Chapter 7

NEGATIVE SPECIES INTERACTIONS—PREDATION, HERBIVORY AND COMPETITION

IN THE NEWS

No predator has been persecuted more in recent times than the coyote. Coyotes are major predators of both sheep and cattle in the western part of North America. They also prey on cats and dogs in the suburbs of many North American cities, to the dismay of pet owners. Western newspapers have frequent articles about the need for more coyote control to protect livestock and pets as well as wildlife species, such as pronghorn. The response to the coyote problem has been to eradicate them. Coyotes are trapped, poisoned and shot from helicopters and from the ground. In 2002 the U.S. Department of Agriculture spent more than $13 million on coyote control and killed 86,000 coyotes—$150 per coyote killed.

Ecologists can bring a different insight into the issue of coyote control. They recognize that coyotes have become a problem because wolves and bears have been reduced in number, or eliminated, in many western areas. Coyotes have a high reproductive rate, and their numbers rebound quickly if only part of a population is killed. Coyote females begin reproducing at younger ages and have larger litters when population density is reduced. In spite of much killing, coyotes now are as abundant as ever in the western states. Eradicating these predators is clearly extremely difficult.

If we cannot eradicate a predator that is causing losses, we must learn to live with it—sheep and cattle ranchers have developed an array of management actions to cut down on losses. For example, sheep can be kept in buildings at lambing time instead of being left out on the range where coyotes can attack the lambs. Guard dogs or llamas can be kept with the flock for protection.

What are the consequences of coyote control for their prey species and for other predators in the ecosystem? To answer this question, researchers removed coyotes from a shortgrass prairie ecosystem in western Texas for two years. They found that both prey (rodents), and other predators (including badgers, bobcats and gray foxes) increased in abundance. The results of this study reaffirm a basic principle of ecology you encountered in Chapter 1: *You cannot change just one thing in an ecosystem.* Removing coyotes in some ecosystems may cause worse problems than learning to coexist with them.

Coyote