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James W. Feldman

University of Wisconsin Oshkosh

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Public opinion, the Leopold Report, and the reform of federal predator control policy

JAMES W. FELDMAN, University of Wisconsin Oshkosh, Environmental Studies Program, 800 Algoma Boulevard, Oshkosh, WI 54901, USA feldmanj@uwosh.edu

Abstract: This paper explores the role of public opinion in a landmark shift in the federal predator control program. In 1963, the Leopold Committee recommended extensive reform in the federal predator control program, predicting that growing public support for the environmental movement would force such a move if the government did not initiate a change. In the years following the publication of the Leopold Report, the U.S. Division of Wildlife Services reformed its predator control program and tried to improve its public image. Meanwhile, both environmentalists and ranchers fought to control public opinion about the issue. The 1972 ban on predacides (poisons for predators) in federal predator control programs resulted as much from the environmentalists' ability to control public opinion as from the changing scientific understanding of predators.

Key words: Compound 1080, environmental movement, human–wildlife conflict, Jack H. Berryman, Leopold Report, predacides, predator control, Progressive conservation

AMERICANS view coyotes (*Canis latrans*) in at least 2 different ways. One perspective romanticizes the coyote: "If I could, I would go to bed every night with coyote voices in my ears and with them greet the gray light of every dawn," intones a nature writer (Olsen 1971a:256). The coyote's haunting moon-howl symbolizes the wilderness to campers in America's backcountry. Ranchers and farmers who make their living off livestock, on the other hand, view the coyote as a threat to economic stability. In a rancher's words: "[There is] nothing romantic about a bunch of lambs with their throats ripped out" (Spangler 1991:5). For the first half of the twentieth century, this latter view determined animal damage control policies in the United States for coyotes and other predatory animals. Federal agents and ranchers used many techniques to stop predators from preying on livestock, including the liberal use of poisons in an effort to suppress predator populations across broad areas. Over the course of the century, a growing ecological understanding of predators raised questions about this policy. The 1964 publication of the U.S. Department of the Interior's report, *Predator and Rodent Control in the United States*, more commonly known as the Leopold Report, marked a turning point in the federal policy on predator control (Leopold et al. 1964). It was a battle over public perception, however, and not just a changing understanding of ecology, that motivated drastic change in federal policy.

Establishing the federal predator control program

The federal government first became involved in predator control in the early twentieth century, and the program grew

quickly. The initial government role included only conducting studies and demonstrations of predator control tools and techniques. The livestock industry, however, increasingly demanded a larger federal program, and Congress responded to this pressure in 1915 by allocating \$125,000 specifically for predator control to the U.S. Bureau of Biological Survey (BBS), an agency housed in the U.S. Department of Agriculture, to deal with predatory animals that preyed on livestock (Di Silvestro 1985, Hawthorne et al. 1999). Initial predator control had relied on hunting and trapping, but the BBS introduced poisons as an additional method. With a large amount of rangeland to cover, bait stations—horse quarters laced with strychnine and set out for scavenging wolves (*Canis lupus*) and coyotes to find—proved an effective technique. Traps caught only 1 animal at a time; poisons killed multiple predators that consumed poisoned bait at the stations. In 1920, the BBS began systematic experimentation to improve the effectiveness of poisons as a control tool (Hawthorne et al. 1999). By the mid-1920s, the federal program supported the killing of approximately 35,000 coyotes a year. The Great Depression increased pressure for more extensive control, and World War II rationing on steel and ammunition hastened the shift from trapping and hunting to the use of poisons (Dunlap 1988, Mighetto 1991).

Rationale for predator control grew out of the ideas of Progressive Era conservation. Environmental historians have developed a very specific meaning of the term progressive conservation. At the turn of the nineteenth century, Americans began to manage—as opposed to simply use—their natural resources.

The overarching ideology of conservation was the application of scientific principles to resource management to ensure continued yield of resources like timber, minerals, and livestock. Samuel Hays, the leading historian of the conservation movement, identified “the concept of planned and efficient progress” as the heart of the conservation idea (Hays 1959:5). In my article, the term conservation is used in this historical sense. Proponents of conservation science sought to replace the view of the environment as an opponent to be conquered that had guided early American encounters with the natural world. Killing predators was easily justified as a means for maximizing both rangeland and wildlife resources (Nash 1982, Worster 1985).

The application of Progressive conservation principles to wildlife produced the science of game management and early applications of the new science further depreciated the value of predators. Wildlife conservation focused on game species as a resource, and predators killed deer (*Odocoileus* spp.) and pronghorn antelope (*Antilocapra americana*), as well as domestic livestock. The increasingly powerful sportsman’s clubs threw in their lot with ranchers in calls for predator control. A young U.S. Forest Service employee named Aldo Leopold emerged as one of the leading theoreticians of the new science of wildlife management. Leopold had long been a proponent of predator control. In 1920, he had called for the extermination of wolves and mountain lions (*Felis concolor*) throughout the West. Later in the century, Leopold’s ideas about wildlife management and predator control altered drastically. Leopold’s transforming attitude toward predators serve as a signpost for changes in American attitudes in general (Worster 1985, Dunlap 1988, Leopold 1990, Mighetto 1991). In the early twentieth century, though, federal predator control had both political and scientific support.

