*Natural History of Black Vultures (*Coragyps atratus)

*\*\**Tip: Words in **bold** can be found on your vocabulary sheet

**Fun Facts**

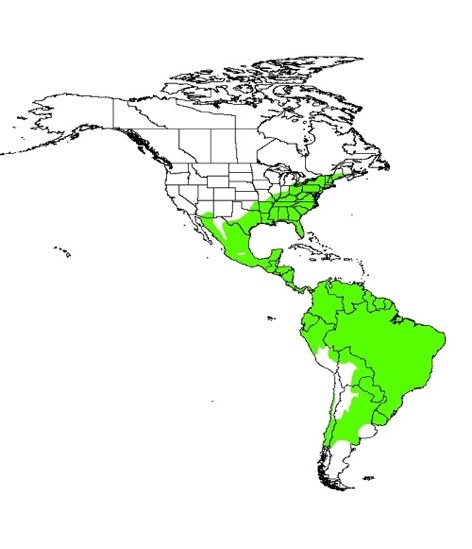
* Black vultures are the heaviest vultures in the eastern united states, weighing 4.5 to 6 pounds.
* Black vultures are the most numerous vulture in the Western Hemisphere.
* The oldest fossils of a black vulture relative are at least 34 million years old.
* Black vultures have no voice box, so rather than singing or calling they make hissing and grunting noises.
* The oldest individual black vulture was at least 25 years and 6 months old.

**Black Vulture** also known as: black buzzard, carrion crow

**Introduction & Classification**

 Black vultures belong to a group of birds called **raptors,** meaning they have a sharped curved bill and talons for ripping apart their food, as well as keen eyesight for spotting their next meal.

Within the category of raptors, black vultures fall into the group of New World Vultures, which includes all vultures that live in North and South America. Within the United States there are three species: the turkey vulture (*Cathartus aura),* the black vulture (*Coragyps atratus),* and the California condor (*Gymnogyps californianus).*

You can recognize a black vulture from the black head, black body, and wingtips, which look as if they have been dipped in white paint when seen from below. Compared to the turkey vulture, the black vulture is smaller, and forms less of a “v” shape with its wings in flight.

Black vulture seen from below

Photo, Shawn P. Carey

Black vulture range map, 2017

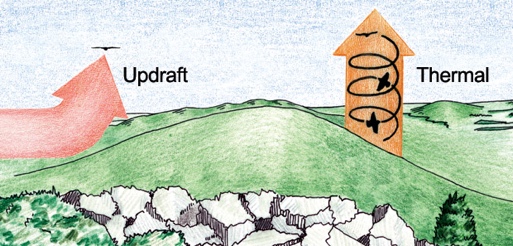
Hawk Mountain

Black vultures, while being a species of tropical origin, now range from the southern tip of South America up through New England, and have spread into parts of maritime Canada (Fallon, 2017). Black vultures are highly **adaptable** and can easily take advantage of opportunities to expand their range.

**Habitat, or “ecological neighborhood”**

Like humans, black vultures choose to live in “neighborhoods” where they can find shelter, locate food, and raise their families. By studying a bird’s movement through these areas scientists can learn more about their **ecology.** We call these areas “ecological neighborhoods.”

Surprisingly, black vultures prefer to share their neighborhoods with humans, and because of this they are called **human commensals** whichmeans they benefit from living close to people.For example, black vultures will use buildings as nesting and roosting sites, and often feed on garbage dumps and livestock **carcasses** that are a result of human habitation. Their preference for human-dominated landscapes has allowed black vultures to expand their geographic range, and the eastern United States currently holds a healthy population.

Saving energy is a critical part of any organism’s life. In flight, black vultures save energy by soaring, which requires less effort than flapping. Soaring requires the use of mountain updrafts and **thermals.** The latter are warm pockets of rising air that form because the Earth’s surface absorbs heat from the sun in different ways. For example, an open field will absorb heat all at once,but a hill may only absorb heat on the side facing the sun. Black vultures will often choose to live in ecological neighborhoods that produce reliable thermals so they can begin soaring as soon as possible rather than spend energy trying to find thermals further away.

Figure, Hawk Mountain Sanctuary

**Feeding**

Black vultures eat animals that have already died, called **carrion.** They have weak beaks, narrow skulls, and are therefore able to remove small pieces of flesh from hides or skeletons of small carcasses, as well as insects and maggots (Rabenold 1983). They sometimes kill and eat live animals, but only rarely.

Black vulture feeding on raccoon carcass. Photo, Bill Moses

Black vultures eat a large amount of food when they find a carcass because they never know when they might come across another one. Carcasses are what scientists call “**ephemeral**,” meaning they are not around for very long. This is mostly because of decomposition and other **scavengers**. Black vultures have something called a **crop** which helps them make the most of the food they find: vultures can store food inside their crop, which allows them to eat more than their stomach could normally hold.

There are often a large number of vultures and other scavengers feeding on one carcass at the same time. Turkey vultures have a sense of smell, and are usually the first to arrive at a new food source. Black vultures do not have a sense of smell, and have learned to follow turkey vultures when they are hungry.

