# A THREAT TO THE BIODIVERSITY OF OHIO'S FISH POPULATIONS

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Since the term climate change has been introduced, it is in the news, conversation, and definitely a major topic of science research. Generally, one thinks of melting ice, increased temperatures, or intense natural disasters when thinking of climate change. However, the effects of climate change do not stop at rising temperatures or sea level, all organisms are affected. From humans, to plant species in Australia, and something quite close to home… Ohio's fish populations experience the negative impacts of anthropogenic influences on the environment. Fish are cold blooded organisms whose development and body's homeostatic mechanisms are very influenced by water temperature. Therefore, drastic changes in temperature can be very threatening to fish populations, as well as changes in water pH, and other chemicals deposited in the water.

An example is the Yellow Perch (Figure 2) whose population is being affected as egg hatching success has declined to 10% from previous levels of 80% in the 1920's.[2] Reducing catch amounts would not help this species, because the development of the fish's gametes is being effected by environmental issues not overfishing. Although this issue is occurring close to home in Ohio, many species around the world are also experiencing these impacts on their development. The Bamboo shark population is declining which is native to the Indo-Pacific Ocean. These sharks' embryos are not developing, or their juvenile hatchlings aren't surviving as well before temperature increase occurred.[5]

Focusing on the effects of temperature change on Ohio's fish, the following diagram labeled Figure 1 released by the EPA shows the temperature trends for Lake Erie over time. Studied conducted with Yellow Perch in the new temperatures revealed a decrease in egg production and egg size.[3] With evidence of rising temperatures, and negative impacts on fish species reproduction success, biodiversity of Ohio's fish populations is a major concern. Loss of biodiversity would impact many fields, besides creating imbalance of lake organisms as these fish are both a predator, and prey for other organisms. Less Yellow Perch reduce available fish for Lake Erie's residents and visitors who enjoy eating and catching the fish, as well as wildlife parks. Each organism plays a key role in our environment and economy, and has a right to thrive on Earth, alongside humans.

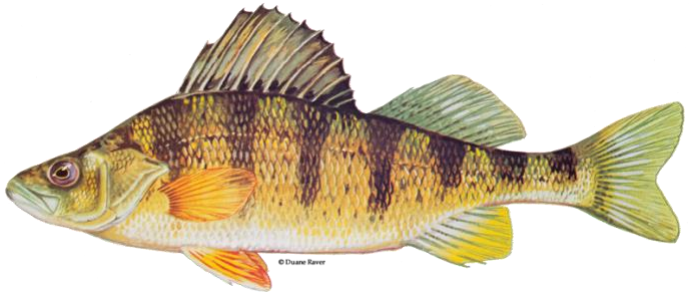

Figure 1. A Yellow Perch, native to Lake Erie.[6]

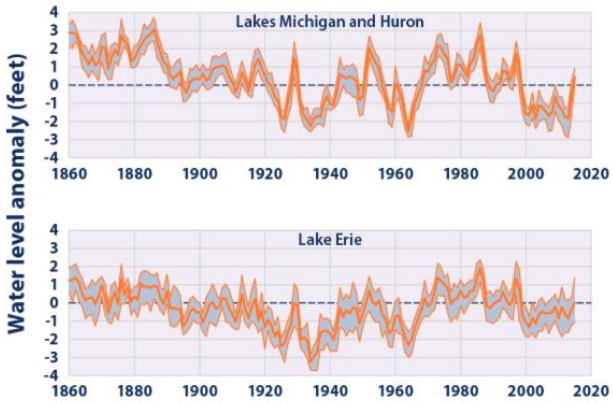


Figure 2. Patterns in Lake Erie's temperature over the years. Although temperature fluctuates, it is apparent it has increased.[4]

References


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