

OUTSTANDING GEOLOGIC FEATURE OF PENNSYLVANIA

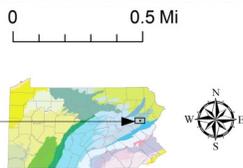
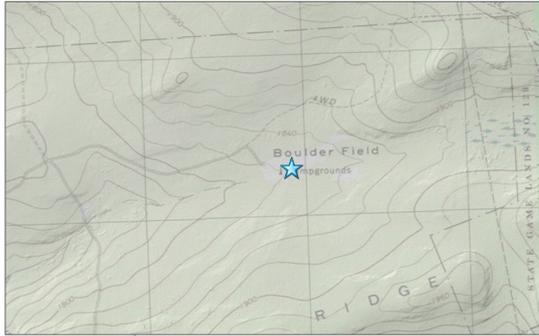
HICKORY RUN BOULDER FIELD, CARBON COUNTY



Stuart O. Reese, 2016

Location

Hickory Run State Park, Carbon Co., Kidder Twp., lat: 41.0501, lon: -75.6436; Hickory Run 7.5-minute quadrangle



Geology

Hickory Run Boulder Field is one of the most remarkable geologic features in the state. It is located in Hickory Run State Park in northern Carbon County. The area is situated in the Glaciated Pocono Plateau section of the Appalachian Plateaus physiographic province. The boulder field measures approximately 400 feet by 1,800 feet (about 15 football fields in area) and is at least 12 feet deep. This feature has remained relatively unchanged for thousands of years since glacial times.

The boulders occupy a relatively flat valley, oriented east-west, near the headwaters of Hickory Run. Low ridges occur to the north and south and are about 175 feet above the field. Glaciers almost reached this point (less than 1 mile away). The boulder field formed during the extreme cold conditions. The nearby ridges are the likely source of the boulders, as their rock layers split into blocks along natural vertical fractures called joints.

The bedrock and the boulders are sandstones of the Duncannon Member of the Catskill Formation. The freezing and thawing of water infiltrating along the joints and rock-layer partings resulted in the splitting off of the blocks of sandstone from the exposed bedrock. During cool summers the ground thawed out to a shallow depth under the blocks. This thawed material had a high water content and allowed the blocks to slowly grind and move down the slope. The grinding process during their journey wore off corners and edges to round the blocks into boulders. Continued frost wedging and erosion of any fine-grained material resulted in the sorting of large sandstone boulders. The blocks of sandstone thus moved in this manner down the slope to their present location.



View to the east of the Hickory Run Boulder Field. The rocks stretch uninterrupted for about 1,820 feet. It is over 500 feet wide at its maximum width, but narrows to less than a 100 feet wide at the northeast end. Photograph by Kevin Tarbert, Pennsylvania Geological Survey intern.

Recommended Reading

Geyer, A. R., 1969, Hickory Run State Park—Boulder field: Pennsylvania Geological Survey, 4th ser., [Trail of Geology 16-002.0](#), 4 p.

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

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

