

THE GREAT BLUE HERON OF THE COWPASTURE RIVER

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Editor's note: The following essay is the 18th in a five-year series on water resources stewardship in the Cowpasture River Watershed, sponsored by the Cowpasture River Preservation Association and published by The Recorder. The goal of the series is to create awareness among students, citizens and officials of the critical need to protect our surface and ground water resources, and to stimulate interest in progressive stewardship.

BLUE GRASS – One of our most striking local birds is the Great Blue Heron, which is often seen wading in shallow ponds or streams pursuing prey species that include fish, frogs, insects and even small mammals. They can be as much as four feet tall with a wing-span of up to six feet. The Great Blue Heron (scientific name *Ardea herodias*, the Latin word “ardea” and Greek word “herodias” both mean “heron”) is the most numerous and widely distributed heron in North America and is found from Florida to Alaska and from Baja, California to Newfoundland. It is usually described as having a blue-gray body, a reddish-brown neck and white head with a black mask across its eye and extending back to black plumes on the back of its head. The long legs are yellow. Its long dagger-like yellow bill is quite distinctive as well. When it flies, the neck is bent toward the body in an “S” shape and the legs extend back well beyond the tail feathers.

Heron Family – Herons are in the Family Ardeidae, which also includes the Bitterns and Egrets. Other members of the Heron group found in western Virginia include the Green Heron and Yellow-Crowned Night Heron, both of which are smaller and have quite different coloration than the Great Blue Heron. There are three Egrets found mostly in eastern Virginia that have the same body shape as the Great Blue Heron. These are the Great Egret, Snowy Egret and the Cattle Egret, which have mostly white feathers and so are unlikely to be mistaken for a Great Blue Heron. The Egrets are mostly birds of coastal Virginia, although occasionally you may see them farther inland. If you travel to south Florida or the Caribbean you may see the “Great White” Heron, which is a subspecies of the Great Blue Heron and looks just like it except for the white feathers. Some researchers consider the “Great White” Heron to be a separate species.

All Seasons – Great Blue Herons can be found year-round in the Allegheny Highlands, but they seem to be more numerous here during the warmer months. However, any unfrozen body of water containing fish is likely to attract Great Blue Herons, even in January. They adapt their feeding habits well to the presence of humans by hunting at open bait wells at marinas and begging for handouts at fishing piers. They can be a bane for owners of backyard fish ponds where they can sometimes remove all of the fish in a matter of days. Fish in small ponds can be protected by placing pieces of drain pipe on the bottom of the pond so the fish have places to hide when a heron comes looking for a meal.

Consummate Hunters – Great Blue Herons are consummate hunters able to slowly stalk prey and strike with their sharp bill at lightning speed. Their long legs allow them to pursue prey in a stealthy manner. They often stand frozen in place for several minutes while fish swim around their feet. They will hunt in water up to about 20 inches deep. They will often spear a fish with

their bill, flip it up in the air overhead and catch it head first in their mouth and swallow it whole. They can also catch prey items by grabbing them in their bill. On rare occasions the heron's eyes are bigger than its throat and they have been known to choke while trying to swallow a large fish or other animal. While fish make up most of their diet, herons are known to also eat mice, voles, lizards, snakes, crayfish, insects, small birds and even hatchling alligators. Hunting Great Blue Herons can stand motionless in a pond or stream watching and waiting for an opportunity to strike. They will hunt in saltwater and freshwater wetlands, marshes, riverbanks, natural and backyard ponds. They will also forage in grasslands and agricultural fields. Watching a heron walk, people are surprised that what appears to be the "knee" joint of the leg bends backwards instead of forwards like our knees. However, the joint that appears to be halfway down the heron's leg is actually not the "knee" but rather is comparable to our ankle joint which bends in a manner similar to that of the heron. The upper leg bone or thigh bone of the heron is held close to the body so the "knee" may not be visible because it is usually covered by body feathers. Herons can hunt day or night thanks to light sensitive cells in their eyes that allow for very good vision in low light. One study of herons feeding at fish hatcheries found that many of the fish the birds picked off were actually diseased. The diseased fish tended to stay near the surface of the water and so were more vulnerable to herons. As with most of our wild birds, herons are protected by the Migratory Bird Treaty Act. Killing them or disrupting their nesting can be punished by heavy fines and even jail time.

