# PREDATOR CONTROL AND COMPOUND 1080

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## ISSUE DEFINITION

Prior to 1972, sodium monofluoracetate, known as Compound 1080, was used to kill coyotes which prey on sheep in the western range lands, where 80% of U.S. sheep are raised. In 1972, Compound 1080 was banned by executive order from use on Federal grazing land after evidence indicated the poison had killed numerous non-target wildlife. This order and the Environmental Protection Agency's (EPA) subsequent cancellation of the registration of predator toxicants led to years of protest by sheep ranchers, who claimed that sheep losses to predators had increased since 1972 and that effective and economic alternative predator control techniques did not exist.

In the 97th Congress, debate on the issue escalated because EPA decided to reevaluate the use of Compound 1080, possibly re-registering it for use. In 1981, the U.S. Department of the Interior applied to EPA for a re-registration of the compound based on a new application -- a toxic collar -- intended to make the toxicant safer to use and less harmful to non-target species. During the summer of 1982, the EPA held hearings on the topic. On Oct. 27, 1982, an administrative law judge recommended the EPA lift its 10-year suspension of the poison. On Oct. 31, 1983, EPA decided to accept the judge's opinion, which will allow some uses of the pesticide. This decision has been appealed in Federal court, however.

## BACKGROUND

Predatory animal control has been one of the most controversial aspects of wildlife management. In 1931, Congress enacted a law authorizing the Secretary of Agriculture to cooperate with States, individuals, and private agencies to conduct an effective predator control program for public, State, or privately owned lands. The resulting predator control program came to depend heavily on chemical toxicants, which raised problems of indiscriminant poisoning of non- target species. In the early 1960s, an Advisory Board on Wildlife Management, headed by A. Starker Leopold, was appointed by the Secretary of the Interior to investigate predator control in the United States. Its 1964 report, "Predator and Rodent Control in the United States," was very critical of existing control programs, although it failed to bring about significant changes in predator control policy. The appointment of another special Advisory Committee on Predator Control followed. Its report, "Predator Control -- 1971," known as the "Cain Report," for its chairman, Stanley Cain, reaffirmed many of the recommendations of the Leopold Report, and recommended further that "immediate congressional action be sought to remove all existing toxic chemicals from registration and use for operational predator control." It stated: "There has been direct and circumstantial evidence that the large-scale use of poisons for the control of predators...has resulted in frequent losses of non-target animals and that such methods are likely to be inhumane."

The 1971 report indicated that necessary predator control can be achieved without poison. President Nixon issued Executive Order 11643 in 1972, banning the use of toxic substances against predators on Federal lands except in emergency situations or if directed by Federal officials. The Environmental Protection Agency which regulates predator control chemicals under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), subsequently cancelled registration of strychnine, sodium

cyanide, and Compound 1080. Alternate predator control methods used since 1972 consist of trapping; aerial and ground shooting; denning (killing coyote pups in their dens); snaring; and, after 1975, the sodium cyanide M-44 device, which is considered reasonably selective in reaching target animals.

The National Wool Growers Association continued to press for emergency use of Compound 1080, claiming that predator losses were threatening the industry. In 1977, Interior Secretary Cecil Andrus began a detailed study of the predation problem; and in 1979, he announced a revised Federal policy on predator control. While it increased research on non-lethal and non-capture methods, and on livestock husbandry techniques, it ended research on and further use of Compound 1080, and prohibited denning. Livestock growers complained, while environmental groups applauded.

However, the Reagan Administration has initiated new policies to facilitate predator control. In November 1981, Robert A. Jantzen, director of the Fish and Wildlife Service, announced that the Department of the Interior would submit applications for authorization of Compound 1080 use in sheep collars to control predators, and would revise the 2-year-long curtailment of denning so it could be used as a control method in restricted circumstances. The EPA announced a hearing on applications to register Compound 1080 in December 1981 (46 FR 59622). EPA Administrator Anne M. Gorsuch said that new evidence might call for a reconsideration of the EPA's 1972 cancellation.

Lastly, in January 1982, President Reagan issued Executive Order 12342, which revoked President Nixon's 1972 executive order, leaving the door open for Compound 1080 use, pending the EPA's reregistration of the chemical.

## Key Issues

### (1) Role of the Federal Government

The Federal Government has been involved in predator control since 1909. A large percentage of U.S. sheep graze on Federal land and it has been considered appropriate that the Federal Government be involved in predator control on Federal lands. In addition, the Federal Government has roles in regulating predator control toxicants -- under the Federal Insecticide, Fungicide, and Rodenticide Act -- and in protecting the Nation's wildlife -- particularly under the Endangered Species Act. Thus, the Federal Government engages in potentially conflicting roles: from promoting predator controls to maximize protection of livestock, on one hand, to restricting predator controls to minimize hazards to wildlife, on the other hand.

### (2) Extent of Predator Damage

Since the 1972 ban on Compound 1080, sheep ranchers have claimed substantially increased sheep kills by coyotes. They point out that a 1979 U.S. Department of Agriculture study states that 1,244,000 sheep were killed by predators -- 10% of the domestic flock. The accuracy of the data on sheep killed by predators, however, has been questioned. Environmental groups and others state that some sheepherders may blame predators for sheep lost from other causes.

