



## FRESHWATER FISH OF AMERICA

# AMERICAN SHAD

*Alosa sapidissima*, (Wilson, 1811)



American shad. Photo credit: USFWS

### *Natural History*

American shad is an anadromous, migratory species found along the Atlantic coast of North America from Newfoundland to Florida. They spend most of their lives in the Atlantic Ocean. When it is time to spawn, they return to the freshwater rivers where they hatched. Adults return as early as November in Florida, and in May or June in northern waters. The peak spawning temperatures for American shad is 65.3 degrees Fahrenheit with spawning normally occurring between sundown and midnight.

These fish are broadcast spawners and spawn multiple times when they enter rivers. Spawning behavior typically includes several males and a female fish swimming close together and releasing their eggs and milt simultaneously into the open water column. In southern rivers, American shad spawn for one season and then die in rivers south of North Carolina. In more northern rivers, adult American shad may migrate down river back to the ocean after spawning and can return to spawn in the same river in future years. American shad eggs are fairly small, which enables a single female adult to brood and lay up to 600,000 eggs in a spawning season.

These young shad will remain in the rivers where they hatched for several months. Migration out to the ocean typically occurs in late summer in the south, and early fall in the north, when the shad are 2.8 to 4 inches.

### *Conservation*

Historically, American shad spawned in virtually every river along the Atlantic coast that provided suitable habitat. They, along with the alewife and blueback herring, once supported the largest and

## FACTS AT A GLANCE

**Size:** Common length for female adult shad is 24 inches and common length for male adult shad is 20 inches. The maximum reported length for an American shad is 29.9 inches and the maximum published weight is 12 pounds 2 ounces.

**Range:** The historic distribution of the American shad extends from southeastern Canada in Newfoundland, Nova Scotia and the St. Lawrence River south to central Florida in the U.S. They were introduced along the Pacific coast of North America and are now found from Cook Inlet in Alaska southward to Baja California in Mexico.

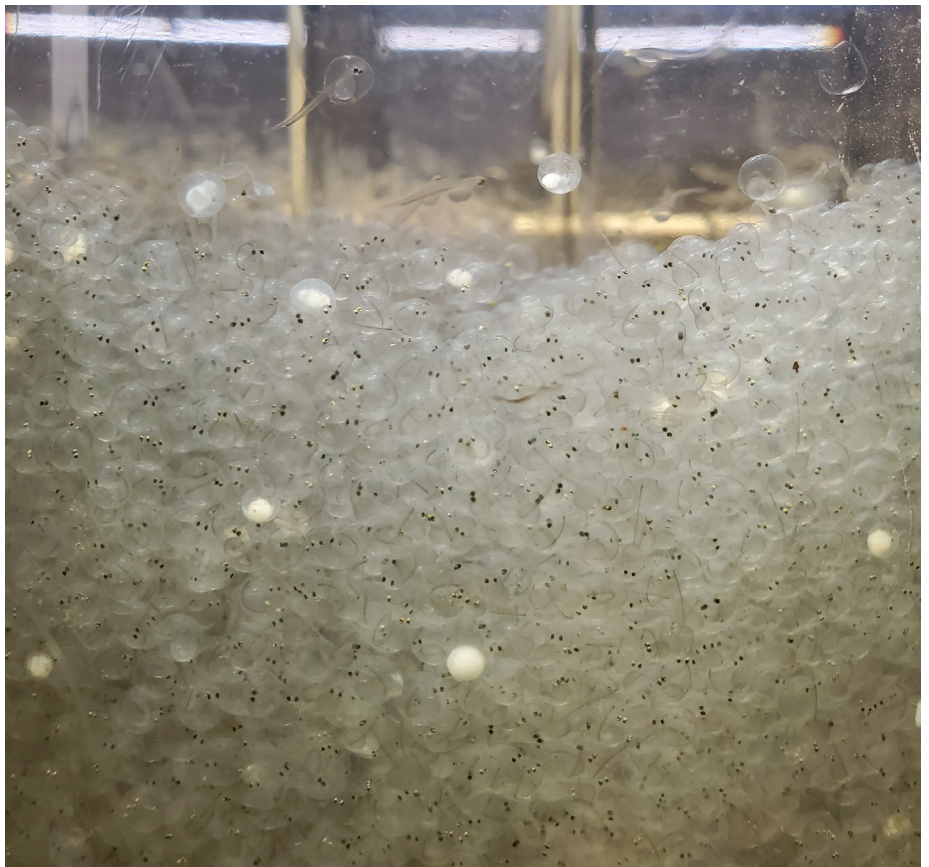
**Habitat:** Adult American shad spend the majority of their lives in the ocean, migrating between summer feeding areas (Gulf of Maine) and wintering areas, often in the more southern mid-Atlantic. Non-spawning adults are usually found in schools near the surface of continental shelf waters in spring, summer, and fall. These fish can also be found in coastal brackish waters.

**Diet:** By opening their mouth while swimming and filtering out prey with specially adapted gill rakers, American shad feed on plankton, mainly copepods and mysids, and occasionally on small fish. This process is called ram suspension-feeding. Feeding ceases for adult shad when they begin to migrate into brackish and freshwater for their spawning runs.

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most important commercial and recreational fisheries on the Atlantic coast. Dams and other barriers to their migration, combined with habitat degradation and overfishing severely depleted the shad, resulting in closure of the at-sea fishery in 2005.

The Anadromous Fish Conservation Act authorizes the Fish and Wildlife Service (Service) to work with states and other non-federal partners to restore and enhance depleted populations of valuable migratory fishes, like the American shad, and their habitats. The Service and state partners are stocking shad in rivers in Massachusetts, Connecticut, Pennsylvania, Maryland, Virginia, and North and South Carolina. We also are working with state agencies and dam owners to remove barriers to migration throughout their range, and restoring valuable spawning and nursery habitats found in rivers and wetlands. In many cases, dams cannot be removed and have associated hydroelectric projects. These facilities are federally licensed and require fish passage measures that the Service and the National Oceanic and Atmospheric Administration prescribe. The license lasts 30-50 years, making relicensing opportunities critically important for fish and river ecosystem health. Some shad populations are beginning to rise; however, fishing is not allowed in many states, or the number people can catch is limited.



Shad eggs hatching. Photo credit: USFWS