

# **Status of the Pennsylvania Cooperative Livestock Protection Program**

**JULY 1, 2008 – JUNE 30, 2009**



**United States Department of Agriculture  
Animal and Plant Health Inspection Service  
Wildlife Services**

PO Box 60827, Harrisburg, Pa 17106-0827  
(866) 487-3297

## **Wildlife Services: Past and Present**

The Wildlife Services (WS) program's goals and objectives have evolved significantly since its establishment in 1895 as part of the U.S. Department of Agriculture's (USDA) Division of Entomology. Initially, WS focused on predator control activities for the protection of livestock; program priorities revolved largely around agricultural economics. Although the program's mission and legal authority have not changed, the breadth of WS activities has increased over time due to societal demands.

The National Animal Damage Control Act of 1931 provided legal authority to WS, which was then known as the Division of Predatory Animal and Rodent Control, to protect American agriculture and other resources from damage associated with wildlife. In 1939, the program was transferred from USDA to the U.S. Department of the Interior. It later returned to USDA in 1985, where it remains today as part of USDA's Animal and Plant Health Inspection Service (APHIS).

Over the years, the program's philosophy—as well as the wildlife management profession as a whole—has evolved, along with societal values and perspectives. Now, the goal for program personnel is often to seek balance among a variety of priorities, including wildlife and environmental conservation, human health and safety, economic considerations, and social factors. WS provides partnership-based Federal leadership to help resolve wildlife conflicts, and focuses its management efforts on those animals and local animal populations involved in a given situation. Overall, WS managers and biologists emphasize resolving conflicts and managing wildlife damage rather than on eradicating or suppressing wildlife populations.

Driven by increasingly diverse requests for assistance, WS has expanded its operational and research activities beyond its early emphasis on livestock protection and rabies control. Current program activities now include threatened and endangered species conservation, the protection of public health and safety, wildlife disease surveillance and monitoring, a nationally coordinated research effort, and other activities and programs. Additionally, WS plays a vital role in our Nation's efforts to eliminate the negative effects of invasive species on the environment.

## **Current Program Mission, Authorities, and Activities**

WS' mission is to provide Federal leadership among the wildlife management profession, the public, nongovernmental organizations, and governmental/ research entities to address wildlife-related problems in a science-based manner that is both accountable and transparent. The program's primary statutory authorities are found in two acts of Congress: The Act of March 2, 1931, (46 Stat. 1468; 7 U.S.C. 426-426b) as amended, and The Act of December 22, 1987 (101 Stat. 1329-331, 7 U.S.C. 426c).

While WS' authorizing legislation continues to be the base of its authority, it is the program's *policy directives* that guide WS personnel daily in responding to requests for assistance. WS personnel meet the public's requests by relying on science-based decision-making, building connections with scientific and academic communities, and cooperating closely with other government agencies and organizations.

Currently, WS operational activities include conducting rabies control and eradication efforts,

managing invasive species, completing wildlife disease surveillance, reducing the impact of predation on livestock, preventing wildlife strikes at airports, protecting transportation infrastructure, and protecting threatened/endangered species, rare habitats, and ecosystems. Additionally, WS operates a one-of-a kind national wildlife damage management research program.

### **Pennsylvania Cooperative Livestock Protection Program**

WS was requested by the Pennsylvania Department of Agriculture (PDA) to conduct an integrated, cooperative livestock protection program (CLPP) in southwestern PA. This program was initiated as a pilot project in 2005 serving 5 counties. In 2008-2009, the program was expanded to include 16 counties in the SW region of the Commonwealth. The CLPP has grown exponentially in cooperator participation which is a result of the expansion of the additional counties as well as the increased awareness of the program (Figure 1). The CLPP provides technical and operational assistance and educational programs to producers that are suffering damage from European starling, Canada geese, eastern coyotes, and black vultures. The primary objective, as determined by the livestock protection committee, is to give assistance in identifying, controlling, and abating damage, animal health problems and economic loss caused by these depredating species. The following report includes program methodology, damage, results, and program developments.

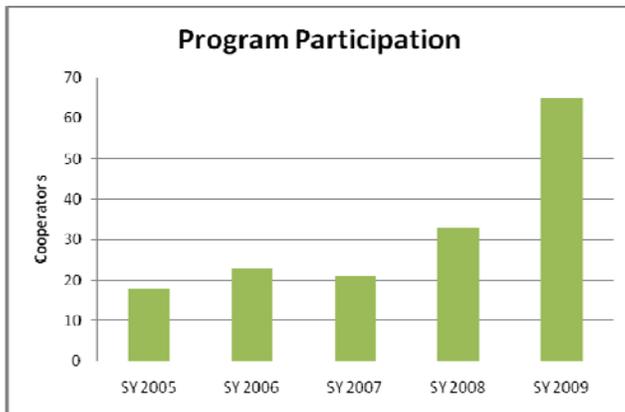


Figure 1. Increase of participation in program since 2005.

