

WATERSHED DESCRIPTION

The Piersons Run watershed, as shown on Plate 2, is a triangularly-shaped drainage basin located in Plum and Monroeville Boroughs, Allegheny County, Pennsylvania. Piersons Run is a tributary of Abers Creek, which flows into Turtle Creek and eventually the Monongahela River. The drainage basin varies in elevation from over 1360 feet near its headwaters in Boyce Park to 941 feet at its confluence with Abers Creek. The stream flows southeast and average flows are low, being less than 200 gallons per minute. Four major tributaries contribute to the total outflow of the basin. Two of these tributaries are not polluted with mine acid discharge and contain some aquatic life. These are shown in blue on Plate 2. The remaining two tributaries shown in red on Plate 2 originate within the park and are polluted.

Boyce Park is part of the Allegheny County Regional Park System. These parks are intended to provide facilities intermediate between active recreational facilities, such as swimming pools and golf courses, provided by the municipalities within the county, and the large wilderness areas preserved in the state parks. In the development of the regional parks, emphasis is placed on conservation and restoration of areas of natural beauty and only those facilities necessary for public access and comfort are provided. Boyce Park encompasses 1091 acres. Of this total area, 213 acres are available for skiing and picnicking, while the remaining 878 acres are undeveloped. The Piersons Run watershed occupies about 630 acres of the park.

GEOLOGY

The rock strata exposed in the Piersons Run watershed are part of the Monongahela and Conemaugh Groups, in particular the lower portion of the Pittsburgh Formation, and the upper portion of the Casselman Formation. These formations consist of near horizontally bedded shale, sandstone, claystone, limestone, and coal. The Pittsburgh Coal seam occurs at about elevation 1200 at the east boundary of the watershed and at elevation 1150 at its west boundary. The maximum cover above the coal is 200 feet. The Pittsburgh Coal has been extensively deep mined and strip mined. About 600 feet beneath the Pittsburgh Coal is the Upper Freeport Coal, which is of mineable quality and thickness in the northeastern portion of the watershed. The interval between the Pittsburgh Coal and Upper Freeport Coal consists mainly of shale.

CLIMATOLOGY

The climate of the Piersons Run watershed is humid and temperate. The average annual precipitation at Pittsburgh is 35.95 inches. The normal precipitation varies from month to month, June being the wettest month with an average of 3.95 inches and February the driest month with an average of 2.31 inches of precipitation. A plot of the precipitation for the Pittsburgh area in 1970 is shown on Plate 3. Due to the hilly nature of the watershed about 60 per cent of the precipitation runs off.

MINING HISTORY

Mining of the Pittsburgh Coal seam in the Piersons Run watershed began in the 1880's in the Plum Creek Mine of the New York and Cleveland Gas and Coal Company. Considerable retreat mining was performed between 1905 and 1910. Around 1910, the Pittsburgh Coal Company acquired the mine and some additional retreat mining was conducted as late as 1939. Strip mining of the coal along its outcrop began around 1941 and was conducted until 1948.

The Upper Freeport Coal seam which underlies the watershed occurs at approximate elevation 500, and about 500 feet below stream level. The Renton Mine of the Consolidation Coal Company underlies a large portion of the park in the northern half of the watershed. This mine is presently active.

Effects of Future Mining

Near total extraction of the Upper Freeport Coal seam beneath portions of the watershed, which will occur in the near future (1971 through 1980), will result in subsidence of large areas of the existing ground surface. The effect of this subsidence upon both any planned abatement program and the conditions contributing to the pollution must be considered.