

## **History of Lake Michigan Fisheries**

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Lake Michigan is the third largest of the Great Lakes and the sixth largest lake in the world (Beeton 1984). It is the only Great Lake entirely within the United States, but because of fish movement between Lakes Michigan and Huron and its discharge to Huron, the lake is important internationally (Eshenroder, et. al. 1995). Lake Michigan, with a surface area of 57,750 km<sup>2</sup>, is divided into a southern basin that is relatively smooth in contour, with a maximum depth of 558ft., and an irregularly shaped northern basin with a maximum depth of 922ft.

Native stocks of lake trout once comprised a great resource in Lake Michigan. However, predation by the parasitic sea lamprey, coupled with intense commercial fishing in the 1940s and 1950s nearly eliminated the lake trout. Sea lampreys, native to the Atlantic Ocean, entered the Great Lakes system in the 1800s through manmade locks and shipping canals. The first observation of the lamprey occurred in Lake Ontario in the 1830's. Through the Welland Canal, a navigational canal connecting Lakes Ontario and Erie, sea lampreys moved into Lake Erie. After spreading throughout Erie, sea lampreys moved to the other Great Lakes, appearing in Lake Michigan in 1936 (Charlebois 1996). By the late 1940's, populations of sea lampreys exploded in all of the upper Great Lakes resulting in the drastic population decline of lake trout. With the Great Lakes top predator in decline, came the next invader, the alewife. Alewives, unintentionally introduced into Lake Michigan in 1949 from the Atlantic Ocean, depleted food sources for themselves and other native fishes. Their high numbers and ability to out-compete fish with similar diets led to depletions and local extinctions of native species. These disruptions in the native fish community and food web, coupled with habitat alterations and degradation, contributed to the decline of important commercial and sport fisheries.

Rehabilitation of the Lake Michigan fish community began in 1960 with the extension of the sea lamprey control program to Lake Michigan, plantings of lake trout and the introduction of Coho salmon, Chinook salmon, brown trout and steelhead trout. Lake trout planting began in 1965 and Coho salmon and Chinook salmon were introduced from the Pacific Northwest in 1966 and 1967 (Eshenroder et. al. 1995). Rainbow trout, or steelhead, and brown trout were also extensively planted. Of the five major salmonids stocked, only lake trout was released with the main objective being rehabilitation (i.e. to re-establish reproducing populations). The others were stocked to provide angling opportunities and to utilize the overabundance of nonnative alewives, which became a nuisance when vast numbers died and washed up on local beaches.

The Indiana Department of Natural Resources Division of Fish and Wildlife has been stocking salmon and trout along northwest Indiana's shoreline since the late 1960's. The area stocked extends from Michigan City to Whiting, Indiana and includes sites along the St. Joseph River, Trail Creek and the East Branch of the Little Calumet River.

Brown trout stocking in Indiana waters of Lake Michigan began in 2002 through a cooperative trade agreement with the Illinois Department of Natural Resources (IL DNR). Indiana trades Indiana-born Skamania steelhead for the Illinois brown trout. Due to hatchery constraints, Indiana last stocked brown trout into Indiana waters of Lake Michigan in the early 1980s. The continuation of the brown trout stocking program is reliant upon future availability of fish from the IL DNR.

Overall, trout and salmon have adapted well to the Great Lakes and are now an important part of the overall fish community.

### **Literature Cited**

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