

Wildlife Services—a program within the U.S. Department of Agriculture’s (USDA) Animal and Plant Health Inspection Service (APHIS)—provides Federal leadership and expertise to resolve wildlife conflicts that threaten public health and safety, natural resources, and agriculture. APHIS’ Wildlife Services program in Mississippi responds to requests for assistance from individuals, local governments, and other groups experiencing damage caused by wildlife by providing technical advice or direct assistance through cooperative service agreements.



Double-crested cormorants and feral swine are wildlife that cause conflicts in Mississippi; however, the beaver is a main focus of damage for Wildlife Services programs.

Wildlife Conflicts

Mississippi’s 2.8 million residents share a mix of agricultural, forested, and urban settings with an abundant diversity of wildlife, a natural resource that provides aesthetic, recreational, and economic benefits. By its very nature, however, wildlife is dynamic and mobile—and can cause conflicts when populations grow too large or have too close contact with humans. Introduced, or invasive, species may endanger native animals and the environment. Wildlife can also destroy crops and livestock, damage property and natural resources, and pose serious risks to human health and safety.

Wildlife Services provides Federal leadership and expertise to resolve these conflicts and create a balance that allows people and wildlife to coexist peacefully. As wildlife damage occurs more frequently and evolves into new challenges, Wildlife Services’ knowledge and skills are in greater demand than ever.

While Wildlife Services’ primary focus is preventing and managing agricultural damage, its mission also includes resolving wildlife conflicts in urban areas; protecting public, private, and industrial property; and preserving natural resources, such as critical wildlife habitats

and threatened and endangered species. Increasingly, Wildlife Services is responsible for minimizing wildlife threats to public health and safety, as well as to the vital agricultural base. This work involves a broad range of efforts—from monitoring for wildlife diseases that can affect humans and domestic animals to preventing potentially dangerous interactions between wildlife and aircraft. The wildlife damage management challenges of the new century span invisible boundaries, and Wildlife Services has responded with a variety of programs to protect people, agriculture, and wildlife.

The Wildlife Services program staff in Mississippi includes wildlife biologists and specialists who have degrees in the sciences and/or formal training in wildlife behavior and management. Many of the staff members are active in professional wildlife organizations, such as The Wildlife Society. The State Director leads this diverse team of support staff, supervisors, and wildlife management professionals—including several airport biologists, a disease biologist, a rabies technician, aquaculture specialists, and numerous other wildlife specialists. Given the sensitive nature of their work, they receive regular training and testing in the proper use of their tools—which include pesticides, immobilizing and euthanizing drugs, firearms, and other equipment—to

make their work safe for the public and for themselves. The staff also undergoes complete background investigations and drug testing prior to employment.

As the number one industry in the State, agriculture employs 29 percent of the Mississippi workforce. It contributes \$6.3 billion to the State’s economy. Mississippi has more than 40,000 farms—located in every county and covering a total of 11 million acres. Wildlife Services can assist in protecting the State’s leading resources and commodities: forestry, catfish, cattle, poultry and eggs, soybeans, corn, rice, cotton, wheat, and hay.

Wildlife Services’ work complies with all Federal, State, and local laws, including the National Environmental Policy Act, which requires Federal agencies to evaluate the potential environmental impacts when implementing a major Federal action. In addition, Wildlife Services is self-insured under the Federal Tort Claims Act, and the program obtains written permission from landowners prior to any operation.

Beaver Damage Management

One of the major considerations for Wildlife Services in Mississippi is protecting transportation, agriculture, forestry, and property through beaver damage management. Historically, the beaver has represented a valuable economic and natural resource for Mississippi as a fur-bearing commodity. Today, the lower demand for

beaver products has led to a decrease in trapping and subsequent population increases. Beavers now occupy nearly all watersheds in the State.

This population and activity growth has resulted in some benefits—increased wetland habitat, reduced downstream sedimentation, and improved water quality. However, detrimental impacts from beaver activities have also increased. This damage impacts Mississippi roadways and bridges, agricultural and forest resources, and personal property and landscaping. It also causes flooding of municipal sewer and water treatment facilities. Altogether, beaver damage costs the citizens of Mississippi several million dollars each year. For example, a 1979 study estimated annual agricultural losses at about \$2.5 million due to beavers, while a 1985 study estimated a potential of \$215 million in damage annually to marketable timber as a result of beavers.

Fortunately, through its Beaver Control Assistance Program (BCAP), Wildlife Services addresses a number of these problems and is able to prevent several million dollars more in damage from occurring. Specifically, BCAP assists the U.S. Department of Transportation (DOT), city and county governments, soil and water conservation districts, private landholders, and others with beaver problems.

Wildlife Services runs BCAP through a cooperative service agreement with several Mississippi State agencies (i.e., Agriculture and Commerce; Wildlife, Fisheries and

Wildlife Services protects Mississippi transportation—from space shuttles to country roads—from damage caused by wildlife, such as bird strikes to aircraft and beaver dams like this one being raked from a culvert.

To help protect Mississippi’s aquaculture industry, Wildlife Services works with researchers to determine the types and sizes of fish that are being eaten by fish-eating birds.

