

SUSQUEHANNA RIVER BASIN COMMISSION
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**Long-Term Trends Show Decrease in Nutrient and Sediment
Loads From the Susquehanna River to the Chesapeake Bay**
Nutrient and Sediment Data From 2002 Are Compared To Baseline Data

Harrisburg, Pa. – The Susquehanna River Basin Commission (SRBC) today announced its findings of nutrient and suspended-sediment loads transported in the Susquehanna basin in 2002, including significant long-term trends within the basin. Nutrients, including nitrogen and phosphorus, are point and non-point source pollutants that impair water quality. Overall, SRBC found that nitrogen and suspended-sediment loads transported from the Susquehanna River to the Chesapeake Bay were decreasing in the long-term, and phosphorus loads showed varied results when compared with previous years.

SRBC's findings are based on the samples collected in 2002. The data collected were compared with baseline data established by SRBC in a 5-year study from 1985 to 1989, and with long-term means. The data also were used to quantify annual loads of nutrients reaching the bay and to determine significant trends in water quality over the history of SRBC's monitoring program. The Susquehanna River is the largest tributary to the bay and provides more than 50 percent of its fresh water inflows. The lower Susquehanna region is one of the largest sources of suspended sediment in the bay.

SRBC Executive Director Paul Swartz said, "In the Susquehanna basin, Pennsylvania, Maryland and New York have been working toward their respective goals of reducing the nutrient levels reaching the Chesapeake Bay by the year 2010. The Commission's long-term monitoring data and trends information are used by the state and federal environmental resource agencies to determine the areas in which nutrient and sediment loads are decreasing or increasing, thereby helping them to assess and target management options."

SRBC's monitoring sites are calibration sites for the Chesapeake Bay Watershed Model, which provides critical input for the bay restoration effort. SRBC has been monitoring nutrient and sediment levels in the Susquehanna basin for nearly 19 years; using the 1985-1989 study period as the baseline from which all subsequent years' data are compared. SRBC collects and analyzes samples from six Pennsylvania monitoring locations: Susquehanna River at Towanda, Danville and Marietta; West Branch Susquehanna River at Lewisburg; Juniata River at Newport; and Conestoga River at Conestoga. To establish annual loads and determine overall trends, SRBC routinely collects samples at the six sites every month, and also during and after storm events to determine the effect of flow on loads and yields.

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Findings from the report (*Nutrients and Suspended Sediment Transported in the Susquehanna River Basin, 2002 and Trends, January 1985 through December 2002*) include:

2002 Loads Compared to Long-Term Means

- Nitrogen and suspended-sediment loads lower than long-term means for all six sampling sites
- Phosphorus loads lower than long-term means at five of six sites

2002 Loads Compared to 5-Year Baseline Data

- Decrease in nitrogen at all six sampling sites.
- Higher phosphorus yields at Marietta and Conestoga
- Slight increase in phosphorus and suspended sediment yields at Newport
- No change in suspended sediment yields at Marietta and Conestoga
- Decreases in suspended sediment yields at Towanda, Danville and Lewisburg

Long-term Trends from January 1985 through December 2002

- Improving conditions (decreasing levels) in nitrogen throughout the Susquehanna River Basin with the most pronounced improvements at Towanda, Danville, Lewisburg and Marietta
- Improving conditions in phosphorus at Danville, Lewisburg, Newport and Conestoga, with no significant trends at Towanda and Marietta
- Strong degrading conditions (increasing levels) in dissolved orthophosphate levels at Towanda, Danville, Marietta and Newport
- Significant improving conditions in suspended sediment at Danville, Lewisburg and Conestoga

Swartz said, “While the trends do show an overall reduction in nutrient and sediment loads throughout the basin, the levels can vary from year-to-year because there is a strong correlation between river flows to nutrient and sediment loads and yields. The reductions seen at some of the sampling sites in 2002 reflect the lower flows experienced from the multi-year drought in 2001 through 2002.”

SRBC expects the final annual loads for 2003 to be higher than in 2002, given the above normal river flows experienced throughout 2003. But, the effect the higher 2003 loads will have on long-term trends is to be determined. SRBC will release that information in late 2004.

The full technical report (Publication No. 231) is available on SRBC’s web site at <http://www.srbc.net/techreport225.htm>. Report CD-ROMs and hard copies are available through SRBC, by calling 717-238-0423 or e-mailing a request to srbc@srbc.net.

SRBC is the governing agency established by the federal government and the states of New York, Pennsylvania and Maryland to protect and wisely manage the water resources of the Susquehanna River Basin. The Susquehanna River starts in Cooperstown, N.Y., and flows 444 miles to Havre de Grace, Md., where the river meets the Chesapeake Bay.