Nests – Male Great Blue Herons are slightly larger than females and are active in nest building. They collect most of the nest material. The males gather sticks from the ground or trees and shrubs and then present them to the female who weaves them into a flattened or cup-shaped nest. The nest cavity or depression is then lined with pine needles, moss, leaves, dry grass or small twigs. Nests typically measure from two to four feet across and can reach over three feet deep. Nests will often be worked on over a period of several years. Most Great Blue Herons nest in trees but will sometimes nest on the ground or on nest platforms, channel markers or other structures near the water. Ground nests are often made of grasses or reeds. Breeding Great Blue Herons sometimes nest in a colony or "heronry" of several hundred nesting pairs where they build stick nests in trees. Several nests may be built in the same tall tree. Nesting pairs of herons are mostly monogamous during a given breeding season, but they choose new partners each year. If you visit a colony during breeding season look for herons engaged in pair-bonding behaviors such as clicking their bill tips together, and erecting their plumes. Herons defending territories or nests will often confront each other with wings spread and bills pointing skyward. The female heron will lay two to six pale blue eggs that are about two inches long. Eggs are incubated 27-29 days and the nestlings require another 65 days to mature to the point that they can leave the nest. Both parents feed the nestlings by regurgitation of food. In the north, Great Blue Herons typically produce just one brood, but in the south states they will sometimes produce two broods in a single breeding season. Young birds that survive their first winter can live to fifteen years of age.

Hunting – Great Blue Herons were hunted to near extinction in the late 1800s and early 1900s because their long plumes were prized by ladies' hat makers. Since killing these birds was outlawed, their numbers have increased across North America but there was a setback in their recovery due to DDT exposure. The use of the pesticide DDT after World War II reduced the

populations of many birds due to the pesticide causing the birds to produce very fragile egg shells. Following the ban on use of DDT, populations of herons and other birds that eat fish, like eagles and ospreys, have continued to recover. In some northern parts of North America, recovering beaver populations have benefited herons by increasing the number of ponds and wetlands, providing more feeding opportunities. In recent years, great blue herons have had to face new challenges. Loss of nesting sites to development, and deterioration of water quality and wetland habitat are issues of concern for heron survival. Natural generation of new nesting islands, created when old islands and headlands erode, has decreased due to artificial hardening of shorelines with bulkheads. Poor water quality reduces the amount of large fish and invertebrate species available in wetland areas. If suitable feeding and nesting areas are not maintained, populations of great blue herons will eventually decline. Toxic chemicals that enter waterways from runoff and industrial discharges pose yet another threat. Although Great Blue Herons currently appear to tolerate low levels of pollutants, these chemicals can move through the food chain, accumulate in the tissues of prey and may eventually cause reproductive failure in the herons. In recent years, great blue herons have had to face new challenges. Loss of nesting

Migration – Great Blue Herons are considered to be partial migrants, but their migratory behavior is different for various parts of North America. Some birds leave the northern parts of their range during the winter and move south or to lower elevations where they are more likely to find open water for feeding. In winter, the range extends south through Florida, Mexico, and the Caribbean to northern South America. Birds east of the Rocky Mountains in the northern part of their range are typically migratory and winter in the coastal areas of the southern United States, Central America or northern South America. During the winter they are found in greater numbers in the southern part of their range. Starting in March some of these southern birds will move back north into the northern states and southern Canada. Some Great Blue Herons are permanent residents in southern states and coastal regions where the waters rarely or never freeze.

Predators – Due to their large size and formidable pointed bill, Great Blue Herons are not commonly attacked by predators. However, on occasion they have been killed by eagles or large hawks. In southern parts of North America, herons are sometimes grabbed by alligators. An injured Great Blue Heron should be handled with great care because it can cause a nasty wound by striking out with its sharp bill. Covering its head with a towel or t-shirt is one way to protect yourself if you come across a sick or injured bird and need to pick it up for transport to a wildlife rehabilitation center.

Prospects – The outlook for the Great Blue Heron in western Virginia is quite good at this time, as long as water quality and fish populations in our streams and rivers can be maintained. When you are out hiking near streams, rivers and ponds, look for the Great Blue Heron. Being able to watch them in action stalking prey or nesting is an experience you will long remember.

Internet URLs:

- Great Blue Heron, All About Birds, The Cornell Lab of Ornithology.
https://www.allaboutbirds.org/guide/Great_Blue_Heron/id

- Great Blue Heron, Wikipedia, The Free Encyclopedia.
https://en.wikipedia.org/wiki/Great_blue_heron