



Lake Erie Watershed (Great Lakes Basin) Facts

Drainage Area:

- ◆ Total: 30,140 square miles (78,063 square kilometers)
- ◆ In Pennsylvania: 511 square miles (1,323 square kilometers) of land and 750 square miles of lake

Size of Lake Erie:

- ◆ Length: 241 miles east to west
- ◆ Width: 57 miles north to south
- ◆ Depth: 62 feet average and 210 feet at maximum
- ◆ Surface Area of the Water: 9,910 square miles
- ◆ Volume: 119 cubic miles (4th largest of the Great Lakes)

Watershed Address from Headwaters to Mouth:

- ◆ The inflow of water comes via the Detroit River from Lake Superior, Lake Michigan, Lake Huron, St. Clair River, Lake St. Clair, and many tributaries. The outflow of water is through the Niagara River and the Welland Canal.

Major Tributaries in Pennsylvania:

- ◆ Conneaut Creek, Crooked Creek, Elk Creek, Mill Creek, Six Mile Creek, Sixteen Mile Creek, and Walnut Creek

Population:

- ◆ Total: over 11 million people (10 million in the U.S. and 1.6 million in Canada)
- ◆ In Pennsylvania: more than 240,000 people

Major Cities in Pennsylvania:

- ◆ Erie

Who Is Responsible for the Overall Management of the Water Basin?

- ◆ Great Lakes Commission
- ◆ International Joint Commission – this Commission regulates flows on the St. Marys and St. Lawrence Rivers

Economic Importance and Uses:

- ◆ Shipping, commercial and sport fishing, recreation, and drinking water

Industrial Uses (2% of water usage):

- ◆ Manufacturing within PA includes plastics products, boilers, engines, turbines, castings, forgings, pipe equipment, motors, meters, tools, locomotives, and plastics.
- ◆ The fourth largest fossil-fueled electrical generating plant in North America is located on Lake Erie at Monroe, Michigan.



- ◆ Mining – Sand and gravel, salt, and limestone occur in the watershed.

Public Water Supply:

- ◆ More than 11 million people get their drinking water from Lake Erie.
- ◆ Residents and industry extract a total of 70 million gallons of water from Lake Erie each day.
- ◆ Erie Wastewater Treatment plant serves more than 200,000 people by treating 30-40 million gallons of wastewater each day.

Agricultural Uses (3% of water usage; 33% of land use):

- ◆ Lake Erie leads the Great Lakes Basin in the number of farms and in the production of hogs and pigs, sheep and lambs, chicken, corn, soybeans, and wheat. Major products in Canada are vegetables, grapes and orchard fruits, wine, and tobacco. Major products in the U.S. are dairy products. Major products in PA are potatoes, grapes, cherries, other fruits, and dairy products.
- ◆ The climate is favorable for grape production and is very productive wine country. There are over 30,000 acres of vineyards in PA and NY, making it 3rd largest grape-producing region in the US.
- ◆ The lake tempers the climate so there tends to be less damage from frost.
- ◆ Early agricultural practices depleted the soil; caused erosion, floods, and siltation in streams.

Historical Uses:

- ◆ Lake Erie's past uses include trapping and the fur trade, logging and timber, agriculture, commercial fishing, and transportation of goods. The City of Erie has served as an important commercial port and still serves that function today.
- ◆ The first permanent European American settlers came to Erie County after 1795.

Recreational Uses:

- ◆ The Lake Erie Watershed within PA contains two state parks, Presque Isle and Erie Bluffs State Parks; two state game lands, State Game Land #314 and State Game Land #101; and two state historic sites, the Cashiers House and the Brig Niagara. Numerous opportunities exist for recreational pursuits, including boating, fishing, swimming, scuba diving, birding, hiking, biking, hunting, trapping, and camping. Other tourism pursuits include sightseeing, driving tours, and winery tours.

Pennsylvania State Parks in the Lake Erie Watershed (Great Lakes Basin):

- ◆ Two state parks are located in the watershed: Presque Isle and Erie Bluffs

Geological Information:

- ◆ The watershed in PA lies within two physiographic provinces. The area adjacent to the lake is located in the Eastern Lake Section of the Central Lowland Province. The upland area of the watershed is located in the Glaciated Pittsburgh Plateaus Section of the Appalachian Plateau Province. These provinces within the watershed are separated by an erosional scarp that is three to four miles from the lake and oriented in a southwest to northeast direction.



The western third of the watershed and the three to four mile wide lake plain is flat, while the remainder of the watershed consists of rolling hills. The watershed is divided by many valleys formed by erosion and contains streams that empty into the lake.

Unique Features:

- ◆ Lake Erie is the only great lake to consistently have a high percentage (>80%) of winter ice cover.
- ◆ The water retention/replacement time of the lake is 2.6 years (shortest time of the Great Lakes).
- ◆ Lake Erie is the 11th largest lake in the world.
- ◆ Lake Erie contains just over 2% of the Great Lakes water. (Lake Superior has over 50%, Lake Michigan has 21%, Lake Huron has 16%, and Lake Ontario has 7%)
- ◆ Wind setups (winds that push water onto shore), usually from the west to east, have produced large short-term differences in water levels with the record being more than 16 feet.
- ◆ Lake Erie is the warmest and most biologically productive of the Great Lakes.
- ◆ Lake Erie is considered the best walleye fishery in the world.
- ◆ Erie County produces 95% of PA grapes and is home to the largest Welch's grape processing plant in the country.
- ◆ Erie County is the first ranked potato-producing county in PA.
- ◆ Erie, PA contains the only coastal beach in Pennsylvania with 63 miles of shoreline
- ◆ Drainage of the streams and rivers generally runs south to north.
- ◆ Contains the only port for the Great Lakes in Pennsylvania (Port Erie) with the largest dry-dock and crane on the Great Lakes.
- ◆ The Lake Erie Basin was the site of the first natural gas field discovery in 1860.
- ◆ Lake Erie houses the oldest active light tower on the Great Lakes; Marblehead Lighthouse built in 1822.
- ◆ Lake Erie is the only great lake whose bottom is above sea level.
- ◆ In 1969, one of Lake Erie's major tributaries, the Cuyahoga River in Ohio, literally caught fire due to pollution.
- ◆ The pollution plight of Lake Erie in which eutrophication from algal blooms covered beaches in slime and killed off native fishes was so detrimental it even made mention in the children's book, *The Lorax*.

*“You're glumping the pond where the Humming-Fish hummed.
No more can they hum, for their gills are all gummed.
So I'm sending them off. Oh, they're future is dreary.
They'll walk on their fins and get woefully weary
in search of some water that isn't so smeary.
I hear things are just as bad up in Lake Erie.”
Dr. Seuss, The Lorax*