

Vultures

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Figure 1. Adult turkey (left) and black (right) vultures are distinct when perched. Photo from <https://trekohio.com/2013/07/10/turkey-vultures-and-black-vultures/>

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Human-Wildlife Conflicts

Black vultures and turkey vultures (Figure 1) serve an important function in the ecosystem by ridding the environment of dead animals. However, their flocking and roosting behavior, flight profiles, and feeding habits often bring them into conflict with people. The most common conflicts associated with vultures are property damage, loss of aesthetic value and property use related to offensive odors and appearance, depredation of livestock (black vultures), and air traffic collision risk. As human and vulture populations spread and grow, so too can human-vulture conflicts.

The Vulture Roost

Management of these diverse problems may be achieved by targeting the source of the birds causing the problem, often the nearest roost(s) where the birds spend the night. Sometimes the location of the roost itself is the problem, such as when birds roost on communication towers or when they roost in residential areas. There, droppings and regurgitations create unsanitary conditions, resulting in unpleasant odors and soiled structures, equipment, and property. The presence of vultures is also perceived as a threat by some homeowners.



Figure 2. Livestock producers must be vigilant because black vultures are known to kill and injure vulnerable animals, especially newborns and those giving birth.

Several methods are available for dispersal of vultures at roosts. As in many other situations, dispersal at roosts is likely best accomplished through the integrated use of multiple damage management tools and techniques. The details of the situation will dictate which management approach is the most appropriate, and experience has shown that best results are obtained if vultures at roost(s) can be dispersed.

Livestock

Livestock losses to black vultures are a major concern for many producers. Black vulture depredation of livestock involves killing or injuring animals that are newborn, sick, weak, or otherwise unable to defend themselves. Turkey vultures are relatively docile compared to black vultures and are unlikely to attack an animal; however, they readily share space with black vultures, and both can be seen feeding together on an animal killed by a black vulture. Predation by black vultures usually involves newborn calves, piglets or lambs and their mothers, the cows, sows, and ewes, that are incapacitated when giving birth (Figure 2). Black vultures are opportunistic and readily recognize and take advantage of vulnerable animals. Because black vultures are social, the feeding behavior of one or two birds usually attracts many more and they can easily overwhelm the affected prey animal. At a cattle ranch in central Florida, both species of vultures focused their activities in pastures where active calving was occurring. The vultures

were frequently observed feeding on afterbirth as well as fresh droppings from calves. In both Florida and Indiana/Kentucky, 38% of cattle producers reported losses to black vultures.

Structures

Property damage, especially from black vultures, includes tearing and removing window caulking, screen enclosures, roof shingles, pool covers, vinyl seat covers from boats and tractors, windshield wipers, and door and window seals on vehicles (Figure 3). It is not well understood why vultures engage in this behavior, though it often occurs while they are loafing, times during the day not spent feeding or flying. Droppings of turkey and black vultures can create nuisance conditions and in extreme cases, accelerate aging of materials, especially when the birds loaf on roofs of houses, office buildings, refineries, towers (communication and water), electrical transmission structures, and outdoor recreation areas (Figure 4). The accumulation of droppings on electrical transmission towers can cause arcing and power outages.



Figure 3. Damage by black vultures to structures, vehicles and other property is a common occurrence.

Human Health and Safety and Disease

Vultures pose hazards to aircraft, especially when landfills, roosts, or other congregation sites are located near low altitude flight paths (Figure 5). Military aircraft are especially vulnerable to vultures due to their low-altitude training and operational flights which cause them to often share airspace with vultures. The Federal Aviation Administration considers waste landfills within 10,000 feet of an airport containing jet aircraft incompatible with aircraft operations because these landfills are attractive to birds.

Both turkey and black vultures can become infected with highly pathogenic avian influenza, which can cause death of some birds. In areas that have the potential for infected vultures to come into close contact with poultry or cattle, there is a possibility of disease transmission. In addition, vultures can cause human health and safety problems by contaminating water sources. Contamination can occur when coliform bacteria from droppings enters water towers or springs from which residences draw water.

Nuisance Problems

Citizens frequently have health concerns because of the accumulation of droppings from roosts and loafing areas near their homes. Many people consider vultures a nuisance because of the white-wash effect their droppings leave on trees and structures at roost sites, the ammonia odor emanating from roost sites, perceived threats to small pets, and a general feeling of uneasiness when vultures congregate nearby.

