

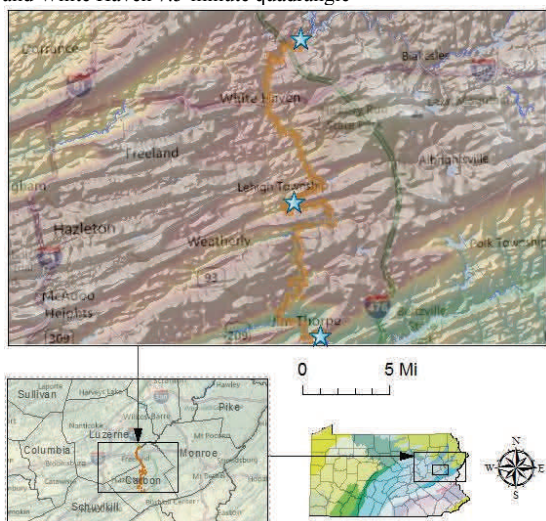


## LEHIGH GORGE LUZERNE AND CARBON COUNTIES



### Location

Lehigh Gorge State Park, Carbon and Luzerne Counties, Christmans, Hickory Run, Lehigh, Nesquehoning, Weatherly, and White Haven 7.5-minute quadrangle



### Geology

The scenic and rocky Lehigh Gorge winds through about 30 miles of the Anthracite Upland section of the Ridge and Valley physiographic province. The gorge can be traced from below the Francis E. Walter Dam to the cut through Bear Mountain, just downstream of Jim Thorpe, Pa. The Lehigh River drops over 740 feet in elevation as it flows down the gorge.

Approximately 2,825 feet of folded rocks in the gorge are exposed, representing a 55 million-year interval from the Late Devonian to the Late Mississippian (375 to 320 million years ago). Rock types include sandstone, conglomerate, siltstone, and mudstone. The primary rock units are the Mauch Chunk, Pocono, Specht Kopf, and Catskill Formations. These rock units were deposited by ancient streams that flowed northwest from highlands to the southeast. It is thought that 3-4 miles of rock were deposited above these units.

The folding of the rocks in the gorge took place about 250 million years ago during the mountain-building event known as the Alleghany Orogeny. The collision of the African and North American tectonic plates pushed rocks upward and over the area. Following the event, erosion began to erase as much as 20,000 feet of rock above the Mauch Chunk Formation. After much erosion, a young Lehigh River began to make headward progress across the area, adjusting its path based on the structure of the bedrock folds. About 20,000 years ago, Wisconsin glacialiation peaked in Pennsylvania, and its maximum extent reached as far south as the Lehigh Gorge park area. Evidence for this can be seen as glacial striation marks and layered sand and gravel deposits.



Left: photograph shows southern end of Lehigh Gorge at Bear Mountain to the northeast. Right: View to the south of the rough terrain of the gorge. Borough of Jim Thorpe and Bear Mountain in the distance.

### Recommended Reading

Inners, J. D., 1998, Rocks and ruins of the "Upper Grand" – An illustrated trail guide to the geology and historical archeology of Lehigh Gorge State Park, Northeastern Pennsylvania: Pennsylvania Geological Survey, 4th ser., [Open-File Report 98-03](#), 62 p.

Geyer, A. R., 1969, Hickory Run State Park—Boulder field: Pennsylvania Geological Survey, 4th ser., [Park Guide 2](#).

For information regarding outstanding geologic features, contact the Pennsylvania Geological Survey:

Bureau of Topographic and Geologic Survey, 3240 Schoolhouse Rd., Middletown, PA 17057

717-702-2017 [www.dcnr.state.pa.us/topogeo](http://www.dcnr.state.pa.us/topogeo)

Visit the [Lehigh Gorge State Park](#) web page of DCNR.