Damage by black and turkey vultures in Virginia, 1990–1996

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Abstract Damage by black (Coragyps atratus) and turkey (Cathartes aura) vultures increased annually since 1990, when 2 complaints were reported, and peaked at 207 complaints in 1995. Black vultures are associated with depredations of livestock and pets and damage to real and personal property. Congregations of mixed flocks of black and turkey vultures are associated with health concerns, property damage, and nuisance complaints. Turkey vultures are infrequently identified as a problem compared to black vultures and mixed flocks. Vulture damage was reported in 55 counties and 2 cities in Virginia from October 1994 to 1996. Black vultures were reported to kill cattle or calves in 32 counties, with 76% of statewide livestock predation reported from Southwestern Ridge and Valley and Southern Piedmont physiographic regions. Eleven counties reported black vultures killing other livestock, including farm-raised deer. Twelve counties reported black vultures killing, injuring, and harassing pets. While there is a range of nonlethal techniques to alleviate black vulture predation on livestock—including harassment with pyrotechnics or center-fire rifles, removing carrion, moving expectant cattle to alternate pastures, relocating nearby vulture roosts by harassment with pyrotechnics, and monitoring livestock several times a day—these techniques frequently were ineffective. The lethal method recommended to reduce or stop black vulture predation on livestock was shooting a few vultures to supplement harassment. New research is needed to develop control methods to alleviate vulture damage and develop vulture population models.

Key words black vulture, damage, depredation, predation, turkey vulture

Black vultures (Coragyps atratus) and turkey vultures (Cathartes aura) are an integral part of the natural and human environment in Virginia. Rea (1983) noted that though new world vultures are obligate scavengers, some species will deliberately kill prey. Turkey vultures are scavengers, and black vultures are scavengers and predators. The presence of vultures elicits a continuum of feelings from the public, including contentment knowing that vultures are fulfilling an important role in the environment, concern about health and odor implications when roosts congregate in urban areas, rage when black vultures kill cattle and farm-raised deer, and fear when the birds are viewed as symbols of death. The amalgam of opinion about vultures, coupled with legal requirements and limited resources available to natural resource agencies, constrains management of these migratory birds. Black and turkey vultures are migratory birds protected by the Migratory Bird Treaty Act and state statutes. It is illegal to take or attempt to take (i.e., kill, injure, or maim) vultures without federal and state permits. Permits to take vultures may be issued when there is just cause.

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Vulture damage in Virginia has been increasing annually and is now recognized as a statewide problem. There are 2 problems: predation of livestock and pets, and urban property damage and nuisance. Herein, I present data on vulture damage.

Methods

Vulture damage data were collected when the public contacted the United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services program (WS) or the Virginia Department of Agriculture and Consumer Services, Office of Plant and Pest Services, Nuisance Bird program (VDACS). Reported damage was recorded, and when economic losses were great or chronic or reported damage required inspection to verify the depredating species, site visits were made to verify damage. Data were compiled from WS's computerized management information system database and VDACS's reports.

Results

Vulture damage complaints in Virginia increased from 2 in 1990 to 207 in 1995 before declining to 86 in 1996. Approximately 50% of the complaints were first-time reports of vulture damage. Damage was reported most often in January through May and was distributed during winter and spring months when vultures were congregating in communal roosts. There were 69 requests for permits to legally take vultures to reduce damage during 1994–1996. WS recommended to the United States Department of the Interior, Fish and Wildlife Service (FWS) that 61 permits be issued to alleviate damage, primarily to protect livestock from black vulture predation.

Though vulture damage was a statewide problem, it was distributed unevenly, with 38% of 1994–1996 damage reported from the Southern Piedmont, 24% from Southwestern Ridge and Valley, 20% from Coastal Plain, 13% from Northern Piedmont, and 5% from the Shenandoah Valley physiographic regions. Damage was reported in 55 counties and 2 independent cities from 1994 to 1996. The most significant damages by black vultures were predation, injury, and attempted attacks without injury (harassment) to livestock and pets, and property damage (e.g., tearing upholstery from cars, trucks, tractors, and boats and tearing and pecking roof shingles with their beaks; Table 1). Predation by black vultures on cattle and farm-raised deer was reported in 32 counties during the same time period, with 43% and 33% of livestock...
predation reported from the Southwestern Ridge and Valley and Southern Piedmont physiographic regions, respectively. Black vultures also preyed on horses, goats, sheep, fallow deer, swine, dogs, cats, and turkeys. Black vultures were gregarious, and groups averaging 20–60 individuals attacked prey animals.

Mixed flocks of turkey and black vultures were generally reported as threatening human health and safety, creating a nuisance, or causing property damage to homes and buildings (Table 1). Property damage was usually reported as breaking or tearing roof shingles and pulling rubber seals from window panes. Though both species were reported present when damage occurred, it appeared that black vultures caused most property damage and posed the most threat to pets.

Turkey vultures caused little damage compared to black vultures and mixed flocks (Table 1). Turkey vultures were never reported killing or injuring livestock or pets or damaging vehicles or homes. Turkey vultures were infrequently reported as being a nuisance (Table 1).

