



## **Genesee River Watershed (Great Lakes Basin) Facts**

### **Drainage Area:**

- ◆ Total: 2,500 square miles (6,475 square kilometers)
- ◆ In Pennsylvania: 99 square miles (256 square kilometers)

### **Length of River:**

- ◆ Genesee River: 157 miles total, 11 miles in Pennsylvania

### **Watershed Address from Headwaters to Mouth:**

- ◆ The Genesee River begins as small stream on a hillside southeast of the village of Ulysses in northern Potter County, Pennsylvania, and flows into Lake Ontario.

### **Major Tributaries in Pennsylvania:**

- ◆ West Branch, Middle Branch, Ludington Run, Turner Creek, Mundy Brook, Irish Settlement Brook, and Rose Lake Run.

### **Population:**

- ◆ Total: approximately 403,000 people
- ◆ In Pennsylvania: 2,095 people (2000 Census)

### **Major Cities in Pennsylvania:**

- ◆ None

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

- ◆ Great Lakes Commission
- ◆ International Joint Commission

### **Economic Importance and Uses:**

- ◆ In Pennsylvania, there is agricultural cropland with pasture, and some forest and woodland.
- ◆ In New York, agriculture is still common but the river is also used for hydroelectric power generation (six plants); limited commercial shipping occurs near Lake Ontario. Fishing and recreational opportunities such as camping, sightseeing, historic sites, rails-to-trails, and canals provide opportunities for tourism to flourish. Revitalization of the Rochester harbor area has made tourism an important economic asset.

### **Industrial Uses:**

- ◆ The Pennsylvania portion of the watershed is lightly populated and primarily a rural agricultural area. Industrial use becomes much more prominent in New York as the Genesee River near Rochester. This land is dominated by urban, industrial, suburban, and residential activity. High population densities and intense development, as compared to the rest of the basin, characterize this section.



- ◆ The Genesee is the only river in New York used for hydroelectric power that drains into the Rochester Embayment, one of 43 areas of concern in the Great Lakes Basin. A total of three hydro plants are on the river. There are both active and inactive hazardous waste landfills, municipal landfills, industrial and municipal NPDES discharges, oil storage terminals, and other land uses typical of large urban areas. Rochester is a world leader in several industries including photography (Kodak), xerography, telegraphy, telephone automation, and optics and imaging (Bausch and Lomb). Eastman Kodak, the largest industrial user, draws water from Lake Ontario but discharges into the lower Genesee.

### **Public Water Supply:**

- ◆ Overall, drinking water usage is small in scale along the Genesee. However, it is the only consumptive use currently in the Pennsylvania portion of the watershed. Communities on the Allegheny Plateau rely on ground water.
- ◆ The historic Erie Canal both discharges water into and uses water from the Genesee. Canal water augments the river flow during dry periods so that wastewater effluent in the lower Genesee can be adequately assimilated.

### **Agricultural Uses:**

- ◆ Forest and agriculture account for more than 90% of the land use in the Genesee Watershed. In the southern part of the basin, farmland is predominantly used for dairy production. In the northern part of the basin, crop production is more significant.
- ◆ High levels of phosphate, coliform bacteria, and turbidity from agricultural runoff affect the upper and central portions of the basin, making the Genesee and some of its major tributaries sediment transporters.

### **Historical Uses:**

- ◆ Transportation along the Genesee was always difficult, as the water was swift-flowing at times, seasonally high in the spring, and nearly dry in the summer. Canals, and later railroads, provided the answer. Two canals, the Erie and the Genesee Valley, provided an artery for early logging and trade.
- ◆ The Erie Canal, completed in 1823, provided east/west travel in the Rochester area. The Genesee Valley Canal was begun in 1836. It began in Rochester and continued upriver to Mt. Morris and reached Olean in 1856. Water related issues were a concern even then, as millers complained that water from the river would be used to fill the canal. Bridges were an engineering challenge over the Genesee due to raging seasonal waters and unstable, glacial soil and rocky gorges. Before Rochester's bridge was built, the only bridge on the river was at Avon, 20 miles to the south. In 1850, the Erie Railroad completed the trans-New York State tracks running from the Hudson River to Lake Erie.

### **Recreational Uses:**

- ◆ Boating, swimming, hiking, camping, fishing, and hunting are prevalent along the entire watershed. Near the mouth of the river, boating is popular for all types of



vessels. The Erie Canal is used today for recreation (boating and trail use) and limited freight. The north/south Genesee Valley Canal now carries hikers and bikers over the Genesee Valley Greenway. Letchworth State Park encompasses about 13,550 acres including 17 miles of riverlands stretching from Mt. Morris to Portageville, New York. Camping and sightseeing are favorite recreation pastimes.

### **Pennsylvania State Parks in the Genesee River Watershed (Great Lakes Basin):**

- ◆ No state parks are located in the watershed.

### **Geologic Information:**

- ◆ The headwaters of the Genesee begin in the Appalachian Plateau with geology composed of sandstone and shales. The land was once the bottom of several inland seas. The area was later covered with glacial deposits and then eroded to the features of today. The basin varies in elevation from 2,500 feet in Pennsylvania to 246 feet at Lake Ontario.
- ◆ Currently, the Genesee Watershed contains a few active natural gas wells. It is also in a Marcellus Shale area where the resource is found in less than 100 ft. This may result in future drilling and will impact the watershed.

### **Unique Features and Events:**

- ◆ The river flows in a south to north direction beginning in Pennsylvania and emptying into Lake Ontario.
- ◆ The headwaters of the Genesee, the Allegheny, and the Susquehanna Rivers all rise within a short distance of the triple continental divide in Potter County. Depending on where a raindrop falls, it may end up in the Chesapeake Bay, Gulf of Mexico, or Lake Ontario.
- ◆ Letchworth Gorge State Park, known as the “Grand Canyon of New York,” encompasses about 13,550 acres including 17 miles of riverlands stretching from Mt. Morris to Portageville. The area boasts 300 to 400 foot vertical rock walls of Upper Devonian sandstone and shale, and three breathtaking waterfalls.
- ◆ Mount Morris Dam, constructed for flood control purposes, is the largest flood control dam east of the Mississippi. The dam towers 215 feet above the river, stretching over 1,000 feet across the wide river gorge.
- ◆ The Genesee River meanders on its course to Lake Ontario. An example of a breached meander, or oxbow lake, is Horseshoe pond, north of Avon.
- ◆ Nearing Rochester, the Genesee narrows into the densely populated Rochester Canyon, where the river cascades over three falls. The upper and lower falls drop about 90 feet each and the middle fall drops about 30 feet.
- ◆ On Friday, November 13, 1829, the daredevil Sam Patch jumped to his death in front of 8000 spectators at the Upper Falls of the Genesee River in Rochester, NY. He had successfully completed the jump one week earlier but wanted a larger crowd.