Damage Identification

Vultures are large, obvious animals that travel in groups. Their presence is indicated by copious amounts of whitish fecal matter giving a characteristic ammonia odor to the surroundings. In open areas, shed feathers and regurgitated pellets also will be obvious. Damage to materials and surfaces is indicated by tears, scratches and gouges, and stone and metal deterioration can occur after prolonged exposure to droppings. Discarded materials such as shingles, seals, and windshield wiper blades are often found



Figure 4. Vultures frequently loaf or roost on buildings and other structures where accumulations of droppings create nuisance and health concerns. They will sometimes loaf or roost together, as shown here.



Figure 5. Vultures represent major safety hazards to civil and military aircraft. Here, a helicopter was struck by a turkey vulture.



Figure 6. Rolling aluminum tubing, such as The Coyote Roller® can be an effective device for preventing vulture perching.

strewn about near the structures impacted. Signs of feeding on young livestock include damage to the soft tissues of the mouth and anus, but these characteristics can be associated with both scavenging on livestock carcasses and predation events. Bird strikes to vultures are usually identified using structural or genetic identification of feathers or snarge (the remains of a bird after it strikes an aircraft).

Management Methods

Management of vultures is most effective when a variety of control methods are used.

Habitat Modification

Vultures are attracted to roosting and loafing sites largely because they act as information sharing centers, can provide refuge from weather, and may provide thermal updraft opportunities. Altering the vegetation structure of a given roost may affect the thermodynamic properties of the site. Therefore, thinning branches on trees within the roost or removing some trees to open the roost site could reduce the attractiveness of the site for roosting birds. If there are very few trees and no alternative roosting structures in the vicinity, tree removal may deter vultures. However, this method likely will be difficult to apply in most cases, as preservation of trees is frequently an important goal in communities. Furthermore, there are

no proven guidelines for how best to thin or modify roost vegetation to discourage vultures. Vultures may repeatedly be attracted to a site due to the abundance of a nearby food supply. The proper management of dumpsters, outdoor feeding of pets and feral cats, disposal of dead livestock, and removal of other human made food sources may reduce vulture use of some areas. Vultures may use a site for multiple reasons, however, and therefore the removal of a food source might be insufficient to disperse vultures roosting or loafing at a site.

Exclusion

Various techniques have been developed to prevent vultures from perching on window ledges, roofs, and other areas where they are not wanted. Many of the bird spikes that are commercially available will not deter vultures. Often, the birds are still able to place their feet in the spaces between the spikes, and they readily bend the longer, more pliable spikes down to create a hospitable perching substrate. The spikes that work best against vultures are short, sharp, tightly spaced, and resistant to bending. Wires suspended above a roof or ledge do not have long-term effectiveness as vultures can avoid such obstacles when they land and either perch beside the wires or directly on top of them.

Rolling aluminum tubes can be installed along structures to create an unstable perch for vultures. As birds try to land on the devices, the cylinder rotates, and the birds spin off. This approach could be particularly effective on the ridge line of a roof or on a narrow ledge or railing where the availability of perch sites is limited (Figure 6). Perhaps even more effective is the use of commercially available electric tracks that can be assembled to any desired length. These devices can be affixed to roofs, chimneys, ledges, or wherever perching is likely to occur. Solar-powered electric fence chargers are available so access to a power outlet is not necessary, but regular upkeep is necessary. A bird that contacts the track receives an unpleasant, but harmless, shock and is reluctant to land or perch on those surfaces again.



Figure 7. Installation of an effigy is effective for dispersing a vulture roost.

Black vulture depredations to livestock can be minimized by locating lambing, pigging, and calving activities in sheds or buildings, or by using paddocks close to barns or buildings with human activity so that birthing animals can be monitored closely. However, consultation with a large animal veterinarian should occur before congregating livestock, as some diseases, such as calf scours, can spread when livestock are placed in tight quarters.

