strategy that delays the majority of reproductive energetic investment beyond the gestation period, the post-partum and neonate state (e.g., young pups). The caloric demand of offspring reaches an apex in May, June, and July when coyote pups grow very fast. Thus, the normal litter of six pups has a good chance

of (a) surviving the typically high summer mortality period and, (b) being recruited into the pack the following winter as adults thereby returning the previously exploited population to normal densities. By contrast, in the two unexploited populations I investigated, the average litter size at birth was 5 or 6, but due to high summer mortality, only an average of 1.5 to 2.5 pups survive. In populations subjected to less than 70% removal annually, there appears to be an ample number of breeding pairs to occupy all available territory openings and litter sizes of 6 to 8 enjoy high survival rates (most pups born survive to adulthood). This results in a doubling or tripling of the number of hungry pups that need to be fed. "Large packages" of prey, (such as sheep, as opposed to the more natural and common prey species of voles, mice, or rabbits) make for more efficient sources of nutrition because hunting adults have to invest less energy per unit of food obtained. Research funded by Wildlife Services clearly indicates that the primary motivation to kill domestic sheep is to provide food for fast-growing pups.

(4) Reductions in coyotes capable of breeding (at 10 months of age) result in smaller pack size which leaves fewer adults to feed pups. This may further add incentive for the remaining adults to kill larger prey as well as putting pressure on the adults to select for the most vulnerable prey and venture close to areas of human activity. Because predators like coyotes also learn what is appropriate food when they are pups, and are reluctant to try 'new' food sources unless under stress (such as having to feed a large litter of pups), reduction programs, in effect, may be forcing coyotes to try new behaviors (eating domestic livestock) which they would otherwise avoid. Research has clearly shown that higher numbers of adult pack members provide more den-guarding time and more food brought to pups. Without pressure to "maximize" efficiency in hunting for food for pups, packs may be able to subsist on larger numbers of smaller prey (e.g., rabbits and small rodents) rather than going for livestock or other, larger prey like antelope and mule deer fawns. Although, coyotes are exposed to significant risk of injury when hunting and killing larger prey, larger litter sizes might 'tip the balance' in favor of selecting larger prey and livestock.

(5) Reductions (non-selective, indiscriminate killing of adults) cause an increase in the percentage of females breeding. Coyote populations are distinctly structured in non-overlapping but contiguous territorial packs. About 95% of the time, only one female (the dominant or alpha) in a pack breeds. Other females, physiologically capable of breeding, are "behaviorally sterile". Exploitation rates of 70% or higher are needed to decrease the number of females breeding in a given area. Either a subordinate female pack member, or an outside, lone female can be quickly recruited to become an alpha or breeding female. My research has shown that light to moderate levels of reduction can cause a slight increase in the number of territories, and hence the number of females breeding.

(6) Reduction or removal of coyotes causes the coyote population structure to be maintained in a colonizing state. For example, the average age of a breeding adult in an unexploited population is 4 years old. By age 6, reproduction begins to decline whereby older, alpha pairs maintain territories but fail to reproduce. This may eliminate the need to kill sheep or fawns in the early summer in order to feed pups. Exploiting or consistently reducing coyote populations keeps the age structure skewed to the younger more productive adults (average age of an alpha is 1 or 2 years). Therefore, the natural limitations seen in older-aged, unexploited populations are absent and the territorial, younger populations produce more pups.

(7) Reductions in adult density of coyotes also cause young adults (otherwise prone to dispersing) to stay and secure breeding positions in the exploited area. This phenomenon is well-

documented by research conducted by Wildlife Services and other researchers. Research also indicates that this is the age class most frequently involved in conflicts.

Alternate prey

An aspect of coyote predation on livestock that is often overlooked is the availability, or dearth of alternate prey. Wildlife Services' research has demonstrated that coyotes will avoid novel prey, such as domestic livestock. In addition, it is risky for coyotes to predate upon domestic livestock because of human control actions associated with this behavior. Related research indicates that predators switch to alternative prey when a preferred prey item is absent or in low numbers. Voles and other rodents like jackrabbits are a preferred major staple of coyotes in the West. These prey species require cover and ample supplies of forage (grass and forbs). On many western rangelands grasses, forbs, and protective cover have been greatly reduced by domestic livestock grazing, leaving predators with fewer preferred prey to utilize. Present or historic grazing impacts should be assessed as a likely means of predicting overall predation rates on other prey species, especially prey like domestic sheep, which are already vulnerable to predators due to their lack of anti-predator behaviors.

Accelerated selection pressures and learned behaviors

A relatively unexplored, but promising avenue of research is the long-term genetic and behavioral changes in coyote populations subjected to decades of exploitation. It seems obvious that the type of selection pressures and selection rates have been greatly changed for coyote populations, after a century of exploitation at 20% to 70% per year. More nocturnal, more wary, more productive, more resilient individuals have probably been intensively selected for. This in turn may cause coyote populations to resist control practices that previously were effective. In addition, the possibility of social facilitation and learning may be altered or reduced. Coyotes, like many mammals, learn to habitually use certain prey or habitats from other individuals in the population, especially from older adults in their social group (if they have one). Coyotes, already a highly social and adaptable species, are held in a younger colonizing state when they are exploited, and learned or traditional behaviors may be lost. Individuals are therefore more susceptible to learning novel prey sources or trying out novel habitat types, and are frequently associated with conflicts such as livestock predation.

There are many questions to be answered such as, "How will coyote populations respond once predator reduction or control programs are terminated?" or "Are there other management alternatives, both lethal and non-lethal, that may be effective in reducing predation on domestic livestock"? "How do economics figure into management options"? This letter and scientific opinion only addresses the narrow, but important topic of the impacts of human-caused reduction or 'control' on coyote demographic parameters. We see little, if any, evidence to justify control practices on an ecological basis. This letter also addresses a long-held belief that human control of coyote populations are 'necessary', similar to 'mowing a lawn' to keep it from growing out of control. This belief has no scientific basis whatsoever. Even research conducted by Wildlife Services reports a variety of factors that keeps the lawn from growing. Their research repeatedly concludes that the primary means of population limitation is territoriality itself, which imposes an upper limit on density (or lawn height). Paradoxically the prevalent use of lethal control by Wildlife Services opens up a 'Pandora's box' of behavioral and demographic responses that negate any long-term effectiveness of control. The predominant responses of coyote populations to lethal control efforts are to: (1) increase the number of pups produced (recruitment), (2)

increase immigration into the conflict area, and (3) increase behaviors that further exacerbate the conflict. Collectively, this results in higher predation rates on domestic livestock and wild ungulates.

Coyotes are still products of their evolutionary past. Biological, economical, and ecological evaluation of control practices should be a requirement undertaken before any public or private effort to reduce losses due to coyotes or any other predator. In conclusion, it is my opinion based on decades of field research that the common practice of reducing adult coyote populations on western rangelands is most likely ineffective and likely causes an increase the number of lambs, fawns, and calves killed by coyotes.

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