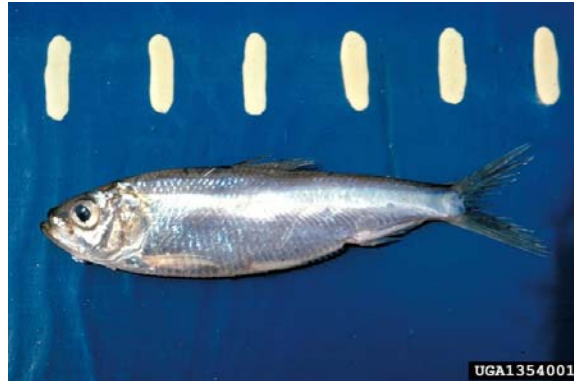


# AIS

## Aquatic Invasive Species

### ALEWIFE



David Jude, Center for Great Lakes and Aquatic Sciences  
www.forestryimages.org

**COMMON NAMES:** Alewife, mulhaden, grey herring, golden shad, branch herring, bigeye herring, freshwater herring, grayback, kyack, sawbelly, white herring

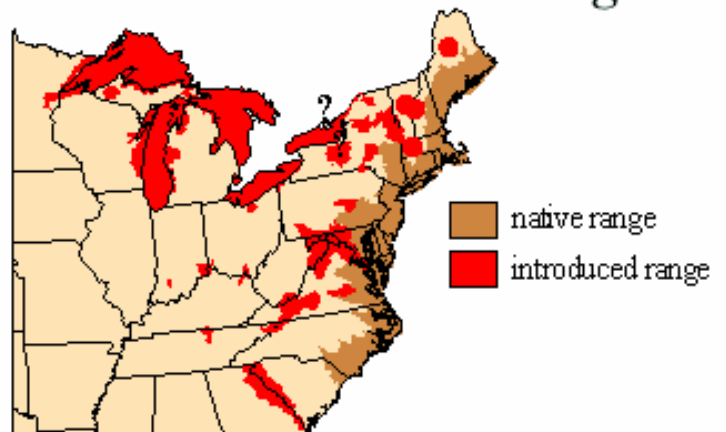
**SCIENTIFIC NAME:** *Alosa pseudoharengus*

**DISTRIBUTION:** The alewife is native to the Atlantic coast and its tributaries. There is debate as to whether the alewife population found in Lake Ontario is native or introduced. There is no doubt that the alewives in the other four Great Lakes are exotic invasives. Alewife were first reported from Lake Erie in 1931, Lake Huron in 1933, Lake Michigan in 1949, and finally Lake Superior in 1954. Besides the Great Lakes, there are other waters outside of the native range that now contain alewife.

**Indiana:** The alewife has been found in Indiana's portion of Lake Michigan since the mid 1900's. In 1986, this species was found in the Ohio River in southeastern Indiana. Alewives have been found in a large strip pit in Sullivan County since the late 1990's.



*Alosa Pseudoharengus*



**DESCRIPTION:** This silvery-green species has a characteristic black spot located behind the eye. Alewives have scales that line up in a row along the belly, giving it the common name of “sawbelly”. Adult alewife average about 6 to 7 inches in length in the freshwater variety, marine alewives can reach much larger sizes (up to 12 inches). The alewife looks very similar to other members of the herring family such as the native gizzard shad.

**LIFECYCLE BIOLOGY:** Alewives live for about 6 to 7 years and usually begin to reproduce around two years of age. In its native range, alewives are anadromous, meaning they spend most of their life in the ocean and migrate to freshwater rivers to spawn. In its introduced range, it is quite capable of completing its life cycle in freshwater environments. Spawning once a year from late April to early June, this species can randomly deposit 10,000 to 12,000 eggs. In less than a week, the young alewives hatch and begin feeding primarily on zooplankton. In the fall, the young alewives make their way back to the sea or into the deep waters of freshwater lakes or rivers. Adult alewives feed on zooplankton, aquatic insects, and small fish.

**PATHWAYS/HISTORY:** While debates continue as to whether the alewife is native to Lake Ontario, there is little doubt that this species gained access to Lake Erie and hence the other three Great Lakes following the construction of the Welland Canal which bypasses Niagara Falls. The alewife has been intentionally introduced by some state agencies into inland lakes to increase the forage base for popular sport fish

**DISPERSAL/SPREAD:** As has already been observed with the opening of the Welland Canal, the alewife is able to spread through waterway connections. Therefore the intentional or accidental release of this species into a region not currently containing alewives, could put many waterways at risk of a population establishing. Accidental transfer of this species through fish stockings or release of live bait is possible since the alewife looks very similar to other native members of the herring family such as gizzard shad and skipjack herring.

**RISKS/IMPACTS:** Alewives compete with native species for limited resources. The main source of food for the alewife as well as juveniles of nearly all fish species is zooplankton. A dense alewife population can lead to reduced native fish populations due to competition for zooplankton. At times some areas of the Great Lakes contained fish populations that consisted of almost 75% alewife. During periods of high alewife abundance mass die-offs of alewife have occurred. Dead and dying alewives decaying on beaches have caused aesthetic and hygienic problems, reduced recreational use, and hampered local industries that withdraw water.

**MANAGEMENT/PREVENTION:** Increasing the predator base has been the most effective means of controlling the alewife population in the Great Lakes. Trout and salmon stockings have been successful in reducing the alewife population. These efforts have also created a multimillion dollar salmonid fishery. With a large Great Lakes trout and salmon following now established, fisheries managers must now carefully balance stocking numbers to assure a suitable forage base is available for the trout and salmon

while at the same time suppressing the alewife population to a point that this invasive species is causing a minimal amount of harm to other species

There are a few simple steps you can take to help stop the spread of alewives and other aquatic invasive species.

- ✓ Learn how to correctly identify alewives and other invasive species.
- ✓ If fishing with bait you collect yourself, consider using baitfish from the water where you are fishing.
- ✓ Dispose of unused bait in the trash rather than in the water.
- ✓ Never transfer fish from one body of water to another.
- ✓ Always drain water from your boat, livewell and bilge before leaving the access area.

## **REFERENCES:**

Fish of the Great Lakes by Wisconsin Sea Grant. Alewife.

<http://www.seagrant.wisc.edu/greatlakesfish/alewife.html>

Introduced Species Summary Project: Alewife (*Alosa pseudoharengus*). Invasion Biology Introduced Species Summary Project-Columbia University.

[http://www.columbia.edu/itc/cerc/danoff-burg/invasion\\_bio/inv\\_spp\\_summ/alewife.html](http://www.columbia.edu/itc/cerc/danoff-burg/invasion_bio/inv_spp_summ/alewife.html)

Non indigenous Aquatic Species Database

<http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=490>

Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Mid-Atlantic): Alewife/Blueback Herring. October 1983. Fish and Wildlife Service. U.S. Department of Interior. 36pp.

Updated 3/06