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Managing Wildlife Damage: Turkey Vultures (*Cathartes aura*) and Black Vultures (*Coragyps atratus*)

Kara Nitschke[1] and Michael T. Mengak[2]

INTRODUCTION

The turkey vulture (*Cathartes aura*) and the black vulture (*Coragyps atratus*) are the common vultures of North America. Known collectively as buzzards, both are large birds, but these two species differ considerably in appearance and habits. Vultures are found throughout North America. Known as scavengers, they provide a valuable ecological service by consuming the carcass of dead animals. This function recycles nutrients and cleans the environment. They make extensive use of thermal air currents to glide for miles across the landscape. They lack a **syrinx** (vocal organ in birds) and therefore cannot sing or call but make only grunts or low hissing sounds.

Figure 1. Turkey vulture in top photo and black vulture in bottom photo.

TAXONOMY

The common name refers to the resemblance to a wild turkey. The name "vulture" means "tearer" in Latin referring to how the vulture secures its food - by tearing it apart. The genus name *Cathartes* means "purifier" in Latin/Greek and refers to the role the bird plays in clean the environment of carrion (dead animals). Other members of this family include the Greater and Lesser Yellow-headed Vultures, the California condor, the Andean condor, and the King vulture (from Central and South America)

Kingdom: Animalia
Phylum: Chordata
Class: Aves
Order: Cathartiformes
Family: Cathartidae
Genus: *Cathartes* and *Coragyps*

[1] Graduate Research Assistant, Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA. Current Address: Region 7, Georgia DNR_Wildlife Resources Division, Brunswick, GA.
[2] Professor-Wildlife Specialist, Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA

STATUS

Vultures, like nearly all birds in North America, are protected by various state and federal laws. They are abundant throughout the United States and populations have been increasing over the past 30 years. They are often found in groups of 5 – 25 individuals. They roost on abandoned buildings, cell phone towers, and dead trees in large congregations. In winter, groups of over 100 individuals may roost together in suitable habitat.

DISTRIBUTION

Turkey vultures occur throughout Mexico, much of the United States and southern portions of Canada. Black vultures occur throughout South and Central America and in the southeastern United States, Texas, Arizona, and Mexico. Both species of vulture are locally resident, but northern populations will migrate from breeding grounds in the summer to winter in the south. Some may exhibit local movement before adverse weather.

NATURAL HISTORY

Identification: Turkey vultures are brownish black in coloration, with heads that are bare of feathers and bright red as adults. Most adults weigh 4 to 5 pounds and are 25 to 32 inches long, with a wingspan of up to 6 feet. The trailing edge of the underside of the wing is gray, with the rest of the wing being primarily black. They have a long beak that is pink to red in color, with pink feet with blunt talons. In flight, turkey vultures are distinguished from black vultures by their long tail, which extends well beyond the body, and by the coloration of their wings. Because of their longer wingspan, turkey vultures often flap their wings less frequently and glide more frequently than black vultures.

Black vultures are black in color, with featherless dark gray heads. Adults weigh 4 to 5 pounds, with a wingspan of 4.5 to 5 feet. The underside of each wing tip has a conspicuous white patch of feathers. Feet and beaks are also dark gray. Black vultures, due to their smaller wingspan, flap their wings more frequently and glide less than do turkey vultures, and have relatively shorter tail feathers.

Habitat: Both species of vulture inhabit similar habitat types. They prefer wooded areas and mixed farmland that has abundant food and water supplies. Roosts frequently consist of various trees including pine, hardwood, palm, and cypress, as well as buildings, water towers and communication towers. They will utilize rock ledges, caves, tickets, abandoned buildings, and hollow logs for nesting sites. They often will frequent landfills.

Reproduction: Nesting occurs annually, utilizing sites such as caves, thickets, rock ledges, abandoned buildings, and hollow logs. Clutches usually consist of two eggs, which hatch in about 40 days. Young vultures fledge after being fed and cared for by the adults for 2 to 3 months. Both sexes share comparable parental roles.

Figure 2. Black vultures feed on road-killed deer.

Feeding: Both species of vultures are primarily scavengers, and will scavenge carrion of domestic and wild mammals, birds, and reptiles. They will also feed on offal and afterbirth of other species. Black vultures have

been known to take live prey such as skunk and opossum, as well as the young of livestock.

