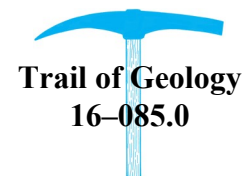


OUTSTANDING GEOLOGIC FEATURE OF PENNSYLVANIA

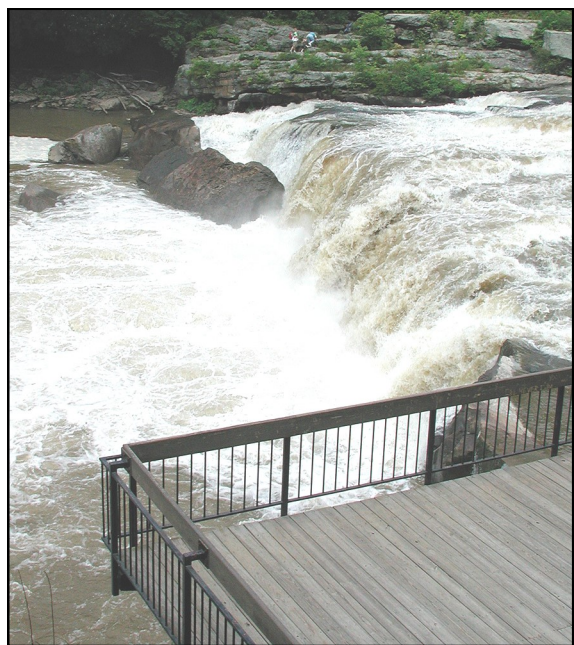
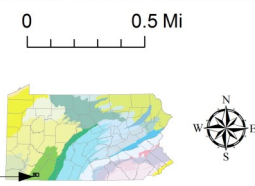
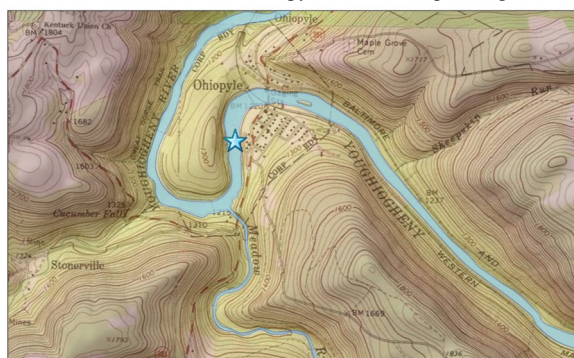
OHIOPYLE FALLS, FAYETTE COUNTY

Stuart O. Reese, 2016



Location

Youghiogheny River, Ohiopyle State Park, Fayette Co., Ohiopyle, lat: 39.8680, lon: -79.4954; Ohiopyle 7.5-minute quadrangle



Geology

Ohiopyle Falls is a scenic, powerful waterfall on the Youghiogheny River. The falls show evidence of how they were formed. Upstream, the Youghiogheny River flows on a thick layer of horizontal, erosion-resistant Pottsville sandstone. Downstream, the sandstone layer has been removed by erosion, causing the river to flow at a lower level. The erosion of the sandstone can be seen at the falls.

The thick sandstone layer has two well-developed sets of vertical fractures: one set parallel to the flow of the Youghiogheny River and one set at right angles to the flow. These fractures and the flat surfaces at the top and base of the sandstone layer are planes of weakness that allow the river to erode the sandstone layer one block at a time. The size and shape of the blocks is determined by the thickness of the sandstone layer and the spacing of the two fracture systems.

Major blocks of sandstone that have been eroded from the falls and have moved several feet downstream can be seen in the photograph on the left. As blocks are eroded from the front of the falls, the falls migrate upstream. The sandstone surface also is eroded by scour, as indicated by potholes in the rocks upstream from the falls and near the observation deck.



Left photograph: Ohiopyle Falls and the observation deck, on the east side of the Youghiogheny River, Ohiopyle State Park. Note people on opposite side for scale. Right photograph: View from the west side of the river looking toward the observation deck. Photographs by Jim Shaulis, Pennsylvania Geological Survey.

Recommended Reading

Bushnell, Kent, 1971, Ohiopyle State Park—Geologic features of interest: Pennsylvania Geological Survey, 4th ser., [Trail of Geology 16-007.0](#), 3 p.

[Ohiopyle State Park](#) web page of DCNR.

Published by the [Pennsylvania Geological Survey](#).

