

Watershed MANAGEMENT



Drought Information Center

December 21, 1998

A drought emergency is in effect for the following twelve counties: Bedford, Blair, Cambria, Cameron, Clarion, Clearfield, Crawford, Elk, Jefferson, Lycoming, Snyder, and Somerset. Governor Ridge declared the emergency on Wednesday, December 16, which imposes countywide bans on nonessential water uses, and calls for heightened water conservation by all water users with the goal of achieving a 25% reduction from normal use levels. A drought warning is in effect for the remainder of the state, except Beaver, Washington and Westmoreland Counties, which remain in a drought watch.

The emergency was declared as six-month cumulative precipitation deficits climbed to as high as 11 inches in the affected counties. Stream flows throughout the state are at levels so low that they occur less than 10 percent of the time during December. Four of the 28 stream gages that the Department monitors for drought operations were at December record low levels last week, and fifteen others were at levels that occur less than 5 percent of the time, or what we consider emergency levels.

Ground water levels continued their declines as well. Twenty of the 49 county monitoring wells we use for drought monitoring were recording emergency levels; while nine others recorded warning levels. Emergency and warning ground water levels were scattered throughout the state.

The most heavily affected areas of the state range from Lake Erie southeastward toward Clearfield County and from there eastward throughout the West Branch Susquehanna River drainage area, as well as southward to Somerset and Bedford Counties. Public water supply problems abound in the West Branch Susquehanna area, particularly in Clearfield County, with isolated problems occurring statewide.

On Tuesday, prior to the Governor's Wednesday emergency proclamation, the Department had placed all Susquehanna and Delaware River Basin counties in warning.

The Delaware River Basin Commission, which monitors storage in three large New York City water supply reservoirs in the headwaters of the basin, declared a drought warning in the Delaware River Basin on Monday, including the basin area in New York, New Jersey and Delaware. The Commission had already implemented warning measures on November 20, to forestall actual entry into warning storage levels. The flow objective on the Delaware River at Montague, New Jersey, was decreased to 1655 cubic feet per second (cfs), down from 1750 cfs. The Delaware River flow objective at Trenton, New Jersey decreased from 3000 cfs to 2700 cfs. At the same time, New York City's allowable

diversion was decreased from 800 million gallons per day (mgd) to 620 mgd. With actual entry into warning last week, the New Jersey allowable diversion through the D&R Canal was decreased from 100 mgd to 85 mgd. Storage continues to decline at about 1.1 billion gallons per day, which may result in penetration of the emergency storage zone by mid-January.

The Susquehanna River Basin Commission declared a drought warning in the Pennsylvania and Maryland portions of the Susquehanna basin and a watch in New York, where conditions are less severe.

Last week brought a significant lake effect snowfall to the northwestern area of the Commonwealth, with about 0.9 inches of precipitation equivalent in Erie County, decreasing rapidly to 0.1-0.2 inches southward in Allegheny and Washington Counties and eastward in Potter and Tioga Counties. Stream flows this morning show little effect from the snowfall. Scattered light rains brought 0.1-0.2 inches of precipitation throughout most of the remainder of the Commonwealth last week. These light rains are insufficient to provide any relief to either ground or surface waters, as is reflected in stream flow readings this morning, which are little changed from last week.

Statewide, approximately 80 water supply systems had called for either voluntary or mandatory bans on nonessential water uses, prior to the Governor's emergency proclamation. About half of the 80 are located in the West Branch Susquehanna River drainage area, and nearly half of those are located in Clearfield County. The majority of systems experiencing problems are supplied by springs or sources on headwater streams or have relatively low-yielding groundwater sources. Continuing declines in groundwater levels and decreasing stream flows may begin to affect larger systems, absent significant precipitation before freezing weather sets in.

The Middle Atlantic River Forecast Center's December 17 outlook for January forecasts near normal temperatures and precipitation, which at best may enable public water supply systems to hold steady, because frozen conditions will impede recovery.