Scare Devices

Effigies

In some roost situations, whether in trees or on a structure, birds can be dispersed quickly and efficiently by proper installation of a vulture effigy. An effigy can be either a carcass, taxidermic preparation, or an artificial device designed and constructed to look like a dead vulture. An effigy is intended to invoke a fear response, likely as a result of associating the effigy with a predator, disgust/disease, or the sheer novelty of an oddly positioned dead conspecific. Vulture carcasses and taxidermic vulture effigies have been effective in resolving a variety of roost problems involving property damage, communication towers, crop and livestock protection, and aircraft safety. Regardless of the type, proper installation is crucial. This is especially important with carcass effigies, as black vultures will rarely practice cannibalism and could be attracted to a poorly installed carcass effigy. Guidelines for effigies include:

- Display the carcass or effigy from a high, prominent location so that birds using the roost notice it.
- Hang the stimulus upside down by its feet, far enough from branches or other points of contact to prevent entanglement.

- Hire a professional to install the carcass or effigy on a tower (Figure 7).
- To suspend a carcass or effigy at a tree roost, use a modified bow and arrow rig to launch the line up and over a branch in a prominent location.

Effigies have been used with mixed success to discourage vulture use of houses and other facilities during the day. Black vultures have been reported to tear at effigies when used at daytime loafing sites but are repelled from roost sites where effigies are hung. It is unclear why vultures respond to effigies at roosting locations but occasionally show no dispersal response from daytime loafing sites. Also, effigies have not reliably dispersed vultures from multi-story buildings, or from small animal parks and zoos. not effective in some of these situations. At this time, researchers do not understand why effigies are not effective in some of these situations .

Important constraints apply to the general use of a vulture carcass or taxidermic effigy. Both species of vultures are protected by federal laws, and it is unlawful to take or possess a live bird or carcass without a permit from the U.S. Fish and Wildlife Service (USFWS) and applicable State agency, where required. Permits are not required for effigies made from feathers of domestic fowl. The hanging of a vulture carcass or taxidermic effigy could be distasteful to some members of the public. It might be prudent to contact local conservation or birding groups or local media to explain the use of the carcasses or effigies, so that those hung in areas of high visibility are not mistaken for birds that accidentally became entangled. Prolonged exposure to the weather deteriorates the carcass or effigy. Artificial representations of vultures have been used (Figure 8) with varying degrees of success.



Figure 8. Artificial vulture effigies can be effective at dispersing vultures from roost sites.

Lasers

Lasers ranging from Class 1 to 3 have been effective in dispersing various bird species. Vultures respond to both red lasers and green lasers, with some wildlife damage experts believing green lasers are more effective. Field trials at wooded roosts, as well as on buildings and electric transmission line towers, have demonstrated that vultures can be moved from the roost by using the laser from about 30 minutes before sunset, or as soon as it is dark enough for the birds to see it, until about 30 minutes after sunset. Once it becomes too dark and the birds are settled in for the night, the laser often will not make them disperse.

Lasers should not be pointed directly at the birds, as this may cause eye damage. Rather, the laser beam should be placed up to 15 feet from perched vultures, then moving the beam slowly toward the birds. Lasers pose safety and health concerns to humans so great care and adherence to any local ordinances must be followed when using them as a vulture management tool. Some safety considerations to follow include:

- Always point the laser in a safe direction and not at people, homes, or vehicles.
- When pointing the laser, know your target and what is behind your target and don't use if aircraft could be present behind the vultures.
- Do not aim the laser at a reflective surface, including mirrors, mirrored surfaces, or windows.
- Do not use lasers near airports or point them at aircraft.



Figure 9. Inflatable deterrents set to run intermittently and/or to motion can help disperse vultures from areas such as parking lots or flat roofs.

Inflatable deterrents

Inflatable deterrents that sway back and forth (Figure 9) with no discernable pattern or only begin moving when movement is detected have been used to repel vultures from small areas, such as parking lots, recreation sites, flat roofs, and track and field areas. The larger an area is, the more inflatables that will be needed to scare vultures away. Inflatables are less likely to be successful in areas where vulture presence and damage is longstanding (e.g., history of vultures using the area for several years). Inflatable deterrents require a plug-in power source or a solar-power setup that will require regular maintenance.