The use of predacides (poisons for predators) sparked protests against the predator control program. In 1923, some scientists voiced the first significant criticism against the BBS, decrying what they label as “modern poison warfare” (Worster 1985) without research into the environmental consequences of poison use. These scientists worried about nontarget kills, meaning fatalities, to American badgers (*Taxidea taxus*), striped skunks (*Mephitis mephitis*), bald eagles (*Haliaeetus leucocephalus*), golden eagles (*Aquila chrysaetos*), and other animals that fed at the bait stations that were set out to kill coyotes and wolves. These objections escalated in 1930,



Coyote on the prowl.

when the BBS requested \$1 million for predator control (MacIntyre 1982).

The Great Depression quashed these protests, and between 1930 and 1950 the federal commitment to predator control steadily increased. In 1931, Congress passed the National Animal Damage Control Act, legislation directing the government to “conduct campaigns for the destruction or control of (predatory) animals” (U.S. Public Law 776). This act expanded the government role in predator control, authorizing the use of federal funds and personnel on private lands. The act remains a key foundation for modern animal damage control efforts (Di Silvestro 1985). During 1934, Congress assessed fees for grazing on public lands, solidifying the federal responsibility to control predators. In 1939, the predator control program—now carried out by the Division of Predator and Rodent Control (PARC)—moved to the U.S. Department of the Interior. This division enjoyed consistent support both in Washington and on the western range, demonstrated by its budget of more than \$1 million cooperatively provided by the government and by western livestock interests (Cain et al. 1972, MacIntyre 1982). Numbers of coyotes taken by the federal program reached all-time highs during World War II, topping out at 111,076 recorded in 1942 (Cain et al. 1972). Other large predators—such as wolves, mountain lions, and grizzly bears (*Ursus arctos*)—had been banished to the most isolated parts of the West or extirpated altogether. During this era, the federal animal damage control program expanded in relative obscurity, with little formal opposition or public notice (Miller 1999).

In 1947, PARC introduced a new predacide—sodium fluoroacetate, or Compound 1080 for short. Compound 1080 offered many advantages. A colorless, tasteless, odorless poison, it proved highly toxic to canids and



A coyote finds its victim.

rodents, the two chief targets of control. A mere 1.6 grams of the poison rendered 100 pounds of horsemeat lethal to coyotes. This new predicide quickly became PARC's preferred control tool. But Compound 1080 also drew immediate and constant criticism from opponents of predator control for its dangers to humans (there is no known antidote), for the inhumanity of the convulsions it induced in animals, and for its possible dangers to the environment (Howard and Schmidt 1984, Dunlap 1988).

Because of the risks associated with Compound 1080, PARC implemented strict restrictions on the new poison. These included: use only in the sparsely populated West; use only where predation posed a major problem and other methods had failed; use only in bait stations and only 1 station per 93.2 km²; and placement of bait stations away from roads, developments, and water sources (Dunlap 1988). Some scholars have suggested that the scientists who first researched Compound 1080 widely publicized the toxin's risks to scare untrained people from using it, as no effective regulatory system existed at the time. Later critics of the poison called upon this publicity in their campaign to limit its use (Howard and Schmidt 1984).

During the first half of the twentieth century, federal predator control operations expanded gradually. One interpretation of the growth of this program holds that the western ranching interests dominated PARC and that predator control depended on ranchers' whims rather than objective decision making. The establishment of cooperative funding mechanisms—money from states, counties, and local ranching associations directly paid to PARC for its services—aided this development. In 1940, for example, the federal government contributed only \$398,360 for PARC's predator control activities, whereas cooperative funds totaled \$632,115 (Cain et al. 1972). This cooperation also developed from the positions of western representatives on powerful U.S. congressional committees, the high demand for meat during World War II, and the absence of consistent opposition to predator control (MacIntyre 1982).

Wool grower involvement in predator policies coincided with a wider suspicion that ranching interests had subjected the entire grazing system to their will. As federal predator control became more controversial, opponents of the program pointed to the ranchers' influence as one of the system's gravest problems (Culhane 1981, Brunson and Kennedy 1995).

The increasing role of the federal government in predator control became controversial, as well. Traditionally, state wildlife agencies managed resident wildlife, whereas the responsibility for migratory animals fell to the federal government. Under which class did coyotes fall? People encouraging an increased federal role claimed that coyotes moved across state borders and therefore constituted migratory wildlife. Those opposed to federal involvement argued that coyotes' territorial nature made them resident wildlife and a state responsibility. Others believed that predators kept ranchers from using federal land for grazing, thereby reducing the value of public lands and threatening rural economies. Another dispute focused on the beneficiaries of control: state management brought the most effective response to local needs, but wildlife belonged to the general public as public resources, not just to the local community. These questions concerned federal wildlife management in general, not just predator policies (Cummings 1972, U.S. Congress 1972, Wagner 1972, Wagner 1975).