Parks; Transportation; and Forestry Commission), the Mississippi Association of Supervisors, the Delta Council, the Mississippi Farm Bureau, and the Mississippi Extension Service. Funding comes from State, county, Federal, and private sources.

Wildlife Services personnel use explosives routinely to remove beaver dams that are flooding property. Its personnel are trained and certified in the safe and effective use of explosives prior to conducting any explosives work. In fact, the Mississippi Wildlife Services staff includes six explosive specialists who are experts in the use of kinnepak, a binary explosive used to remove beaver dams that cannot be cleared by hand.

Aquaculture Damage Management

Fish-eating birds cause an estimated \$5 million in annual losses to the Mississippi aquaculture industry. These losses could be two to three times higher if Wildlife Services was not active in using nonlethal harassment to reduce predation. Two species that have increased in population over the last decade, the double-crested cormorant and the American white pelican, account for the most damage to Mississippi aquaculture.

Wildlife Services conducts aerial surveys of cormorant roosts in the Mississippi Delta every 2 weeks, from October through April. Program officials note areas of heavy cormorant concentrations and notify local aquaculture producers in order to plan appropriate



Vultures can present a variety of damage concerns (left). A disease biologist monitors for diseases in wildlife to support the APHIS mission (right).

harassment activities. Wildlife Services specialists are available to educate producers about nonlethal harassment methods to disperse other fish-eating species and, when necessary, help obtain depredation permits. Program officials have also begun to survey American white pelicans from the ground and the air to help producers plan harassment activities.

New Federal rules allow for the lethal removal of double-crested cormorants in winter roost sites and nontraditional nesting areas. Wildlife Services has begun implementing these new depredation orders, which are permitted to protect aquaculture and natural resources. Numerous Mississippi cooperators have assisted in successfully carrying out this effort. In addition, Wildlife Services offices in several northern States actively manipulate cormorant eggs to prevent them from hatching and protect local resources; these efforts may assist Mississippi producers as well by helping to control population increases.

The National Wildlife Research Center—the research arm of Wildlife Services and the only U.S. facility devoted entirely to the development of wildlife dam-

age management methods—operates a field station in Mississippi for aquaculture damage research throughout the Eastern United States. The station, located in Starkville, primarily studies captive and free-ranging birds to determine the local and regional population status of fish-eating birds, the extent of damage caused, and effective management techniques. The station's field researchers seek alternative strategies that can be integrated into a comprehensive management plan for cost-effective reductions in damage that birds cause to the aquaculture industry.

Airport Wildlife Hazards

Wildlife Services is recognized internationally for its scientific expertise in reducing wildlife hazards to the aviation industry. The January 2009 forced landing on the Hudson River of a commercial airliner that had collided with Canada geese dramatically demonstrated such hazards. Experts estimate that wildlife strikes with airplanes cost the U.S. civil aviation industry more than \$625 million and military aviation more than \$100 million annually. Mississippi's civil and military airports on the coast and inland must manage a variety of potential wildlife hazards.

Wildlife Services currently employs three full-time employees who protect both civil and military installations and provide technical advice to numerous airports in Mississippi each year.

Other Wildlife Management Concerns

Wildlife Services provides assistance to a variety of groups and individuals on health and safety issues concerning wildlife. The most widespread request concerns bats dwelling in residences and businesses. In urban and suburban areas, residents may need assistance in responding safely to other wildlife conflicts, such as vultures roosting on homes and towers or resident Canada geese interfering with the enjoyment of recreational areas. Another common problem occurs when

overabundant flocks of blackbirds and pigeons defecate on buildings and other properties. All of these species can harbor a variety of diseases, and their fecal material can create hazardous conditions for people. Wildlife Services provides advice on methods to respond to such problems and can conduct operations to assist on a user-fee basis.

Invasive species, such as nutria and feral swine (wild hogs), can cause severe damage to natural resources and property in developed communities and natural areas. Wildlife Services' unique skills and training equip the staff to respond to these invasive animals with comprehensive programs.

Wildlife Services also conducts surveillance for rabies, avian influenza, and other diseases in wildlife that pose serious risks to the public, the Nation's livestock and poultry, other wildlife populations, and/or the U.S. economy. A wildlife disease biologist, part of the Wildlife Services' National Wildlife Disease Program, is part of the Mississippi staff.

For More Information

To learn more, contact the Wildlife Services' Mississippi staff at 1-866-4USDA-WS (toll-free at 1-866-487-3297) or (662) 325-3014.

Information is also available on APHIS' Web site at www.aphis.usda.gov/wildlife_damage.

Cover photos: Propane cannon used at an aquaculture facility to discourage birds (top); a Wildlife Services biologist rakes a beaver dam shown over beaver-damaged property (lower).

Photo credits: All USDA-APHIS photographs by Richard Nowitz, except for the cormorants, feral swine, and space shuttle images, which are from the APHIS photo collection.



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Protecting Mississippi Agriculture and Resources

Wildlife Services Seeks Balance Between Humans and Wildlife



Wildlife Services

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