Wildlife Services

Protecting People
Protecting Agriculture
Protecting Wildlife

Protecting Wildlife

FY 2010

Recovering Threatened and Endangered Species, Guarding Against Invasive Species, Preserving Habitats

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Wildlife Services (WS), a program within the U.S. Department of Agriculture's Animal and Plant Health Inspection Service, provides Federal leadership and expertise to resolve wildlife conflicts that threaten the nation's natural resources. WS works in every State to protect and preserve natural resources, such as wetland habitats, forests, and threatened and endangered (T&E) species that are vital parts of America's unique landscape. This includes directly protecting and enhancing natural resources as well as conducting research.

Protecting Threatened and Endangered Species

In FY 2010, WS efforts assisted 131 threatened or endangered species in 36 States, Guam, the U.S. Virgin Islands, and Cuba. In more than 95% of the projects, local T&E species either increased or remained stable. In addition to direct species-conservation projects, WS' beaver damage management in the eastern United States has secondarily benefited approximately 200 listed fish, mussels, and plants by maintaining natural riverbank habitats and improving the water quality and water flow. Beaver projects generally are intended to assist landowners by reducing flooding.

In 2008, for the first time in decades, the endangered Kirtland's warbler successfully nested outside of Michigan, with 10 young warblers surviving to leave their nests due to partnership of private, State and Federal agencies in Wisconsin. WS aided the project by constructing and monitoring traps to remove cowbirds, known to reduce successful warbler nesting. Beginning in 2007, Maine WS partnered with Federal and State agencies, private organizations and homeowners to increase average piping plover reproductive success. During the 2010 nesting season, WS expanded its involvement by increasing the number of beaches that were managed from two to seven.

WS activities to aid T&E species can be categorized as either direct protection or recovery enhancement of endangered species.

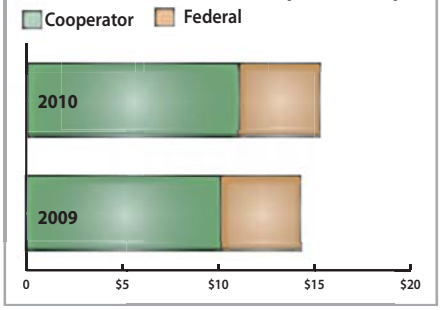
Direct Protection— Direct protection serves as a useful management tool in island/isolated ecosystems. Examples include protecting the avifauna of Guam and Hawaii from the brown tree snake. To protect five species of nesting sea turtles in Florida, control efforts targeted coyote, raccoon, skunk, and fox predators on beach nesting areas. WS and Federal and State partners work together to protect nesting sea turtles from fox and raccoon predation in North Carolina, and to protect threatened and endangered salmon and steelhead from gulls in the state of Washington.

Recovery Enhancement— In the ongoing recovery of the gray wolf throughout the United States, WS plays a crucial role, which can be categorized as recovery enhancement. As wolf populations become established, WS works to prevent livestock predation by packs, and relocates or removes problem animals. By providing prompt and effective responses to wolf predation complaints, WS helps reduce the loss of livestock to wolves and promotes greater tolerance for wolves by affected local communities and ranchers.

In Wisconsin and Michigan, where wolf numbers increase annually, WS works closely with State wildlife agencies and U.S. Fish and Wildlife Services (FWS) to lessen the impact of expanding populations on landowners. The successful wolf reintroduction program in Yellowstone National Park can be directly attributed to cooperation among Federal and State agencies and local and regional landowners to enhance wolf recovery.

A similar recovery enhancement effort is being implemented by WS in the Southwest. There, reintroduction efforts for the Mexican wolf is continuing, and landowner cooperation is critical to program success.

Expenditure for Natural Resource Protection (Millions)



USDA APHIS
United States Department of Agriculture
Animal and Plant Health Inspection Service

Preserving Wildlife and Habitat

WS activities can directly aid wildlife and habitat or can contribute to a more hospitable natural environment. Work to control invasive species, especially feral swine populations, is expected to benefit natural resources. Feral swine can destroy riparian plants and topography as well as compete with native wildlife for limited food resources. In a direct assistance project, WS trapped river otters causing damage in Washington communities and assessed their health. In a cooperative partnership involving State, Federal, local and private agencies, WS transported and released the otters on Tribal lands in New Mexico, part of their natural range where the mammals had not been seen in years.