The ambiguous nature of wildlife responsibility has been a persistent issue in the history of predator control. All of the groups interested in control—ranchers, conservationists, federal agents, and scientists—have exploited the uncertainty, moving toward or away from increased federal control depending on specific situations and desired goals. The lasting effect of the state/federal dilemma has been to keep the door to controversy ajar. This uncertainty also ensured that public opinion about the role of predator control would become increasingly important (Bean 1978, Tober 1981, Tober 1989).

On the practical level, the various federal agencies that have carried out predator control have dealt with the responsibility dilemma by negotiating cooperative agreements with the states (Cain et al. 1972). The head of the federal program, Jack H. Berryman, summed up the debate in 1970:

Our relationship with the States goes beyond the rather simplistic and arbitrary migratory-resident species concept (which we all ignore most of the time anyway) and the present states' rights commotion.

The animal control effort is a kind of partnership, although we do indeed need to enjoy active and open support when rendering services needed and requested by the States. If this is not the case, we should pull out entirely... (J. H. Berryman, Division of Wildlife Services, unpublished report 1970).

Through these agreements, the government secured authority to carry out its program, regardless of where actual responsibility fell.

Change in American attitudes toward predators

While the federal predator program grew, the attitudes of the American people toward wildlife and wild places changed. If predator policies prior to 1950 grew out of conservation, in the second half of the century they changed in response to the ideas of environmentalism. As with conservation, environmental historians consider the emergence of environmentalism as a specific historical event, albeit one less easily defined. Environmentalism fused several different cultural trends into a new perspective on nature: the desire to preserve (as opposed to conserve) natural resources, increased interest in outdoor recreation, an ecological perspective on the relationships between humans and other organisms, and heightened attention to the impact of pollution on the natural world.

Preservation demanded natural resource management not because of the economic opportunities in nature, but specifically because of nature's non-economic values. This ideology had been around for a while, with philosophers like John Muir and battles like the one in the early twentieth century over the Hetch Hetchy Dam outside of San Francisco. However, few people subscribed to these beliefs, and few of these beliefs translated into policy. But the economic boom of the 1950s provided room for attitudes to change. With financial security came leisure time, disposable income, and ability to shed the dollar-dominated view of nature. Increasing calls by middle-class Americans for wilderness—lands protected from the degradations of resource extraction—exemplify this shift (Nash 1982, Dunlap 1988, Cawley 1993).

Aldo Leopold's emerging ideas foreshadowed these changes. By the time of his death in 1948, Leopold had left his earlier ideas of economic management behind and embraced what he termed a "land ethic." This philosophy, he

explained, "simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively the land." Relationships with nature should be determined "in terms of what is ethically and aesthetically right, as well as what is economically expedient" (Leopold 1949:239). Scholars and activists consider Leopold one of the founders of modern environmentalism. Although not widely read in his own time, by the late 1960s Leopold had emerged as a prophet of the environmental movement with his 1949 collection of essays, *A Sand County Almanac*, as one of the movement's most important texts (Worster 1985, Gray 1993).

Attitudes towards wildlife changed with wider shifts in the perceptions of the natural world. Predators—coyotes and especially wolves—served as symbols of the savage wilderness that early Americans had sought to



Wolf pack.

tame. Progressive Era wildlife managers saw the predator in economic terms, as a threat to deer and livestock. In preservation ideology, however, the predator could be appreciated for the aesthetic qualities it brought to the environment and for its own inherent value. Aesthetic appreciation of coyotes and wolves developed around its moon-howl (Dunlap 1988, Mighetto 1991). "[The howl] is inextricably associated with the romance of the West, and the sense of open space and wildness of those areas," explained 1 admirer (U.S. Congress 1972:274). The bark of the coyote could be as valuable as its bite.

The developing science of ecology fostered transforming attitudes about wildlife and also about predator control. During the mid-twentieth century, ecologists demonstrated with increasing confidence the interrelationships and mutual dependence among all living things. The study of predation matured as well,

establishing the importance of predators in the biotic community. Opponents of predator control could and did argue that removing predators from the wild knocked the natural system into an unnatural state of imbalance (Nash 1982, Dunlap 1983, Worster 1985).

Concern for animal rights and its less radical and more widely-supported sister idea, animal welfare, also matured during this time. Animal rights activists rallied around the idea that animals have moral standing, and they questioned the right of humans to inflict pain on other animals. The animal welfare movement simply sought to reduce animal pain and avoid unnecessary suffering (Schmidt 1990). Groups concerned with animal welfare formed around the turn of the nineteenth century; in 1925, the Anti-Steel Trap League began targeting the government's predator program. As the government started to use more poison, animal welfare activists redirected their focus as well. Compound 1080, which attacked the coyote's nervous system and induced violent convulsions, became a constant target of protests for its cruelty and inhumanity. Although animal rights activists did protest predator control, animal welfare generated more widespread concern (Mighetto 1991).

Changing perceptions of animals and wilderness contributed to growing rifts in the American social fabric. The controversy over what to do with predators frequently divided along East/West and rural/urban lines. The predator control dispute split the East and the West simply because most of the ranchers, sheep, and coyotes lived in the West and most of predator control's opponents lived in the East. Westerners resented eastern intrusion, and they accused easterners of imperialism. Although the federal government—a frequent target of western unrest—provided the funding and manpower for predator management, the ranchers determined the frequency and intensity of control. In western eyes, regulation of the poisoning program would place unacceptable restrictions on range management.

