

United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

**Wildlife
Services**

FY 2004

Managing Depredation and Nuisance Problems Caused by Vultures

Contact Information:

Dr. Michael Avery, Wildlife Services Research Wildlife Biologist

Florida Field Station

2820 East University Avenue

Gainesville, FL 32641

Phone: (352) 375-2229 FAX: (352) 377-5559

E-mail: michael.l.avery@aphis.usda.gov

Web site: www.aphis.usda.gov/ws/nwrc

National Wildlife Research Center Scientists Address Vulture Problems

Wildlife Services' (WS) National Wildlife Research Center (NWRC) is the only Federal research organization devoted exclusively to resolving conflicts between people and wildlife through the development of effective, selective, and acceptable methods, tools, and techniques.

Researchers at NWRC's field station in Gainesville, FL, conduct research to resolve problems caused by vultures. This research facility is a uniquely designed 26-acre site with large outdoor flight pens and aviaries which allow bird research to be conducted throughout the year under natural environmental conditions.

As land-use patterns change and urban populations surge into previously uninhabited areas, wildlife conflicts inevitably increase. Of growing concern are problems associated with black vultures and turkey vultures, two species that have shown the capacity to readily adapt to residential settings.

Black vultures prey on newly-born livestock and, along with turkey vultures, form roosts that create nuisance, health, and safety problems. In recent years, livestock depredation and property damage caused by vultures have increased steadily. Residents and livestock producers in at least 15 States have reported conflicts with black vultures and turkey vultures to Wildlife Services personnel. Nuisance problems and electrical power outages due to roosting vultures are even more widespread.



Major Research Accomplishments:

- WS evaluated commercial products for use in preventing vultures from perching on houses and businesses where they cause property damage and create unsanitary conditions.
- WS developed a non-lethal strategy, including the use of an artificial effigy, to disperse vultures from communication towers and wooded roosts in residential and agricultural sites and from the vicinity of airports.



In addition, vultures forage at landfills, often located near airports. In their daily flights to and from these landfills, vultures pose a major hazard to aircraft. According to the Federal Aviation Administration's Wildlife Strike Database, more than 350 vultures have collided with civil aircraft since 1990.

The goal of NWRC's research is to define more completely the population dynamics of vultures in relation to their roosting and feeding behaviors. This knowledge will contribute to the development of effective management strategies for reducing predation losses, property damage, and hazards to aviation.

Applying Science and Expertise to Wildlife Challenges

Management Methods at Vulture Roosts—NWRC scientists are evaluating various techniques for dispersing problem vulture roosts and reducing losses due to vulture depredation. The roost dispersal methods being evaluated include artificial vulture effigies and hand-held lasers.

Communication towers provide attractive roost sites for black and turkey vultures. This roosting behavior creates problems, however,

for tower operators, nearby businesses, and owners of adjacent homes. To alleviate these problems, NWRC scientists developed the technique of suspending taxidermic vulture effigies from towers to disperse vulture roosts. The technique has proven effective at numerous sites, and NWRC scientists are expanding this approach by developing and evaluating an artificial vulture effigy for effective, inexpensive roost dispersal. To date, NWRC scientists have used the artificial effigy to disperse roosts at communication towers, in residential areas, and at a university research facility. Installation of the artificial effigy offers a simple, effective means to manage many problem roost situations.

Perch deterrent strategies to protect homes and businesses—Vultures often use roofs of houses and businesses as loafing areas after they depart their night roosts. As they loaf on these structures, vultures frequently damage certain materials, including vinyl, plastic, and other synthetic construction and insulation products. Furthermore, defecations and regurgitations from the birds create unwholesome, unsanitary conditions for human occupants. Using a combination of field and pen trials, NWRC scientists are evaluating a variety of commercial perch deterrents, including electric track, rotating cylinder, and motion-activated sprinkler. If shown to be effective against vultures, such devices can readily be used in integrated management strategies to reduce property damage and nuisance problems caused by vultures.

Groups Affected by This Problem:

- Airports
- Airlines
- Air travelers
- Homeowners
- Construction contractors
- Livestock producers
- Utility companies
- Boat owners
- Broadcast and communication tower owners and operators

Major Cooperators:

- Wildlife Services Operations in Florida, Ohio, and Virginia
- Florida Farm Bureau

Vulture Depredation on Livestock—Because of continuing, increasing reports of vulture depredation on newly-born livestock, NWRC scientists are working with private landowners and WS operations personnel to evaluate methods for reducing vulture-livestock conflicts. In winter 2004, NWRC scientists collaborated with Virginia WS personnel to document responses of black vultures to the dispersal of a large communal winter roost. Vulture activity at 4 nearby livestock operations was monitored before and after roost dispersal. Through the use of radio telemetry and direct visual observation, NWRC scientists discovered that black vultures used several alternate roost sites so that their activity on the livestock farms was not curtailed by the dispersal of the main roost. Furthermore, availability of cow and sheep carcasses at the 4 study sites provided the vultures with a regular source of food and contributed to the presence of the birds at the livestock operations. NWRC scientists are also collaborating with the Florida Farm Bureau to quantify the extent of vulture damage to livestock in the state and to identify factors that contribute to vulture predation. Such information will lead to development of strategies that WS personnel, property owners, and resource managers can employ to reduce vulture predation activity.

Selected Publications:

- Avery, M. L. 2004. Trends in North American vulture populations. In: Timm, R. M.; Gorenzel, W. P. eds. Proceedings of the 21st Vertebrate Pest Conference; 1-4 March 2004, Visalia, CA. University of California, Davis, CA: 116-121.
- Avery, M. L.; Cummings, J. L. 2004. Livestock depredations by Black vultures and Golden eagles. *Sheep & Goat Research Journal* 19(1):62-67.
- Humphrey, J. S.; Tillman, E. A.; Avery, M. L. 2004. Vulture-livestock interactions at a central Florida cattle ranch. In: Timm, R. M.; Gorenzel, W. P. eds. Proceedings of the 21st Vertebrate Pest Conference; 1-4 March 2004, Visalia, CA. University of California, Davis, CA: 122-125.
- Mauldin, R. E.; Kimball, B. A.; Johnston, J. J.; Hurley, J. C.; Avery, M. L. 2003. Development of a synthetic materials mimic for vulture olfaction research. In: Fagerstone, K. A.; Witmer, G. W., eds. Proceedings of the 10th Wildlife Damage Management Conference. 6-9 April 2003; Hot Springs, AR. Fort Collins, CO: The Wildlife Damage Management Working Group of The Wildlife Society: 430-435.
- Avery, M. L.; Humphrey, J. S.; Tillman, E. A.; Phares, K. O.; Hatcher, J. E. 2002. Dispersal of vulture roosts on communication towers. *Journal of Raptor Research* 36:44-49.
- Humphrey, J. S.; Avery, M. L.; McGrane, A. P. 2000. Evaluating relocation as a vulture management tool in north Florida. In: Salmon, T. P.; Crabb, A. C., eds. Proceedings of the Nineteenth Vertebrate Pest Conference. 6-9 March 2000; San Diego, CA. Davis, CA: University of California, Davis: 81-83.