

Chautauqua Watershed Notes
From the Chautauqua Watershed Conservancy
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Rock On
By Tina Nelson

According to an Iroquois legend a great rock first told all the stories there are to tell. The rocks that make up the Chautauqua Watershed still have stories to tell and you can read those stories if you learn a few basics.

This summer while on vacation in the Georgian Bay area of Canada I enjoyed sitting on the warm large expanses of pink granite of which the islands of the bay are made. This pink granite is the exposed portion of the Canadian Shield. The Canadian Shield is rock that formed when molten rock from beneath the earth's crust rose to the surface of a young earth and solidified.

The same rock lies about two miles underground in the Chautauqua Region. Still, you can find colorful, rounded stones – even boulders – made of granite in many of Chautauqua Lake's tributaries and in the streams that flow northwest into Lake Erie, such as Chautauqua Creek. These rocks were not "born" here. They were transported from Canada by glaciers over ten thousand years ago and left behind when the glacier melted.

The fact that most of our rocks come from other places is true even of our bedrock. Western New York State's bedrock, which overlies the Canadian Shield basement, is sedimentary rock: shale, siltstone and sandstone. These rocks were carried here in bits and pieces, not by a glacier, but by streams and rivers. Their story begins east of here. More than 375 million years ago what is now the Appalachian Mountain chain was much taller than it is today. Water eroded the rock of these mountains and carried the eroded particles to lowlands to the west (including what is now Western New York State) and into a large shallow sea that was there back then depositing layer upon layer of sediment.

Over time, under the pressure of overlying layers, the sediment particles of each layer cemented together and became sedimentary rock. You can see layers of shale and siltstone in the banks of many creeks that have eroded down into the bedrock. You can also see them along sections of the Lake Erie shore, and in road cuts. These eroded banks give us a glimpse back in time. In the sedimentary rocks you can sometimes discover fossils of sea creatures that once inhabited that ancient sea 375 million years ago. Since then the land uplifted and the sea receded leaving us mostly high and dry. Much, much later came the glaciers bringing rocks and soil from the north and shaping the land into what we see today. The story of millions of years of erosion, sediment deposition and rock formation is in the rocks – another reason to get out and enjoy our Chautauqua Watershed.

The Chautauqua Watershed Conservancy is a local, private not-for-profit organization supported primarily by membership donations and grants from private foundations. Its mission is to preserve and enhance the water quality, scenic beauty and ecological health of the lakes, streams and watersheds of the Chautauqua region. It is the only locally based not-for-profit organization actively conserving important habitats, scenic sites and watershed lands in the county. It takes a preventive approach to address lake algae and plant problems. For a list of upcoming events go to chautauquawatershed.org. or call 716-664-2166.