

# OUTSTANDING GEOLOGIC FEATURE OF PENNSYLVANIA

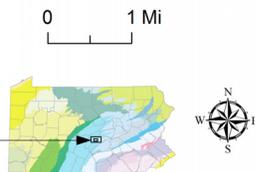
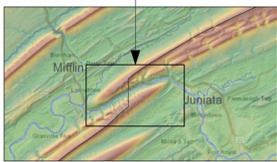
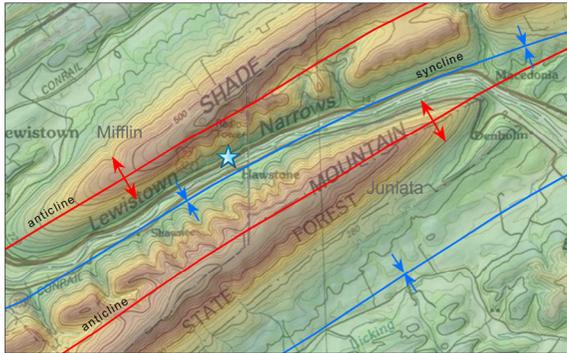
## LEWISTOWN NARROWS, MIFFLIN AND JUNIATA COUNTIES



Stuart O. Reese, 2016

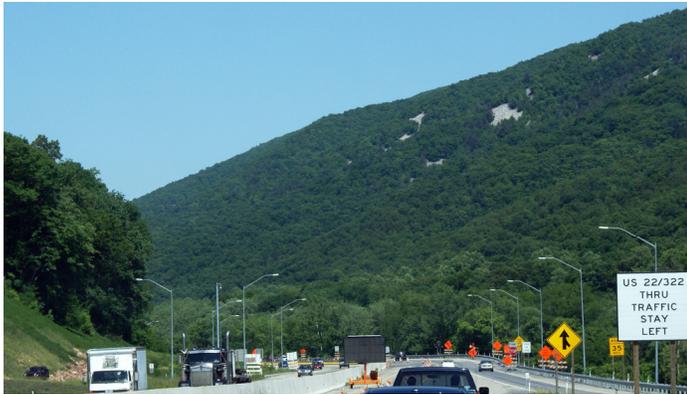
### Location

U.S. Route 22/322, Mifflin and Juniata Counties, from lat: 40.577 to 40.611, lon: -77.442 to -77.552; Lewistown and Mifflintown 7.5-minute quadrangles



### Geology

The Lewistown Narrows is an impressive gorge in central Pennsylvania. Located in the Ridge and Valley province southeast of Lewistown, the 6-mile-long narrows is occupied by the Juniata River as it flows northeastward between Shade Mountain and Blue Mountain. Considering both average and maximum relief from the rim, the Lewistown Narrows is one of the deepest gorges in the state. The average relief is over 1,500 feet. Unlike other areas of the state where water gaps were carved through a ridge, the Juniata River here eroded a course *between* two ridges that coincide with two tight folds—the [Blue Mountain](#) and Shade Mountain anticlines (upfolds, shown as red lines on map at left). Between the anticlines, the Lewistown Narrows syncline (downfold, shown as blue lines on map) holds the Juniata River on a slightly tilted trough of softer rocks. The ridges to either side are held up by resistant, Silurian-age Tuscarora Formation quartzite. In this case, the Juniata River found the easier way and eroded between the resistant rocks.



Left: View from the west side of the Lewistown Narrows during the reconstruction of U.S. Route 22/322. The construction was completed in December 2007 after 5 years and \$134 million in contracted costs. Right: Eastern part of Blue Mountain (looking southeast); white areas are talus (scree) boulders of quartzite on the steep slopes. Photographs by Kevin Tarbert and Peter Reynier, Pennsylvania Geological Survey interns.

### Recommended Reading

Harper, J. A., ed., 2007, Geologic mapping—"walkabouts" in central Pennsylvania—1st- to 5th-order Appalachian mountain folds; folded thrusts; Ordovician & Silurian carbonates; Silurian quartzites & sandstones: Annual Field Conference of Pennsylvania Geologists, 72nd, Burnham, Pa., [Guidebook](#), 220 p.

Reese, S. O., 2008, The geologist who went into a narrows but came out through a gorge: [Pennsylvania Geology](#), v. 38, no. 2/3, p. 2–12.