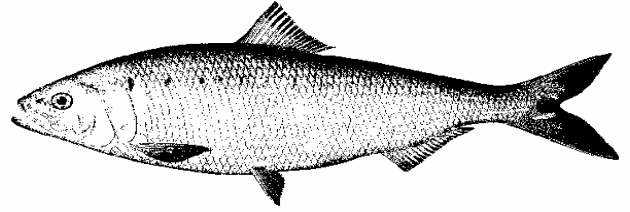


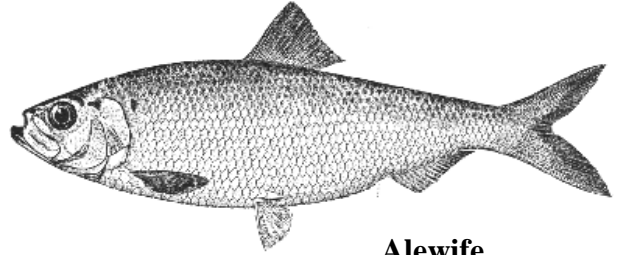
## American Shad and Alewife

*Alosa sapidissima* and *Alosa pseudoharengus*

Early each spring, the American Shad and the Alewife, both types of herring, pass through the New York/New Jersey Harbor Estuary from the ocean to get to their freshwater spawning grounds in the Hudson River. The two fishes have a long history in the region. They've been an important source of food for people living along the Hudson for as long as it has been inhabited. These fish can be served pickled, salted, planked, roasted, smoked or baked, and even their roe is a delicacy. At one time, when fishing for these species was at its peak, every town along the Hudson River celebrated the arrival of these fish. Even now, the tradition is kept alive with Shad festivals and roasts held up and down the River each spring.



**American Shad**



**Alewife**

Besides their historic significance, both fish are of commercial, recreational and biological importance. Their annual spawning run makes them a popular catch for both commercial and recreational fishers. Of all the herring, the American Shad is the largest and the most popular for the recreational fisher. They put up a good fight when hooked, although getting them to strike is challenging. They are much larger than the Alewife, which can also be caught with hook and line but is more often caught by dip or seine net. Although small and bony, the Alewife is well suited for pickling. Since 1999 commercial landings of American Shad (who have a sweet flavor) has decreased from 2.6 million pounds in 1980 to less than 250,000 pounds in 1999. Some probable reasons for the decrease in the American Shad catch is predation by the increasing Striped Bass population and overfishing. The construction of dams and power plants on the Hudson also blocks the runs of these fish reducing their ability to spawn. Finally, the American Shad and the Alewife are important prey for the region's birds and larger fish. This aids in the control of zooplankton populations and helps transfer biomass from the Harbor Estuary to Atlantic Ocean.

American Shad and the Alewife are both anadromous species, meaning that they spend most of their time in the ocean and only return to freshwater to reproduce. Female Shad mature at the age of five and males mature at the age of four while the Alewife matures between the ages of three to eight. At this point they can spawn or lay eggs. The Alewife is the first to arrive in the Estuary in late March to early April. They arrive by the thousands and swim quickly for miles upriver darting past other fish still sluggish from winter. Following the Alewife is the American Shad. In recognition of this event, a shrub that generally blooms at this time is known as the White Shadbush. The adult Shad and Alewife remain in the River until the first week of June when they spawn or release eggs in the freshwater of the upper Hudson River. Once they have spawned, they return to the ocean and the eggs drift downstream with the currents. Spawning is not a simple task. It

places a tremendous amount of stress on the fish. For instance, they do not eat for the eight to ten weeks when the spawning process takes place. Remarkably, most of the adult fish make it back to the ocean after spawning.

Between both fish, millions of eggs are released during spawning. Once the eggs are laid, the males fertilize them. The eggs hatch into larvae and then become juvenile fish. During this stage (egg to juvenile), their habitat is riverine to estuarine, respectively. Only a small portion of either fish makes it to adulthood. By mid-summer the young herrings look like miniature versions of the adults. They swim in huge schools where safety comes in numbers. By day, they move in response to the brightness of the sun; at night they leap out of the water to snap at insects. The juveniles remain in the Estuary until autumn when they move out to the ocean.

American Shad grow to the size of 2½ feet in length and can weigh up to 11½ pounds while the much smaller Alewife grows to the size of 10 to 11 inches in length and weighs about 9 ounces.



This entry was researched and written by Claire Antonucci, Rosemary Higgins and Cathy Yuhas of the New Jersey Marine Sciences Consortium/New Jersey Sea Grant Extension Program. It is part of a larger project, "The Key Species of New York/New Jersey Harbor Estuary" produced with funding from the New York/New Jersey Harbor Estuary Program.