

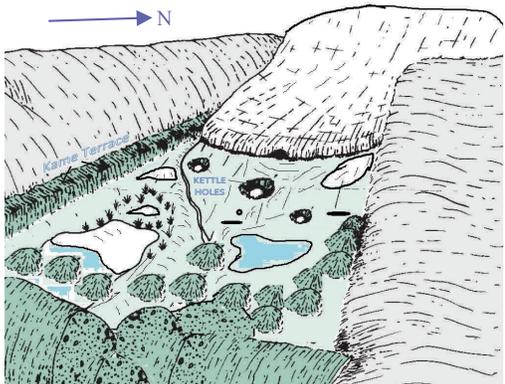
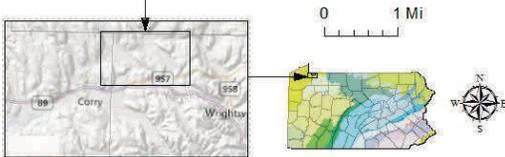
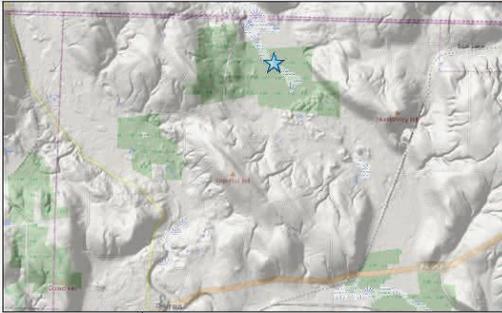


TAMARACK SWAMP WARREN COUNTY



Location

State Game Lands 197, Warren Co., Columbus Twp., lat: 41.989, lon: -79.555; Columbus 7.5-minute quadrangle



Scene of moraine deposits left by melting glacier, which blocked the preglacial stream flow to the southeast. Center figure shows the terrain of the area with PAMAP lidar elevation data (with vertical exaggeration). The moraine deposits are 30 to 40 feet higher than the swamp elevation to the north. This effectively dammed the valley. Surface water of Tamarack Swamp drains to the north into Brokenstraw Creek, which flows into New York before turning back to the south into Pennsylvania.

Geology

Tamarack Swamp is approximately four miles north-northeast of the village of Columbus in Warren County. It is situated within State Game Lands 197 on the Pennsylvania-New York border and forms the headwaters of Brokenstraw Creek, which flows to the north. Before glaciation, the creek flowed to the southeast. Sediment within the melting glacier was deposited as a kame moraine, which blocked the wide channel of the creek. It was dammed by the last glaciation in Pennsylvania about 23,000 years ago. This dam reversed the flow of the creek and ultimately the channel was abandoned. Kettle ponds, formed from melting blocks of ice, established depressions in the Tamarack Swamp. Acidic bogs of organic matter developed in these depressions after clay and silt from nearby runoff settled in the water and formed the base of Tamarack Swamp. The site was designated a National Natural Landmark in 1977.



Dark waters of Tamarack Swamp. (photo credit: National Park Service, which refers to the area as “the finest examples of acid kettle hole bogs in glaciated northwestern Pennsylvania.”)

Recommended Reading

Sevon, W. D., Fleeger, G. M., and Shepps, V. C., 1999, Pennsylvania and the ice age, Pennsylvania Geological Survey, 4th ser., [Educational Series 6](#), 30 p.

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

For more information: National Park Service, [Tamarack Swamp](#); State Game Lands 211: [Map viewer](#)