Pyrotechnics

Nonlethal pyrotechnic devices create bright lights or loud noises in order to make a location seem less desirable to damaging bird species in the vicinity. Vultures can be harassed from a roost using bird-scaring pyrotechnics fired from a 15-mm launcher (starter pistol), shellcrackers shot from a 12-gauge shotgun, electronically generated sounds, or bird-scare propane cannons. Prior to initiating a harassment program in urban areas, consult state, provincial, county, and local ordinances regarding the location of bird sanctuaries, noise ordinances, and the possession and use of firearms and pyrotechnics. Pyrotechnics, launchers, shellcrackers, propane cannons, and other harassment tools can be purchased readily from a variety of commercial sources. Successful use of sound deterrents relies on startling the birds, and therefore, a random timing pattern should be used. Some pyrotechnics require a federal explosives permit from the U.S. Bureau of Alcohol, Tobacco and Firearms. Commercial vendors can identify pyrotechnics requiring the federal permit prior to purchase.

Pyrotechnics and other noisemakers often are not permitted in residential areas, zoos, parks, or business sites. Nevertheless, vultures can be effectively harassed using other methods in these areas.

Other Harassment

Paintball guns can be employed with good effect on troublesome vultures. The birds are bothered by the sound of projectiles passing by. Eventually the “pop” sound generated by the compressed gas alone is enough to

cause birds to take flight. To minimize the chance of injury, paintball guns should not be used in close range of birds (less than 10 yards), and the intention cannot be to hit vultures with the paint balls. Clear (no pigment) paintballs are commercially available and reduce the concern over temporarily staining buildings and property. Follow proper firearm safety measures whenever using paintballs. Whatever technique is used, for best results harass birds as soon as they begin to use the site. Harassment of this type must be persistent so that birds do not have opportunities to return. Consultation with USFWS should occur prior to use of paintball guns to harass vultures, as a permit may be required for this activity.

Another option for harassment is a motion-activated sprinkler (Figure 10). All that is required to make this work is a spigot or other source of pressurized water. The sudden onset of a sprinkler triggered by the vultures' movement startles them and tends to keep them from the site. The sound of the sprinkler, sight of the water stream, and unpredictability of the stimulus all combine to cause an effective deterrent effect.

Firing a .22-caliber rifle or shotgun ammunition reportedly will disperse loafing vultures from pastures. Such harassment often has only a short-term benefit, as vultures will return to the site within a few hours. Do not kill or wound vultures unless you have a Migratory Bird Depredation permit issued by the USFWS. A separate permit from a state agency may also be required.



Figure 10. Motion-activated sprinklers are effective for scaring vultures from rooftops, boat docks, and other places with access to a source of pressurized water.

Guard animals, such as dogs or donkeys, are another form of harassment that some livestock producers use with success, though a formal evaluation of this method to protect livestock from black vultures has not occurred. Forty nine percent of livestock producers in Kentucky and Indiana reported using guard animals to protect livestock from black vultures. Less than 2% of Florida cattle producers reported using guard dogs, but those that did reported the method as effective.

To be most effective, harassment must be diligent and constant, and initiated as soon as the problem is recognized. The use of a variety of harassment tools at the same time increases the likelihood of dispersing vultures. To disperse a roost, begin harassment at dusk as the vultures come to roost and continue until dark. Harassment on several consecutive nights may be required to disperse a roost. Normally, it takes 7 to 9 consecutive nights of harassment to disperse a vulture roost when 15 mm and 12-gauge pyrotechnics are used alone or with propane cannons. The number of nights needed to disperse a roost can be shortened to 4 to 5 nights when effigies and lasers are used simultaneously with the pyrotechnics. In cases where damage is perceived to be caused by black vultures only, it is important to disperse any turkey vultures at the site as well, as their presence will attract both species back to the site. Failure to remove attractants such as carcasses or pet food will counteract the effectiveness of dispersal efforts.

Shooting

Selective removal of problem vultures can help contribute to resolving local conflicts. At three Texas industrial plants, each hosting about 200 birds, shooting with .22-caliber rifles was initiated after other methods had failed to resolve vulture problems. Removal of 5, 25 and 45 vultures resulted in abandonment of the sites for 12 months, 4 months, and 10 weeks, respectively. Removal of a few vultures from a local population may increase the efficacy of harassment programs and prevent habituation to harassment, especially when suitable alternative habitats are available. A Migratory Bird Depredation Permit issued by the USFWS is required before vultures can be lethally removed.