Black vultures primarily use sight to locate food items, while turkey vultures use both sight and smell. Though their feet are rather weak and ill-equipped for grasping, their beaks are strong and perfect for tearing and ripping flesh.

Turkey vultures forage by smell. This ability is rare in the bird world. It is thought that they can detect one or more gaseous products of decomposition. The part of the brain responsible for processing odor (olfactory lobe) is large compared to similar sized birds. Turkey vultures can detect the odor of decaying flesh through a forest canopy. Turkey vultures generally arrive first at a carcass. Black vultures lack the ability to smell carrion. It is believed they locate food by following the turkey vulture through sight. Black vultures are more aggressive and will displace turkey vultures from a carcass.

Behavior: Vultures serve an important ecological role by scavenging waste materials and carcasses of dead animals. They are able to ingest large amounts of bacteria without any harm by consuming them before they form spores that are resistant to degradation in the stomach. In this way, vultures inhibit the spread of disease, though they can potentially spread bacteria carried on their feet and feathers.
Both black and turkey vultures have a low body temperature in cold weather. They will often be seen sunning themselves with wings spread to increase body temperature.

Vultures roost communally with other species or multiple individuals of the same species. Roosting serves an important function; especially from late fall to early spring, the non-breeding season, where birds may number in the thousands. Roosting enhances the vulture's ability to find potential mates and food, and serves as a way to reduce the threat of depredation.

DISEASE

Stomach acids in the vulture virtually destroys all disease causing organisms. They are not known to carry or transmit disease to humans or livestock.

ECONOMIC VALUE

Black vultures have been known to kill newborn kids, lambs and calves. Turkey vultures will mix with flocks of black vultures and feed on the remains. However, turkey vultures are considered weaker at ripping apart a carcass and only rarely kill newborn livestock. As scavengers, it is doubtful that they cause much actual economic loss to livestock producers. Their real impact comes in the form of property damage.

DAMAGE ISSUES

Vultures are responsible for a wide range of damage, including damage to property, aircrafts, aesthetics, and depredation on livestock and pets. Common types of property damage include destruction and sometimes consumption of asphalt shingles on roofs of houses, vinyl or rubber components of cars, pool covers, boats, and machinery. Property damage is often encountered when an active roost is located in close proximity to residential areas.

Droppings can accumulate and corrode metal surfaces. Accumulation of feces, especially in areas of human activity, emits foul odors and poses disease threats. Roosting of vultures on electrical lines may

cause power outages. There also exists the potential for bird-aircraft collisions if vultures roost or feed near airports, or at landfill sites located in the flight path of aircraft.

Damage to livestock by black vultures includes removing the eyes and consuming the tongues of down, sick, or newborn livestock, killing and feeding on domestic fowl, disemboweling young livestock, as well as broad-spectrum flesh wounds resulting from bites.

MEDICINAL VALUE

Vultures have no known medicinal value. In the Creation legend of the Cherokee, the animals sent forth the Buzzard (Vulture) to make the earth ready. The Great Buzzard, father of all buzzards, flew all over the earth. When he reached Cherokee country he was tired and began to flap his wings. When his wings struck the ground there was a valley created and when he lifted his wings there was a mountain created. The Cherokee country has abundant mountains today. Most native American cultures do not revere the vulture. They are often considered unclean and symbols of death. Vultures play an important role in ecostyem functioning.

LEGAL ASPECTS

Both black and turkey vultures are protected under the Migratory Bird Treaty Act. They are considered migratory birds and are therefore managed by the federal government. They may be harassed without a permit, but a Migratory Bird Depredation Permit from the U.S. Fish and Wildlife Service and possibly state permits are required for lethal control.

CONTROL

Exclusion: Assorted methods have been developed to exclude vultures from roosting in areas where they perch and roost, such as roofs and ledges. Often times, exclusion practices are not economically feasible when considering the area required to be excluded. Most commercial bird spikes do not deter vultures from perching, as they will bend spikes down or place their feet in between spikes to create a more suitable perch. However, studies have shown that Nixalite® spikes have been effective in preventing perching.

Wire suspended above roof ridges is not an effective means of exclusion either, as birds will light on either side of the wire, or directly on top of it. Electrifying the wire may be more effective, but use of electric tracks fixed directly on to roof ridges, ledges, or chimneys is even more effective. Erect a wire grid over furrowing houses, lambing pens, or calving areas to avoid depredation of young livestock.