## CURRENT COOPERATIVE LIVESTOCK PROTECTION PROGRAM AREA



### Cooperative Livestock Protection Methods

WS's goal is to manage the damage caused by wildlife by implementing integrated damage management programs. Upon enrollment, WS professionals implement and/or recommend effective management options to minimize agricultural damage. To reduce damage caused by the aforementioned species, WS utilizes a variety of lethal and nonlethal control methods including, but not limited to: pyrotechnics, propane cannons, mylar, nest and egg treatment, effigies, trained dogs, habitat modification, animal husbandry, live traps, foothold traps, neck snares, calling and shooting, Compound DRC-1339, and Livestock Protection Collars (LPC).

### Damages Caused to Agriculture



Black vultures, European starlings, Canada geese, and eastern coyotes cause agricultural damage which may result in increased operating costs from predation, replacement of feed, equipment repairs, structural maintenance costs, fire suppression, reduced milk production and veterinary

charges associated with actual or suspected livestock illness or disease problems. These impacts often cause more significant hardships for small farmers and ranchers than larger operations.

Damage to livestock by black vultures may involve plucking the eyes and eating the tongues of newborn, down, or sick livestock, disemboweling young livestock, killing and feeding on domestic fowl, and general flesh wounds from bites. Predation by black vultures normally occurs by numerous birds and results in the death of the livestock. Even if death is not caused by the vultures, the livestock is usually severely injured and must be euthanized.

Agricultural damage caused by Canada geese includes crop depredation to sweet and field corn, soybeans, winter wheat, rye, clover, sod, vegetables, and other crops. This damage reduces yield and may increase soil erosion. Canada geese forage on corn and other cultivated crops as they are emerging from the soil, which results in a total loss of the plant for that growing season. Damage also occurs once seed heads emerge from foraging and trampling resulting in reduced yield at harvest.

On dairy farms, cattle feedlots, swine facilities, and fruit farms, European starling damage occurs in several forms: (1) consumption of feed and crops can cause considerable economic losses, since starlings can consume up to 50% of their body weight in grain each day; 100 starlings can consume approximately 8.5 pounds of food per day or 1.5 tons per year. The average PA farm where WS has conducted European starling control has between 2,000 and 5,000 birds. Without control this could result in 30-76 tons of feed/fruit loss annually. (2) fecal contamination of livestock feed and drinking water can create disease hazards for livestock, especially swine, calves and pregnant cows resulting in increased veterinary care. (3) transfer of disease from one livestock facility to another, including TGE, salmonella, Johne's, etc. (4) fecal contamination, nesting materials, and bird carcasses on and in structures and farm equipment such as dispenser pumps, grinder/mixers, augers, and vehicle engines, can hamper farm operation, and cause costly property damage. European starlings also consume and damage cultivated fruits such as grapes, peaches, blueberries, cherries, and numerous other cultivated fruits. Damaged fruit is often unmarketable or the producer will receive a lower payout at time of harvest and packing. Damage is common in sweet corn, winter wheat, and planted seed as well.

Eastern coyotes cause direct loss to producers by preying on lambs, calves, and goats. In some instances unsuccessful attacks by coyotes can result in increased veterinary expenses associated with treating injured livestock. The distribution of eastern coyotes has expanded in PA during the past several decades. Producers that historically never observed coyotes are beginning to express concerns over recent sightings or predation. Research has demonstrated that not all coyotes kill domestic livestock, but if regularly given the opportunity to take livestock most will learn to kill and consume sheep, calves, and goats. Due to fluctuating wool and meat prices and the ever increasing operational costs associated with farming it is unlikely that PA livestock producers can tolerate even infrequent loss to predation and remain in business.



### Results of Services Provided

Since the inception of the program in 2005, WS has provided technical support and operational control activities to over 1000 producers across Pennsylvania. WS has provided operational control for each of the four species; however, the largest request is in response to European starling damage. Although starling damage is the most common request, coyote predation is the most labor intensive aspect of the program. On average, European starling damage can be dealt with effectively with about 2.5 days of effort. Coyote damage results in approximately 60 days of effort.

During the current activity period, WS has provided direct control services under 72 agreements. Sixty-one agreements for European starling control, 3 for Canada goose damage, 9 for eastern coyote control, and 1 for black vulture predation. Over the past 4 years the CLPP has seen an increase in cooperator participation for damages concerning European starlings (Figure 2). WS is currently running mechanical equipment on all enrolled sheep farms to reduce coyote damage with an average of 10 traps and/or snares per farm. Due to finite resources our direct control activities have been concentrated on spring and fall lambing.

