

**Water Resource Report 58**

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**GROUNDWATER RESOURCES  
OF THE UPPER  
SUSQUEHANNA RIVER  
BASIN, PENNSYLVANIA**

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**Prepared by the Pennsylvania Geological Survey  
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**Table 2. Water Use for 1970 in the Upper Susquehanna River Basin**  
(Modified from Pennsylvania Department of Environmental Resources, 1978, 1979)

Type use	Withdrawals (Mgal/d)		
	Groundwater	Surface water	Total
Public supply	13.1	99.5	112.6
Domestic supply	8.3	.0	8.3
Industrial	8.1	34.0	42.1
Mineral	10.3	5.5	15.8
Agricultural	3.6	2.0	5.6
Golf course	.2	1.0	1.2
Institutional	.6	.4	1.0
Power	.0	120.9	120.9
Totals	44.2	263.3	307.5

availability. Also, limitations have been placed on the use of surface water during periods of low streamflow, which often precludes expansion of the use of surface water where there is no upstream compensation.

Mineral extraction and processing sites withdraw about 23 percent of the groundwater used in the basin. A large proportion of this water is removed at relatively few sites. Thus the potential exists for a severe lowering of the water table, at least locally. Table 5 is a list of mineral producers reported to be withdrawing in excess of 100,000 gallons per day. All of these major withdrawals, however, are in the part of the basin where the groundwater has been contaminated by acid mine water and is not normally utilized for any other purpose.

## HYDROLOGY

The occurrence and interrelation of water in the atmosphere and on the land surface, in addition to the water in the subsurface, must be described and quantified in order to efficiently utilize and manage the groundwater resource. This interrelation between atmospheric water, surface water, and groundwater is collectively called the hydrologic cycle and is shown diagrammatically in Figure 3.

A substantial amount of water enters the Upper Susquehanna River basin by way of the Chemung River and the main branch of the Susquehanna River. Precipitation is the source of essentially all of the rest of the water that enters the basin. Water leaves the area either as water vapor to the atmosphere (evapotranspiration), surface runoff, or groundwater discharge to streams. The average amounts for the components of the cycle shown on the diagram are approximations for illustrative purposes only and are not intended for use in detailed planning. A more complete discussion of the amount and variation of the components in the cycle is presented in the sections that follow.