Figure 11. Baited walk-in traps are effective for capturing large numbers of vultures.

Trapping

Vultures can be relatively easy to trap, especially with large baited walk-in traps (Figure 11). Remote-activated doors should be used in areas with significant non-target species, such as bald eagles, to prevent non-target take when using walk-in traps. Drop-in traps can also be used in areas where dogs can disrupt efforts. Decoy birds increase the effectiveness of these types of traps, so water and a few vultures should remain in the trap until trapping is complete. For specific targeted individual birds, padded-jaw foothold traps can be used. A Migratory Bird Depredation Permit issued by the USFWS is required before vultures can be trapped and possessed.

Translocation

The benefits of translocating trapped vultures are questionable. In Texas, translocating trapped birds did not reduce problems at industrial facilities where the birds were trapped. Furthermore, complaints increased regarding vultures at the release sites. In Florida, four of eight transmitter-equipped vultures released more than 150 miles from the trap site eventually were tracked to within 10 miles of their original roost, indicating that problems at the original site are likely to persist unless the habitat is modified so the original site is less attractive to vultures. Translocation should be discouraged given the possibility for translocated birds

to introduce diseases such as avian influenza into novel areas and populations of wildlife and livestock. Translocated animals can also create new damage issues in areas where they are released, so selecting a site where they are unlikely to cause new issues can be challenging. Translocating vultures involves temporarily possessing the birds, and as such, a permit from the USFWS is required for this activity.

Legal Considerations

Vultures are protected by the Migratory Bird Treaty Act and are managed by the federal government and some state wildlife management agencies. If there are legal means to implement lethal action (in accordance with local laws, city ordinances, and local law enforcement), then these steps can be followed to apply for a permit from USFWS:

- 1.** Non-lethal actions must already have been taken in order for a permit to be reviewed.
- 2.** Reach out to your respective U.S. Department of Agriculture Wildlife Services program to request a Form 37 Migratory Bird Damage Project Report. A Wildlife Services professional will review and document current harassment efforts, the results of those efforts, total vulture numbers, and then make a determination to recommend whether a USFWS permit be issued or not. If Wildlife Services recommends a permit be issued, they will suggest a maximum quantity of birds to be taken, and they may recommend additional actions to be used in conjunction with lethal removal.
- 3.** An applicant must then submit a Form 37 with a Migratory Bird Depredation Permit application to USFWS and pay the associated fee.
- 4.** If a permit is issued, annual reports will be required. If the problem persists and harassment efforts are still in place, managers can apply for permit renewals.

Depredation permits are designed to reinforce the negative reinforcement of existing aversive conditioning. They are not the sole answer to conflict issues and will not be granted if they are not used in conjunction with other practices.

Economics

Black vultures and turkey vultures are part of the multi-species scavenging guild which provides valuable ecosystem services, including carrion removal, disease suppression, and nutrient recycling. Turkey vultures alone remove approximately 1,000 tons/\$700 million US dollars' worth of organic material from the environment each year. In the southeastern US it was found that non-vulture scavengers were not able to compensate for scavenging levels that vultures are able to achieve.

In terms of damage, from 2010 to 2024 black and turkey vulture strikes were responsible for over \$3 million US dollars to civil aviation. Vultures were also responsible for 6 military aircraft lost to bird strikes in the US from 2007 to 2024. Although both vulture species have economic impacts to aircraft, typically only the black vulture can also be an economic detriment for livestock producers. The most recent data available (2010) from the USDA National Agricultural Statistics Service (NASS) attribute 11,900 cattle and calf deaths valued at \$4.64 million to black vultures. NASS estimated the total monetary loss from all cattle/calf predation, including vultures but also mammalian and other predators, to be \$98.48 million. Black vulture impacts to livestock extend to pigs, goats, and sheep, but comparable economic data are not available. Both vulture species cause property damage to vehicles, houses, office buildings, equipment and various other items. Their roosting on cell towers, water towers, buildings, and other tall structures necessitates roost dispersal, cleaning, and repairs. The collective economic impacts of these activities are unknown.

