

INTRODUCTION

The English Engineering Corporation under Contract to the Department of Environmental Resources and with the cooperation of various Federal and State agencies* has conducted an engineering study of the English Run and Otter Run watersheds in Lycoming County, Pennsylvania. The principal objective of this work has been to discover and accurately determine the location of all the sources of stream degradation and pollution within these twin watersheds. In conjunction with the main objective, recommendations have been made for eliminating these degradation and pollution sources or minimizing their deleterious effects.

An extensive network of monitoring stations was employed to ascertain the quality of water in the numerous streams in the study basin. These same water sampling stations also served as the location for stream gauges that offered an accurate picture of stream discharges. Additional hydrological information was obtained from two recording precipitation gauges, one located in each watershed, and several so-called field rain-gauges.

Horizontal and vertical mapping was performed in-order-to pinpoint the origin of all water flows within the area. These water sources were not only natural but man-made due primarily to the underground and surface mining for coal that has taken place here for over a century. The surface and mineral ownerships were traced and plotted to determine present and future responsibility for watershed deterioration. A soils survey, performed by the United States Department of Agriculture, Soil Conservation Service, is included in the report to show the land resource potential and the drainage capabilities of the region. The presence of extensive coal and clay reserves on the English Run and Otter Run watersheds made the performance of a geological examination an essential step in the engineering study. Recent geological information on the area, obtained from drill logs and geophysical survey data permits the most accurate picture yet presented of the local structure to be included in this report.

* These agencies listed at end of report.

Several items of interest with regard to acid mine drainage (AMD) abatement have been included in the report either as quick-start projects (deep-mine grouted seals) or programs with future potential (water impounding basins) for controlling the stream quality and thus the recreational and wildlife value of the English and Otter Run Basin.