Discussion

Black and turkey vulture populations in continental North America increased annually at rates of 2.5% and 0.3%, respectively, from 1966 to 1991 (Peterjohn and Sauer 1993). Black vultures are distributed throughout the southeastern United States, whereas turkey vultures are distributed throughout the entire United States. The increase in damage during 1990–1995 is most likely attributable to increases in the black vulture population or increased awareness by citizens regarding where to seek damage management assistance. In January and February 1996, vultures abandoned many roost sites for several weeks following heavy snows (Wildlife Services and Virginia Department of Agriculture and Consumer Services, unpublished data). The decline in reports of vulture damage coincided with snowstorms in 1996 and may have accounted for a part of the decline in reported vulture damage during 1996.

Black vultures have expanded their breeding range northward into the northeastern United States during the last 40–50 years (Wilbur 1983). Brown (1976), Blem (1995), and others have claimed that black and turkey vultures were declining in abundance in the Southeast. However, there is disagreement among biologists about the population status of vultures. Rabenhold and Decker (1989) stated that black vultures are under-represented by standard bird census techniques (i.e., Christmas Bird Count) due to soaring beyond the limits of the human eye. The difference in the mode of flight between turkey and black vultures, and thus susceptibility to observation, and clumped distribution of black vultures might explain the perceived decline of black vultures in some southeastern states, while neighboring states report increases in the black vulture population (Rabenhold and Decker 1989). Moreover, Sweeney and Fraser (1986) reported that Christmas Bird Counts were an inappropriate method to survey vultures. Instead, vultures should be surveyed by counting them at their roosts (Sweeney and Fraser 1986).

Predation by black vultures has been reported since the 1930s on livestock and wildlife, including domestic pigs in Kentucky (Lovell 1947, 1952) and Texas (Parmalee 1954), lambs in West Virginia (Roads 1936) and Ohio (Sprunt 1946), and cattle in Texas (Parmalee 1954). Black vultures have been reported to prey on live wildlife, including leatherback turtle hatchlings (Dermochelys cori-
Black vulture predation on livestock is distinctive. Lovell (1947, 1952) reported pigs being killed by black vultures plucking their eyes out and then attacking the rectum, or by attacks only to the rectum. My investigation of 115 incidents of black vulture predation, injury, and attack on 1,037 livestock animals concurred with the method of predation reported by Lovell (1947, 1952) and Roads (1936). Black vultures preyed on calves less than 3 weeks old by primarily attacking the eyes, causing blindness, and then entered the abdomen through the rectum, vagina, or penis. Adult cows giving birth were attacked at the eyes, vagina, or rectum. Less frequent points of attack on cattle were the nose and tongue. Black vultures attacked lambs much like they did calves.

Predation on pets, primarily dogs and cats, was not well documented. Pets that were restrained by short leashes near black vulture roosts appeared vulnerable to attack. Free-ranging cats were reported to hide in shrubbery when black vultures approached and then froze when cornered or circled, allowing the black vultures to attack with their beaks.

The Migratory Bird Depredation Permit process involves two federal and one state agency. It takes 3–4 weeks, on average, for a decision to be made approving or denying the permit application. The applicant must complete an application identifying the migratory bird causing damage, describe the specific damage, provide estimates of economic loss, outline non-lethal methods tried, and get a written recommendation from WS. The applicant mails the form to the FWS with a $25 processing fee for evaluation. If the permit is approved by the FWS, it is sent to the Virginia Department of Game and Inland Fisheries (VDGIF) for evaluation. If approved by VDGIF, the permit will be co-signed and issued to the applicant.

**Recommendations**

Vulture damage is an increasing problem in Virginia, but there is opportunity to change vulture damage management processes. Additionally, research to develop control methods and population models should be initiated.

Nonlethal and lethal methods are available to alleviate vulture damage. Nonlethal methods should be recommended when practical and effective. Nonlethal techniques include harassing vultures with 15-mm pyrotechnics or center-fire rifles, burying or burning dead livestock, moving expectant cows to a single pasture, chasing vultures from pastures with vehicles, relocating adjacent vulture roosts using 15-mm pyrotechnics, monitoring livestock several times daily, and birthing livestock inside buildings. Nonlethal methods available to reduce vulture predation on livestock frequently fail, resulting in the death of some black vultures and expenditures of time and resources by livestock producers. Better methods to alleviate damage are needed.

Lethal methods were recommended in 43% of all livestock depredation incidents involving black vultures during 1994–1996. These recommendations were made after damage was identified, economic loss was measured, and nonlethal methods were evaluated and found ineffective or impractical. The lethal method recommended was that of shooting a few vultures to supplement harassment. Permits to
take vultures should be issued when necessary to reinforce other management methods.

Migratory Bird Depredation Permits are required by statute before a migratory bird, egg, or nest can be taken (Title 50, Code of Federal Regulations, Parts 10, 13, and 21). Because birds may habituate to nonlethal harassment programs, lethal “take” may be needed to reinforce harassment. Permit applicants complained that the process, especially to renew permits, was burdensome and needed reform. To renew a permit to take a migratory bird, the applicant must reapply with a similar application for a redundant problem each year. This process and the $25.00 processing fee frustrated the public, who expressed the need to simplify the permit process.

Information about vulture roost sites, population dynamics, and damage abatement methods is needed. Little is known about roost-site selection and population dynamics of vultures. An understanding of roost-site selection might allow local governments to modify suburban and urban habitats to alleviate vulture-human conflicts. Also, an understanding of population dynamics would allow for accurate modeling of vulture populations, which would be beneficial in measuring the impacts of taking vultures to alleviate damage.

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Literature cited


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