

# Great Lakes Pollution

Name & Number: \_\_\_\_\_

Pollution in the Great Lakes is sometimes a problem. **Pollution** happens when humans allow harmful things into the environment. Lake Erie has had the biggest problem because it is the shallowest of the Great Lakes and its shores are lined with factories and farms. Factories have been known to release unwanted chemicals into the lakes and runoff from farms can release fertilizers and other chemicals that can effect the water and animals that live in it.

To get a better idea of how farms can effect Lake Erie, watch the “Tale of Two Rivers” video. You will hear a lot of big words, but the pictures will make it very clear what is happening.

The **Maumee water shed** is mainly farm land that discharges lots of phosphorus, causing the green algae to grow so quickly.



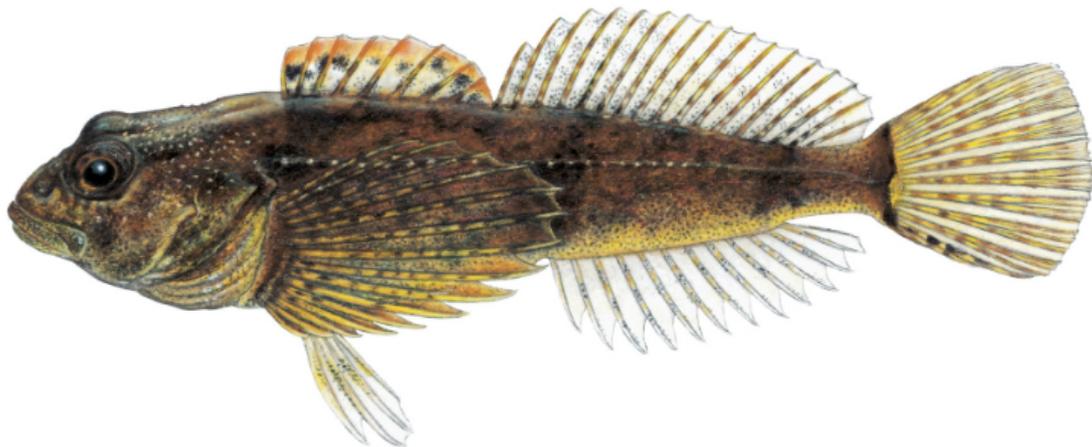
The **Cuyahoga water shed** is mainly urban and suburban land that doesn't discharge lots of phosphorus after big rains.



# Invasive Species - Another form of Pollution

Invasive species are plants and animals that are foreign to an ecosystem. Just as people move around the world (foreigners), plants and animals can “visit” new places too. The only difference is, once plants and animals arrive in a new place they don't leave. These plants and animals can affect the original (native) species that live in the area. Here we are only going to focus on invasive animals.

At least 25 different invasive species of fish have entered the Great Lakes since the 1800s. These include: round goby, sea lamprey, alewife, zebra mussels and our current threat - Asian Carp.



The **round goby** came from Black Sea and Caspian Sea and is a very aggressive feeder, eating up food that other fish need to survive.



The **alewife** came into the Great Lakes through the Welland Canal, bypassing Niagara Falls and is a cause for the decline of many native Great Lakes fish species.



The sea lamprey has an eel-like body and a jawless, suction cup mouth with rows of teeth that are used to attach themselves onto fish where they act as parasites. These lamprey came from the Mediterranean and Black Sea.



Gina Mikel. <http://www.scientificillustrator.com>



Zebra Mussels came from the lakes of Russia and Ukraine in the 1980s by attaching themselves to the bottom of boats. These filter-feeding organisms removes particles from the water, which is good! In fact, clarity in Lake Erie has increased from 6 inches to 3 feet, but this allows sunlight to go deeper causing more growth of plants that cause more pollution when they die.

These mussels also encase everything they touch. Boats, pipes and other animals can be swallowed whole by these tiny creatures. Humans also have to be care when walking in lakes and rivers as their shells are very sharp and can easily cut the bottoms of our feet. The YouTube video provides great information on these nasty creatures.



Finally, we have the most recent invasive species trying to get into the Great Lakes, the Asian Carp. In the 1970s, southern fish farmers brought these fish in to help clean the waters of their commercial ponds, but they escaped, moved up the Mississippi River and are trying to get into Lake Michigan, near Chicago. The U.S. government is currently spending \$30 million dollars to keep these fish from entering the Great Lakes. In the videos provided you will see and hear why this fish are so bad, what is being done to keep them out of the Great Lakes and what the vibration of boat motors makes these do!