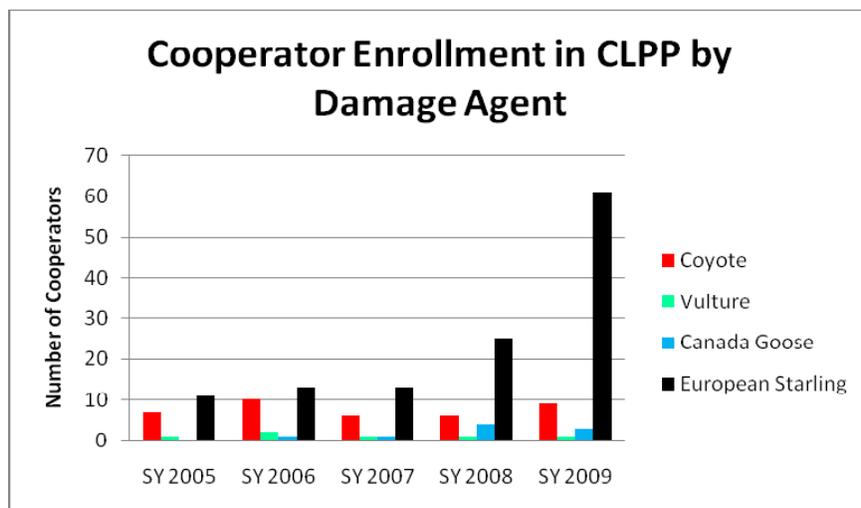


Figure 2. Number of Cooperators that have enrolled in the CLPP by damage agent

## Ensuring Cost-effective Actions

WS works hard to ensure the fiscal responsibility of its operations and to deliver programs that are valuable and cost-effective. Program officials regularly review and incorporate economic factors into their decision-making and have performed several cost-benefit analyses concerning program operations. Cost-benefit analyses identify and compare the monetary costs of performing specific program operations with the monetary benefits or outcomes that result from the program's efforts. Because WS' efforts typically focus on preventing losses or damage, it can be inherently complicated to calculate the resulting monetary value of the program's efforts. In addition to the difficult challenge of accurately estimating the value of a damaging event or loss that did not occur, program officials must also account for numerous variables that can naturally affect the program's efforts and its outcomes (e.g., changes in a given predator's local population, its distribution, and other seasonal variables).

The CLPP Program which is a Cooperative Program is funded by the Cooperator's \$250 enrollment fee, State, and Federal money (Figure 3). The use of these allocated funds resulted in WS protecting over 39 million dollars in resources for State Year (SY) 2008 and 143 million dollars in resources for SY2009 (Figure 4). These resources are quantified by potential losses if the conflict with wildlife were not resolved. Based on the data collected and reviewed, it was found that the benefits outweighed the costs of the program by a ratio of 166 to 1 for SY2008 and 640 to 1 for SY2009. The average cost to assist with these species outside of the CLPP varies heavily by species and type of assistance request, but ranging from \$1,500 to more than \$5,000. This program provides producers with a cost effective means to ensure their livelihood.

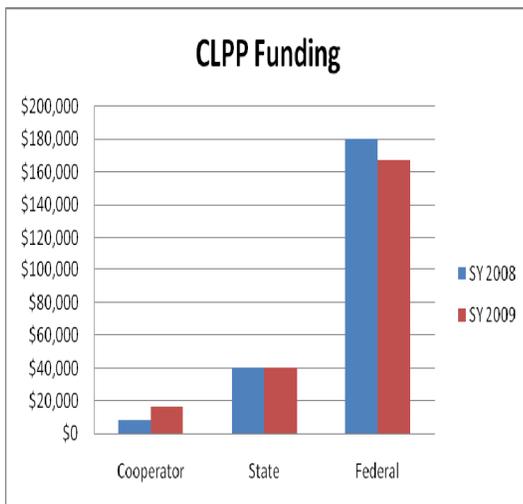


Figure 3. CLPP funding for State Year 2008 & 2009

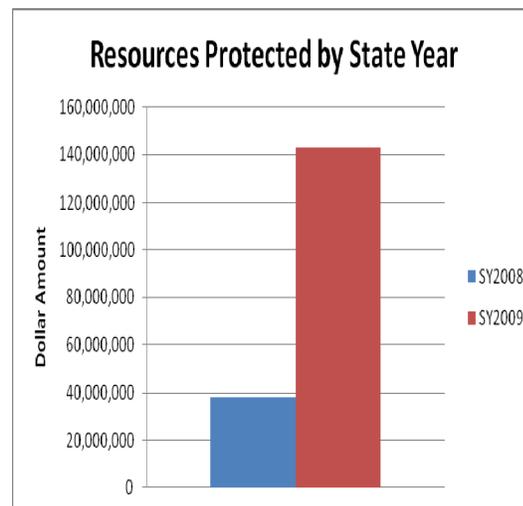


Figure 4. Resources protected for State Year 2008 & 2009.

