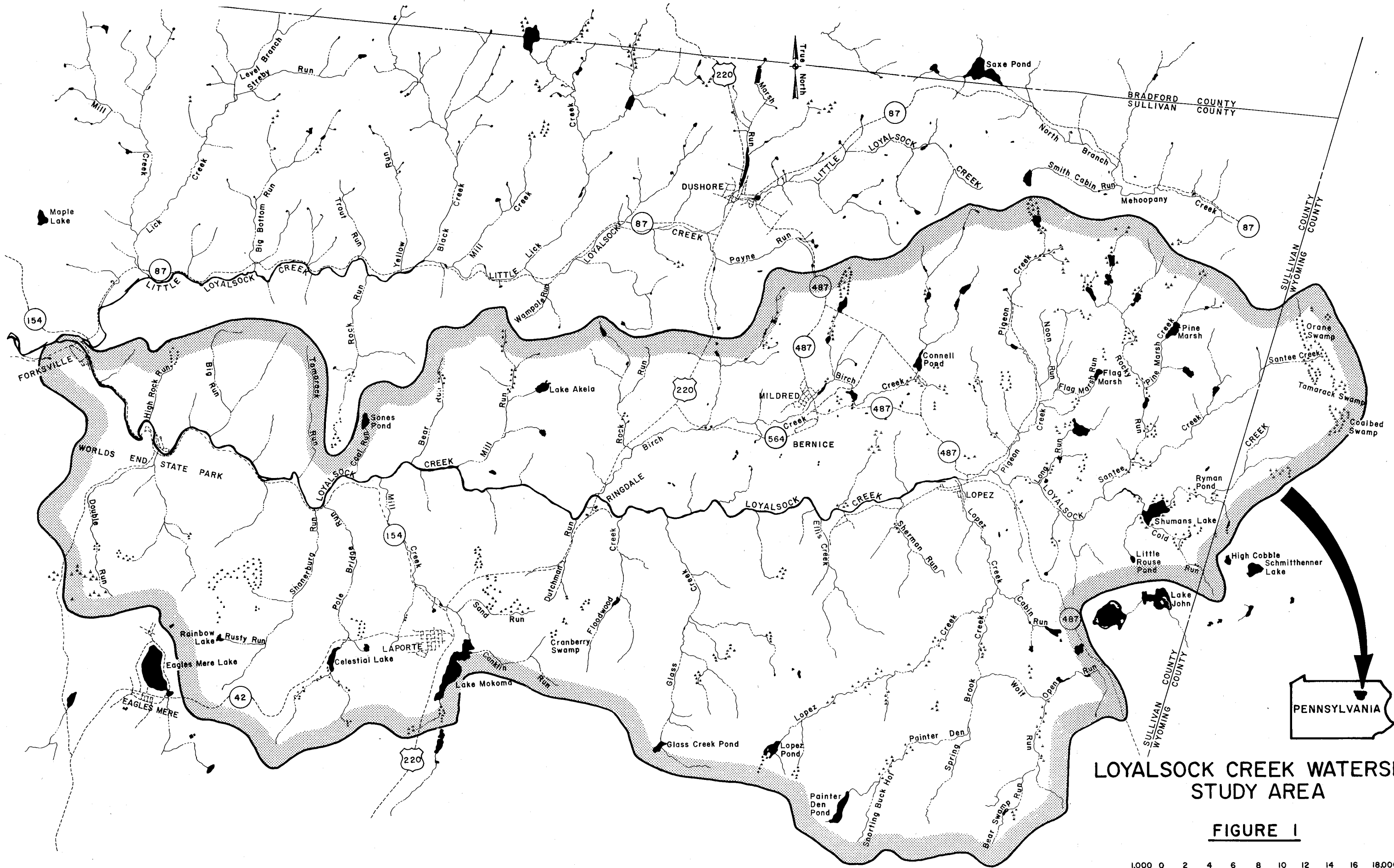


## II. STUDY AREA

### A. LOCATION

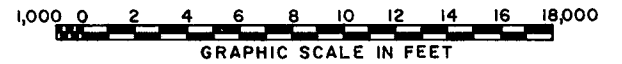
The portion of the Loyalsock Creek Watershed, which has been included in this study, is situated in Sullivan County, and the western edge of Wyoming County, in Northeastern Pennsylvania (Figure No. 1). The watershed area includes parts of Forks, Laporte, Cherry and Colley Townships in Sullivan County, and Forkston Township in Wyoming County. The scope of this study as shown does not encompass the entire watershed of Loyalsock Creek, but extends only from the village of Forksville easterly to the headwaters. The study area includes approximately 139 square miles, or 83,956 acres, with the Loyalsock Creek extending generally from west to east for a distance of 22 miles, with a maximum width of approximately 11 miles. It is important to point out that the major area of concentration in terms of mining activity and acid mine drainage is bounded by the Loyalsock Creek on the south, Birch Creek on the north and west, and Pigeon Creek on the east. Although, there are other areas within the watershed which have been exposed to some mining on a limited scale, this report will concentrate mostly on that area outlined above. As will be pointed out later in this report, this coal field in Sullivan County is relatively isolated from the major bituminous fields in western Pennsylvania as well as the major anthracite fields in northeastern Pennsylvania. This locational factor is significant in terms of the descriptive geology of the basin.

The watershed is located in the following U.S. Geologic Survey quadrangle maps (7.5 minute series): Dutch Mountain, Lopez, Colley, Laporte, Dushore, Eagles Mere, and Overton, with major emphasis in the Lopez and Laporte quadrangles.



**LOYALSOCK CREEK WATERSHED STUDY AREA**

**FIGURE 1**



## B. TOPOGRAPHY AND DRAINAGE CHARACTERISTICS

The Loyalsock headwaters have an approximate elevation of 2,140 feet, at its highest point on Dutch Mountain in Wyoming County. This drops to an approximate elevation of 1,000 feet at the lowest point in the study area at Forksville. The main Creek extends approximately 25.7 miles over this stretch and has an average stream gradient of approximately 44.4 feet per mile. Topographically, the Loyalsock Creek meanders through gentle sloping hills in the eastern half of the study area. Alternately, in the western portion of the study area, the Creek carves through steeper mountainous areas in which the adjacent mountains may have slopes reaching 25 per cent. In some of these areas, the tributaries literally cascade off the top of the mountain to the Loyalsock Creek.

