United States Department of Agriculture

Animal and Plant Health Inspection Service

Program Aid No. 1722

Wildlife Services: Helping Producers Manage Predation

Photo credits: The images of the Akbash dog and the adult sheep with a single lamb were taken by APHIS photographer Laurie Smith. The remaining images come from the APHIS photo archives.

Cover photos: For many small farmers and ranchers, preventing livestock depredation can mean the difference between success and financial ruin.

In addition to coyotes, livestock producers also have to worry about attacks by cougars, wolves, and bears.

Issued October 2002
Reviewed and approved for reprinting September 2005

This brochure supersedes Agriculture Information Bulletin No. 650, "A Producers Guide to Preventing Predation of Livestock," published in July 1992 and slightly revised in March 1994.

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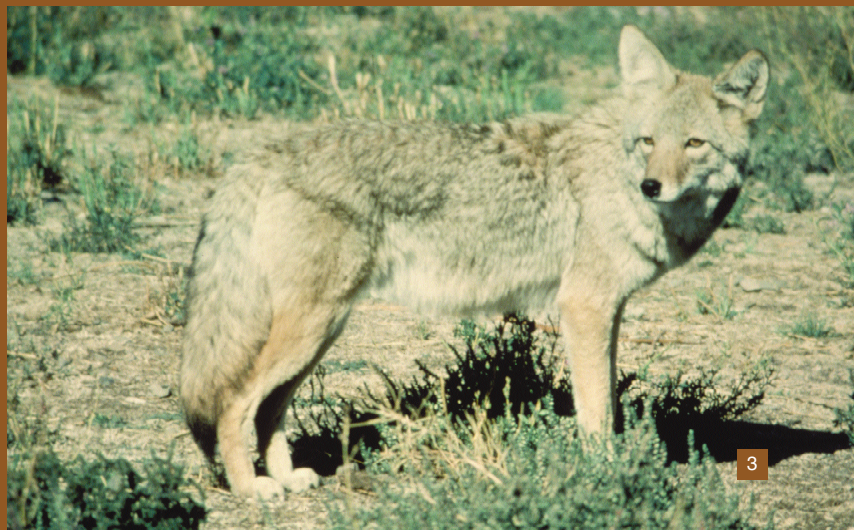
Extreme weather, treacherous terrain, and disease claim the lives of countless livestock each year, but just as fearsome is the threat posed by predators, such as coyotes, cougars, wolves, and bears. Despite producers' best efforts to protect their livestock, hundreds of thousands of sheep, cattle, and goats fall victim to predators each year. In fact, predators cause some of the most significant losses to the sheep industry nationwide. Livestock losses attributed to predators cost U.S. ranchers and producers more than $71 million annually, according to statistics compiled by the U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service (NASS).

When their losses become too great, producers turn to Wildlife Services (WS), a program within the USDA's Animal and Plant Health Inspection Service (APHIS), for assistance. WS has the Federal authority, expertise, and research capability to resolve wildlife conflicts and help manage damage. This assistance can prevent predation and preserve the livelihood of farmers and ranchers across the Nation.

Identifying the Problem

Livestock, especially young lambs and calves, are the target of a variety of predators, including coyotes, cougars, bears, wolves, foxes, and raptors. Coyotes, however, are responsible for the majority of livestock predation in America. NASS surveys found that coyotes account for 65 percent of all cattle and calf

In the United States, coyotes are responsible for more livestock losses than all other predators combined.



Sheep grazing on open rangeland are especially vulnerable to predator attacks because coyotes, wolves, and cougars roam the same territory.

losses to predators and 61 percent of sheep and lamb predation. While some ranchers and livestock producers experience only minimal livestock losses, others must deal with serious predation. In Western States like Idaho and Utah, where livestock usually graze on open rangelands, lambs and calves are especially vulnerable to predators.

Small farmers and ranchers often feel the impact of livestock predation more significantly than larger livestock operations. About 75 percent of WS' cooperative agreements in the Western United States are with small farmers and ranchers trying to minimize their livestock losses to predators. Ongoing research conducted by program specialists indicates that, without protection measures and assistance from WS, these ranchers' livestock losses could be three to five times higher.