The urban/rural split developed gradually during the twentieth century, but became more noticeable during the 1950s. During World War II, rural America experienced the beginnings of the production revolution. Expanding mechanization and the increasing use of pesticides decreased the number of people necessary for agricultural production. Young people migrated from the rural areas—particularly those with resource-based economies—to the cities. The rural exodus accelerated in the 1950s and 1960s. Whereas

23% of Americans lived on farms in 1950, by 1970 less than 5% did. With decreasing population and deflating morale, many rural American communities faltered (Brunson and Kennedy 1995, Danbom 1995). These changing demographics directly affected the sheep industry. As ranchers' children left for the cities, sheep operations folded across the West. In 1950, 200,000 ranchers ran sheep; by 1972, the number had fallen to 59,700. Wool growers felt their way of life was dying out (Schueler 1991).

Conversely, urban America experienced unprecedented growth during the same period. With the economic boom of the 1950s, bank accounts and leisure time increased for many urbanites. Interest in outdoor recreation exploded as people sought relief from the dirty, congested cities. They looked to the less crowded, less developed rural areas to meet the demand. Urbanites spearheaded the new environmental movement, seeking what they perceived as an ecologically balanced, pristine wilderness and an outlet for their recreational interests (Hays 1987, Brunson and Kennedy 1995).

These developments brought urban and rural America into conflict. Urban recreationists' outdoor activities "clashed frequently with the customs, economic objectives, and pace of life" of rural communities, explained 1 scholar (Hays 1987:288). City dwellers brought their new set of environmental values to the countryside. Removed from the direct economic consequences of environmental regulation, they called for the preservation of wilderness areas and restrictions on ecologically destructive practices like pesticide application. Rural Americans consistently opposed these initiatives (Brunson and Kennedy 1995).

Rachel Carson's *Silent Spring* focused national attention on the dangers of pesticides (Carson 1962). Many historians have pointed to the 1962 best seller as the first step in the modern environmental movement. Carson's book called attention to concepts like the web of life and underlined the dangers of toxic substances in the environment. Concern about toxic pollutants emerged as a central theme of the environmental movement in the 1960s. While Carson publicized the plight of backyard songbirds, other authors focused on predators and wildlife. In 1963, Farley Mowat published *Never Cry Wolf*, a record of his observations of a Canadian wolf family (Mowat 1963). Although ecologists have disputed the scientific value and accuracy of *Never Cry Wolf*, the book became a best seller and helped to change many people's



minds about the value of predators. Both of these books directed attention once more to dangerous uses of pesticides, predacides, and other poisons, and also to the federal use of these tools in the predator control program (Dunlap 1983).

Reforming predator control: the Leopold Report and its aftermath

In the late 1950s and early 1960s, protests against the predator control program picked up again. Some critics called only for a reassessment of the program; others questioned whether it was necessary at all. Changing attitudes toward wildlife and increasing calls for nature protection motivated these protests. In 1963, U.S. Secretary of the Interior Stewart Udall called for a review of the predator program to help answer the criticisms and to make recommendations for needed changes. The Special Advisory Board on Wildlife Management had been created in 1962 to help the secretary administer the most difficult wildlife management situations. The board consisted of 5 eminent wildlife biologists, and is usually known as the Leopold Committee, after chair A. Starker Leopold (Aldo Leopold's son). The committee's 1964 report on predator control, known as the Leopold Report, sparked a flurry of changes in the federal predator control program (U.S. Congress 1966). Public perception of these changes proved to be just as important as the changes themselves.

The Leopold Report lambasted the existing federal control program. "It is the unanimous opinion of this Board that control as actually practiced is considerably in excess of the amount that can be justified in terms of total public interest" (Leopold et al. 1964:3). The committee had studied all aspects of the PARC program: financing, criteria for control, professionalism of federal agents, methodology, research agendas, public health, and predator, rodent, and bird control. The Leopold Committee scientists based their report on 2 basic premises:

1) All native animals are resources of

inherent interest and value to the people of the United States. Basic policy therefore should be one of husbandry of all forms of wildlife.

2) At the same time, local population control is an essential part of a management policy, where a species is causing significant damage to other resources or crops, or where it endangers human health or safety. Control should be limited to the troublesome species, preferably to the troublesome individuals, and in any event to the localities where substantial damage or danger exists (Leopold et al. 1964:3).

These basic premises reflect the principles of the 2 most important ideologies of twentieth-century resource management: conservation and preservation.