Beaver Related Issues— Dramatic increases in beaver populations, associated with low demand for beaver products, have intensified the negative impact of beaver on hardwood timber, crops, and river habitats. Beaver activity can negatively impact bridges, roads, water control structures, municipal sewer systems, water treatment facilities, and even other aquatic species. Economists estimate beaver damage exceeds millions of dollars each year, greater than the costs caused by any other U.S. wildlife species. The economic damage due to beavers in the southeast alone is estimated to have exceeded $4 billion over a 40-year period.

WS employs certified explosives experts who are frequently called upon to remove beaver dams that block water flow and cause flooding to forests and other wildlife habitat. In Wisconsin, WS continues to maintain more than 750 miles of pristine trout streams, which had been seriously degraded by overabundant beaver populations and dam-building activities. WS manages beaver populations on these streams to eliminate the widespread flooding of forested land and to allow native trout to once again reproduce naturally.

Avian Related Issues— WS works to protect shell-fish beds in Connecticut from contamination by Canada geese. The double-crested cormorant, can cause significant damage to natural resources. Over time, concentrations of cormorant nesting colonies can denude a site of all viable vegetation, as dramatically demonstrated on the Great Lakes' islands, where cormorant populations have significantly increased in recent years. WS conducts damage management activities in several States to protect the nesting habitats of other colonial birds from cormorant impact and conducts research to determine the extent of the damage on native Great Lakes region sport-fish populations caused by the birds' voracious appetite.

Disease Issues and Game Recovery— Disease surveillance and removal of potentially infected animals can improve the long-term health of wildlife populations. Research is underway to develop methods to lessen and manage wildlife diseases and to identify bacteria and other pathogens that may cross from wildlife reservoirs. Research focuses on development of surveillance and monitoring techniques as well as effective and safe vaccines, barriers and other methods to reduce or eliminate disease transmission. Among WS programs are an oral vaccine program to limit the geographic spread, and suppress rabies in raccoons, coyotes, and gray fox. Another example is chronic wasting disease, a fatal, wasting condition primarily confined to cervids, such as elk, white-tailed deer, and mule deer.

WS protects natural resources and assists State wildlife agencies and private game ranches. WS currently conducts programs in eight States to bolster populations of game and sport species. For example, programs have been implemented to revive declining deer herds in several Western States. In the Southeast, work is underway to determine methods to restore bobwhite quail populations, which have steadily declined.

Managing Invasive Species

WS plays a central role in several initiatives being developed by the Federal Invasive Terrestrial Animals and Pathogens Committee (ITAP). ITAP facilitates information gathering, planning and action implementation among various Federal, State, public and private entities, which pursue invasive species management.

WS predator management efforts are especially important in protecting Federally-listed species and preserving island ecosystems, such as Hawaii, Puerto Rico, and San Clemente Island, California. Nonnative, or invasive, predators can devastate island ecosystems where a lack of natural enemies and resource competition can allow invasives to thrive at the same time they destroy native wildlife. WS' research efforts target these introduced, invasive species. Of special concern are rodents, a main cause of damage to island habitats. This research has led to development of more efficient removal techniques, allowing WS to target only those predators directly impacting populations of T&E species.

One of the most ecologically damaging invasive species is the brown tree snake (BTS). This native of the South Pacific and Australia is responsible for large economic losses from damaged electrical lines and resulting power outages, and poses hazards to human safety from bites. Accidentally introduced to Guam in the late 1940s or early 1950s, BTS has caused extensive economic and ecological damage to the island. In just half a century, BTS have eliminated 10 of 12 native bird species and most lizard and bat species on Guam. While managing the BTS population on Guam, WS actively works to prevent its spread to other Pacific islands, especially Hawaii. Efforts are concentrated at military and sea ports and commercial warehouses. WS uses specially trained Jack Russell terriers to inspect departing cargo for "hitchhiking" snakes and sets specially-designed snake traps around cargo areas. Also, WS continues the use of the oral BTS toxicant, acetaminophen, resulting in a significant reduction of BTS from ports of exit. Since the BTS program began in 1993, an average of 5,000 snakes are removed from Guam's ports each year. In FY 2010, WS intercepted 24,920 BTS on Guam or near ports of exit.

