



# Reconnect with your environment

Learn about environmental issues, their affect on your community and actions for your involvement.



ANNA McCARTNEY/Contributed photo

Lake Erie and the other Great Lakes supply one-fifth of the world's freshwater and attract billions of dollars in tourism.

## Do you know these Lake Erie facts?

By ANNA McCARTNEY  
Contributing writer

■Lake Erie is the 11th largest lake in the world (by surface area) is bordered by four states (New York, Pennsylvania, Ohio, and Michigan) and one Canadian province (Ontario), and it provides drinking water to about 13 million people who live in the watershed.

■It is the southernmost, shallowest, warmest and most biologically productive of the five Great Lakes.

■Three basins make up the lake. Its maximum depth is 210 feet (64 m) and occurs in the eastern basin. Average depths in the basins are: western, 24 feet (7.3 m); central, 60 feet (18.3 m); and eastern, 80 feet (24.4 m).

■Its length is about 241 miles (388 km) long, at its widest is about 57 miles (92 km), and it has about 871 miles (1,402 km) of shoreline. The length of Pennsylvania's shoreline is 76.6 miles.

■The water surface area is 9,910 square miles (25,667 sq. km) and the volume is 116 cubic miles (483 cu. km).

■22,720 square miles (58,845 sq. km) of land drain

directly into Lake Erie; however, if the drainage areas of the upper Great Lakes (Superior, Michigan, and Huron) are included, the total drainage area of Lake Erie is 263,650 square miles (682,850 sq. km).

■Its retention/replacement time is 2.6 years, which is the shortest of the Great Lakes.

■Water flow from the Detroit River makes up 80 to 90 percent of the flow into the lake.

■The outlet for Lake Erie is the Niagara River; consequently, it is Lake Erie that feeds water to Niagara Falls.

■Basin rainfall is about 35 inches per year.

■About 34 to 36 inches of water evaporate from the lake surface per year.

■Because it is so shallow, Erie is the only Great Lake that is entirely above sea level (the bottom of the other Great Lakes extend below sea level).

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ANNA McCARTNEY/Contributed photo

North East Middle School students and their science teacher, Ian Williams, collect trash and data on Freeport Beach.

## North East students clean up local beach

By ANNA McCARTNEY  
Contributing writer

North East Middle School students, led by science teacher Ian Williams, descended on Freeport Beach in their effort to become Great Lakes Great Stewards. They are one of nine Erie County groups involved in the PA Sea Grant/NOAA BWET service-learning project.

Students removed 111 pounds of trash, kept data on items they collected and shared their comments about the event below:

After seeing all of this garbage today I realized how much we need to keep our world clean. — Marissa Hodges, sixth grade

I had a great experience cleaning up litter. I feel everyone should take a day

and clean up a beach. — Kasey Seymour, eighth grade

This is the first time I ever did a cleanup on the beach. I thought it was going to be boring, but it wasn't and I found it hard to believe the amount of garbage we picked up. — Ryan Slater, eighth grade

This experience inspired me to go to other beaches and pick up trash. — Alexis Burkhart, eighth grade

I am glad I experienced this cleanup. I will do more in the future and am glad my school has this program. — Justin Luebbert, seventh grade

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Lake Erie's rich history and the opportunities it provides for recreation and tourism make it a favorite destination for millions. Protecting it will require more informed citizens and a greater level of binational, regional and local communication and cooperation than ever before.

# Big business

## Protecting Lake Erie watershed is large task

By ANNA McCARTNEY  
Contributing writer

Did you know that the 11th largest lake in the world (by surface area) is in our backyard?

You may have enjoyed walking on Lake Erie's beaches or swimming, boating or fishing in its water. You might even realize it's your source of drinking water. But how much do you know about what makes Lake Erie great? Or what do you know about the troubling human-related ecological changes that are diminishing this important freshwater ecosystem?

Because of its social, environmental and economic importance, shouldn't you know more about Lake Erie and how you can protect it? By joining us here each Tuesday, you can learn about avoidable problems and what others are doing to protect our freshwater resources, including Lake Erie.

The Lake Erie watershed is home to about 13 million people, supports one of the largest freshwater fisheries in the world and provides many recreational and tourism opportunities. There are more fish harvested annually from Lake Erie than all of the other Great Lakes combined. Lake Erie commercial fishermen harvested close to 30.2 million pounds of fish in 2008, with yellow perch and walleye the most lucrative species.

A U.S. Fish and Wildlife survey also shows that recreational fishing throughout the Great Lakes is most popular on Lake Erie. Charter fishing has been a major economic contributor, according to the 2009 Michigan Charter Fishing Report put out by Michigan Sea Grant/the MSU Center for



ANNA McCARTNEY/Contributed photo

Boaters and anglers who fish Lake Erie by boat, shore or pier, and on the ice during the winter, provide an economic boon to the region throughout the year.



NASA

Sedimentation, urbanization and agricultural runoff are responsible for harmful algal blooms and other problems that affect Lake Erie more than any of the other Great Lakes.

Economic Analysis. From 1990 to 2009, more than 37,000 charter trips were reported to have left from Lake Erie ports, contributing an economic impact of more than \$47.5 million to coastal communities.

In addition, Lake Erie

is known for its birding, boating, water trails and access to history. According to Ohio Sea Grant, Lake Erie and its associated habitats are among the most bird-rich ecosystems in the United States and a huge draw for bird-

ers throughout the country. Boat owners spend an average of \$3,600 per year on their boats, according to the Great Lakes Commission Recreational Boating report. And of course summer draws millions to Lake Erie beaches to cool off.

However, because it has the highest human population density, the most farmland and the largest number of major cities, ecological problems usually show up first in Lake Erie. The activities of all the people who visit or live in the region can create huge problems that can sink an economy based on the very benefits too often taken for granted.

Lake Erie is once again showing signs of neglect. Sedimentation, coastal development and urban and agricultural runoff affect Lake Erie more so than any of the other Great Lakes. Toxic harmful algae blooms have returned to cover its surface. The "dead zone" where fish can't survive is growing in the central basin. Invasive species are crowding out its native plants, fish and mussels. New threats from degradation and depletion of groundwater and streams and rivers that feed the lake are also growing.

In coming weeks you can become an expert on Lake Erie by reading about the plants and animals and people that rely on its freshwater. You will also read tales about its rivers and tributaries.

Next week: The Lake Erie food web.

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[www.perry200.com/](http://www.perry200.com/)  
[www.paseagrant.org](http://www.paseagrant.org)

Why do you think Lake Erie should be protected? Have you been involved in stewardship projects to protect or restore the Lake Erie ecosystem? Share your ideas and projects for possible publication in the "your space" feature. Send them to [axm40@psu.edu](mailto:axm40@psu.edu).