The scientists on the Leopold Committee offered a set of recommendations to improve the federal program. They suggested a permanent advisory board made up of representatives of all parties interested in control to oversee the program. They called for a reassessment by PARC of its own goals in light of the American public's changing attitudes toward wildlife and suggested a name change for the division to reflect the new philosophy. They recommended an amplified research program focusing on species-specific and nonlethal methods. Suggestions on PARC operations included restricting the program in the western states. With regard to poisons, the Leopold scientists concluded that Compound 1080 was the most efficient method for control on the western range, and that when properly applied, it could be safe, humane, and effective. But, the scientists pointed out, abuse of Compound 1080 did occur; they recommended increased federal controls over its use, as well as over the use of other predacides. The Leopold committee included a bit of political prescience in its report:

Unless the government control program undergoes a drastic and critical internal revision of operational objectives and procedures, an even more drastic revision will sooner or later be forced by the public, with possible curtailment of the control functions which we concur are locally important (Leopold et al. 1964:18).

Secretary Udall took the committee's recommendations to heart. On 16 June 1965, after 15 months of deliberations and public comment, the U.S. Secretary of the Interior

announced the acceptance of the Leopold Report as a "general guidepost" for Interior Department policy (U.S. Congress 1966). He offered assurances to wool growers that they would not be forgotten: "We have no intention of abandoning our responsibility in the control of damage by pest species when it is clear that the Department's assistance is needed." He added, however, that "[a]t the same time, the Department has a much wider interest in wildlife, including the general public interest" (J. H. Berryman, Wildlife Services Progress unpublished report 1969 [hereafter referred to as Wildlife Services Progress 1969]).

Over the next 5 years, a spring cleaning of sorts occurred at the U.S. Department of the Interior's predator control division. Policies, names, terms, titles, and philosophies were replaced or changed. Affected parties watched the debris flying from the closet with interest. "[Environmentalists] thought we were dragging our feet, wool growers thought we were going ape, and they really kept the pressure on," remembers Jack H. Berryman, head of the government program at the time (J. H. Berryman, personal communication, 1996).

Changes took place at 2 levels; the federal program received cosmetic surgery designed to improve public relations as well as deeper changes in philosophy and policy.

Everyone involved in the predator control house cleaning recognized the importance of public perception. A public outcry had spurred the Leopold Report and its recommendations in the first place; the federal policy needed to respect this public concern. "We recommend that each step in implementing the [new predator control] policy be accompanied by news coverage to secure maximum understanding of the program and establish a new 'image'" (Wildlife Services Progress 1969, Appendix 3:5). Between 1965 and 1969, in an effort to win public support, the U.S. Department of the Interior circulated 250 pamphlets and offered 73 formal talks in addition to routine newsletters and announcements (Wildlife Services Progress 1969).

As a part of these changes, the federal predator control program received a new name and a new head in 1965. The U.S. Division of Predator and Rodent Control became the U.S. Division of Wildlife Services (DWS) to highlight the new direction of the federal program. New responsibilities included "Wildlife Enhancement" and "Pesticide Appraisal-Monitoring," both protection (as opposed to control) oriented functions. When Jack

H. Berryman came aboard to head the DWS, a U.S. Department of the Interior news release emphasized that he had been an associate professor at Utah State University and that he had served as the immediate past president of The Wildlife Society. These changes reflected the importance of public opinion and approval (Wildlife Services Progress 1969).

Berryman quickly began the makeover of the predator control program. Titles of DWS field operatives changed from the sinister "Control Agents" to the innocuous "District Field Assistants" (National Archives, Record Group 22, unpublished correspondence, August 24, 1965). The Washington office recognized that "there is a need for upgrading the appearance of field personnel" to overcome the image of predator control specialists as "gopher chokers" and "blood-thirsty killers"; DWS employees were issued field uniforms and provided instruction on public relations (National Archives, Record Group 22, unpublished correspondence, August 27, 1965). Even the term-inology of control changed.

Obviously, public acceptance is essential if we are to continue to meet our animal control responsibilities. Much of the terminology that has been used over the years is for various reasons now distasteful to some segments of the public and there is a need for a careful review of verbal and written expressions. (unpublished correspondence, National Archives, Record Group 22, October 18, 1965)

"Poison" became "toxicant" or "chemical compound"; "kill" became "reduction" or "removal" (National Archives, Record Group 22, unpublished correspondence, October 18, 1965). Berryman instructed DWS operatives to stop thinking about animals as "good," "bad,"



Red fox cub.

“pests,” “detrimental,” and “beneficial,” and instead recognize that all species, at 1 time or another, could fit all of these descriptions (“Wildlife Services Progress” 1969, personal communication 1996).

Agents working for PARC had received criticism for being unprofessional and uneducated; Berryman professionalized the division. DWS recruited people trained in wildlife management. By 1969, 26 of 33 state supervisors had been replaced, and 80% of DWS personnel had college degrees—a significant increase over earlier years (Wildlife Services Progress 1969).

The changes implemented by DWS between 1965 and 1969 were not merely cosmetic. Progressive conservation had provided the ideology for predator control in the first half of the twentieth century. This ideology had become less relevant, and the DWS needed to acknowledge this change. The agency transformed its guiding philosophy, always with an eye to public opinion.

This has been no simple reorganization or policy redirection. What has really been at stake is a fundamental change in the conservation movement—a change in the way we view and deal with animals that become troublesome. We are not dealing simply with a change in a Federal bureau, but a change in public attitudes among cooperators and cooperating agencies—in attitudes that touch emotions and pocketbooks (Wildlife Services Progress 1969:1).