BTS is not the only invasive animal threatening the Nation's natural resources. WS is currently engaged in managing two invasive frog species introduced into Hawaii from the Caribbean about 12 years ago along with shipments of nursery plants. These frogs compete with native birds for prey and are significant predators of local Hawaiian invertebrates. WS has investigated potential nonlethal and lethal management methods, including small scale trapping, hand capture, and the development of pesticides utilizing caffeine and citric acid. Also, WS cooperates with public and private agencies to control feral swine that prey on several species of endangered plants, tree snails, and forest birds. WS' mongoose control work has had a tremendous impact on the conservation of the entire Puerto Rican parrot population.

In Florida, WS partnered with state agencies to conduct an eradication program in 2006 targeting the invasive Gambian pouched rat, which threatened native species in the Florida Keys. Currently, the project is in a monitoring phase, which will continue for several years before WS can be confident that Gambian rats have been eradicated from the Florida Keys.

WS also provided valuable assistance to protect natural resources in the Everglades when invasive Burmese pythons were identified as a major threat to many wild species. Large pythons can consume a wide variety of native wildlife, including: raccoons, rabbits, bobcats, ibis, and limpkins. Pythons are also

affecting the previously endangered American alligator and the currently endangered Key Largo wood rat.

Several other projects conducted by WS are designed to protect critical species and habitat from invasive species. In California, WS works to protect the western snowy plover, California clapper rail, salt marsh harvest mouse, and other T&E species from various invasive carnivores. In Maryland, WS initiated the first large-scale North American effort to eradicate a mainland nutria population on the Delmarva Peninsula where the invasive rodents have devastated coastal Chesapeake Bay marshes. In cooperation with other State and Federal entities, WS completed an initial nutria removal from more than 150,000 acres of Maryland coastal marsh lands in 2008.

Fox dig deeper to get around nonlethal fencing which was erected to protect eggs of the endangered loggerhead turtle.

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National Rabies Management Program

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The nature of rabies in the United States has changed dramatically in the past century. In 2009, about 92% of all reported animal cases were observed in wildlife, predominantly wild carnivores and bats. Prior to 1960, reported cases primarily came from domestic animals. This change has elevated rabies to a prominent concern within Wildlife Services (WS) in its role of protecting people, agriculture, and wildlife.

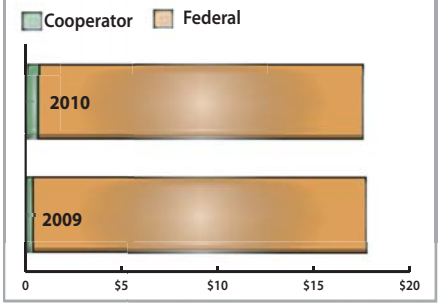
The number of human deaths in the United States has dropped from 100 per year to one or two annually in recent years. Rabies, a preventable viral disease of mammals, is most often transmitted through the bite of a rabid animal. The rabies virus infects the central nervous system, causing altered brain function and behaviors and, ultimately, death. Postexposure treatment is almost universally effective, with human deaths occurring in those who do not seek treatment because they don't recognize having been exposed to the virus.

The cost of living with rabies in America is high and growing, exceeding $300 million per year for disease detection, prevention, and control. The trauma of rabies exposure and treatment is also significant but hard to quantify. Health care, education, vaccination, and animal control are the primary costs associated with rabies management. Costs are expected to increase if rabies variants are not contained.

Rabies prevention and control in domestic animals including companion animals occurs primarily through vaccination programs. To address growing concern about rabies in wildlife populations, WS has implemented a National Rabies Management Program (NRMP) to combat the spread of rabies. With raccoon rabies accounting for 34.8% of reports to the Centers for Disease Control and Prevention (CDC) in 2009, WS focused on coordinated oral rabies vaccination (ORV) projects targeting raccoon rabies in 15 Eastern States. In addition, WS conducts ORV projects in Texas to maintain canine rabies free status as well as gray fox variant rabies projects in Texas, Arizona and New Mexico. Research exploring opportunities to control rabies in feral dogs is being conducted collaboratively on the Navajo Nation in Arizona.

To achieve the objectives of the NRMP, WS collaborates with a variety of organizations to conduct ORV projects, which minimize risks to public health and safety. Through these programs, ORV baits are distributed within targeted areas to immunize specific wildlife species against the disease. Currently, orally administered rabies vaccines are the only available technology to strategically contain and eliminate specific variants of rabies in wildlife populations in the United States. Generally, the vaccines are distributed from aircraft in sparsely populated areas. The American public, livestock producers, pet owners, and wildlife are all beneficiaries of these innovative programs.

