



# Connect with your environment

Learn about environmental issues, in your community and how you can get involved.



ANNA McCARTNEY/Contributed photo

Anglers can access surface water temperature maps by lake, region and port on the CoastWatch website, [www.coastwatch.msu.edu/](http://www.coastwatch.msu.edu/).

## Site offers anglers valuable data

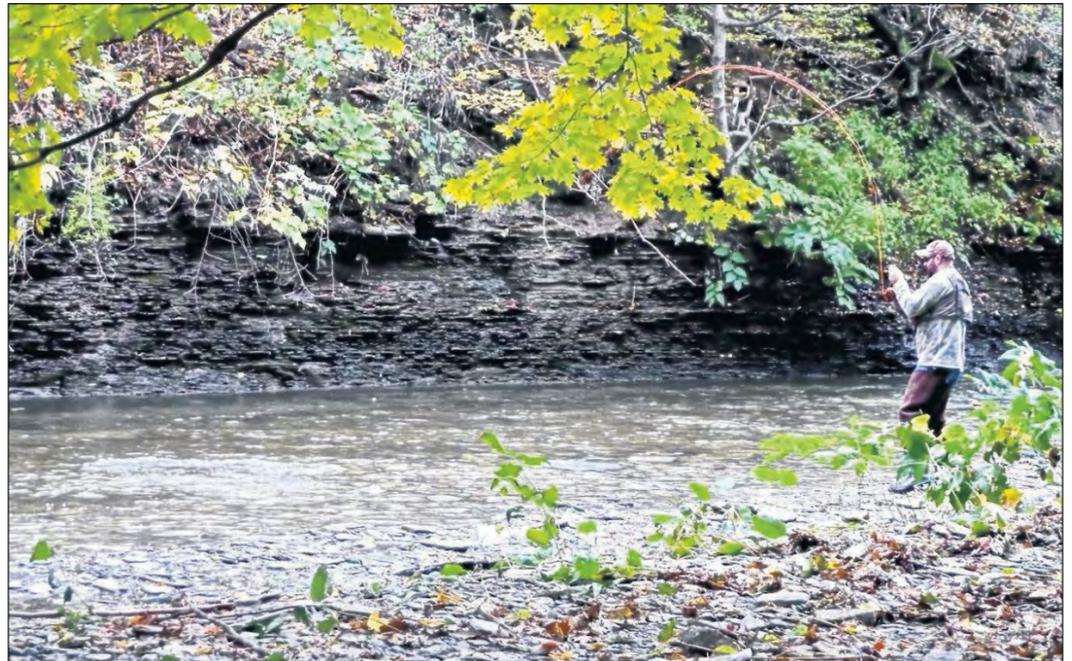
By ANNA McCARTNEY  
Contributing writer

Anglers use surface water temperatures and visual clues such as sharp color changes, ripples/changes in turbidity, and collections of debris (insects, feathers, dead fish) when looking for the best steelhead fishing.

Great Lakes surface water temperature contour maps can keep you updated on lake surface temperature. Maps available by lake, region and port on the CoastWatch website, [www.coastwatch.msu.edu/](http://www.coastwatch.msu.edu/), are based on surface water temperature images created by satellites traveling 200 miles above the Earth. The images are updated

twice per day, at approximately 1:40 a.m. Eastern Standard Time and 9:35 p.m. EST. Historic images are also available on the site. The Great Lakes Coast Watch reporting system is a cooperative project between the National Oceanic and Atmospheric Administration and the Great Lakes Sea Grant Network, Michigan Sea Grant and Michigan State University Remote Sensing and GIS Research and Outreach Services create and maintain the site.

**ANNA McCARTNEY**, a communications and education specialist for Pennsylvania Sea Grant, can be reached by e-mail at [axm40@psu.edu](mailto:axm40@psu.edu).



ANNA McCARTNEY/Contributed photo

Locals know that the best times to fish steelhead are fall, winter and early spring when steelhead return from the lake to their home stream — the stream in which they were born or stocked — to spawn. This angler knows Sixteen Mile Creek in North East is one of those streams.

# What a catch!

## Steelhead fishing big part of Erie County's economy

By ANNA McCARTNEY  
Contributing writer

The steelhead fishery is a huge economic boom for Erie County.

From October through April, anglers from around the United States and other countries flock to Pennsylvania's famous steelhead waters as the fish return from the lake and head back to their spawning grounds.

Understanding steelhead biology can make the difference between success and failure.

While there are differences in the Great Lakes strains, the information below from [greatlakeslessons.com](http://greatlakeslessons.com) includes factors that dictate their movements and feeding habits.

■ **Scientific Name:** *Oncorhynchus mykiss*. Members of the Salmonidae family include salmon, trout and char.

■ **Identifying characteristics:** Two dorsal fins, including one adipose fin, light-colored mouth and gums, small spots on tail.

■ **Average size:** Mature fish are typically 16 inches in length and about 9-10 pounds but may reach 36 inches and up to 20 pounds (40 centimeters and 4-5 kilograms, up to 91 centimeters and 9 kilograms).

■ **Lifespan:** Typically six-eight years in the Great Lakes region.

■ **Habitat:** During the lake-dwelling portion of their life cycle, steelhead are often found in waters less than 35 feet (11 meters) deep with temperatures of 58-62 degrees Fahrenheit (F) or 14-17 degrees Celsius (C). With the onset of cooler weather and fall rains, much of the fishing action on Lake Erie switches from the open lake to the tributaries.