The division adopted the Leopold Report’s guiding principles: all animals have a right to exist, but control is necessary in certain situations.

In April 1967, DWS translated its philosophy into a new policy titled “Man and Wildlife,” the first official policy statement issued in the history of federal predator control. Division officials took painstaking steps to ensure that their new policy met public approval (Wildlife Services Progress 1969). They circulated a draft to 30 land-managing agencies, livestock associations, environmental groups, and others—“everybody and his brother,” according to Berryman—and incorporated virtually all of their comments and suggestions in the final draft (Wildlife Services Progress 1969, appendix 11). Secretary Udall described the policy as “a firm resolve that in protecting the interest of man, we will not jeopardize the environment

in which we must live” (National Archives, Record Group 22, unpublished correspondence, August 9, 1968).

Practices changed in the field, too. DWS agents decreased their use of poisons and traps, which led to a decrease in total take of animals. They increased the use of aircraft and introduced mobile forces that could quickly respond to areas with serious predator problems. The division tried to increase control in high-sheep areas and halt it in nonsheep areas, hoping to increase coyote populations but keep the level of depredation constant (Wildlife Services Progress 1969).

Officials at DWS also implemented stricter controls on the use of poisons, particularly Compound 1080. They reevaluated the placement of all bait stations and withdrew some of them from use. They sought formal approval of land users and district, state, and regional managers before setting out the stations. From 1965 to 1969, the use of Compound 1080 baits declined 21%, strychnine use fell 22%, and use of thallium sulfate (perhaps the most dangerous and nonselective of the predacides then employed) was virtually eliminated (Wildlife Services Progress 1969).

The battle for public opinion

For all the commotion at DWS between 1965 and 1969, the changes failed. Although significant advances had been made both in Washington and in the field, the new policy faltered because it did not win public support. Criticism of the program died down for a few years, but by the late 1960s, environmentalists were criticizing DWS and its predator control program as never before. Environmentalists, DWS agents, and wool growers struggled over a variety of concerns: poison use, wool grower influence on policy, the conservation/preservation debate, and animal welfare. In short, the issues that had been simmering for the previous 50 years boiled over.

A dramatic increase in the American public’s environmental awareness set up the next round of predator control debates. Between 1969 and 1971, concern for the environment burst upon the national scene. A survey of editorials conducted in September 1971 in 5 major newspapers found that the environment was the most important domestic issue. The new awareness found expression in April 1970 with the celebration of Earth Day. Hundreds of thousands of people paraded along the streets of Washington, D.C., New York, and other cities, demanding a more responsible approach to nature. College campuses also emerged as

centers of protest (Spencer 1972, Whitaker 1976, Steinberg 2002).

Interest in predator control rose with these larger movements, but the new protests differed from previous complaints. For the first time, critics of the program were able to carry their message to the general public outside the memberships of environmental organizations. In 1969, for example, NBC aired a prime-time documentary titled "The Wolf Men" that was viewed by 40 million people. The documentary detailed the practice of bounty hunting for wolves in Alaska and included grisly scenes of hunters eating raw wolf flesh. One author in *Defenders of Wildlife News* wrote:

The spectacle of that pot-bellied, waffle-bottomed, all-American sportsman with his twelve-gauge automatic shotgun, maiming, crippling, and sometimes killing outright the harmless, family-oriented wolves in deep snow from a hovering helicopter, boiled the collective blood of millions of Americans... (Murray 1972:251).

Over 1,600 letters of protest poured in to DWS offices and 700 more to the office of the governor of Alaska concerning the predator control program as well as Alaskan wolf hunting (National Archives, Record Group 22, unpublished correspondence, February 6, 1970). In June 1970, the *New Yorker* published a 40-page article detailing the effects of the DWS prairie dog control program on the endangered black-footed ferret (*Mustela nigripes*). Prairie dog control relied on Compound 1080, which the author Faith McNulty labeled "a Hiroshima-like disaster" (McNulty 1970). In 1971, McNulty published a book detailing the situation. Environmentalists had succeeded in broadcasting their concerns about predator control and Compound 1080 in the popular media.

Supporters of the predator control program claimed that the wolf-eating scenes were staged. The hunter filmed eating wolf meat in "The Wolf Men" insisted that the whole incident was a joke; he had been hamming it up for the cameras. The documentary had played on the emotions of uninformed viewers, "almost all of whom have grown up with a Bambi complex about wild game—naturally the scenes provoked an angry protest against hunting wolves" (National Wool Grower 1971:6). These attempted rebuttals did little to stem the letters of protest that poured into the DWS office in Washington, D.C. (J. H. Berryman, personal communication, September 25, 1996).