Species Overview

Identification

Two species of vultures are common in North America: the turkey vulture (*Cathartes aura*) and the black vulture (*Coragyps atratus*). These species are in the family Cathartidae. Vultures are sometimes known locally as buzzards.

Physical Description

Black vultures have a 4.6- to 5-foot wingspan and weigh 3.5 to 4.9 pounds. Adult and juvenile black vultures have a dark grey head (Figure 1), the underside of the wings is dark grey to black with a white area at the end of each wing, and a relatively short tail (Figure 12).



Figure 12. Adult black (left) and turkey (right) vultures are distinct when in flight.

Turkey vultures are large dark brown birds with 5.7- to 6-foot wing spans and a body mass of 3.5 to 4.4 pounds. Distinguishing characteristics of turkey vultures are a bright red head on adults (Figure 1) the leading edge on the underside of the wing is black while the trailing edge is gray, and a long tail that extends well beyond the body when in flight (Figure 12B).

The mode of flight differs between black and turkey vultures due to different wing lengths supporting about the same body mass. Turkey vultures flap their wings infrequently and glide when at low altitudes, whereas black vultures flap frequently, interspersed with brief glides when at low altitudes unless a strong wind blows. At high altitudes both vultures primarily glide when riding thermal wind currents. Both species stay at roosts early in the morning and they begin to fly only after wind or updraft become strong enough to support their soaring and gliding flight.

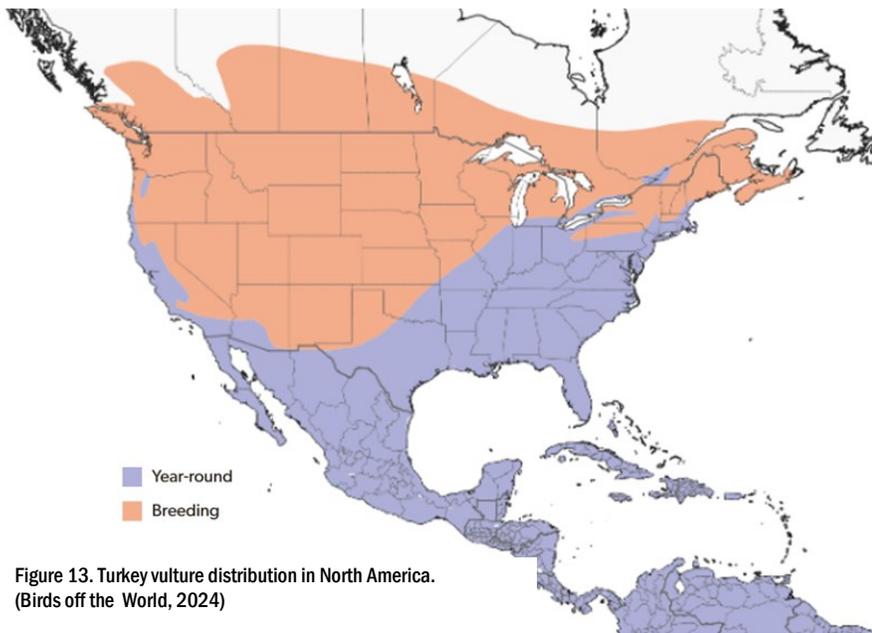


Figure 13. Turkey vulture distribution in North America. (Birds off the World, 2024)

Range

Turkey vultures occur in all of Mexico and the contiguous U.S., most of South America, and the southern tier of Canada (Figure 13). Black vultures are common in South America and Central America and occur throughout the southeastern U.S., much of the northeastern U.S., portions of the midwestern U.S., Texas, Mexico, and parts of Arizona (Figure 14).

The ranges of both species have expanded northward in the past 50 years, though range expansion of black vultures has been more pronounced. Several possible explanations exist for their range expansions and population growth. The pesticide

DDT and its derivative DDE adversely affected vulture reproduction. The U.S. Environmental Protection Agency prohibited the use of DDT in 1972 due to negative environmental impacts to many animal species, and vulture populations in the U.S. have grown steadily in the last 40 years. Also, vultures have benefited from fragmentation of the landscape by humans, which creates mosaics of forested, open, and urban areas for roosting, nesting, and foraging. Increasing deer populations, a significant source of carrion, may also be a contributing factor. Vultures clearly have adapted and thrived in the presence of human activity.