■ **Life cycle:** Steelhead mature in three-five years. Young steelhead, called parr, typically remain in their home stream for one-three years before migrating to the lake. Most steelhead return to the stream in which they were born or stocked to spawn. Unlike Pacific salmon, steelhead in the Great Lakes do not necessarily die af-

ter spawning and are able to spawn more than once. Great Lakes steelhead enter spawning streams between late October and early May. Most spawning occurs in the spring. Eggs hatch in four-seven weeks.

■ **Diet:** Young steelhead feed on zooplankton and aquatic insects. During the lake-dwelling portion of their life cycle, steelhead eat small fish and insects primarily at mid-depths, but will also feed on surface insects.

■ **Feeding strategy:** Compared with salmon, steelhead have a slow attack speed, making them less than efficient predators of quick fish such as alewives and smelt. They move to deeper waters to feed on an accumulation of bugs and slower fish, like sticklebacks.

■ **Predators:** Sea lamprey are the most common predator of all salmonid species in the Great Lakes. Other predators include larger fish and birds and mammals, including mink and raccoon.

■ **Preferred habitats:** Steelhead and other fish in the Salmonidae family are attracted to thermal fronts or areas where water masses with significantly different temperatures meet or interface. This interface is a region where water temperatures rapidly change and are often abundant with aquatic life, offering both optimal temperatures and access to food. Anglers report better catches at thermal fronts than in non-frontal regions.

Fish follow optimal conditions. Due to interactions of factors such as temperature, oxygen, pH level, light, nutrients, pressure, substrate and circulation, aquatic life is not evenly distributed, i.e., it is 'patchy'.

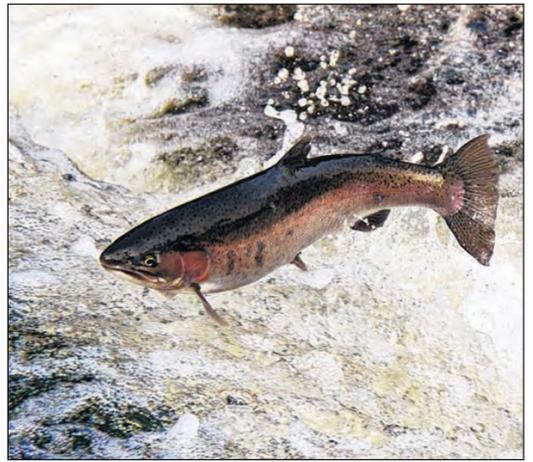
For more information about steelhead and current conditions, visit [www.fish.state.pa.us/splnwro.htm](http://www.fish.state.pa.us/splnwro.htm).

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CONTRIBUTED PHOTO

Erie waters are among the best trophy fisheries in the world for steelhead.



BRIAN BERCHTOLD/Contributed photo

Most steelhead return to the stream in which they were born or stocked to spawn.



ANNA McCARTNEY/Contributed photo

Great Lakes steelhead enter spawning streams between late October and early May. Most spawning occurs in the spring.



## Northwestern students clean up tributary

Forty Northwestern High School students and their teacher, Cinda Murray, filled 10 bags with trash they collected on an unnamed tributary on their school grounds. They are concerned about the number of food-related containers, fireworks' remains, 32 plastic bags and three tires they found. Their results were added to the PA Lake Erie totals and sent to the Ocean Conservancy to be combined with totals of trash collected around the world for the International Coastal Cleanup.



CONTRIBUTED PHOTO

Northwestern High School students collect trash and data near their school.

lesson because there was an atmosphere of excitement as we proceeded with the cleanup. Cleanups are important because they bring awareness to the state of the environment. People see first-hand what littering does and how it affects the world around them. All water is connected, so even helping with our small area helps with the overall state of the world's water.

— Lacey Shumake

In addition to the cleanup, Murray's students will be involved in another stewardship project this year. Murray is one of eight teachers participating in the Pennsylvania Sea Grant Great Lakes, Great Stewards project, which provides funding and support for field trips and stewardship activities through the Center for Great Lakes Literacy (CGLL) a partnership between the Great Lakes Sea Grant Network and the U.S. EPA Great Lakes National Program office. For more information about CGLL contact Marti Martz at [mam60@psu.edu](mailto:mam60@psu.edu) or 217-9011, Ext. 104.

Below are some student comments about their cleanup:

I enjoyed the cleanup because other people got excited about helping the environment. My partners raced around the woods, eager to pick up more than the others in my class. I was in charge of keeping track of what they found and it was difficult to keep up with them. It was different than a typical classroom

I enjoyed the cleanup because it gave me the chance to get out of the class and move around while doing something for the environment. Cleaning up our stream helps ocean habitats around the world because all the world's water is connected through lakes, ponds, creeks, and streams. They all connect to the ocean in some way and if we keep our stream clean, we are doing just a little bit more to keep the ocean just a little bit cleaner.

— Jacob Maries

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Check out these websites to learn more:

[www.coastwatch.msu.edu](http://www.coastwatch.msu.edu)  
[www.miseagrant.umich.edu/flow](http://www.miseagrant.umich.edu/flow)  
[www.fish.state.pa.us/fishes.htm](http://www.fish.state.pa.us/fishes.htm)  
[www.paseagrant.org](http://www.paseagrant.org)

Fishing plays an important role in the Erie economy, bringing millions of dollars to the area each year. However, many citizens and lawmakers don't seem to make the connection between a healthy environment and a healthy economy.

Share your ideas on why we need to protect the environment and some of the activities in which you participate to protect water quality. Send them to [axm40@psu.edu](mailto:axm40@psu.edu) for possible publication in "your space."

