

Water Resources Management

Susquehanna River Basin Commission

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Water Resources Management

The water resources of the Susquehanna basin are abundant and renewable compared to those in many parts of the world, and even relative to other places in the U.S. However, it is not always the case that water is available in the necessary quantity or quality, or is appropriately distributed in time and place. Planning and management are needed to cope with situations when supply exceeds capacity (flooding) or when demand exceeds supply (droughts).

The activities of the Water Resources Management Division cover a wide range of categories including water supply management, flood plain management and protection, water resource monitoring, low flow management and project review. The diverse backgrounds of the division's staff provide a broad range of expertise in water resource management, engineering, hydrogeology, computer modeling and database management, biology, public outreach and field and laboratory skills.

[Water Resource Management Strategic Plan \(PDF\)](#)

Summary of SRBC Water Management Activities:

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Watershed Coordination

SRBC coordinates with state agencies and federal agencies such as the U.S. Army Corps of Engineers, U. S. Environmental Protection Agency, U.S. Geological Survey, and the National Weather Service on functions involving interagency cooperation. Coordination efforts involve joint review of projects, grant partnership opportunities, watershed restoration efforts, and other cooperative ventures. Staff assists local government officials and private interests to resolve water resource and related concerns and answers questions about applicable Commission regulations and programs. Water resource management efforts of signatory member agencies, political subdivisions and private parties are coordinated through meetings, conferences and other means. SRBC efforts promote interstate comity of regulatory issues relating to withdrawals from the Susquehanna River by large-scale water users having basinwide or interstate impacts.

Water Resource Monitoring And Water Withdrawal Registration

SRBC monitors current water resource data to determine potential flood or developing drought conditions. Commission personnel have been gathering, processing and recording water withdrawal information and maintaining the information for planning and project review decisions. Also, staff members monitor stream flows, groundwater levels, precipitation, soil moisture, reservoir levels and other hydrologic factors throughout the basin. SRBC responsibilities include notifying the public of [hydrologic conditions](#) such as the potential for floods or droughts and implementing the coordinated drought management plan for the basin.

Project Review

The Commission is required to review and approve certain types of water resource projects as prescribed in Article 3, Section 3.10 of the Compact. The procedures for

reviewing and approving projects are outlined in the Commission's Regulations and Procedures for Review of Projects. Most project applications involve surface water or groundwater withdrawals of 100,000 gallons per day (gpd) or more and consumptive water uses of 20,000 gpd or more, as per the Commission's project review regulations. After projects are approved by the Commission, staff monitors the projects' activities for compliance with approvals. The Commission also reviews state NPDES/SPDES permit applications for potential interstate impacts and compliance with watershed restoration and protection efforts in the Susquehanna River Basin. Find Forms and Applications.

Flood Management Activities

SRBC coordinates with federal, state and local entities to prevent loss of life and reduce flood damages throughout the basin. The Commission has historically been called upon for information and assistance both during and after basin flooding events. For instance, after the January 1996 basinwide flood, the Commission, in coordination with representatives from the Conowingo Dam and Port Deposit officials, developed an early warning program to help the residents and business owners of Port Deposit, Md., prepare for future flood events. The Commission also promotes flood plain management techniques as preventative measures to reduce flood losses. Monitoring activities include collecting and cataloging flood event data and reporting the condition of ice buildup on the River. See Flood Mitigation for more information.

Flood Forecast And Warning

Since 1985, the Commission has coordinated an interagency effort to improve the basinwide flood forecast and warning system and coordinated the dissemination of public information. The Commission supports efforts to improve the timeliness and accuracy of forecasts, including implementing new technology for forecast preparation, forecast dissemination and disaster response.

Commission staff works with local citizens, business interests and government officials to interpret flood insurance data and other flood plain management data. Stream flows, snowpack, river ice, soil moisture and climatological conditions are monitored to determine the potential of developing flood flows.

The Commission serves as a liaison between the National Weather Service and local flood managers to gather ideas and incorporate local input into the improvement of flood forecasts and warnings, specifically through the implementation of the Advanced Hydrologic Prediction System. Commission staff share information with local interests on successful flood-related programs such as flood evacuation plans, flood maps, local data gathering systems, new technology and communication systems. SRBC maintains the cooperatively-produced website on Flood Forecasting and Warning in the Susquehanna River Basin, and promotes and distributes an educational video about flooding in the Susquehanna River Basin.

Flood Stage Forecast Mapping And Data Repository

The Commission creates and distributes maps that include flood stage inundation lines that relate to forecast gages used by the NWS or other state and federal agencies utilizing this information. Uses of the maps are discussed with municipal officials to explain their benefits. General data such as flood stage maps, flood flows, flood elevations and other basin demography are gathered, filed and distributed as they become available or are needed. The use of these maps and data are helpful in reducing flood damages.

Drought Coordination

As part of its coordination responsibilities, the Commission monitors the waters of the basin and informs the public of emerging drought conditions. The Commission also coordinates activities of its signatory parties to deal with drought conditions. If conditions reach extreme proportions, the Commission has the authority to declare a drought emergency. The Commission's Drought Coordination Plan details the methodologies for monitoring hydrometeorological variables and includes recommendations for relating and combining these data to indicate the onset and termination of drought and drought severity. The plan is based on a staged approach to drought triggering, declaration, and response actions and activities. The three stages of drought are watch, warning, and emergency.

Low Flow Management

SRBC is dedicated to planning for future water resource needs of the basin and developing and implementing a basinwide Low Flow Management Plan to use the basin's upstream water storage to improve instream aquatic habitat and uses. The Commission works with state, local and federal agencies to augment and protect instream water needs during times of low flow. Staff has been working on an action plan for low flow management, which will include activities such as: 1) the management of releases of water stored at the Cowanesque and Curwensville Reservoirs; 2) other consumptive water use compliance actions for facilities regulated by the Commission; and 3) development of a GIS database to aid in determining basin needs.

Reservoir Feasibility Studies

SRBC has studied existing basin reservoirs to determine the feasibility of reallocating storage to provide releases for low flow management to improve instream habitat and uses. Further studies on other reservoirs are planned. The Commission staff has worked closely with federal and state agencies, as well as others, to assess the capability of various reservoirs to provide reallocated storage. Together, we study selected reservoirs to provide needed water storage, while being careful to protect the existing flood control, recreational and other uses of the reservoirs. [Water Storage Projects](#).

Ground-Water Management

The Commission gathers information to provide a general summary of the groundwater resources of the basin and identify and describe areas where existing uses of the groundwater resource have created, or are threatening to create, conflicts or shortages. The Commission's Comprehensive Plan, project review regulations, and [Groundwater Management Plan](#) provide the framework for most of the Commission's groundwater management activities. These activities include reviewing and acting on projects having large groundwater withdrawals, performing both local and regional resource appraisals, and preparing water resource plans.

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