## Education

Wildlife Services has actively promoted the Cooperative Livestock Protection program by speaking at various venues as requested. We have conducted programs at the PA Meat Goat Producers meeting, Ag Progress Days, Washington County Sheep and Wool Growers, Somerset Sheep and Wool Growers, Greene County Sheep and Wool Growers, Jacktown Fair, Washington County Farm Business Workshop, and numerous County Dairy Days events. WS has also given





Damage to property by feral swine rooting.

Damage to corn by feral swine feeding.



Feral swine killed in Indiana County outside domestic swine enclosure

WS participates in a National Feral Swine Sampling Program, with samples collected for classic swine fever (CSF), swine brucellosis (SB), pseudorabies (PRV), trichinosis, and toxoplasmosis. Samples are collected from all animals captured and submitted through this program for testing. As well samples are archived for future testing if required. WS has collected samples on feral swine in PA since 2006.

During SY2009 a total of 9 feral swine were killed and sampled from the CLPP area. 5 of the 9 animals were from wild populations of feral swine. These animals tested negative for CSF, SB, and PRV. Toxoplasmosis and trichinosis testing are being performed by USDA-Agricultural Research Service (ARS). WS worked in the CLPP area to document sign, identify areas with feral swine for future control efforts, and educate landowners and the public on the importance of feral swine reporting and control. The ARS project was started in 2009, with select samples from the archive tested, of 2 PA samples tested by ARS one from Bedford County tested positive for trichinosis (collected in 2007) and neither tested positive for toxoplasmosis. Testing of current and future samples is underway and under the discretion of ARS.

During SY2009 WS was asked by a producer to assist with sample collection of animals associated with a shooting preserve escape. A total of 6 animals were documented as having been imported to a shooting preserve in Indiana County. Of those 6 animals 5 were documented as having escaped. WS sampled 3 of the escaped animals after they were captured at a local producers farm. Additionally the shooting preserve property was visited and 1 additional animal was tested by WS. The 4 animals tested were all positive for PRV. Additionally the Pennsylvania Game Commission removed an animal from the local area which also tested positive for PRV. The single remaining animal that had escaped was never located, but was reported to have been shot the first night of the escape by a local landowner. WS conducted surveys of the area for a period of 3 weeks and was unable to document any recent feral swine activity. WS determined that the shooting preserve owner had illegally imported the animals from a distributor in Ohio. None of the animals conformed to PDA importation requirements. WS coordinated with PDA, USDA-APHIS-Veterinary Services (VS), and USDA-APHIS- Investigative and Enforcement Services (IES) on the investigation in both PA and OH. The producer was prosecuted on 8 PDA violations and fined. This event prompted other shooting preserve owners to have their stock tested, with 1 owner in Venango County also testing positive for PRV. WS was asked to assist with depopulation of this facility through a temporary extension of the CLPP. The depopulation was coordinated in SY2010. These events provided support for a quarantine order that specifically targeted importation of swine for recreational purposes at shooting preserves. This is important because many feral swine occurrences have been associated with escapes from shooting preserves.



Inadequate fencing at shooting preserves may allow feral swine to escape into environment.

### **Program Developments**

PDA, producers, and members of the Livestock Protection Committee have been working on securing supplemental Federal funding in the form of a Congressional Directive since 2005. In late 2007, Congress passed a new Congressional Directive for funding the Pennsylvania's CLPP program this funding has continued thru the present Federal Fiscal Year (FY). Although this directive did not fulfill the entire request, it allowed WS to expand the coverage area and provide services to a higher percentage of the 59,000 agricultural producers in the Commonwealth. Beginning in July 2008, WS began offering CLPP services to producers in a 16 county area. The

program anticipates Federal funding to be similar to the FY 2009 during FY 2010. It is the hope of the WS program that if additional funding is made available the coverage area of the CLPP could be expanded.

**Contact Information**

If you are interested in the Cooperative Livestock Protection Program or need additional information please contact USDA APHIS Wildlife Services at:

USDA APHIS WS  
State Office  
PO Box 60827  
Harrisburg, PA 17106-0827  
(866) 487-3297

USDA APHIS WS  
Western District Office  
4820 Route 711, Suite A  
Bolivar, PA 15923  
(724) 238-7320