When feeding together, black vultures are known to be aggressive and scare other birds away. In parts of South America, groups of black vultures (called gangs) are even known to frighten off birds with the largest wingspan in the world, the Andean Condor (*Vultur gryphus)*!

Black vultures will sometimes catch live prey, but usually only weak, young, or sick animals. They also **forage** near garbage dumps, and even eat rotting vegetables like pumpkins and coconuts.

**Roosting**

Roosting is when vultures rest, often in the middle of the day or at night. A **communal roost** is when many birds group together (Ward and Zahavi, 1972). Evergreen trees are favorite roosting sites for vultures because they provide cover and warmth during cold weather (like a hat), as well as protection from mammalian predators. However, vultures can be seen roosting on top of buildings as well.

****Black vultures and turkey vultures often roost together, and many scientists agree that communal roosting may allow vultures to find food more easily, by picking up cues from each other about where the carcasses are. In other words, if one vulture finds food then others may get to eat too. This is especially true for black vultures since they follow turkey vultures (Buckley 1996). These communal roosts will often be near habitats that produce nice thermals such as ridges or agricultural fields so that the birds can save energy and spot food quickly.

Black vultures roosting on McDonalds in Panama City. Photo: Keith Bildstein

Communal roosts are larger in the winter because it is more difficult to find food when there is snow on the ground and carcasses don’t rot as quickly (Rabenold 1986). These roosts have been called “motels” by Hawk Mountain’s Conservation Science Director Keith Bildstein, because birds may drift among different roosts rather than stay in one spot all winter long.

**Breeding**

Black vultures form **monogamous** pairs, which means they have one mate at a time. It is thought that black vultures will stay with their mate for life.

Black vultures do not build a nest like other birds, but instead lay their eggs in caves, tree cavities, hollow logs, rocky crevices, or even on the floors of empty buildings. Because black vultures do not always choose safe nest sites, their eggs are sometimes damaged before they hatch (Rabenold 1986).

Photo: Bill Hubick

Often a pair will return to a nesting location that has worked for them before. Black vultures will perch or “scope out” a site for a long time before laying eggs to make sure that it is a good spot to raise their young. Females will usually lay 2 eggs. The male and female take turns **incubating** for 32 - 45 days. Once the chicks have hatched, they are carefully tended to for 14 days, a period of time called **brooding.** During feeding, the parents regurgitate food into the chick’s mouths up to 20 times in one day! Chicks **fledge** from their nest at 10-14 weeks of age.

**Movement Ecology**

**Movement ecology** is the study of the geography, timing, and movements by individual organisms within their ecological neighborhoods (Keith Bildstein). We are still learning a lot about the movement ecology of black vultures, which means that during this lesson you will be helping scientists at Hawk Mountain investigate some of the birds’ secrets! Usually, black vultures do not migrate. However, some are **short-distance migrants** meaning they will travel short distances in some years but not every year, and typically only if there is a harsh winter or they cannot find enough food.

If we understand how and why black vultures move, then we will know more about their role in the environment, and how to keep future populations safe.

**Conservation**

 Black vultures are common in the eastern United States. However, as Hawk Mountain Sanctuary’s founder Rosalie Edge wisely stated, “the time to protect a species is while it’s still common.” Too often we wait until an animal is nearly gone before we begin working to save it, as was true for the California condor, an ancient vulture of the west that nearly went extinct in the 1980s.

There is reason to celebrate the stable and healthy population of black vultures. However, we must acknowledge that because they are closely tied with humans, they can encounter problems. In recent history the main threats to black vultures included toxins within the environmentsuch as DDT (Dichlorodiphenyltrichlorethane, a harmful insecticide) anddirect **human** **persecution.** Eventually DDT was banned from widespread use. However, people’s attitudes towards vultures were slower to shift. Black vultures were commonly shot or poisoned based on the belief that they were a nuisance, spread diseases, and killed livestock. We now know that the latter two are rarely, if ever, the case.

Black vultures sometimes cause damage to cars by pulling on rubber parts in order to exercise their throat muscles. Photo: Jupiter Birding.

Car collisions, lead poisoning, and loss of trees can also harm black vultures. Because they feed on road kill, they are sometimes hit by cars and often obtain permanent wing injuries. Carcasses may contain the fragments of lead bullets and if black vultures swallow these fragments they become sick and may die. Evergreen trees provide roosting sites as well as cavities for laying eggs. When suitable trees are removed, black vultures may be forced to lay eggs in alternative sites that are less safe for the chicks.

Black vultures are linked to humans through their pursuit of garbage dumps, fish remains, and livestock carcasses as well as by their choice of roosting sites. As a result, interactions between humans and black vultures are common and are likely to increase. They are curious, playful, intelligent birds that sometimes behave in ways that surprise or anger people. For example, they will chew rubber around the windshields of cars in order to exercise their throat muscles, leaving excrement on the cars when they depart. Preparing people for black vulture behavior, suggesting solutions, and explaining their natural history can help lessen conflict and create understanding.

Black vultures provide valuable **ecosystem services** such as consuming carcasses that could otherwise spread harmful bacteria and disease, and reducing the odor of rotting flesh by consuming road kill quickly. Each of us can do our part to learn about the issues vultures face, and educate each other about their importance and value within our shared environment. After all…….

