

Alewife Population Decline in Lakes Michigan and Huron: Understanding the Significance

When were alewife introduced to these lakes?

The alewife invasion of Lakes Huron and Michigan began in the 1950's. Because of the decline of native species like lake whitefish and lake herring due to overfishing and habitat degradation at the time, the door was open for alewife to proliferate.

The alewife population in Lake Michigan has declined in the last decade. Why?

Alewife are not particularly suited to the cold winters and springs often experienced in the Great Lakes, so their numbers have always fluctuated. Since the early 2000's the species has faced a new threat in the form of invasive quagga mussels, which are out-competing alewife for the nutrients both depend on.

How might the decline of alewife affect Lake Michigan, and the Great Lakes system as a whole?

In the 1960's salmon were introduced as a predator to help control the overly abundant alewife population. Since then, salmon has become a dominant fishery in Lake Michigan and leads a thriving sport-fishing industry. With the decline of alewife comes concern that the valuable salmon fishery will be threatened. But in the long-term, this can benefit regional fisheries and our economy, through more diverse, productive and reliable fisheries.

So what can we expect to happen?

This is not the first occurrence of alewife decline; the same scenario played out in Lake Huron in 2003. Following that decline, other fisheries—native species such as walleye, yellow perch, and lake trout—have emerged in greater numbers. Other native prey species, like lake herring, nearly wiped out in the 20th century, also have re-emerged.

The return of these well-adapted native species could serve as a viable prey source for salmon in both Lakes Huron and Michigan. A more diverse prey base, including native species such as lake herring as well as alewife, will result in much more stable support for top predators like salmon and lake trout. In addition, abundant populations of lake herring and lake whitefish would provide a more dependable base for the fishery industry in Lakes Michigan and Huron.

What is The Nature Conservancy doing?

The Nature Conservancy is working with state, federal, and tribal agencies to:

- Assess the current status of native prey species like lake whitefish and lake herring across the Great Lakes,
- Identify optimal routes for re-establishing their populations, and
- Develop and test techniques for their rehabilitation (currently in Grand Traverse Bay, Lake Michigan, and Lake Ontario).

For more information, visit www.nature.org/glfish.

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