Managing Livestock Predation

Ask any farmer how many measures he or she has in place to protect livestock from predators: most will rattle off half a dozen or more nonlethal controls. Combining various livestock techniques and tools to reduce predation is known as integrated damage management. WS recommends that producers employ a variety of measures, such as fencing, guard animals, and shed lambing, to protect their livestock. In combination, such measures can be effective in reducing predation. But not all methods are applicable in every situation.

Livestock Husbandry

Keeping livestock confined in pens or corrals may prevent predation, but it's not very practical in most cases. Corralling livestock only at night, however, may be more feasible and is also effective in reducing losses because many predators, such as the coyote, often hunt at night. Lighting the corral can further reduce the possibility of a predator attack.

Producers need to be especially vigilant in the spring. The fact that spring lambing coincides with coyote birthing can lead to high predation because coyotes need to feed their pups. To counteract this threat, more and more producers are turning to shed lambing. Before a ewe gives birth, she is moved indoors to a confined space, where she will remain with her lambs for several weeks. In addition to protecting against predators, shed lambing can also reduce newborn losses due to inclement weather.

Because of their size and lack of strength, young livestock are especially vulnerable to predators during the spring and summer. Shed lambing serves to give them a fighting chance. In addition, producers can avoid using pastures with a history of predation. Pastures closer to buildings and human activity can be safer for young livestock. Pastures with rough terrain or dense vegetation borders tend to provide predators with advantageous cover. Some producers also put bells on their sheep to discourage predators and alert herders or ranch hands to disturbances in the flock.

Guard Animals

In increasing numbers, livestock producers are using guard animals in their pastures and on

Ranchers experience the majority of livestock losses in the spring and early summer, when young lambs are too small to fend off predator attacks.

open ranges to prevent predator attacks. Guard animals include dogs, donkeys, llamas, and mules. Dogs are by far the most popular of the protective animals, although llamas, which guard by intimidation, are also gaining favor with producers.

The most effective guard dogs are Eurasian breeds, such as the Akbash and Great Pyrenees. A good livestock guarding dog stays with the animals without harming them and aggressively repels predators. A guard dog is not a herding dog but rather a full-time member of the flock that has bonded with the animals in the herd, usually sheep. The protective behaviors of guard dogs are largely instinctive, but they can be effective in preventing predator, especially coyote, attacks. Guard dogs don't solve the problem, however; they just prevent isolated attacks. In their efforts to protect livestock, guard dogs are also vulnerable to attack themselves. The number of dogs needed to protect a flock depends on its size, the local terrain, and the livestock species onsite.

Fences

Excluding coyotes by putting up fencing, especially in large areas, is expensive but can offer some protection. Many coyotes, however, learn to dig deeper or climb higher to defeat a fence. To be effective, the fence should be about 5.5 feet high to keep the predators from jumping over, and a buried wire apron or barbed wire at ground level can discourage digging. Producers can also install electric fencing to keep predators from climbing over.

Livestock managers should carefully consider a variety of factors, such as the type of terrain and size of the pasture, before deciding whether to build a fence. Fencing is most likely to be cost effective when the potential for predation is high and fencing can be incorporated with other means of predator management. For example, guard dogs and fencing used together achieve a higher rate of success than either alone. Effective fencing, however, can impede the movements of other wildlife and should be installed only after a professional wildlife assessment.

Guard dogs, like the Akbash, stay with the flock at all times and can be very effective in preventing depredation.

Fencing around pastures can offer some protection against predation, but many predators learn to dig deeper or climb higher to defeat a fence.

Frightening Devices

Loud noises, lights, and repellants can also be helpful in scaring off predators. Cougars, wolves, coyotes, and other animals are easily frightened by strange odors, sights, and sounds. Using these methods in combination can work even better. For example, producers can use propane cannons, sirens, and radios with sound amplifiers to scare away predators lurking around pastures or open rangelands. While these measures can be effective, their benefits are often short lived because predators can adapt to new repellants and devices quite rapidly. WS is researching innovative ways to use noise and sound to deter predators. That research is discussed later in this brochure.

WS Helps Producers

By the time livestock producers and ranchers request assistance from WS, they have already employed some or all of the nonlethal measures just described but are continuing to experience predation. In

many cases, these measures by themselves are not sufficient to prevent predator attacks.