In addition, the extent of the predator problem varies tremendously, depending on ranching techniques and regional characeristics. Free-roaming sheep in mountainous areas are generally more open to predator attacks than

sheep confined by fences in smaller, more restricted grazing areas.

(3) Effectiveness of Non-Chemical Predator Control Methods

Before 1972, livestock ranchers used Compound 1080 extensively, claiming that it was cheap, required little effort, and effectively killed coyotes. Ranchers claim that alternate control techniques are too costly or considered inhumane, and state that the economic consequences of livestock losses due to predation are sufficient reason to continue using chemical controls. Others, however, state that acceptable alternative predator control techniques exist or are currently being developed. Research efforts on predator control techniques include the following:

-- Taste aversion research at California State College and Colorado State University have shown that coyotes avoid sheep if sheep meat has made them ill. Sheep carcasses baited with lithium chloride make coyotes nauseous and change their behavior so that they will no longer prey on sheep.

-- The USDA in Denver is currently testing the Komondor, a Hungarian sheep dog, as a possible protector of flocks. Most predators will not approach a flock when one or more large dogs are on duty.

-- U.S. Fish and Wildlife Service research biologists have developed an electronic scare device that employs loud sirens and glaring lights, activated at irregular intervals, to scare coyotes away from sheep at night -- although the commotion may disrupt the sheep, too.

The long-term effectiveness of these methods on sheep grazing lands is not known at present although research is continuing.

(4) New Chemical Control Developments

According to the EPA, new Compound 1080 delivery mechanisms may overcome earlier objections to the chemical's use. EPA Administrator Anne M. Gorsuch stated in December 1981: "The 1080 toxic collar and single lethal doses (SLD) bait stations are two delivery mechanisms for 1080 which were not considered in the 1972 cancellation and suspension order" and which may "greatly reduce the exposure of non-target wildlife to 1080, compared to the use of 1080 large bait stations."

The toxic collar, which is strapped around the neck of a sheep or goat, contains two Compound 1080-filled compartments that are broken when a predator tries to bite the throat of the prey, exposing the predator to a lethal oral dose of 1080. The toxic collar device is largely selective to coyotes and only kills the animals that attack sheep. The SLD bait consists of a piece of meat containing just enough 1080 to kill the coyote that eats it. Prior to 1972, the large bait station, a sheep, calf, or horse carcass injected with 1080, was the only common delivery mechanism. Gorsuch claims that the SLD bait has advantages over large bait stations because the dose of an individual bait can be limited to an amount that is sufficient to kill a canine predator but not a species less sensitive to 1080 and is, therefore, less dangerous to non-target wildlife.

Gorsuch stated that new data "may indicate that the risk of secondary poisoning is lower than originally thought in 1972." Compound 1080 had been accused of causing secondary poisoning to wildlife. This means that other animals were poisoned as a result of feeding on the carcass of the animal directly receiving the poison. This secondary poisoning was believed to be

limited largely to eagles, which feed extensively on coyote carcasses.

In addition, before 1972, the EPA only registered the label of a toxicant and did not have the authority to regulate directly the use of a chemical once it was registered. In effect, banning a chemical was the only direct-use control. Since 1972, however, the EPA has had the authority to control the use of chemicals. Now, if a chemical like Compound 1080 is registered, the EPA will be able to restrict its use to certified applicators and to enforce use restrictions.

## Administrative Action

The EPA held hearings in August 1982 on applications to register Compound 1080. The purpose of the hearings was to review the evidence and determine whether it justified changing or reversing the 1972 cancellation. Representatives of environmental groups and sheep ranchers, and State and Federal employees gave testimony.

On Oct. 27, 1982, an administrative law judge recommended the EPA lift its 10-year ban on the use of Compound 1080. The judge restricted the use, however, to the toxic collar and to the single lethal dose bait method. He further recommended the single lethal dose bait method be restricted to use by government employees because it is more dangerous to apply than the toxic collar and is more susceptible to abuse. The Administrator of EPA had 30 days or until Nov. 27, 1982, in which to decide whether to accept the judge's recommendation; the decision can then be appealed to Federal court. In early 1983, a decision was reported to be at hand. However, a decision was delayed by the controversies that engulfed EPA, controversies that lead to Administrator Burford's resignation. William Ruckelshaus, her successor and the original Administrator of EPA, removed himself from the decision because he had banned the pesticide in 1972. The decision thus fell to EPA Assistant Administrator Lee Thomas, who decided on Oct. 31, 1983, essentially to accept the judge's opinion.

The decision will allow EPA to consider the toxic collar for a Federal registration under Section 3 of FIFRA. The single lethal dose baits, however, will be subjected to further assessment. Accordingly, these baits can be considered for experimental uses and other non-Section 3 registrations, and will be subject to a variety of restrictions governing their application.

Court appeals may further delay any registration activity.

## Congressional Action

Since President Nixon's 1972 executive order, Congress has been active on the predator control issue. Hearings have been held and a number of bills have been introduced, some to confirm statutorily the ban on predator control chemicals, others to ease the ban; none has been enacted. In the 97th Congress, H.R. 1956, the Animal Damage Control Act of 1981, was proposed; the bill directs the Secretary of the Interior to permit the use of lethal and chemical toxicants (including Compound 1080) in carrying out a predator control program.