Northern populations of turkey vultures migrate from summer breeding areas to southern wintering areas. Black vultures are considered locally resident but may engage in short to moderate movements in response to harsh wintery weather. Occasionally, black vultures may travel long distances. For example, a subadult black vulture tagged in Indiana was later located in Daytona Beach, Florida.



Figure 14. Black vulture distribution in North America. (Birds off the World, 2022)

Sign

Nests in abandoned structures or vehicles are found by observing movements of adult birds. Nests on the ground are very shallow scrapes and difficult to find, sometimes associated with fallen timber, rocky outcrops, deer stands, or abandoned buildings. Roost sites are characterized by a distinctive ammonia-like odor, and by accumulations of droppings, feathers, and regurgitated pellets.

Voice and Sounds

Nestlings of both species may make a lowly audible “hissing” sound when approached. Adults of both species make a low-pitched grunt or “woof,” audible at close range.

Reproduction and Nesting

Vultures nest on the ground in thickets, on rock ledges, in abandoned buildings and vehicles, and in caves and hollow logs. It is believed vultures nest annually once reproductively mature. The earliest known breeding age for black vultures and turkey vultures are eight and four years, respectively. Each species normally lays two eggs per clutch. Incubation lasts about 40 days. Adults feed and care for young for 2 to 3 months before fledging. In the southern U.S., black vultures nest as early as January. Turkey vultures lay eggs as early as February in the southern U.S., and progressively later northward. Where co-occurring, black vultures tend to nest about two weeks earlier than turkey vultures.

Roosting

Vultures congregate in single- or mixed-species communal roosts, especially during late fall through early spring. Roosting is believed to enhance the ability to find food and might reduce risk of predation. Roosts may contain up to thousands of vultures.

Population Status

Each species shows a widespread, increasing population trend. Breeding Bird Survey data from 2012 to 2022 suggests black and turkey vulture populations in the U.S. increased at an annual rate of 1.3% and 3.5%, respectively.

In 2021, the global population estimate for turkey vultures was estimated at nearly 15,000,000 while the global population estimate for black vultures was estimated at just over 7,000,000. For the United States, the black vulture population was estimated at 4,250,000 in 2019, with Florida having the most birds at 1,150,000. Population estimates based on traditional surveys may underestimate vulture populations due to the decreased visibility of vultures in early morning surveys.

Longevity and Mortality

Turkey vultures have been reported to live for more than 17 years in the wild. In North America, the range wide annual survival estimate was reported at 87%, but was lower for eastern birds (72%) when compared to birds in central (91%) and western (97%) populations. The most common sources of mortality are road-based vehicle collisions, electrocution at power lines, trapping, and shooting. Black vultures have been reported to live up to 25 years of age.

Habitat

Both species of vultures inhabit mixed farmland, pasture, wooded areas, but also occur in urban and suburban areas. Generally, both species thrive in landscapes that offer several different cover types. Vultures roost in various types of trees including pine, cypress, palm, and hardwoods, as well as on communication towers, support structures for transmission lines, water tanks, and buildings. Roost trees typically are larger than average surrounding trees. Both vulture species are known to loaf on office buildings and houses. Black vultures especially are tolerant of human activities and habituate to being in close proximity to people.

Food Habits

Turkey vultures and black vultures fill important ecological roles as scavengers in the environment. Dead animals may have bacteria or viruses that are pathogenic or zoonotic. When feeding on carcasses, vultures consume and destroy large quantities of bacteria. It is possible, however, that while some

bacteria are destroyed in a vulture's digestive tract, some bacteria could be transmitted on the bird's feathers and feet. Thus, while vultures could reduce the spread of most infections in a locality, they also could introduce infections into new areas. The intestinal micro flora of turkey vultures suggests that these birds are reservoirs of intestinal bacterial pathogens.

Vultures have weak feet for grasping but have strong bills for pulling and tearing flesh. Their eyesight is keen, and their sense of smell is well developed in turkey vultures, but much less so in black vultures. Black vultures rely on eyesight to locate sources of food and fly at higher altitudes than turkey vultures. From that vantage point, they can observe behavior of turkey vultures and other scavengers to learn the location of available food. At a carcass, black vultures tend to be dominant over turkey vultures. Turkey vultures tend to specialize on smaller carcasses, which they can quickly ingest before black vultures have time to displace them.