The Loyalsock Creek study area is comprised of over 30 tributaries as shown on the U.S. Geologic Survey quadrangle maps many of which are unnamed. The sources of many of these tributaries are ponds and swampy areas, located predominately in woodlands. Indeed most of these tributaries have had little or no impact from mining activity both past or present, particularly those whose confluence with the Loyalsock is on the southerly shore. The most significant of the subwatersheds in the basin is Birch Creek. In fact, as pointed out earlier, Birch Creek defines the northerly limit of the most critical mine drainage area from its confluence with the Loyalsock Creek at Ringdale, northeasterly to the town of Mildred. The other major tributary directly associated with any mining operations is Pigeon Creek, whose confluence with the Loyalsock Creek is just east of the village of Lopez. Only two small unnamed tributaries of Pigeon Creek have any direct bearing on the entire acid mine drainage picture.

## C. LAND USE AND COMMERCE

Aside from those areas where mining activity was, or is presently in operation, most of the land in the watershed is forest or woodlands. The Department of Environmental Resources has jurisdiction over significant portions of the land, including the Wyoming State Forest and World's End State Park. State Game Lands Numbers 66 and 13 utilize much of the area. In addition to this, private hunting associations and companies involved in logging operations own a large percentage of the land. One such property owner is particularly relevant to both the present and past mining activity. The White Ash Land Association owns the surface rights to much of the land where strip mining and deep mining has taken place. In addition, the most significant points of acid mine drainage discharge are located on the Association's property. It is obvious that any abatement measures implemented in conjunction with this project would have some effect on the Association's use of their property.

Insofar as the study area is relatively isolated, transportation facilities are limited to State Highway Route Numbers 487, 564 and 154, and U.S. Highway Route Number 220. These inter-connect the principle towns of Lopez, Mildred-Bernice, Dushore, Laporte, Eagles Mere and Forksville. There are no airline or bus operations serving the study area, and railroad facilities were terminated with the decline of the mining industry.

There are few industries of major importance in the study area. Employment is limited to a shoe factory in Bernice and garment factories in Dushore. Much of the working population travels out of Sullivan County and even out of State for employment. The present mining operations plays a minor role in providing employment for the surrounding communities.