Watershed MANAGEMENT 

Drought Information Center

November 5, 2002

For the month of October 2002, 20 of 67 Pennsylvania counties had below normal precipitation. Departures from normal precipitation range from +4.6 inches (Monroe County) to -1.4 inches (Crawford County). The average departure from normal precipitation for the state as a whole for this period was +1.71 inches. Significant rainfall occurred east of the Allegheny Mountain range across the Susquehanna and Delaware River Basins during October. For the last 365 days, the rainfall of September and October has reduced precipitation deficits. The most significant deficits are still in the lower Delaware and Susquehanna River Basins, with Chester County at -8.2 inches, Lancaster County at -7.8 inches and Delaware and Montgomery Counties with deficits greater than -7.0 inches.

Compared to October 2nd instantaneous streamflow, in the Delaware Basin, the main-stem of the Delaware River is up from 5,690 to 7,730 cfs at Trenton. The Lackawaxen River is up from 146 to 295 cfs at Hawley. The Lehigh River is up from 831 to 1,830 cfs at Bethlehem. The Schuylkill River is up from 1,060 to 2,200 cfs at Philadelphia and the Brandywine Creek is down from 63 to 159 cfs at Chadds Ford. The New York City Delaware River Basin storage (November 4) is 58.0% (157.161 billion gallons) of normal, which is 8.683 billion gallons above normal.

Reviewing instantaneous streamflow from October 2nd over the past four weeks in the Susquehanna Basin, the main stem Susquehanna River is down from 6,260 to 5,470 cfs at Towanda, down from 12,300 to 8,400 cfs at Wilkes-Barre, and up from 15,100 to 20,200 cfs at Harrisburg. The West Branch Susquehanna River is up from 1,400 to 1,720 cfs at Lock Haven, up from 2,580 to 3,690 cfs at Williamsport, and up from 4,440 to 4,980 cfs at Lewisburg. The Juniata River is up from 1,210 to 3,140 cfs at Newport. The Yellow Breeches Creek near Camp Hill was up from 98 to 158 cfs.

For the Ohio Basin, the Allegheny River is up from 6,500 to 7,310 cfs at Natrona. The main-stem Ohio River is up from 8,620 to 18,900 cfs at Sewickley. The Kiskiminetas River is down from 1,360 to 1,290 cfs at Vandergrift. The Monongahela River is up from 4,270 to 9,780 cfs at Braddock and the Beaver River is down from 953 to 656 cfs at Beaver Falls. Most of the streamflow gages in the Ohio River Basin were reading at levels below normal with flows at least 40 percent of normal.

Instantaneous streamflow readings for November 5th at 1:45 a.m. indicate that there were 11 (out of 161 reporting) stream gages registering flows below the 25th percentile and 2 with flows less than the 10th percentile. Areas of concern, although not as severe due to the abundant rainfall that has occurred over the past two months, remain in the southcentral and southeastern portions of the state, however drought conditions are also becoming more evident in the far western counties.

Overall, the USGS 30-day duration graphs for streamflow have returned to normal in the Delaware, Potomac and Susquehanna River Basins. Streamflows have begun to drop again across these basins, however the flows remain above normal for most of the gages. In the Ohio River Basin, there are 4 gages in watch and 1 in warning.

The USGS 30-day duration graphs have responded to the significant rainfall we experience during the past month. Most wells responded positively to the rain. However, some wells still remain precariously low and will require above normal rainfall to continue to occur in the coming months for them to fully recover. In the Delaware Basin 4 wells are in emergency. For the Susquehanna River Basin, 2 wells are in watch and 1 is in emergency. In the Ohio Basin with 1 well is in watch, 1 well is in warning and 2 are in emergency. We are again returning to what has been called a hidden drought, where the affects are not visible, but groundwater conditions still warrant stringent conservation measures to continue in some counties.

The 7.9-magnitude earthquake that occurred on Sunday November 3 in Alaska at 5:13 p.m affected the USGS groundwater network of drought monitoring wells in Pennsylvania. The surface waves from this earthquake were recorded for hours as they rolled around the earth. This oscillating affect caused water levels to fluctuate in several of the monitoring wells and some still have not returned to their previous levels. This should be taken into consideration when viewing the monitoring wells currently displayed on the Drought Information Center's web site.