WS has the knowledge and skill, as well as the equipment, to track, capture, and remove predators from locations where they are causing serious damage. When notified of an attack, WS-trained specialists arrive on the scene within 24 hours to examine the carcasses and identify tracks in the area in order to determine whether a coyote, cougar, or other predator is responsible for the animals' death. This information helps WS identify and remove only those predators that are causing damage.

A 2001 review of WS practices by the General Accounting Office found that the lethal management of predators is a necessary and legitimate means of protecting livestock when nonlethal means prove ineffective, impractical, or unavailable. The removal of these predators significantly reduces predation in targeted areas, saving producers thousands of dollars' worth of losses. In addition to assisting producers, WS also helps protect the ecosystem from possible damage due to the inappropriate or illegal practices that amateurs might apply.

Benefit–cost analyses conducted on predator management operations have shown that for every dollar spent on livestock protection, WS saves producers between $2 and $7 in losses. For every dollar saved by WS' efforts, at least 3 additional dollars are generated that extend beyond agriculture

When trying to determine what type of predator killed a sheep, WS specialists look to the carcass for clues. Coyotes are known for grabbing sheep at the throat in order to crush the animal's trachea.

Ranchers and producers depend on WS for assistance in resolving livestock depredation complaints.

to benefit all of America. While these dollar estimates are conservative, these studies highlight the importance of WS' work.

WS Predator Management Research

WS' efforts in the field to prevent predation are aided by the critical research that is conducted at WS' National Wildlife Research Center (NWRC). Based in Fort Collins, CO, NWRC is the only Federal facility devoted exclusively to wildlife damage-management research. NWRC's predator ecology field station in Logan, UT, is dedicated to learning more about why predators, such as the coyote, behave the way they do. Researchers theorize that if they can better understand the animals, that understanding will help them to address the problem of predation. Researchers at NWRC headquarters and the Logan field station are conducting research to prevent predation and change predator behavior.

More than 75 percent of the Center's budget is dedicated toward developing nonlethal, socially acceptable means for resolving wildlife conflicts. No other facility in the world is better equipped for such research.

Working with radio-collared wolves in the Western United States, NWRC researchers use advanced radio technology to monitor wolves moving in and out of livestock areas. When wolves encroach on pastures protected by WS-installed monitoring devices, the signals from these collars can be used to trigger frightening

devices such as sirens and flashing lights. As mentioned earlier, predators quickly become habituated to such sights and sounds, but NWRC scientists are working to develop new methods that will remain effective for longer periods.

NWRC researchers are also working with infrared detection systems, similar to the motion detectors used in security systems, that will set off alarms when predators approach. Because motion of any type would trigger the sensors, even predators without radio collars would be discouraged from attacking nearby livestock.

Some of the most promising predator research has been in the area of reproductive inhibition, and NWRC is a leader in this field. NWRC researchers have found that coyotes with pups to feed are much more likely to attack livestock. In a research trial, sterilized coyotes killed one-sixth the number of lambs killed by nonsterilized packs. The sterilized coyotes also maintained their territories, preventing other coyotes from moving in and feeding off the livestock. While sterilization may cause fewer livestock losses, the development of practical and acceptable methods to achieve sterilization in wild coyotes requires additional research. For more information on this subject, request a copy of the book Contraception in Wildlife Management (Technical Bulletin 1853) from
USDA APHIS WS NWRC
Library
4101 LaPorte Avenue
Fort Collins, CO 80521–2154

Creating a Balance

As predator populations continue to expand and livestock producers strive to make a living, WS' assistance is in constant demand. Through research and conflict management, WS works to create a balance that allows livestock operations to coexist with predators. Using an integrated approach for resolving livestock predation, WS employs a variety of nonlethal and, when necessary, lethal methods to stop the damage caused by predators. The skill and knowledge of WS-trained specialists provide wildlife damage-management solutions that are helping to preserve a way of life for both livestock producers and wildlife.

Additional Information

For more information about WS programs and predation management, contact WS at (301) 734–7921. You can also visit the program's Web site at
http://www.aphis.usda.gov/ws.