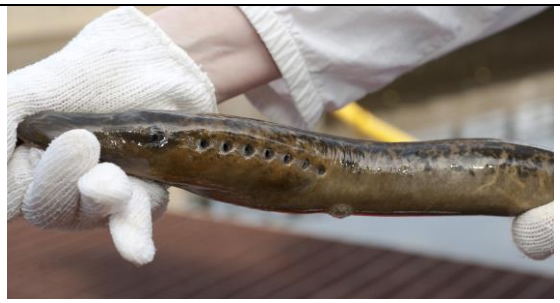
American Eels and Sea Lampreys: So Similar, but So Very Different

American eel
illustration by Duane Raver, USFWS



sea lamprey
photo by Mike Ross, UNH

For millions of years, American eels and lampreys have been migrating between the ocean and fresh water rivers. They might look similar at first glance, but they have some important differences.

American eels are fish. They have slippery scales, slitted gills, fins, and a bony skeleton. They have weak jaws with small teeth. Adults grow to 4 or 5 pounds and up to 3 feet in length. Eggs are laid in salt water near Bermuda. Young eels drift with ocean currents until they reach fresh water on the east coast of North America. They migrate upsteam and live 10-20 years in fresh water. They eat fish, frogs, aquatic eggs, aquatic invertebrates (such as worms and shellfish), and sometimes dead animals. When they are ready to reproduce, they migrate back to sea. They first appeared in their present form 5-7 million years ago.

Lampreys are not fish. They do not have scales, slitted gills, fins, or a bony skeleton. Instead, they have smooth skin, gill holes, and a skeleton made of cartilage. Their mouths are like discs and are equipped with sharp, hooked teeth. Adults weigh up to 1 pound and measure up to 30 inches in length. Eggs are laid in fresh water. The young burrow into the sediments and stay there 4-7 years eating algae and tiny invertebrates and particles of dead material. When their length reaches 4-7 inches, the juveniles migrate downstream and live in salt water for 2-3 years. They feed as parasites on live fish, attaching with their sharp teeth and drilling a hole through the host fish's scales and flesh with a strong, raspy tongue. When they are ready to breed, they migrate back to fresh water. They first appeared in their present form approximately 450 million years ago.

A few hundred years ago, young American eels were abundant in most rivers in the northeast in the spring. Due to dams, overharvesting, and other human activities along rivers, eel runs have declined significantly. Fish and wildlife professionals are actively trying to increase eel numbers. On the other hand, adult lampreys formerly were very rare or absent in lakes. Due to the building of canals and other modifications for the transportation of goods by boats, sea lampreys have become a nuisance to fresh water fish populations in the Great Lakes. Sea lampreys along the Atlantic coast, however, have no effect on ocean fish populations. Sea lamprey numbers have been reduced by barriers to fresh water spawning habitat and by overfishing.

Eels and lampreys have been key players in our waters for a long time. They might seem creepy to some people, but they have interesting stories and adaptations to living in salt water and fresh water. We hope that they will continue to intrigue and fascinate us for a long time.

LAMPREY RIVERS
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