The barrage of negative press for predator control continued. In March 1971, the journalist Jack Olsen published a series of incendiary articles collectively titled "The Poisoning of the West" in the widely read sports weekly, *Sports Illustrated*. Olsen voiced loud concerns about the DWS coyote control program:

"Were all these [animal] deaths necessary? Were they ecologically justified? Or were they



Fox stalking at night.

part of a runaway killing program that years ago lost its scientific justification and now rushes on like an unbraked train?" (Olsen 1971b:37)

Poison, Olsen coldly explained, "is turning the tortured rangelands into a reeking abattoir of dead and dying wildlife and contaminated watersheds." Olsen attacked the ranchers and the DWS:

Unless there are massive changes, unless the livestock lobbies of the West and the federal poisoners give up their myths and prejudices, the day must come when the last weak and sickened coyote will drag himself to his feet and lift his voice to the skies, and there will be no answer (1971b:37).

By publishing in *Sports Illustrated*, Olsen reached a group of readers not necessarily associated with the environmental movement. Later in 1971, Olsen expanded his exposé into a book provocatively entitled *Slaughter the Animals, Poison the Earth*. This differed little in substance from the articles, although it presented the accusations in greater detail (Olsen 1971a). *Slaughter the Animals* received positive reviews in the mainstream press. Indeed, some compared it to Rachel Carson's *Silent Spring* (Amory 1971).

Olsen and other protesters tapped into the widespread public awareness of ecology. They argued that no scientific studies had proven the wool growers' claims about the threat predators posed to sheep and lambs, suggesting instead that coyotes preferred rabbits, mice, and other

forest rodents (Callison 1971, Free 1971). The protesters pointed repeatedly to the findings of the Leopold Report to uphold their position.

If Leopold and the other scientists are correct—if the land is indeed one organism and there is a total and critical interdependence among all living things—then the deliberate poisoning of vast areas of the United States will have been a long stride toward the end of life as it is known on the North American continent (Olsen 1971a:33).

Environmentalists used the science of ecology to support their criticisms of predator control in a way that would not have been possible earlier in the century (Dunlap 1983).

Animal welfare activists jumped into the fray, turning up the pressure for change in predator programs. Cleveland Amory, president of the anticruelty organization Fund for Animals, explained:

We do not feel we can give every animal on this earth a decent life, but we do feel the least we can do in an age when we can get to the moon is give them a decent death. Now we are going to rule out certain kinds of death as indecent Poisoning is an indecent death to a wild animal [I]f we could show on television a coyote dying of thallium or 1080 ... we would eventually get poison outlawed for good (U.S. Congress 1971:178–179).

Animal welfare activists accepted the necessity for control, but wanted it done in a humane manner.

To capture the support of the wider public, environmentalists pointed out that tax money funded the interests of a very small number of ranchers. The question of federal responsibility for wildlife management became an important part of such criticisms. “Remember, since most of it is public land, and your taxes pay the poisoners, what they’re doing is poisoning your animals on your land with your money” (Amory 1971:20). Ranchers corralled tax dollars for such self-serving programs, critics argued, because livestock interests had too much power over western legislatures and federal agencies. Environmentalists fingered DWS as a guilty party. “No Federal agency can possibly be more abject in its ‘clientism’ to special economic interests than [DWS] in dealing with the sheep industry” (Frome 1971:44). Environmentalists hoped that pocketbook arguments would

lead to wider support for their demands for drastic change in the federal predator control program.

Opponents of the program asked the American public to depart from their traditional ideas about nature. They wanted to leave the older ideas of conservation behind and view the environment in “ethical rather than economic terms” (Nash 1982:254). In this new way of thinking, considerations for animal suffering and the web of life took precedence over food production and economic efficiency. But not all Americans embraced this new perspective.

The wool growers had difficulty battling environmentalists for the support of the general public. “All we have to do is get the story out The people we must reach are the consumers of America, and they’re out there right now listening to propaganda from the other side” (Shepard 1971:16). Despite their best attempts, however, the wool growers failed. They asked NBC for the opportunity to run an equal-time documentary to respond to the accusations leveled against them in “The Wolf Men”; NBC rebuffed them (National Wool Grower 1970). They tried to write articles in response to Olsen’s allegations but could not get one published in a periodical with wide circulation (Utah Wool Growers Association papers, Merrill Library, Utah State University, unpublished correspondence, 1971). With no place else to go, the stockmen made their arguments in association publications, in farming tabloids, and in the local newspapers of western towns. If New Yorkers could not read these articles, the wool growers would reach out to the people of the rural West.

The rural populace resented urban interference. The environmentalists’ calls for a ban on poison use seemed another example of an all-too-familiar pattern. Just as ecologists presumed all ranchers were ignorant of modern science, wool growers stereotyped environmentalists as New York urbanites unfamiliar with a hard day’s work or with the necessities of agriculture. The sheepmen invited “all those who have never experienced the harshness of agricultural production to learn the ranchers’ and farmers’ side of the story before they promote ‘impractical schemes’ to correct the ill[s] of food and fiber production” (Johnson 1971:19–20). Having more sympathy for coyotes than for sheep seemed not only financially unwise, but simply ludicrous. The stockmen viewed coyote depredations as the rural equivalent to the inner-city subway mugging. City dwellers had policemen for protection; why should sheepmen be defenseless (Stoddard 1971)?

Ranchers also resented being cast as people ignorant in the ways of nature. Ranchers believed that environmentalists exaggerated the risks of ecological disaster from predator control. And, the sheepmen asked, who knew the environment better than the people who worked on the range? Certainly not a bunch of New Yorkers.