Expenditures for National Rabies Management Program (Millions)



Rabies Management in the Eastern United States

Since 1997, WS has worked cooperatively with local, State, and Federal governments, universities and other partners to address this public health problem by distributing oral rabies vaccination (ORV) baits in targeted areas throughout the United States. WS has been the lead Federal agency for conducting coordinated ORV campaigns to control rabies in raccoons, coyotes and gray foxes. ORV, singely or integrated with trap-vaccinate-release and other methods, has proven to be an effective, socially accepted strategy to achieve rabies control in wild carnivores. Currently, the raccoon rabies variant is found only in the Eastern United States, where it accounts for 50% of reported rabies cases.

A vaccination zone has been established from Maine to Alabama to stem the westward spread of the raccoon variant of rabies. During 2010, approximately 5.6 million baits were distributed in 16 states along the Appalachian Mountains to reinforce this zone. The mountains' high altitude help limit raccoon movements, preventing the raccoon rabies virus from migrating further west. Smaller scale projects are being conducted primarily on peninsulas to determine if rabies can be eliminated through the integration of ORV on landscapes with

favorable zoogeographic features (e.g., water surrounding the peninsula should prevent movement of raccoon rabies). These projects occur in Florida, Maryland, Massachusetts, and NewYork.

In 2008, the program shifted the Appalachian Ridge vaccination zone to the east in Tennessee and West Virginia. Enhanced surveillance in these areas has helped confirm that WS and cooperator efforts are working to keep the raccoon variant of rabies from spreading westward.

Rabies in the Southwest

Since 1995, WS has been involved with a cooperative ORV program in Texas to prevent a strain of canine rabies in coyotes and gray fox from spreading north. Since 2002, the program has maintained a rabies-free zone in South Texas. On-going vaccination efforts help to ensure this milestone is maintained. In 2010, 2.9 million baits were distributed over more than 38,800 square miles as part of this effort, which has distributed approximately 40 million baits since its inception. Texas has reported no cases of the canine variant since 2005 and no cases of the gray fox variant in the ORV zone in 2010. Gray fox rabies was also targeted in Arizona and New Mexico in 2010.

Arizona WS also continues work on a research project exploring the use of ORV as a vaccination strategy for feral dogs on the Navajo Nation that has global implications for canine rabies management. Placebo bait studies were conducted in 2003 – 2004 to help determine which bait type was more appealing to feral dogs to ensure the most efficient bait consumption. In 2009 and 2010, ORV baits were directly distributed to dogs to measure bait uptake and the usefulness of this vaccination strategy for protecting dogs against rabies.

International Efforts

The NRMP has been working with government officials from Canada and Mexico to enhance rabies surveillance in wildlife and prevent the further spread of rabies across international borders. In October 2008, the United States, Canada, Mexico, and the Navajo Nation signed the North American Rabies Management Plan to strengthen existing working relationships among the countries by focusing on increased rabies surveillance and communication.

At present, WS and in the Texas Department of State Health Services are distributing ORV baits along the Mexico border targeting both coyotes and gray foxes. In four northeastern states, WS is working from Maine to New York and with Canadian counterparts at the border to distribute baits. These efforts help to establish rabies-free zones along international borders and allow WS and partners to focus on eliminating the raccoon and fox strain of rabies within the United States.

Future

WS has been distributing ORV to raccoons for more than 10 years and to coyotes for even longer. The program is dedicated to eliminating rabies in raccoons, coyotes, and gray fox and protecting public health, agriculture, and wildlife.

Canine rabies has decreased from a high of 166 confirmed cases prior to ORV to zero in 2010. However, canine rabies could reemerge from Mexico, where it continues to persist outside urban areas. Therefore, a 30-mile wide zone is currently being maintained to prevent reintroduction of this rabies variant. This zone has been challenged two times in the vicinity of Laredo, Texas underscoring its importance in disease management until alternate strategies may be available, including more aggressive rabies surveillance and control in Mexican border states.

ORV is being used to contain and eliminate a unique variant of the rabies virus in gray foxes in the west-central part of Texas, with the rabies focus encircled by an ORV zone. Research was recently completed regarding gray fox movements and the implications to help better manage rabies in this species.

The success in Texas has shown elimination is possible. That under contingency actions where rabies poses a high risk of spreading to new areas, ORV and enhanced surveillance may be integrated with trap-vaccinate-release and local population reduction of rabies reservoir species.

WS continues with research efforts into more efficient bait methods, vaccines and wildlife ecology to ensure the continued success of the program.