PURPOSE

This report was prepared using funds from the Commonwealth of Pennsylvania's Growing Greener Program. The report is the result of a study to determine the extent and severity of mine drainage from abandoned surface and underground mining in the Upper Tioga River Watershed. Conceptual restoration plans to eliminate or treat these sources of mine drainage are recommended as a means to restore water quality to public use in the Tioga River and its tributaries. Cost estimates and priority rankings for abatement alternatives are provided.

GENERAL INFORMATION

Location

The Tioga River Watershed is located in Tioga and Bradford Counties about 35 miles north of Williamsport, Pennsylvania (Figure 1). The river originates in Armenia Township, Bradford County and travels southwest towards the town of Blossburg, flowing through the Northcentral Bituminous Coalfield. In Blossburg, the Tioga changes direction, flowing north through Mansfield and into Tioga Lake at the Tioga/Hammond Dam Complex. After exiting the Tioga/Hammond Dam Complex, the Tioga River flows into New York to its confluence with the Cohocton River to form the Chemung River.

Physical Characterization

The portion of the Upper Tioga River Watershed under investigation in this study encompasses an area of 402 square miles; including all the watershed area of the Tioga River and Crooked Creek upstream of the outlet of the Tioga/Hammond Dam Complex[1]. From its headwaters in Bradford County, the Tioga River flows southwest a distance of about 14 miles to Blossburg. In Blossburg, the Tioga River changes direction and flows north for a distance of about 17 miles to the outlet of Tioga Lake.

The Upper Tioga River Watershed can be divided into two distinct regions based on physiographic province, underlying geology, and land use. The upper region (from Marvin Creek upstream to the headwaters) lies in the glaciated high plateau section of the Northcentral Appalachian physiographic province (Figures 2 and 3). The topography of the section consists of forested hilltops with steep, narrow valleys. Its underlying geology is dominated by Mississippian and Devonian sandstones, along with deposits of Pennsylvanian Age coals. Forested land, mostly northern hardwoods, makes up a large percentage of the watershed in this region. Much of the land is managed by the Pa. DCNR as part of the Tioga State Forest.

[1] The total area of the Tioga River Watershed to its confluence with the Cohocton River to form the Chemung River near Corning, New York, is 1,391 square miles; it is 58 miles in length.