

Adaptations of Fish-Eating Birds by Sarah Belles

Have you ever caught a glimpse of a waterbird attempting to swallow a huge fish whole? If so, you might have wondered how in the world it would be able to swallow or even digest a fish that large, bones and all. You might also be curious as to how the bird managed to even catch the fish to begin with!

Many birds that live near the water have developed a number of physical and behavioral traits that allow them to catch fish. Some of these traits include beak size and shape, leg length, wing shape, and specialized digestive systems. The combination of features that fish-eating birds possess has a lot to do with the methods different species use to catch their prey.

Wading birds such as egrets and herons have several adaptations that allow them to be expert fish catchers. These birds have long legs that allow them to stand in the water to fish. They also have peculiar necks that are long and curved in an s-shape. This shape actually allows for more muscle attachment in the neck, allowing it to pull back and quickly spring forward when a fish is in range.

These birds also have long, pointy beaks that serve as spears, which work great paired with their powerful necks. To be able to see their prey in the water, many wading birds will cock their head at an angle to get rid of the glare from the sun. While some birds sit and wait for prey to come close, species like the Green Heron have actually learned to drop objects such as twigs, grass, seeds, and earthworms in the water to use as bait to lure their prey in.

Many seabirds such as gulls and terns catch fish from the surface of the water mid-flight or by performing shallow dives into the water. They might also steal fish in mid-air from other birds. A bird that is capable of plunge diving into the water from the air must possess several features. Their beaks may be situated at a different angle than non-diving birds and are often shaped differently too. The muscles in the neck help with stabilization and the wing position changes to allow smooth entry into the water.

Other bird species, such as the Black Skimmer, have developed their own unique fishing methods. Black Skimmers fly low to the surface of the water with their long lower mandibles in the water and snap their short upper mandibles closed when a fish is detected.

These are only a few examples of the many adaptations fish-eating birds possess to catch their prey. Once a bird has caught a fish, it then must figure out the best plan of action to consume it. A bird that eats fish whole will orient a fish head first when swallowing it so that the fins can't expand and injure the bird's esophagus on the way down. Something that all fish-eating birds also share is a specialized digestive system. In order to digest a fish whole, a bird requires a two chambered stomach. The first chamber secretes acid which helps break down the bones and scales when the bird swallows a fish whole. The second part of the stomach, called the gizzard, grinds up pieces of food into much smaller pieces.

Birds are capable of some truly impressive feats, and the ways in which some birds "fish" for their dinner are no exception. If you happen to catch a glimpse of a waterbird on the hunt for its next meal, I hope you have a better understanding and appreciation of all the physical and behavioral traits these birds possess that allow them to be successful fish-eaters.



Caption: A Great Blue Heron positions a freshly caught fish head first in its beak before attempting to swallow it. Photo by Sarah Belles.