

Invasive Species & the Great Lakes: The Zebra Mussel & Asian Carp

Former Michigan Governor Jennifer Granholm once wrote, "...we in Michigan are united by the beauty, the wonder, and the power of water. It is in these moments that we most deeply feel our connection to the water, and it is this water that is our state's defining resource that gives Michigan our sense of place. But that resource is threatened."¹ The Great Lakes are facing a number of different threats including invasive species such as the zebra mussel and the Asian carp. Invasive species are a threat to any ecosystem because they have no natural predator. Having no natural predator in an ecosystem allows for an invasive species to out compete the native species and disturbs the entire ecosystem.

The zebra mussel is native to the Balkans, Poland and Russia and started showing up in Michigan around 1988 and soon started clogging intake pipes and killing off native Michigan clams.² The zebra mussel is costly to clean off of intake pipes, boats, docks and any other surface in the water they can attach themselves to. The zebra mussel also creates problems by filtering water, improving water clarity which creates problems for a body of water.

Another invasive threat to Michigan and the world is the Asian Carp. The Asian was first introduced in southern states to help deal with a build-up in sewage treatment plants but soon escaped into the Mississippi River and headed north to Lake Michigan.³ The cost for Chicago to create a barrier between their canal systems and Lake Michigan could be as high as \$18 billion dollars.⁴ The cost for the United States to create a barrier between Lake Michigan and the Mississippi River is estimated at \$18.3 billion but is a small price to pay to save the \$7 billion Great Lakes commercial fishing industry, more than 1.5 million jobs in the United States and more than \$62 billion in wages annually.⁵

Invasive species such as the zebra mussel and the Asian carp are a serious threat to the Great Lakes' ecosystem. Native or indigenous species cannot compete with the zebra mussel and the Asian carp. The cost to stop this invasive species problem in the Great Lakes is high but it is important to protect the Great Lakes ecosystem and economy that is dependent on fishing and tourism brought to the Great Lakes.

If invasive species get into the Great Lakes than they will eventually spread to the rivers and streams connected to the Great Lakes causing problems there as well. The Au Sable River in the northern Lower Peninsula of Michigan is such a place that could be affected by the invasive zebra mussel and Asian carp. Although I am not someone who enjoys fishing, I am concerned with what invasive species like the zebra mussel and Asian carp can do to the Great Lakes region and the Au Sable River and want to research this topic further. According to many avid fishers and the Michigan Department of Natural Resources, the Au Sable River is home to some of the best Brown Trout waters there is.⁶ The Au Sable River is also home to many species of birds including the bald eagle and Kirtland's warbler and other species like beaver, otter, red fox, mink and a variety of turtle.⁷ The Au Sable River is important to the northern Lower Peninsula of Michigan economically because of the fishing and canoeing industry, as well as an important ecosystem in Michigan that people use for food and recreation. The Au Sable River also has historic value to Michigan as it helped to provide food for the people involved in the lumber industry in the 1860s.⁸ The Au Sable River is an important river and ecosystem in Michigan, which like the Great Lakes, needs to be protected from invasive species like the zebra mussel and Asian carp.