United States
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Inspection
Service

**Wildlife
Services**

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USDA Wildlife Services Protects American Agriculture

Guarding Crops and Aquaculture Against Bird and Mammal Damage

Overview

Wildlife Services (WS), a program within the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), provides Federal leadership and expertise to resolve wildlife conflicts that threaten the nation's agricultural resources. WS works in each State to protect agricultural crops and aquaculture from wildlife damage.

In the United States, wildlife damage to agricultural resources can be significant. According to a 2002 report by the National Agricultural Statistics Service, wildlife damage to U.S. agriculture was estimated at $944 million during 2001. Field crop losses to wildlife totaled $619 million and losses of vegetables, fruits, and nuts totaled $146 million.

More than half of all farmers and ranchers experience damage from wildlife each year. WS works to reduce this damage by providing producers with both technical and direct assistance to resolve wildlife conflicts. Technical assistance enables producers to work on their own to reduce wildlife damage. WS provides critical information, training, and advice as well as equipment, such as bird scaring devices, that will assist producers in their efforts. When the conflict is more significant, however, WS specialists employ direct management assistance, using their expertise and skill to disperse or remove birds and other problem wildlife.

Protecting Crops From Bird Damage

Throughout the United States, birds, such as blackbirds, gulls, and Canada geese, cause severe damage to sunflower, rice, corn, winter wheat, fruit, nut, and other agricultural crops. Wildlife damage to apples, blueberries, and grapes has been estimated at more than $40 million. Sunflower and rice crops are a favorite of blackbirds, leading to $5 million to $13 million worth of losses annually.

WS provides assistance to agricultural producers in every State to reduce this damage. For example, WS helps farmers on the East coast to frighten Canada geese away from their properties using pyrotechnics and other noise-making devices. WS' National Wildlife Research Center (NWRC) scientists are also testing the effectiveness of a contraceptive agent to control reproduction in Canada geese.

In North Dakota and South Dakota, WS specialists show sunflower producers how to haze blackbirds away from production areas and

reduce cattail marshes that provide roosting sites for the birds. Cattail marshes are often located adjacent to sunflower fields, creating a perfect place for blackbirds to roost in between meals. By using herbicides to make these roost sites less attractive, WS has dispersed large concentrations of blackbirds which help reduce damage to sunflower crops. Sprouting rice is another crop vulnerable to blackbirds, especially red-winged blackbirds and cowbirds. Since the early 1990's WS has worked to protect sprouting rice fields located near large winter roosts from blackbird damage. In Arkansas alone, this damage is estimated at $4.8 million. WS' NWRC is currently identifying and evaluating chemical repellants for reducing blackbird damage to ripening rice and sunflower crops. Field trials in southwestern Louisiana indicate that certain repellants can protect ripening rice from blackbird predation for at least seven days.

No single solution, however, exists to resolve bird damage, so WS must employ an integrated approach to a myriad of conflicts. In combination with harassment and dispersal techniques, some producers use lure crops to draw birds away from their fields. WS also recommends changing cultural practices, including altering planting and watering dates. When appropriate, WS also recommends planting alternate crops.

In addition to this on-site assistance, WS is instrumental in helping producers obtain the necessary U.S. Fish and Wildlife Service (FWS) permits to address this wildlife damage. Most birds are protected by an international treaty know at the Migratory Bird Treaty Act, which is administered by FWS. This very important legislation is responsible for the conservation and continuing population growth of many bird

species. However, the treaty protects some species of birds, such as Canada geese and vultures, that can cause great economic damage as well as astonishing ecological damage. FWS recognizes WS' expertise when it comes to the prevention and management of damage caused by migratory birds, and issues permits allowing certain populations of problem birds to be removed or harassed.

Protecting Crops from Mammal Damage

Birds are not the only wildlife species causing damage to agricultural crops. Each year, WS responds to requests for assistance to manage wildlife damage to fruits, nuts, cantaloupes, watermelons, vegetables, corn, and other row crops. WS provides technical and direct assistance to producers experiencing crop damage from mammals such as feral pigs, coyotes, badgers, raccoons, and other mammals. Feral pigs can destroy large portions of fields and cause thousands of dollars in damage in just a few short nights. Feral pigs can break through fencing, trample crops, and eat their way through planted fields. In the Eastern United States, overabundant deer populations competing for food in the wild often rely on agricultural crops as another source of food. Beaver can also wreak havoc by building massive dams that flood agricultural lands and destroy crops. Such damage can reduce the quality of crops and in many cases affect the future production level of some plants.

As with bird damage, WS recommends an integrated approach to resolve problems caused by mammals. WS officials work collaboratively with representatives of State agricultural and wildlife departments, county extension programs, industry organizations and individual producers to develop strategies for alleviating wildlife damage to crops. First, the species causing the problem must be identified. Then, WS biologists can provide technical assistance and management recommendations as well as train landowners on how to manage the damage. On occasion, WS' on-site assistance is necessary, especially when lethal management is required. For example to help manage beaver damage, WS' direct assistance includes water-level manipulation, exclusion, population reduction, and the safe and effective use of explosives by a certified specialist to remove beaver dams that can cause extensive flooding. Such integrated approaches, often prove to be very successful in alleviating wildlife damage to crops.

Protecting Aquaculture

Aquaculture is a rapidly growing industry in the United States, but wildlife depredation, especially by fish-eating birds, is having a significant impact on production. In 2003, NASS surveyed producers from 13 States dominating the catfish industry. Nearly 70 percent of catfish producers reported some losses to wildlife. Overall, catfish producers reportedly lost $13.3 million to wildlife depredation in 2003.

WS assists the industry in meeting the challenge of managing depredation by wildlife, specifically by reducing damage caused by fish-eating birds, like the double-crested cormorant. Over the last 30 years, the double-crested cormorant population has grown significantly, which has led to increasing numbers of birds wintering in the Lower Mississippi Valley, which is a major aquaculture-production area. It is estimated that cormorants consume 49 million catfish fingerlings each year valued at $5 million. WS biologists provide assistance and equipment to aquaculture producers, including catfish farmers, tropical fish farmers, and bait fish farmers in the Southeastern United States to reduce bird damage to their aquacultural resources. In addition to working with aquaculture producers in the southeastern States, WS has also assisted aquaculture facilities in Colorado, Idaho, Pennsylvania, Washington, and Wyoming among others.

WS' NWRC is currently conducting research to develop nonlethal methodology, such as fish-culturing practices, physical barriers, and bird-scaring lasers, to reduce damage by birds at aquaculture facilities. WS' efforts to disperse winter cormorant roosts have been a tremendous success using low-powered lasers and other techniques developed by NWRC researchers.