Installing a Coyote Roller® in these areas successfully prevents vultures from roosting or perching on these areas as well. When birds light onto these devices, the cylinder spins and the birds roll off.

Cultural Methods: Roost and perch sites may be modified to make them less hospitable to problem vultures. Though it is not fully understood why vultures are attracted to certain roost sites, it has been found that altering the composition of vegetative roosts by thinning branches or removing trees can be effective. Removing dead trees used for roosting may be helpful. However, if preserving the vegetation is the goal of the vulture removal, these techniques are of limited value.

Properly disposing of dead livestock, road kill and enclosing refuse containers may also deter vultures by eliminating food sources; however this alone may insufficient in vulture removal, as birds may use a site for multiple reasons. Dead animals should be buried to reduce the attractiveness to the area. Calving, farrowing, and lambing operations located in or near barns or buildings may also reduce vulture depredation on livestock.

Frightening: Perhaps the most effective technique to disperse vulture roosting sites is suspension of an effigy or carcass in the roost. An effigy may be an artificial replica made to resemble a dead vulture, or may be a taxidermy body mold or actual vulture carcass.

Carcasses or effigies should be displayed prominently in a high location close to the roosting activity so it is noticed by the vultures, and should be suspended by their feet, upside down, from trees or towers. A modified fishing pole or bow and arrow rig may be useful in placing the line over the appropriate branch of a tree to hang the carcass or effigy. In general, birds will leave a site where an effigy has been hung after about 5 days. However, this technique has been found to be ineffective in mixed-species roosts.

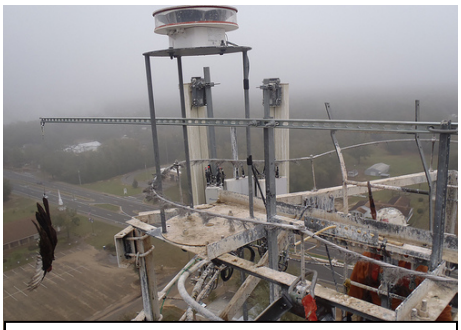

Figure 3. Vulture effigy on communication tower. Source: USDA blog (blogs.usda.gov), 14 April 2015

Because vultures are protected by federal law, a permit must be obtained to take a vulture to use as an effigy, and they may only be used under supervision of the appropriate authorities. Visual deterrents, such as lasers, balloons, and Mylar tape have mixed results. Studies have shown that low-powered lasers can effectively disperse roosts, especially when employed 30 minutes before and after sunset. Though a safe, quiet, and effective tool, laser roost dispersal is not permanent, and lasers may cost up to several hundred dollars.

Balloons and Mylar tape also have short term success on roost dispersal. Though vultures leave the roost immediately, they return once the balloons and tape fall from the tree, and habituation is common.

Auditory frightening devices such as propane cannons, pyrotechnics (bird bombs and screamer-sirens), electronically generated sounds, and shell crackers are also effective roost dispersal techniques, and can be purchased commercially. Local state and county ordinances should be consulted before initiating an auditory harassment plan. Additionally, if applicable, neighbors should be notified prior to utilizing audio harassment techniques. Harassment should begin at dusk and persist for several consecutive nights. Use caution near houses, people or livestock as some techniques can be harmful and pose a fire hazard if not used appropriately. Check local ordinances before discharging firearms and alert local law enforcement before attempting to move a roost if using firearms or explosives.

All of these techniques can be used simultaneously to increase the effectiveness of roost dispersal efforts. An integrated management approach is recommended.

Repellents: There are no registered repellents for use with vultures, however applying a soft, sticky repellent or double-sided tape in perching areas may be useful.

Toxicants: None are registered.

Fumigants: None are registered.

Trapping: Research has shown that baited walk-in traps may be employed to successfully capture vultures. However, trapping and relocating birds alone likely will not reduce damage associated with vultures. When used in combination with habitat modification to deter other birds from using the roost site, it is a more effective technique.

Shooting: Because vultures are protected by federal law, they may not be killed without a Migratory Bird Depredation Permit issued by the U.S. Fish and Wildlife Service. Selective shooting of problem individuals can be useful in certain situations. Federal and possibly state permits are required. Upon issuance of a permit, selective removal of problem individuals has proven effective particularly when they are used as effigies. Deploying other harassment techniques coupled with selective removal often equates in roost dispersal.

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