The wool grower's basic business deals with sustaining life. To survive he must understand and cooperate with the forces of nature. He spends more time in the wilderness observing the interactions of nature in one year than most people spend in a lifetime (Noh 1970:25).

Ranchers could do a better job "maintaining the environment than all the fly-by-night campaigns to 'restore nature's balance'—whatever that precisely is" (Armstrong 1971:12).

Ranchers wanted to use economics, not ecology, to determine control, as they had been doing for most of the century. The wool growers relied on statistics, like the number of sheep lost each year to predator depredation, to justify control. The predator control program had functioned for years without a formalized reporting system. Environmentalists continually accused the ranchers of inflating their losses—"crying coyote"—to garner federal support (New York Times 1972). DWS had implemented a documentation system during the post-Leopold Report make-over, and stockmen's magazines urged ranchers to report their losses. "On file with the proper [office], the record becomes a matter of statistics, compiled by the agency that will assist us in case of adverse legislation or of support with favorable legislation on predator control" (Utah Wool Grower 1971:1).

The wool growers utilized such statistics, as well as the economic costs of predator losses, in the same manner that the environmentalists used ecology. They argued that impartial, uncontested science supported their claims. They tried to quantify the dollars lost each year to predators. One frequently-cited study placed the figure at \$3 million for Utah alone (Nielson and Curle 1970). Wool growers believed they could not raise sheep without the assistance of a federal predator control program, and they feared for the future of their industry. The declining numbers of sheep ranchers across the nation reinforced this concern. Vern Vivion, president of the National Wool Growers Association, worried that "the predator problem throughout the nation is so serious it could be the straw that breaks our

backs" (Parker 1972:22).

Ranchers viewed poisons as a vital tool for the health of their industry. They grew particularly frustrated with the outcry over Compound 1080. They regarded it as their most effective technique and credited it with saving the American sheep industry from extinction. "In spite of 1080's poor reputation with the public, much of this is based on misinformation or deliberate distortion of its characteristics, it ... is a chemical which could be used selectively for control of coyotes" (Cummings 1971:22). The wool growers felt the occasional nontarget death a small price to pay for the continued viability of their industry and their way of life (National Wool Grower 1972).

Two sets of attitudes about wild lands and wildlife came into contest over predator control policies, and specifically over the use of Compound 1080. Ranchers, "committed to making the land productive," viewed Compound 1080 as an economic technology (Dunlap 1988:112). Preservationists pointed to Compound 1080 as an example of "reckless disregard for the material world on which we [depend]" (Dunlap 1988:112). Predator control became such a volatile issue in part because of the clash in values. The tremendous growth of environmental awareness in the late 1960s forced the conflict of values out into the open. The fact that predator control divided so neatly along battle lines already drawn between the East and the West and between urban and rural America stoked the fire. Divergent opinions on predator control exacerbated preexisting notions of ignorant, backwoods ranchers and emotional, urban environmentalists.

Conclusion: changes in the federal predator control policy

In the end, the wool growers lost the battle for public perception of predator control, and the predictions made in the Leopold Report about drastic change proved prophetic. Another public relations disaster—the 1971 discovery by a Boy Scout troop of 24 eagle carcasses near a poisoned bait station in Wyoming—brought intense public scrutiny on the federal program (Schueler 1991). Congressional hearings followed, as did lawsuits brought by environmental groups in an attempt to stop the use of predacides. In July 1971, U.S. Department of the Interior Secretary Rogers Morton announced that a new committee (the Cain Committee, named after chairman Stanley A. Cain and including A. Starker Leopold, 4 other biologists and a political scientist) would investigate the use of poisons and analyze the

progress made by the DWS in implementing the recommendations of the Leopold Report (Cain et al. 1972, Feldman 1996).

Just as the Cain Committee released its report in February 1972, President Richard Nixon issued an executive order banning the use of predacides on public lands. Nixon explained his order as a political decision—based on changing values—as much as a scientific one. “Americans today set high value on the preservation of wildlife,” Nixon explained. “The old notion that the only good predator is a dead one is no longer acceptable as we understand that even the animals and birds have their own value in maintaining the balance of nature” (Council on Environmental Quality 1972:365).

Although the changes put in place in the aftermath of the Leopold Report had updated the philosophy behind the federal predator control program, these reforms had failed to win support for the program from the wider public. Environmentalists succeeded in getting their critique of the federal predator control program into the mainstream, while ranchers had not been able to mount a successful defense of this practice. This failure had grave consequences: the ranchers were shut out of the policy-making process. President Nixon responded to the source of public pressure that pushed the hardest. Public opinion, as much as science, had determined the shape of federal predator control policy.

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JAMES W. FELDMAN is an assistant professor of history and environmental studies at the University of Wisconsin Oshkosh. He earned a master's degree in history from Utah State University in 1996 and a doctorate in history from the University of Wisconsin Madison in 2004. From 1996 to 1998 he received a Fulbright Scholarship to study wildlife politics and history in New Zealand. He is currently writing a book on the history of wilderness at Apostle Islands National Lakeshore in Wisconsin.