Turkey and black vultures primarily are scavengers. Their diets include carrion, fish, and invertebrates. Black vultures will kill other animals and tear the animals apart for food, including livestock giving birth and their defenseless offspring. Turkey vultures rarely take live prey. Reports of turkey vultures attacking livestock likely are mistaken identification of black vultures. Both species will take advantage of pulsed resources, such as offal during deer hunting seasons.

Both species will regularly visit landfills, fish hatcheries, and poultry facilities for foraging opportunities. Black vultures often plunder dumpsters and garbage cans, and they frequent waste transfer stations, zoos, and any place where food scraps are regularly available (Figure 15). Both species are adaptable and capable of exploiting feeding opportunities created by human activity. In South Carolina, 47% of black and turkey vulture pellets contained anthropogenic items, suggesting high levels of garbage consumption.



Figure 15. Vultures exploit feeding opportunities created by human activity.

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Figure 1. Photo from <https://trekohio.com/2013/07/10/turkey-vultures-and-black-vultures/>

Figure 2. Photos by Eric Tillman, USDA-APHIS-WS, NWRC

Figure 3. Photo by USDA-APHIS-WS

Figure 4. Photo by MTSOfan on Flickr

Figure 5. Photos by USDA

Figure 6. Photo by Eric Tillman, USDA-APHIS-WS, NWRC

Figure 7. Photos by USDA-APHIS-WS

Figure 8. Photo by USDA-APHIS-WS

Figure 9. Photo by Bryan Kluever, USDA-APHIS-WS, NWRC

Figure 10. Photo by Eric Tillman, USDA-APHIS-WS, NWRC

Figure 11. Photos by Eric Tillman, USDA-APHIS-WS, NWRC (left) and The Cornell Lab of Ornithology (right)

Figure 12. Photo by Daniel McMurty, USDA-APHIS-WS

Figure 13. Map from Kirk et al. 2024, Birds of the World/The Cornell Lab of Ornithology

Figure 14. Map from Buckley et al. 2022, Birds of the World/The Cornell Lab of Ornithology

Figure 15. Photo by USDA-APHIS-WS

Glossary

Effigy: A likeness of a vulture. An effigy can be an actual vulture carcass, a carcass that has been taxidermically prepared, or an artificial vulture likeness.

Property Damage: Includes marring, tearing, scratching, defecation and soiling residential and business structures, vehicles, boats, cell towers, signage, playground equipment, etc.

Roost: A site where vultures gather to loaf, rest or spend the night. Vultures typically gather in roosts during all seasons outside the nesting season.

Zoonotic: Disease that can be transmitted from animals to humans.

Key Words

Aircraft hazard, black vulture, *Cathartes aura*, *Coragyps atratus*, deterrent, effigy, human-wildlife conflict, livestock, property damage, turkey vulture

Disclaimer

Wildlife can threaten the health and safety of you and others in the area. Use of damage prevention and control methods also may pose risks to humans, pets, livestock, other non-target animals, and the environment. Be aware of the risks and take steps to reduce or eliminate those risks.

Some methods mentioned in this document may not be legal, permitted, or appropriate in your area. Read and follow all pesticide label recommendations and local requirements. Check with personnel from your state wildlife agency and local officials to determine if methods are acceptable and allowed.

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Appendix

Damage Management Methods for Vultures

Type of Control	Available Management Options
Exclusion	Electric track Aluminum rolling tubing Stout anti-perching spikes Grid wires
Frightening Devices	Vulture effigies Hand-held lasers Pyrotechnics Inflatables Paintballs (permits may be required)
Habitat Modification	Removing, thinning, or modifying roost sites (no proven guidelines) Refuse management to reduce access Remove outdoor pet feeding Clean husbandry practices to remove carcasses or afterbirth
Repellents	Methyl anthranilate misting, though no products registered specifically for vultures
Trapping	Large, baited walk-in or drop-in traps Padded-jaw foothold traps with 3-inch spread
Shooting	Shooting for dispersal, to reinforce non-lethal harassment, and to remove individual troublesome vultures. Type of firearm and ammunition depends on specific circumstances.